

BRANCH: INSPECTION AND ENFORCEMENT SERVICES

CHIEF DIRECTORATE: OCCUPATIONAL HEALTH & SAFETY

Relevance of an occupational hygiene programme in the construction sector

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Construction Conference

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OUTLINE

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- Exposure monitoring trends :
Construction industry
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INTRODUCTION

- Safe and healthy working environments –
 - ✓ Fundamental principle and right at work
 - ✓ Essential requirement for sustainable and inclusive economic growth, full and productive employment and decent work for all.



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Cost of incidents & occupational diseases



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Cost of incidents & occupational diseases



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What is Occupational Hygiene

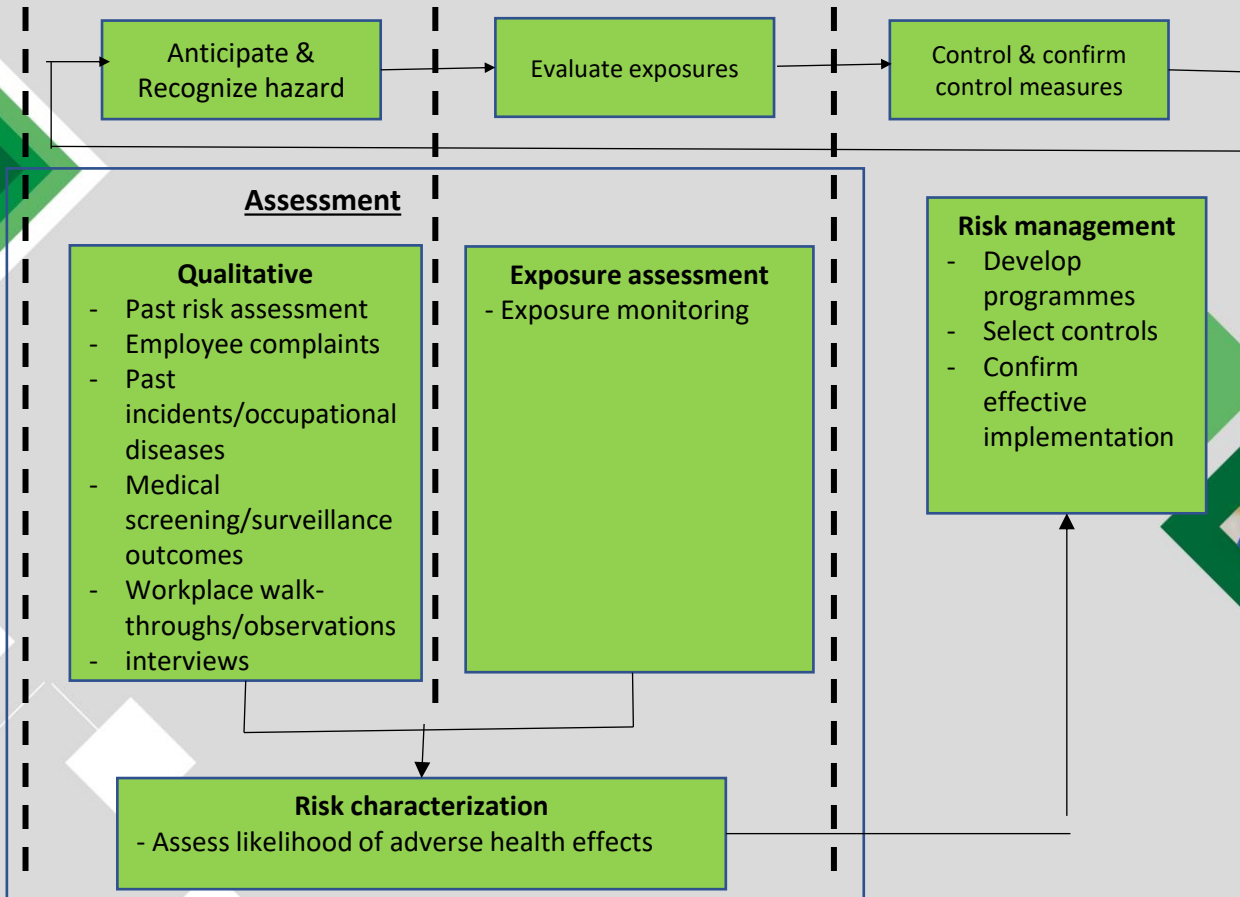
- Occupational hygiene is the science of:
- **Anticipation and recognition** of the possible health hazards in the workplace
 - **Evaluation** of hazards, which is the process of assessing exposure and reaching conclusions as to the level of risk to human health
 - prevention and **control** of hazards, which is the process of developing and implementing strategies to eliminate, or reduce to acceptable levels, the occurrence of hazards in the workplace



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What is Occupational Hygiene



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Occupational Hygiene: Construction sector

- Construction industry - one of the four industries with the highest rate of work-related injury risk.
- Hazards associated with construction work include:
 - Traumatic injury,
 - Chemical,
 - Physical,
 - Biological,
 - Ergonomics and
 - Psycho-social hazards



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Construction industry: agents & associated hazards

Chemical	Hazards
Flammable	Fire, burns, explosions
Corrosive	Corrosion (skin or containers)
Combustible	Fire, burns, explosions
Reactive	Fire, burns, explosions
Carcinogenic	Cancer
Sensitizing	Hypersensitivity, allergies
Asphyxiant	Suffocation, loss of consciousness
Physical	Hazards
Nonionizing radiation	Burns, cancer, cataracts, loss of vision
Thermal conditions	Syncope, exhaustion, stroke, hyperthermia, frostbite
Noise	Hearing loss, stress



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Construction industry: agents & associated hazards

Physical	Hazards
Vibration	Cardio-circulatory damage, spinal damage, gastro-intestinal damage, vibration syndrome, loss of muscle function & strength.
Musculoskeletal	Muscle and bone injuries, sprains, strains, tears
Biological	Infections, illnesses

Is occupational hygiene applicable in the construction industry?



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Exposure monitoring trends : Construction industry

➤ Results submitted by AIA over four years

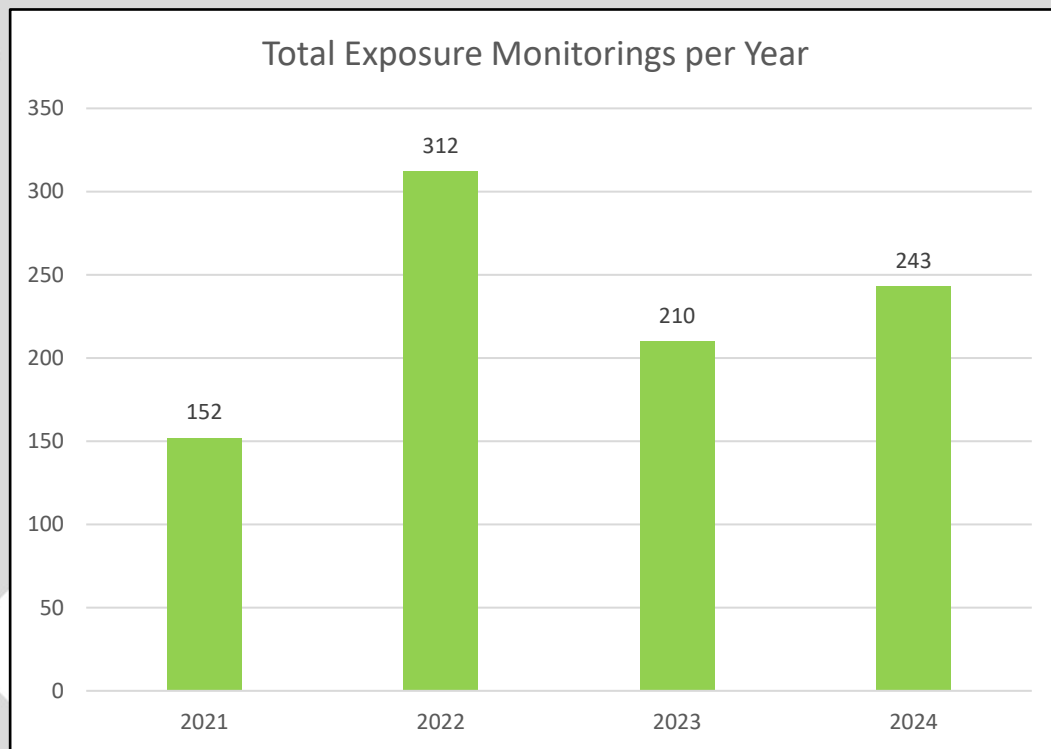
- 2020/2021
- 2021/2022
- 2022/2023
- 2023/2024



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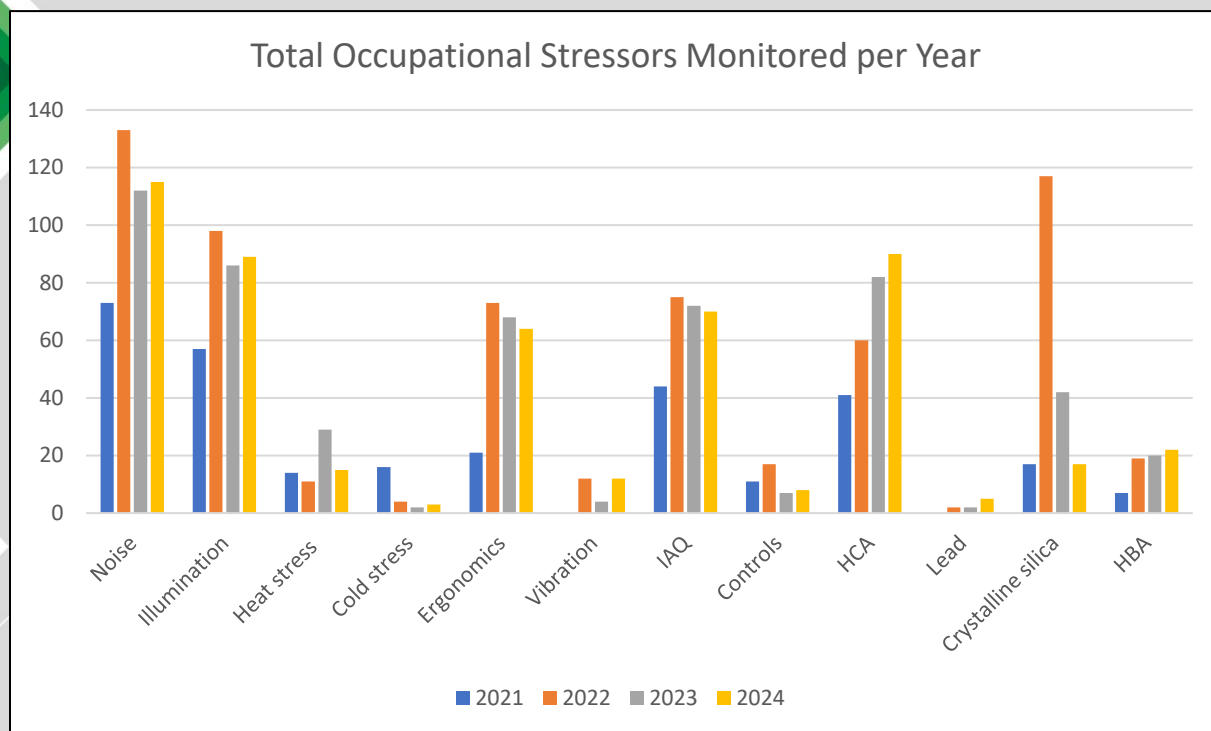
Exposure monitoring trends : Construction industry



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Exposure monitoring trends : Construction industry



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Exposure monitoring trends : Construction industry

Year	Noise	Illumina tion	Heat stress	Cold stress	Ergonom ics	Vibrati on	IAQ	Controls	HCA	Lead	Crysta lline silica	HBA
2021	73	57	14	16	21	0	44	11	41	0	17	7
2022	133	98	11	4	73	12	75	17	60	2	117	19
2023	112	86	29	2	68	4	72	7	82	2	42	20
2024	115	89	15	3	64	12	70	8	90	5	17	22



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Relevance of medical surveillance

Link between risk assessment & medical surveillance

Risk assessment determines the need for medical surveillance

HAZARD

(HCA, HBA, Noise, Ergo, Physical)

X

EXPOSURE

Duration, frequency intensity

**PERSON
vulnerability
factors
(↑ or ↓)
(factors
influencing
response to
exposure)**

Medical surveillance if...



1. Significant risk (exposure & harm)



2. Hazard known to cause identifiable effects (target organ damage)



3. Reasonably likely to occur in the particular conditions of work



4. Techniques to diagnose indications of the disease (screening tools)

**ENVIRONMENTAL
factors
(↑ or ↓)
(factors influencing
exposure, such as
synergistic effects,
confined space,
wind, thermal
stress etc)**

Medical screening helps identify the **vulnerable employee.**

E.g. ototoxic chemicals or vibration + noise.



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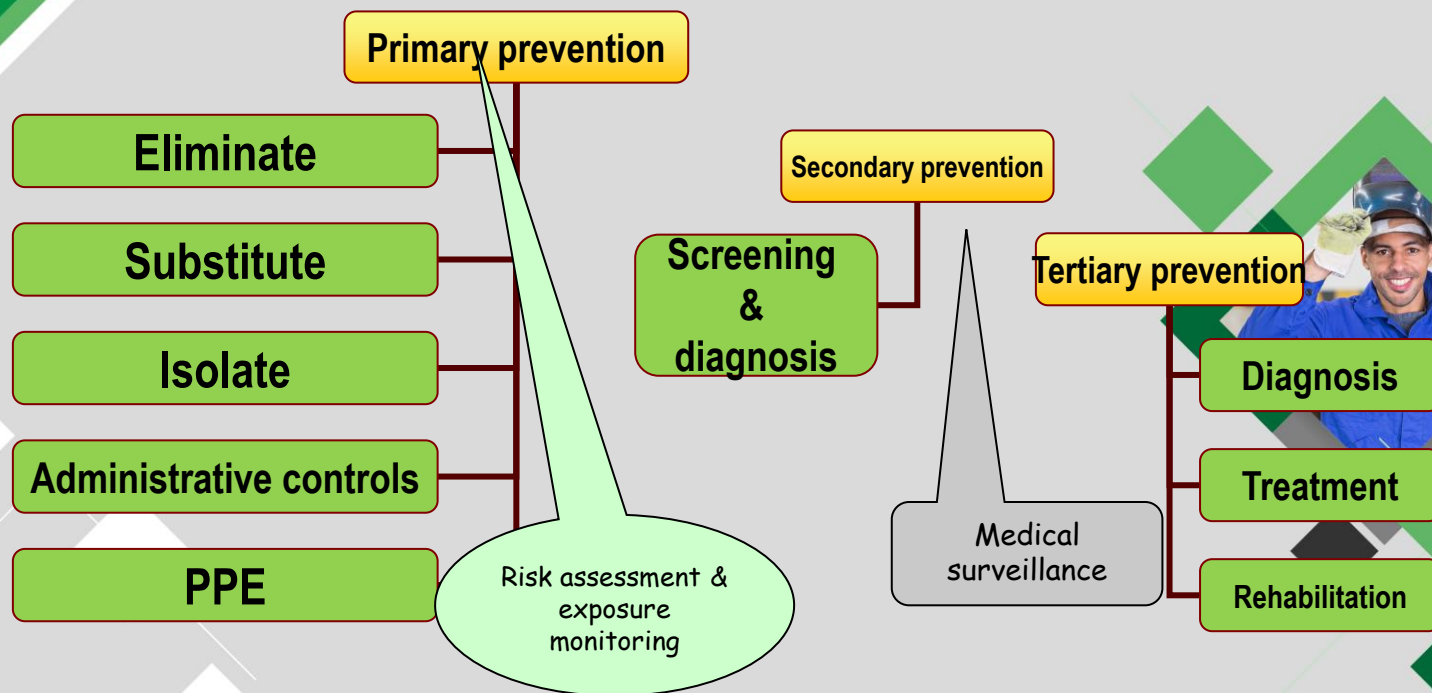
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Relevance of medical surveillance

Link between risk assessment & medical surveillance

Proactive measures
Minimise likelihood

Reactive measures
Minimise impact



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Benefits

- OH Programmes:
 - ✓ Contributes to the shared goals of business performance, and full potential of employees as they are provided with a safe and healthy working environment and their quality of life is not negatively affected.
 - ✓ Critical in assisting the organization to realize a wide range of benefits:
 - Fewer injuries and illnesses.
 - Reduced costs for workers' compensation claims.
 - Reduced disruption of operations.
 - Fewer injuries and illnesses.



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Benefits

➤ OH Programmes:

- ✓ Critical in assisting the organization to realize a wide range of benefits:
 - Reduced costs for workers' compensation claims.
 - Reduced disruption of operations.
 - Higher return-to-work rates following injury or illness.
 - Improved work practices, leading to increased efficiency, productivity and competitiveness.
 - Improved job satisfaction, morale, and employee retention.
 - Reduced absenteeism.



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Conclusion

- OH Programme: particularly important in the face of globalization that results in new or emergent risks that need to be progressively assessed and controlled.
- Effective OH programmes require:
 - ✓ Top-level ownership of the program,
 - ✓ Participation by employees, and
 - ✓ A "find and fix" approach to workplace hazards.



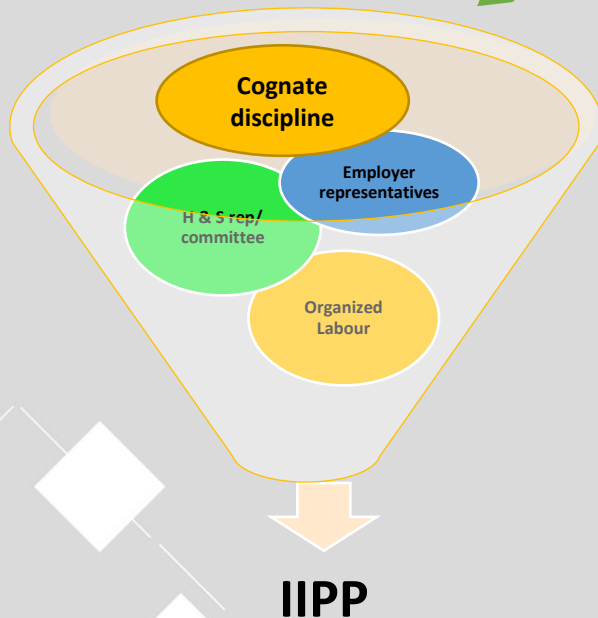
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Take home message

- A predominant factor is cooperation:

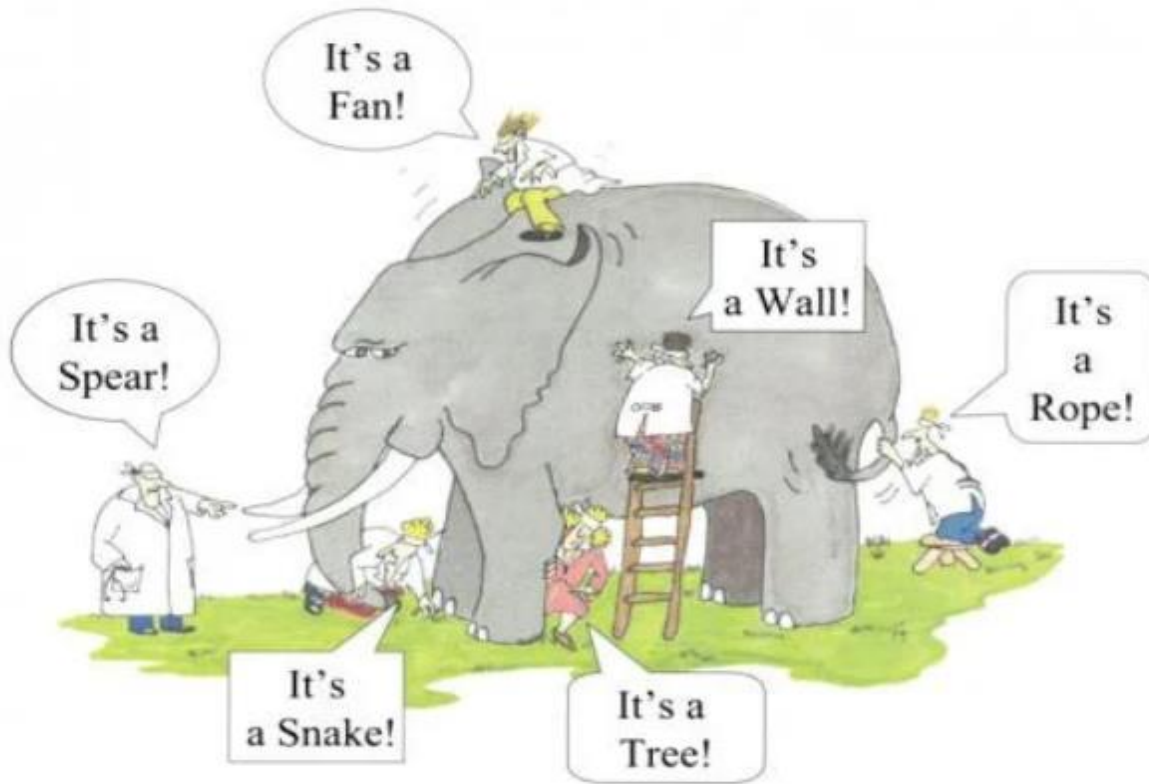
Collective ownership & interactive collaboration in the implementation of initiatives & interventions in the workplace.



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Take home message



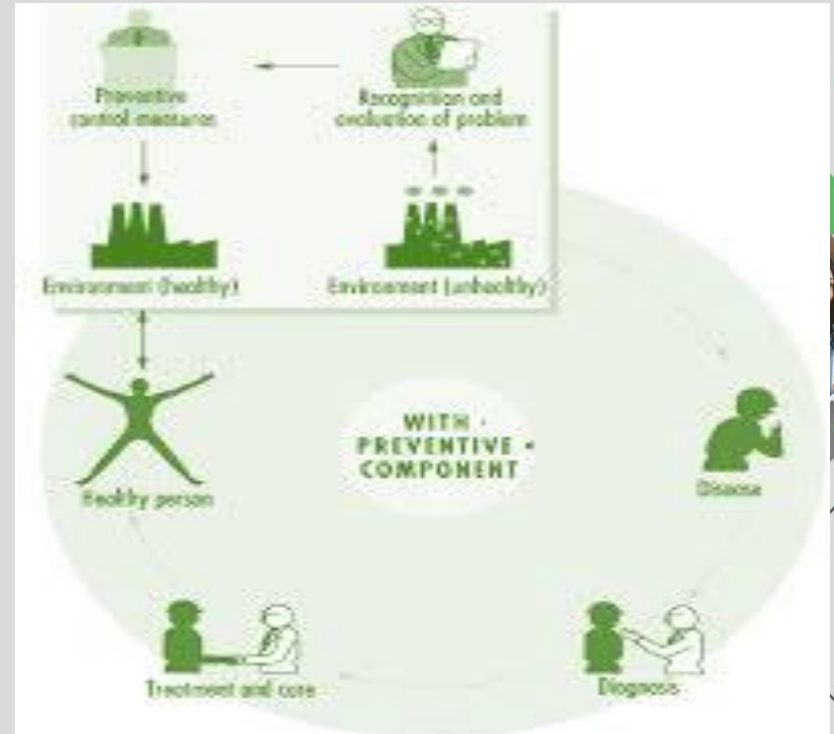
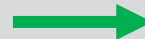
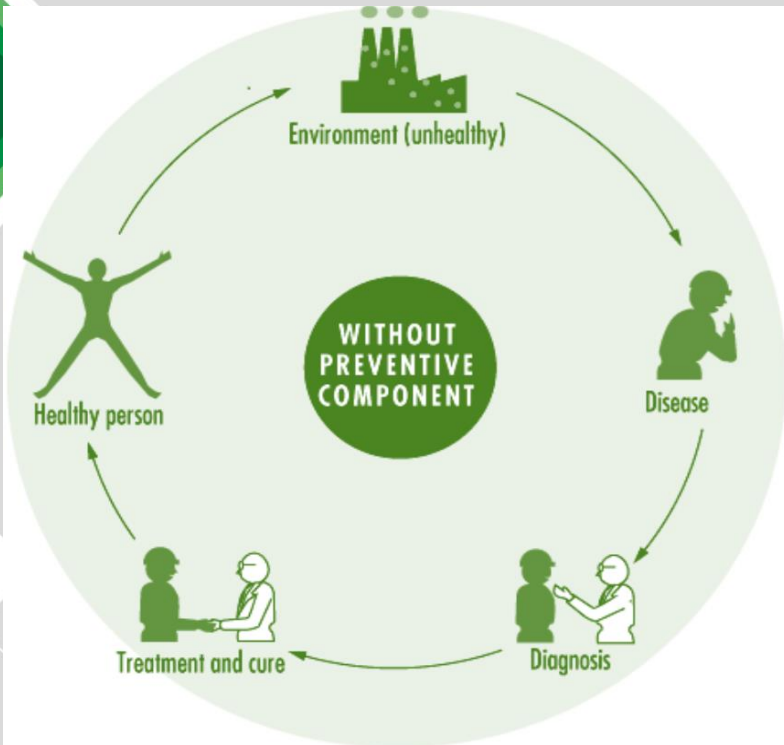
Source: <https://blog.som.cranfield.ac.uk/execdev/elephants-performance-measurement-and-management>



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Take home message



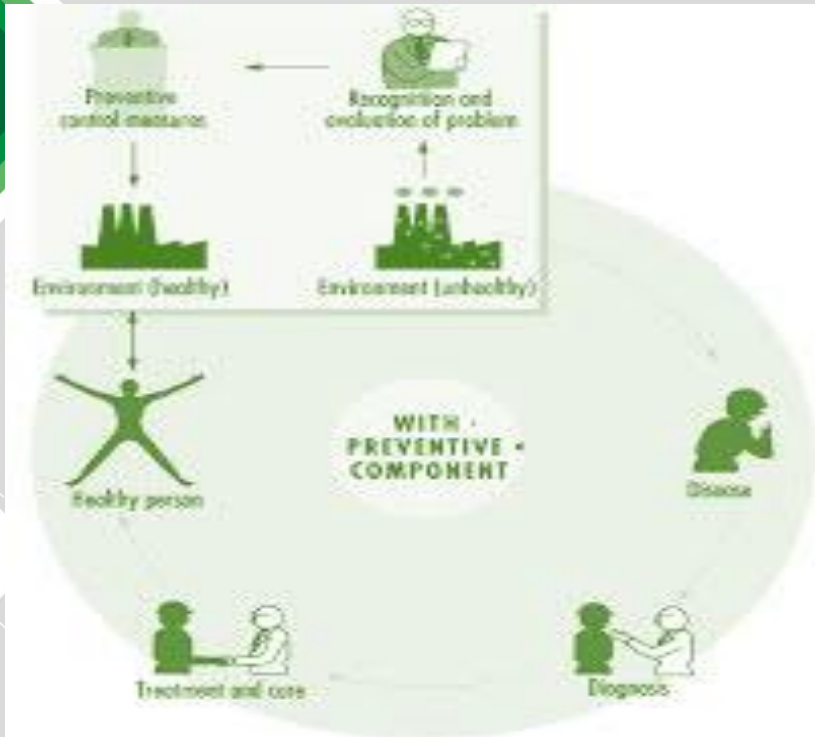
Source: ILO Encyclopaedia



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Take home message



ECONOMY



**REDUCED ACCIDENTS
REDUCED INJURIES
REDUCED OCCUPATIONAL DISEASES
IMPROVED QUALITY OF LIFE
IMPROVED COMMUNITY WELL BEING & RELATIONS**



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TAKE HOME MESSAGE

DEL has never accepted the proposition that
injury and disease

“go with the job”

"IF YOU'RE GOING TO LIVE, LEAVE A LEGACY.
MAKE A MARK ON THE WORLD THAT CAN'T BE
ERASED."

— Maya Angelou



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Resources

1. <https://www.iloencyclopaedia.org/part-iv-66769/occupational-hygiene-47504>
2. <https://www.oshs.gov>
3. <https://www.canada.ca>



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Asante Sana...



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