



**NATIONAL HEALTH
LABORATORY SERVICE**

NATIONAL INSTITUTE FOR OCCUPATIONAL HEALTH

Return on Investment of Medical Surveillance

**Railway Safety Regulator-
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Why Medical Surveillance?

OHSA 85 of 1993 & MHSA 29 of 1996:

Employer to assess risk caused by work &
take measures to control exposure

Medical surveillance indicated in special exposure
circumstances (regulations)

COID Act 130 of 1993

Medical surveillance

“Planned programme or periodic examination of employees by an occupational health practitioner, or in specified cases, by an occupational medicine practitioner” OH&SA 85 of 1993

- **Systematic** , scientific and continuous monitoring of **workers' health in relation to workplace hazards**
- **Indication of effectiveness of controls**
- Overall goal : continuous improvement of **safety, hygiene and health** at workplaces and the protection of workers' health
- Legislated for select occupational exposures:
OHSA & regulations



Medical Surveillance

- Primary aim to determine whether means of hazard control are working effectively to protect all workers at risk of occ diseases
- Not substitute for controlling exposure
- **Company's/Employer's expense**
- Protection of entire workforce
- Identification and protection of individual worker (high risk employees: age, chronic diseases etc)

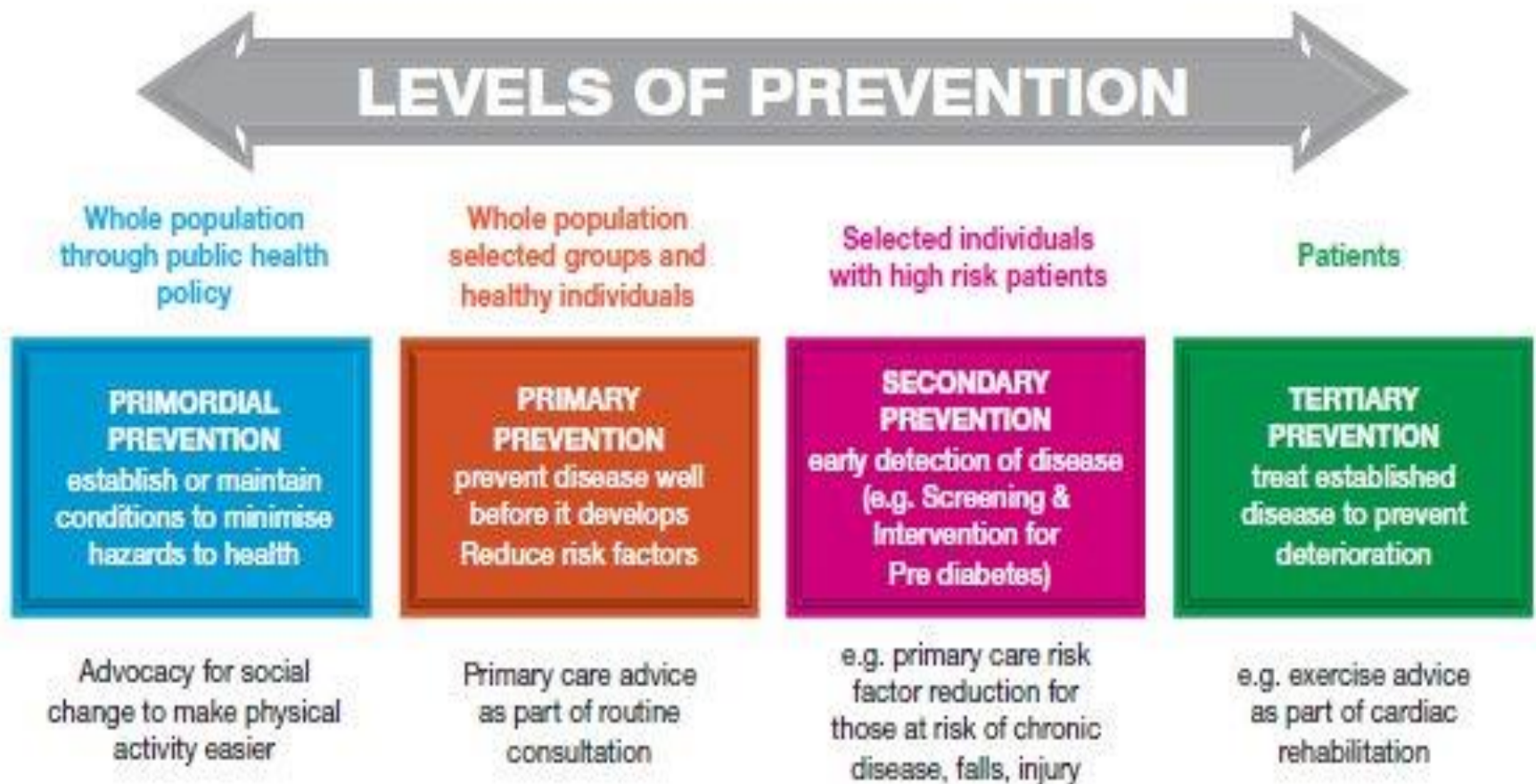


Medical Surveillance

- Should meet four criteria: **need, relevance, scientific validity and effectiveness**
- Tailored to the specific circumstances of the enterprise
- Four key players in health surveillance:
 - ✓ the competent authority
 - ✓ employers
 - ✓ Employees
 - ✓ Occupational health professionals
- Cooperation essential for a well-functioning occupational health surveillance system
- Medical Surveillance: assumption of risk from occ exposure
- Right test recognised to pick up early disease/ health effects

Prevention in the workplace

Occupational health: mainly disease prevention



Occupational Health services

- essentially **preventative** functions
- responsible for **advising** the employer, employee and their representatives.
- primarily targeted at **protecting and promoting** the workers' health and safety.
- **multidisciplinary service** provided by a team of professionals



Occupational Health: Prevention

Risk Assessment:
Identification, quantification & evaluation-prioritise

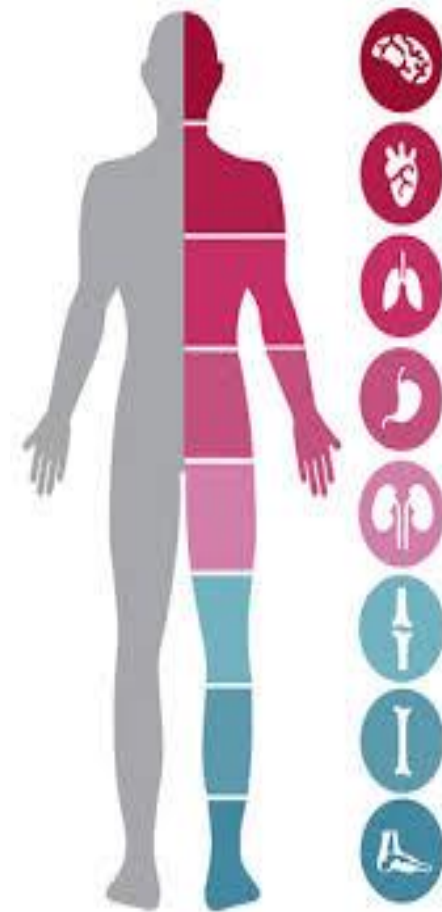
Risk Management:
Monitoring & controls

Medical surveillance:
Effectiveness of controls and early signs of overexposure

Information & Education:
Hazard & Risk communication

Occupational Diseases

- South Africa: Schedule 3 of COIDA
- International: ILO list of Occupational diseases
- Preventable
- Permanent/ irreversible
- Compensable
- **Prevention is key**



Occupational Disease Management

- **Individual**

Reliable diagnosis

- Compensation / disability grant
- Rehab: vocational, physical etc
- Eliminate exposure or relocate

- **Sentinel event**

- Survey co-workers
- Control exposure or cause of injury
- Notify/report

Need infrastructure and support services



Some examples of occupational diseases

- Noise Induced Hearing Loss (Noise)
- Respiratory conditions (dusts, fumes chemicals, gases)
- Musculoskeletal (abnormal posture, job design, repetitive movements)
- Occupational cancers (chemicals, radiation)
- Occupational asthma (welding fumes, maintenance, solvents, paint fumes)

Return on Investment

- **A performance measure:** evaluates the efficiency of an investment/ a program (public health) or to compare the efficiency of a number of different investments.
- An investment with **no positive ROI** - should be **not** be undertaken
- Other opportunities (alternatives) with a higher ROI, then the investment should be not be undertaken
- Important to indicate whose perspective the investment/gain is (insurer, employer, employee, public/society)

$$\text{ROI} = \frac{(\text{Gain from Investment} - \text{Cost of Investment})}{\text{Cost of Investment}}$$

ROI of Medical Surveillance

- Detailed analysis identifying all the variables that could impact the return
- Investment: Medical Surveillance
- Is it worth it?
- Are we gaining anything from it?
- Does it make business sense?



ROI Medical Surveillance

Cost item : Investment	Perspective	
	Employer	Employee
Direct medical clinical services (capital costs, operating expenses- personnel and services)	Yes	No
Direct non-medical (e.g. transportation)	Yes	No
Indirect (time off from work)	Yes	No
Intangible (pain, suffering quality of life)	No	Yes



ROI Medical Surveillance

Return on investment/ Gains	Perspective	
	Employer	Employee
Reduced liability (legal compliance, contravention notices, stoppage of business processes)	Yes	Yes
Opportunities: Health education (healthy awareness of risk, ownership & responsibility for own welfare) & Risk Communication and awareness.	Yes	Yes
Early identification of health related changes before disease manifestation (effectiveness of control measures in the workplace)	Yes	Yes
Ill health management (Fitness for duty)	Yes	Yes
Identification of occupational & non-occ diseases (investigation and appropriate referral)	Yes	Yes
Employee morale & productivity	Yes	Yes
Early intervention (reduced mortality, restored functionality/productivity)	Yes	Yes
Insurance cost (prevention of occ disease- compensation costs reduced, reduced health Insurance costs)	Yes	Yes

Occupational diseases: Enterprise level

- Direct costs of illness and injury
- Indirect costs (recruitment and re-training)
- Low productivity
- Presenteeism and absenteeism
- Poor quality



Cost drivers in Medical surveillance

- Cancers : long latency
- Absence of proper screening tests
- Using diagnostic methods for screening (e.g. questionnaire for asthma- effective and cheaper)
- Blanket testing vs Risk based Medical Surveillance (Occupational hygiene Risk assessment)

Best ROI

- **Risk based Medical surveillance**
(Occupational hygiene input crucial)
- **Optimal control of hazards** (minimize risk)
- Primarily **aim at indicating effectiveness of controls: picking up early effects of exposure** & secondarily disease diagnosis and management
- Clear programme of **dealing with abnormalities** (relocation, workplace control review)
- Monitoring (is it done according to plan?) & evaluation (is it really preventive)
- **Feedback mechanism** within occ health system & risk management & enterprise level



Thank you

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