



Principles of Health Risk Assessment (with HBA Focus)

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NIOH

Causes of Death in SA

(Exercise: rate from high to low risk)

Stroke

Motor accident

Malaria

TB

Drowning

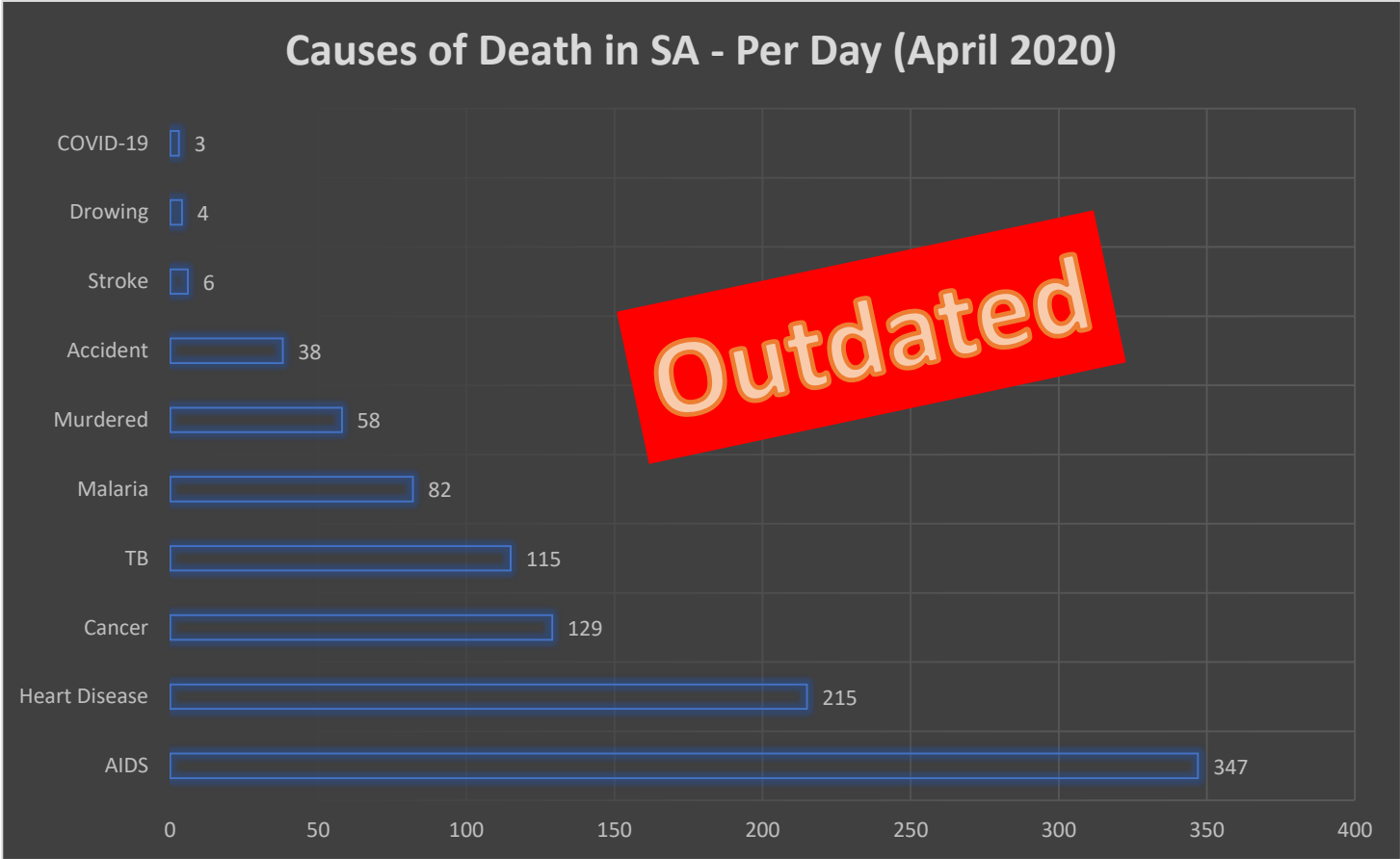
Heart disease

COVID-19

AIDS

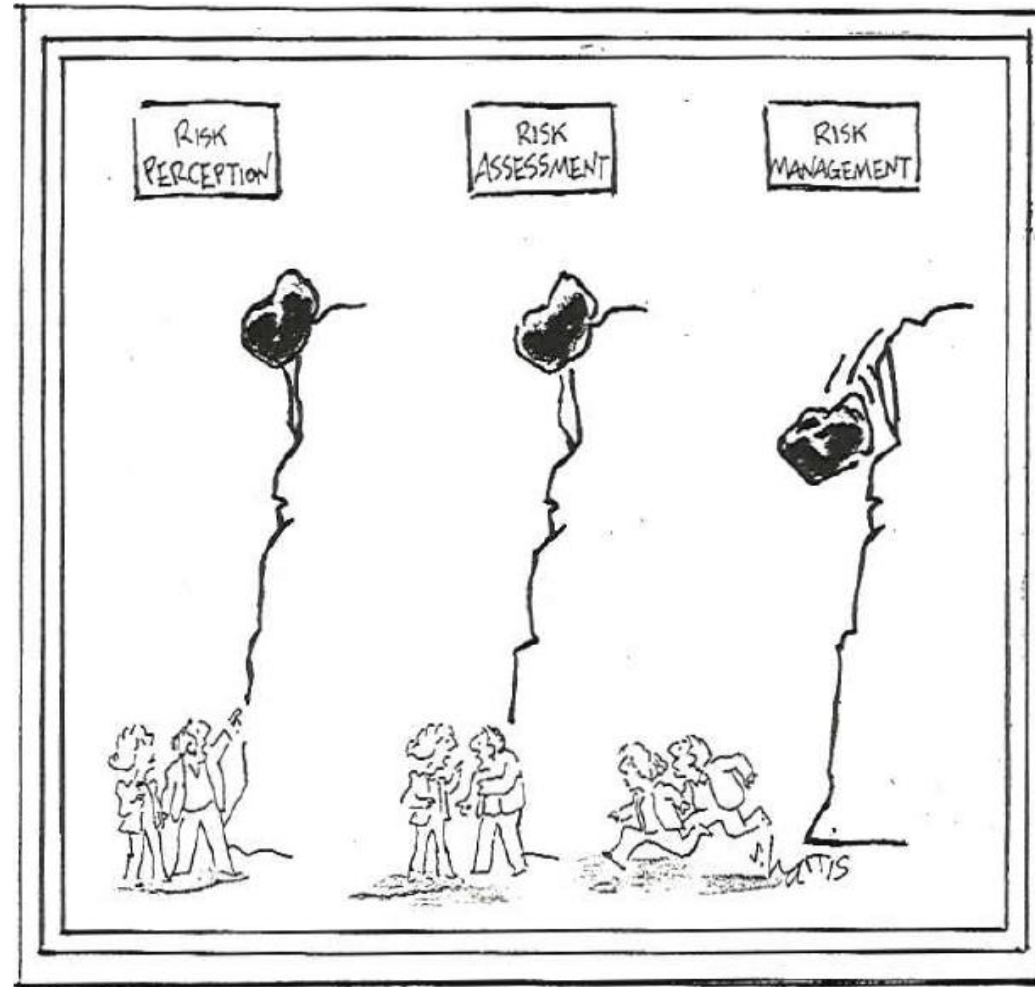
Murder

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




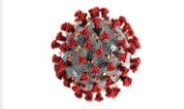
Hazard = The capacity or potential to cause harm

- 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">Unlikely to cause human disease	Fungi and yeasts
2 	<ul style="list-style-type: none">Can cause human or animal diseaseLaboratory exposures may cause serious infectionEffective treatment / prophylaxis availableThe risk of spread of infection is limited	Legionella, Influenza A & B, Meningitis
3 	<ul style="list-style-type: none">Causes serious human or animal diseaseMay spread to the communityEffective treatment / prophylaxis available	Anthrax, HIV, TB
4 	<ul style="list-style-type: none">Causes serious human diseaseHigh risk of spreading to the communityNo effective treatment / prophylaxis	Ebola, Congo fever SARS-COV-2

Calculating and Prioritising Risks

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

$$\text{Risk} = \text{Hazard} \times \text{Exposure}$$

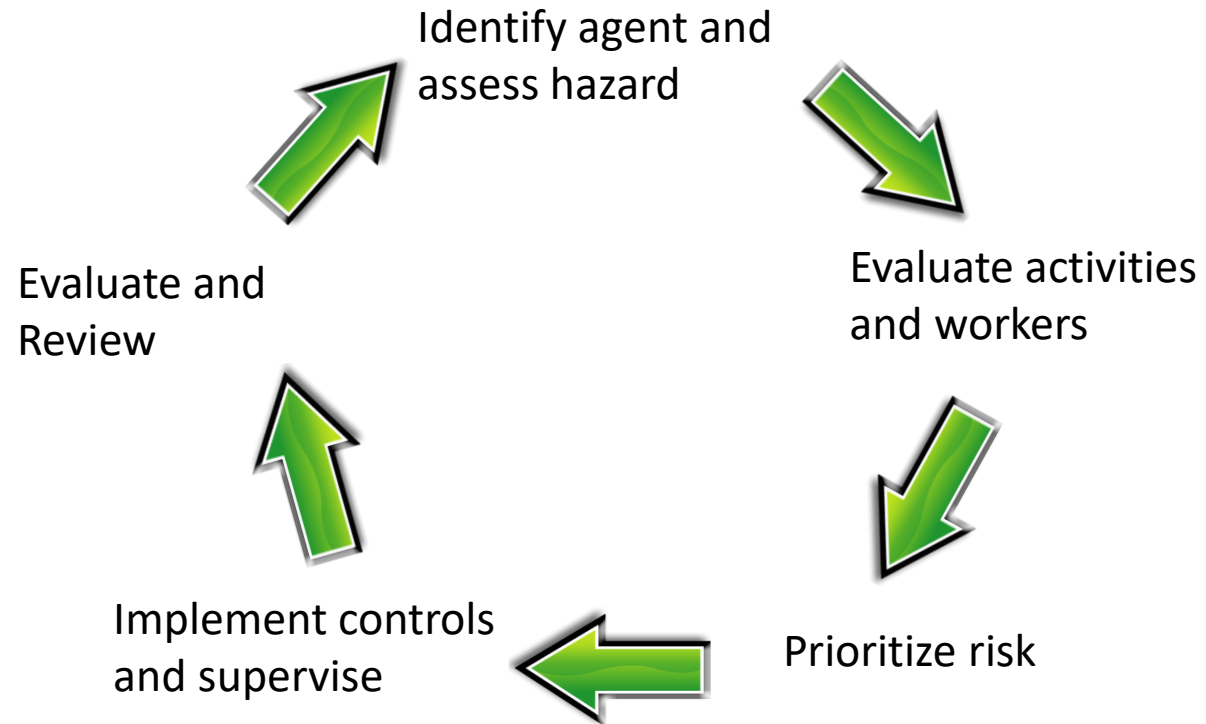
Plotting the Risk

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					

Plotting the Risk

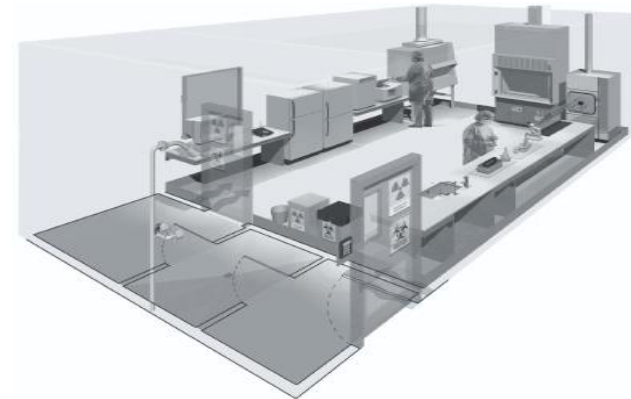
EMPLOYEE VULNERABILITY GROUP		EXPOSURE RISK GROUPS			
		LOW	MEDIUM	HIGH	VERY HIGH
	LOW	1	2	3	4
	MEDIUM	2	4	6	8
	HIGH	3	6	9	12
	VERY HIGH	4	8	12	16

Steps in Workplace Biohazard Risk Assessment

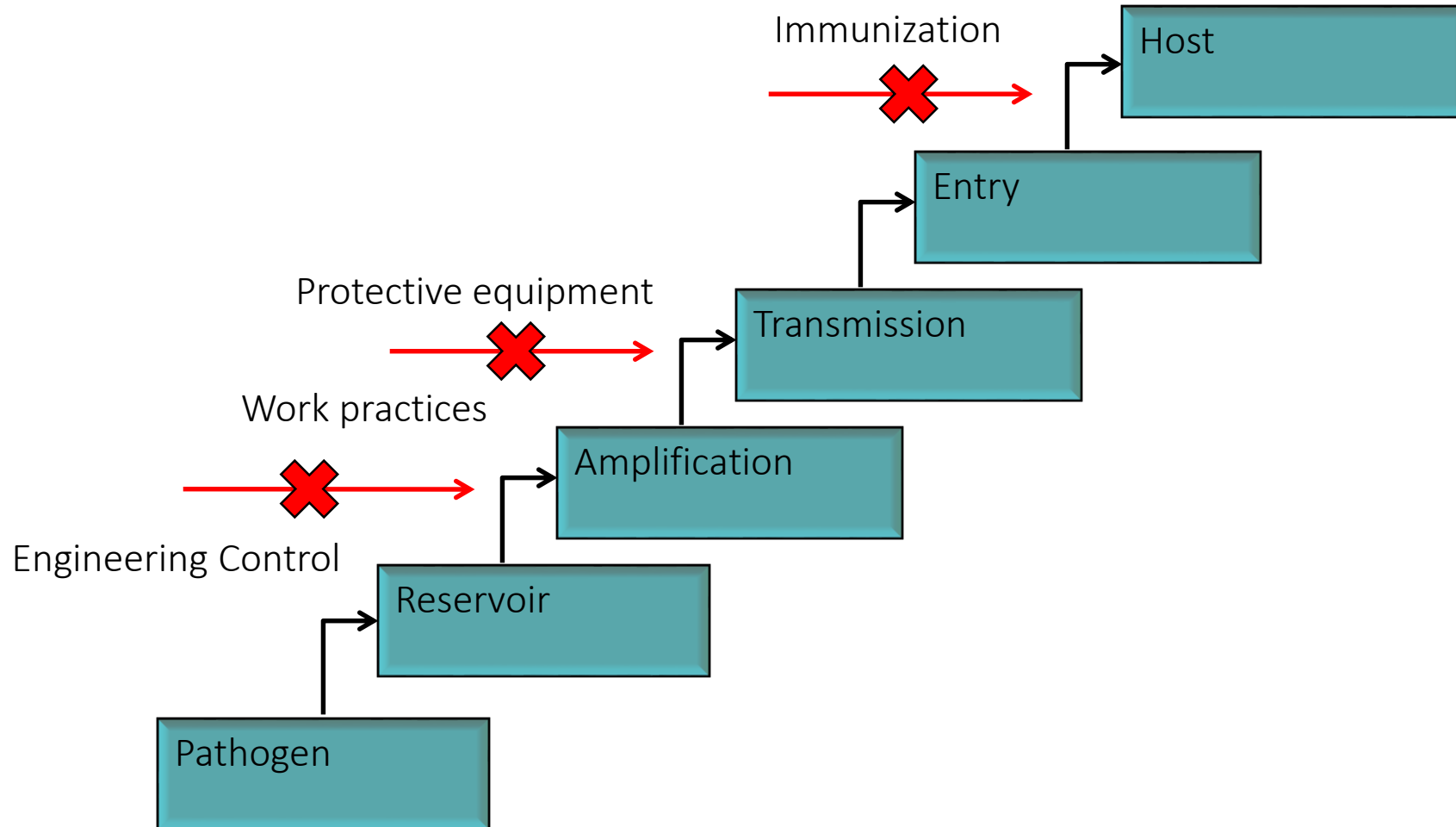


Risk Control

- Prevention
- Engineering
- Administrative
- PPE

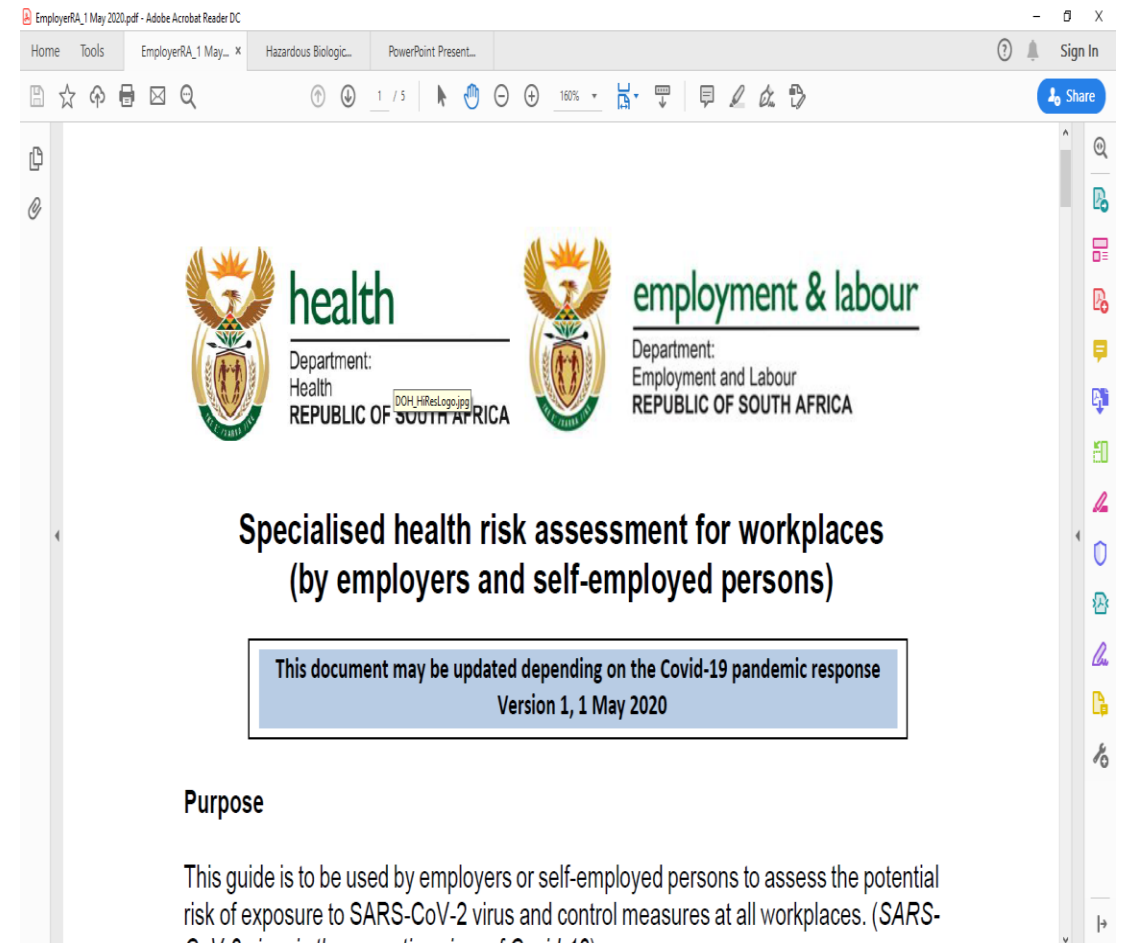


HBAs – Control Interventions



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

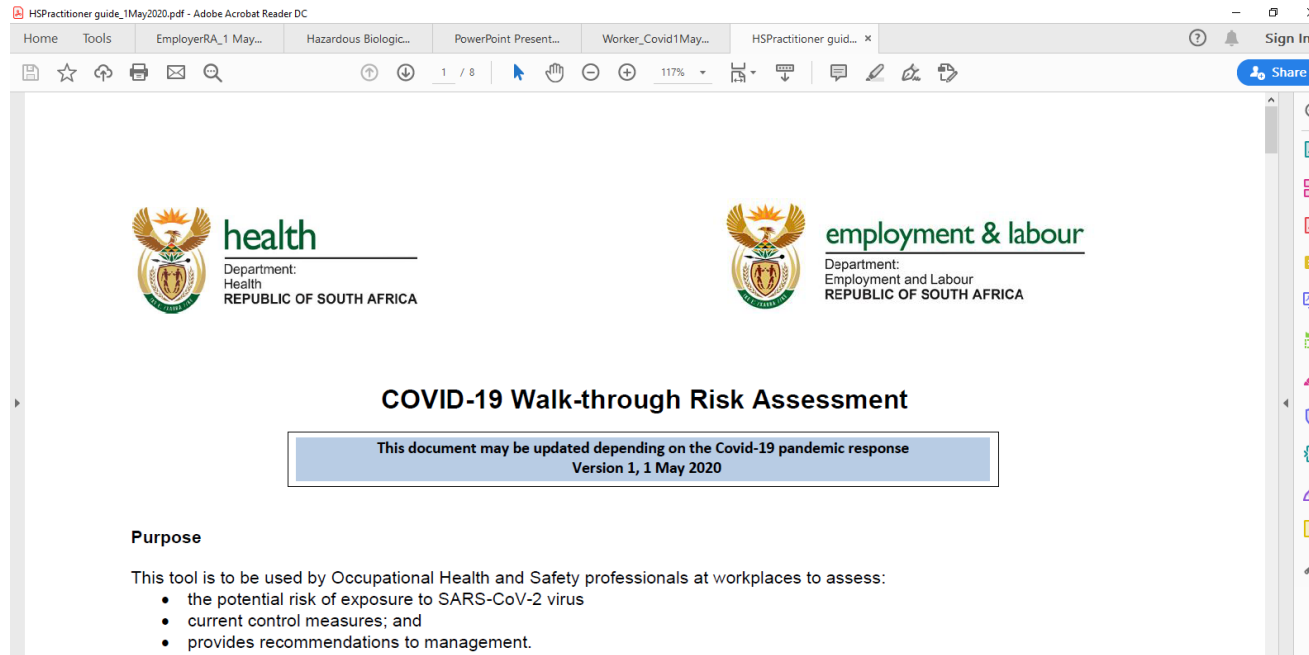


Legal Requirements – HBA Risk Assessment (cont'd)

- 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



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 columns: No, Requirement, Status (Yes, No, NA), and Comments. The second table lists various requirements related to education, hygiene, and PPE.

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
- 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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