Healthcare Workers (HCWs)

- Estimated **18 million** work in healthcare professions in U.S.
- W.H.O. estimates **60 million** healthcare workers (HCWs) worldwide
- **Nurses** large majority
- Healthcare setting expanding

Occupational Health in Healthcare Workers

Hospital workers are exposed to chemical, biological, physical, & psychological stress at work

(See examples in transcript)
Goals of Occupational Health Program

• Prevent transmission of infection
• Provide a safe workplace
• Maintain health of workers
• Treat & compensate for work-related injuries & exposures

Code of Ethics

Provide health care in the workplace with regard for human dignity & client rights, unrestricted by considerations of social or economic status, national origin, race, religion, age, sex, or the nature of the health status

Occupational Health in Healthcare Settings

• Pre-employment requirements: (TSTs, chest x-ray)
• Vaccine-preventable disease requirements (MMR, varicella, influenza)
• Mandated activities (TST testing, HBV vaccine)
• Post-exposure (needlesticks, meningococcal meningitis)
• Work restrictions (diarrheal illness, herpes zoster) (crosses into Public Health)

About Workers Comp..

• A HCW must be compensated for costs & lost wages for injury or illness “arising out of the course of employment”
• Implications for surveillance: some can be tested for pre-employment, at time of exposure, or post-exposure
• Dilemma: what you have to test for, would like to test for, with a limited budget

Biological Agents

Source: OSHA, Hospital e-tool “Healthcare Wide Hazards”

• Bloodborne pathogens
  • Standard
  • HIV, HBC, HCV
• Needlesticks
• Infection
  • MDRO, MRSA, seasonal flu
• Tuberculosis
• Lack of Universal Precautions

Infectious Risks: Viruses

• Creutzfeldt-Jakob agent
• Cytomegalovirus
• Erythrovirus B 19 (parvovirus)
• HAV, HBV, HCV, HIV
• Herpes simplex
• Influenza
• VHF: Lassa fever, Ebola
• Measles, mumps, rubella
• Poliovirus
• Respiratory syncytial virus (RSV)
• Varicella-zoster
**Infectious Risks: Bacteria**
- *Bordetella* species (*pertussis, parapertussis*)
- *Campylobacter* species
- *Clostridium difficile*
- *Corynebacterium diphtheriae*
- *Mycobacterium tuberculosis*
- *Neisseria meningitidis*
- *Salmonella* species
- *Shigella* species
- *Staphylococcus aureus, Grp. A Streptococcus*
- *Yersinia pestis* (plague)

**Other Infectious Risks**
- *Chlamydia psittaci*
- *Coxiella burnetii*
- *Cryptosporidium* species
- *Mycoplasma pneumoniae*
- *Pediculosis*
- *Sarcoptes scabiei*
- Animal-related risks (*e.g.*, rabies)

**Employer Responsibilities**
- Provide available safety equipment, policies, & procedures
- Provide compensation for work-related illness & injuries
- Promote a “culture of safety” for employees and patients
- Comply with mandates & regulatory requirements

**Employee Responsibilities**
- Report all occupational exposures & injuries
- Comply with policies & procedures
- Use available safety equipment, devices, & PPE
- Be responsible for actions
- Report unsafe conditions

**Regulatory Agencies**
- Occupational Safety & Health Administration (*OSHA*)
- The Joint Commission (*TJC*)
- State health department
- Local governments

**Advisory Agencies**
- Centers for Disease Control & Prevention (*CDC*)
- Advisory Committee on Immunization Practices (*ACIP*)
- Healthcare Infection Control Practices Advisory Committee (*HICPAC*)
- National Institutes for Occupational Safety & Health (*NIOSH*)
Protecting HCWs

- “Hierarchy of Controls” are used
- Those listed first are more desirable than those lower in the hierarchy
- May not have choice of all levels with some hazards

Elimination & Substitution

- Best alternative- hazard eliminated
- Next-substitution of hazard with less toxic or non-toxic substance
- Examples: non-latex gloves, cleaning agents that are not toxic, don’t use blood for testing; don’t use needles
- Do not require any action on part of employee

Engineering Controls

- Modify source of hazard or reduce quantity
- Use principles of substitution, isolation, enclosure, or ventilation
- Examples: sinks, sharps containers, isolation rooms, exhaust fans, biological safety cabinets, devices with ESIP
- If provided, HCWs must use

Administrative & Work Practice Controls

- Controlling exposures by job rotation, work assignments, training, policies
- Includes work practices
- Examples: policies prohibiting recapping of used needles, require immediate disposal of needles, education, job rotation
- Employees must follow to be effective

Personal Protective Equipment (PPE)

- Devices worn by workers to protect against hazards in the environment
- Examples: masks, gloves, gowns, protective eyewear (face shields, safety glasses, goggles)
- Disadvantage: employee must get & put on

Re: PPE, Safety Devices, & HCWs
Employees must take responsibility for their safety behaviors

OSHA Mandate
- Bloodborne Pathogens Standard (BBPS)
- Requirements:
  - pre-employment
  - post-exposure
  - surveillance

OSHA BBPS: HBV
- Offer *hepatitis B vaccine* free of charge to all HCWs who have contact with blood & body fluids as part of their job
- All employees who do NOT take vaccine must sign a *declination form*
- All employees exposed to blood must be offered *post-exposure prophylaxis* & followed-up with blood tests

OSHA BBPS: HCV
- All exposed employees must undergo *serial blood testing* if source patient (+) for HCV
- No pre-exposure drug regimen @ this time
- No PEP @ this time
- May benefit *treating acute infection early*

OSHA BBPS: HIV
- All employees must be offered post exposure prophylaxis (*CDC provides guidelines*)
- All exposed employees must receive follow-up serial blood testing (*interval varies, depending upon co-infection*)

OSHA BBPS: General
- All employees must follow *Standard Precautions* for care of all patients
- All employers must provide *safe workplace*: safety devices, policies, procedures
- *Sharps Injury Log* - NSPA
- *Initial & annual* education for all employees