

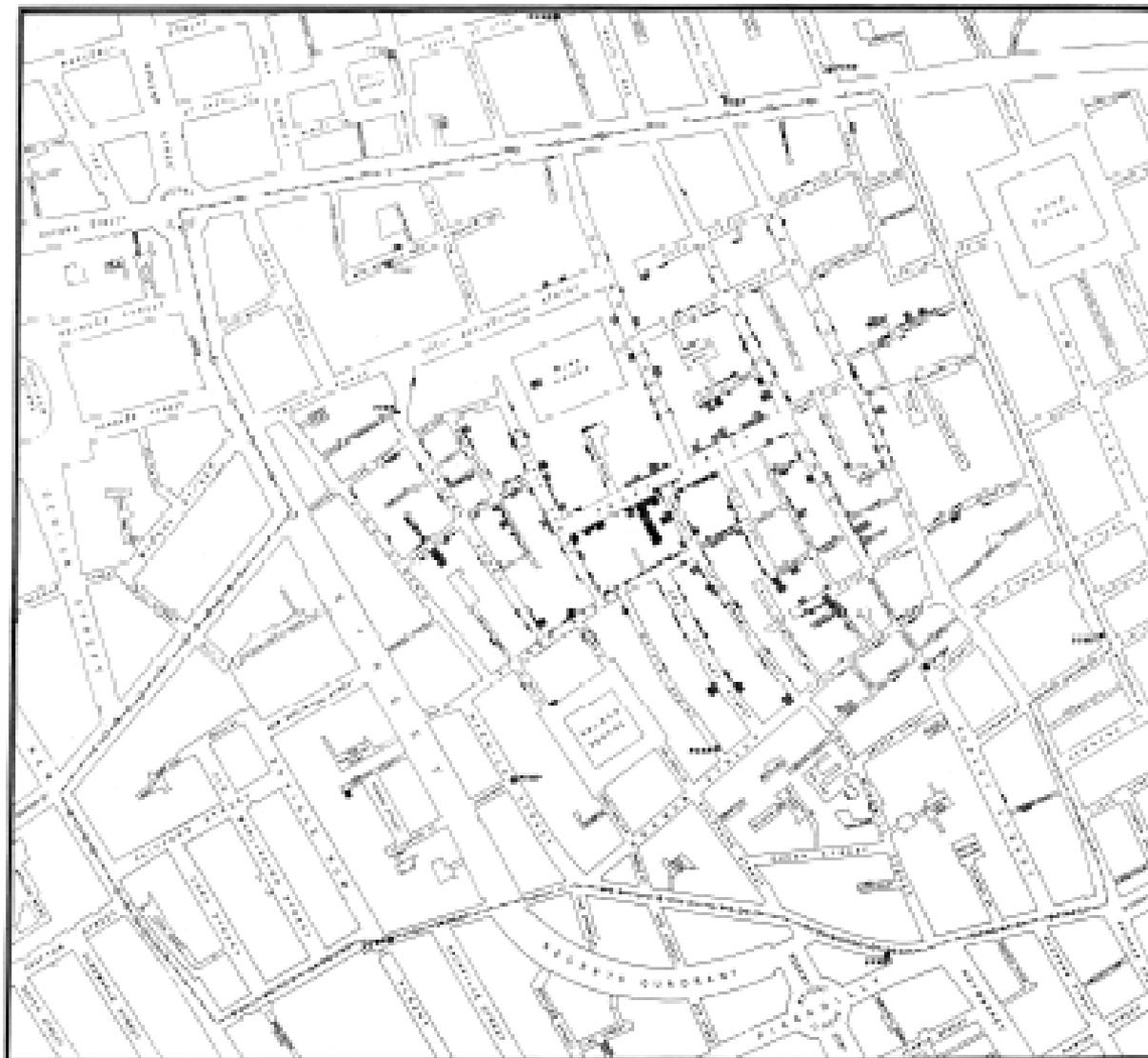
**Military Occupational/Environmental Health & Medical  
Surveillance Subcommittee Update:  
Review of  
US Army Center for Health Promotion and Preventive Medicine  
Assessment of  
Sodium Dichromate Exposure at Qarmat Ali Water Treatment**

**William Halperin, John Herbold, Wayne Lednar,  
James Lockey, Tom Mason, Alan Russell  
Defense Health Board  
November 20, 2008  
Arlington, Va**

## Charge:

- 10/6/08 Surg General Schoomaker “review Occupational and Environmental Health Assessment of Qarmat Ali Water Treatment Plant, Iraq in 2003.
- Was the standard of practice adequate?
- Are the report’s conclusions valid?
- Initial conference call 10/17
- Briefing 11/12-13 ( security clearance required)
- Report nearing completion.

# History of Field Epi dates to Snow: Broad St Pump



# Site:

- Basra, Iraq
- Industrial water for oil production
- Ransacked
- Visible yellow contamination (sodium dichromate) used a corrosion inhibitor
- Continuous contractor presence
- Successive military cohorts: British, Oregon, S Carolina, Indiana Nat Guards

# SE Iraq



# Qarmat Ali

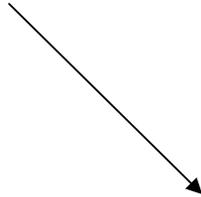


# Chronology

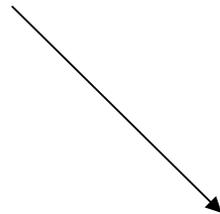
- Spring 2003: Provide security for QA
- Summer 2003: Contractor identifies hazard, remediates site: asphalt and gravel
- Sept, 2003: Soldiers observe contractors in PPE
- Sept 19: Access to site restricted by DOD
- Sept 21: DOD “town meeting;” .
- Sept 29 Start CHPPM Field Investigation
- Oct 17: PPE required
- Oct 30: CHPPM Field Investigation completed

# Cascade of Prevention

Primary

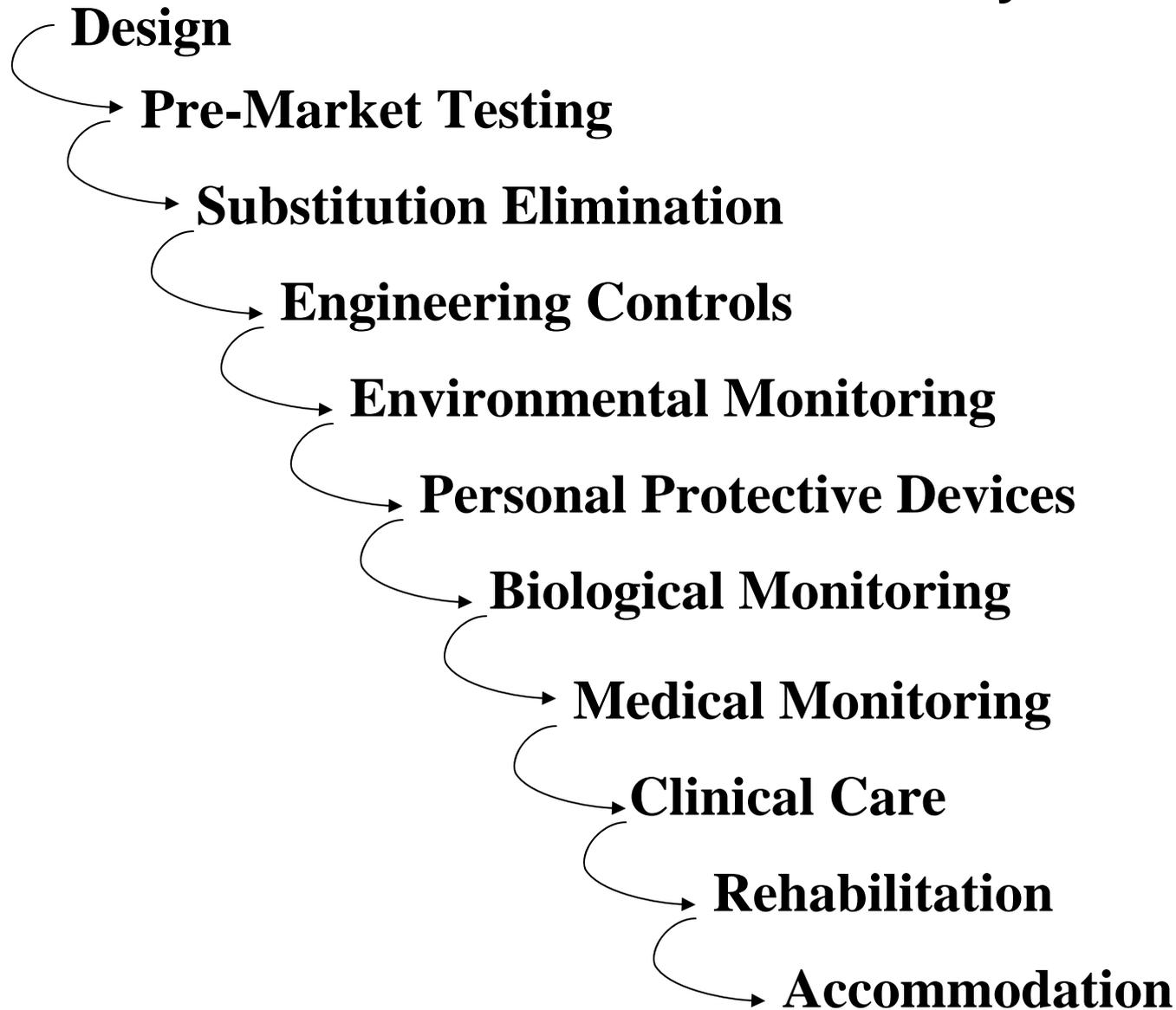


Secondary

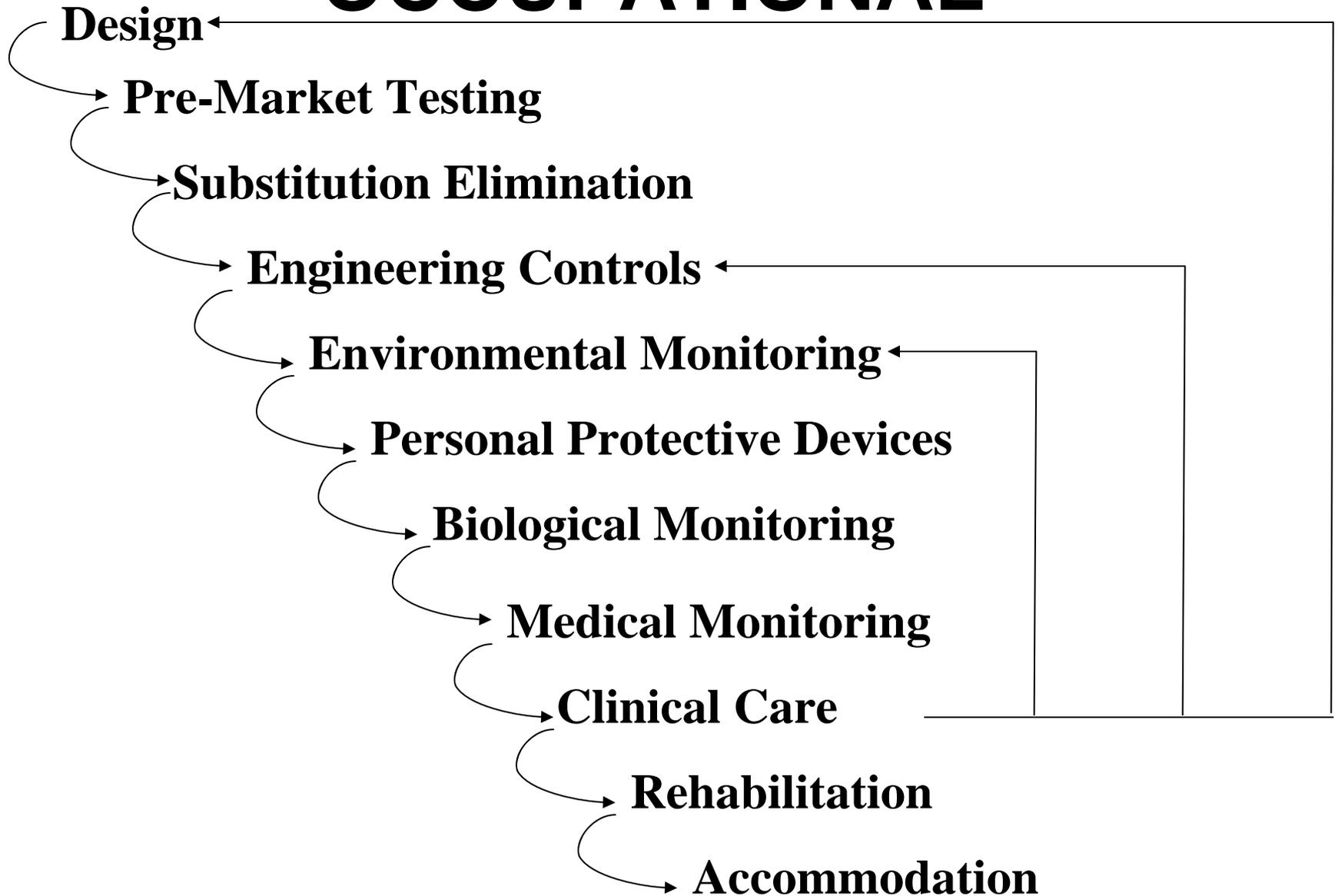


Tertiary

# Cascade of Prevention: Hierarchy of Controls



# CASCADE OF PREVENTION OCCUPATIONAL



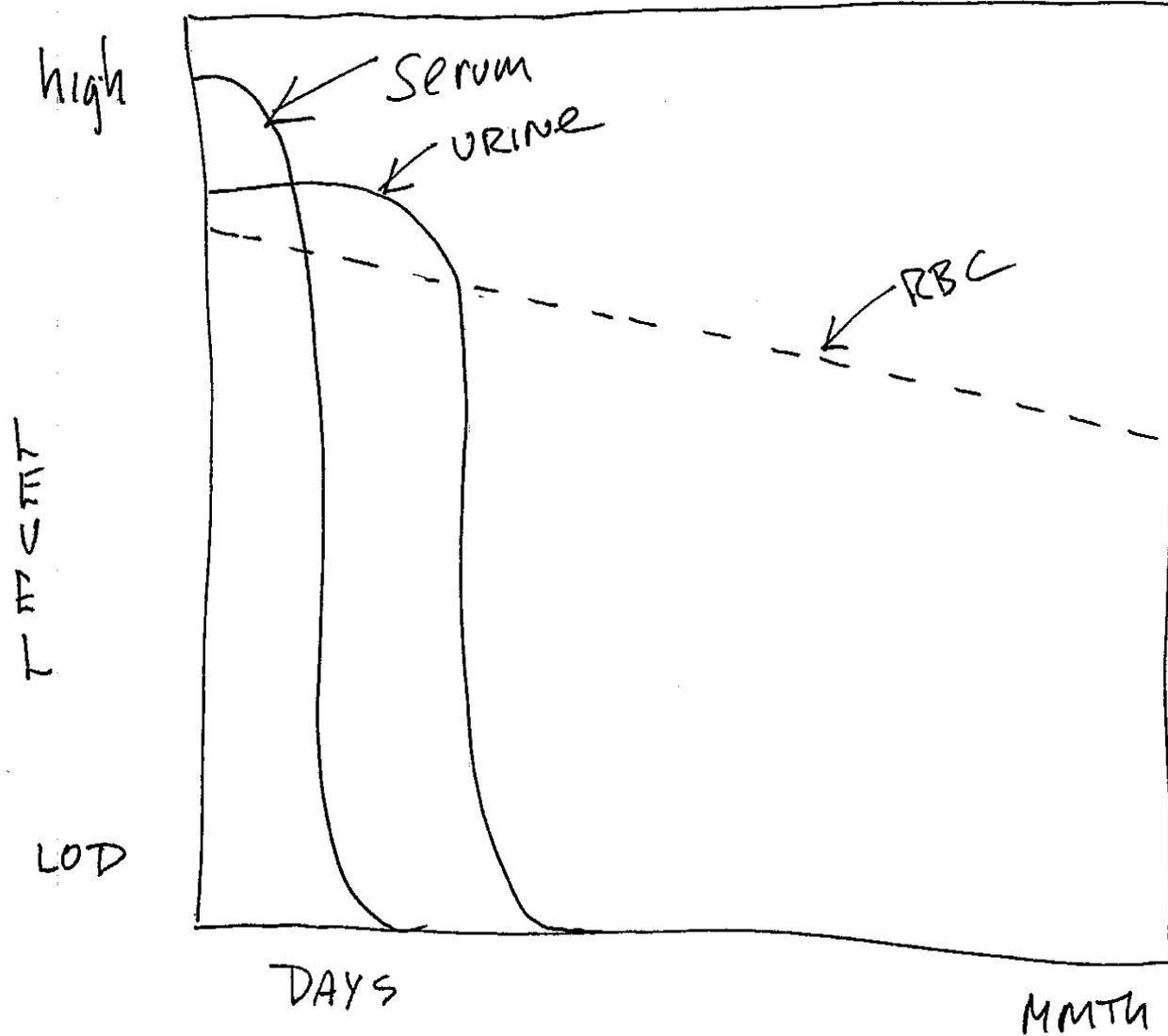
# Exposure Assessment

- KBR identifies hazard and elevated concentrations.
- KBR encapsulates with asphalt and gravel
- KBR samples: minimal exposure to Chrome VI
- Britfor: minimal exposure to Chrome VI
- CHPPM finds elevated Chrome VI in soil particularly offsite. Area samples and breathing zone find no CrVI

# Biological Monitoring

- Test for the presence of toxin in biologic medium: urine, blood, breath, etc
- Choice of test: appropriate.

# Chromium VI Kinetics POST EXPOSURE



# Medical Assessment

- Screening for early signs and symptoms of disease
- History and physical for disease
- Examples:
- No chrome ulcers or perforations
- Respiratory irritation high and consistent with non exposed in theatre

# Epidemiologic assessment

- Mean of blood CrVI consistent with background, not with occupationally exposed.
- No association with length of exposure, etc

# Prevention Interventions

- Control of Exposure
- Site remediation
- Site access
- Medical care

# Health Risk Communication

- 7 in toto
- Current and former units
- Results of laboratory and medical evaluations incorporated in medical charts.

# Issues being considered by Committee:

# Limitation of assessment to one state's guard contingent

- Reasonable assumption that other contingents similarly exposed would similarly have unremarkable results

# Activism

- Investigation started locally and timely
- CHPPM responds with expert team and completes work expeditiously

# Other issues-in progress

- Access to industry specific experts
- Silos vs bridges
- Classification
- Dissemination of results to similar sites
- Hazard recognition by field units
- Numbers of available experts from CHPPM (tox, epi, ih, etc)(career ladders)

# Response to charge: in progress

- SOP
- Meet or exceed?
- Conclusions
- Appropriate?



**THE**

**END**