

Occupational Health Issues in Outbreaks: health care workers as introducers, propagators and victims

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Objective:

1. To review common occupational health issues in enteric and respiratory outbreaks
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Prevention is always preferable over control

- Early identification of patients, i.e. syndromic surveillance
 - Empowering front-line staff to institute Additional Precautions at onset of symptoms
 - Protects both patients and HCWs
 - Healthy Workplace
 - HCW immunization programs
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HCW Immunization Programs

More than influenza:

- Hepatitis B
- Measles/Mumps/Rubella
- Varicella
- Tetanus/Diphtheria vaccine (Td)
 - one dose with acellular pertussis (Tdap)

Ontario Hospital Association

- www.oha.com
 - go to: “Communicable Disease Protocols”
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HCW Immunization Programs

- HCWs may be exposed to vaccine preventable diseases in the course of their work when patients seek care
 - If susceptible and subsequently infected, HCWs can cause extensive exposure to patients
 - Immunization programs are cost-effective compared to furlough or outbreak control
 - funding issues
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Healthy Workplace

“Health care workers have a responsibility to their patients and colleagues regarding not working when ill with symptoms that are likely attributable to an infectious disease. This includes staff with influenza-like illness, febrile respiratory illness, gastroenteritis and conjunctivitis.”

- OHA/OMA Communicable Disease Surveillance Protocols
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Respiratory Infections

- Febrile respiratory infections are common, particularly during winter
 - commonest acute care admitting diagnosis
 - Commonest causes are respiratory viruses
 - transmissible by droplet/contact
 - Failure to contain at source puts other patients and HCWs at risk
 - Syndromic surveillance
 - Institute droplet/contact precautions at onset
 - Protects HCWs and other patients
 - Acute and non-acute settings
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DAILY SURVEILLANCE TOOL FOR ACUTE CARE PATIENT UNITS

(excluding Neonatal ICU & Newborns, and F2 Unit)

DATE: _____

PATIENT UNIT: _____

PAGE ____ OF ____

Each shift is to update this form.

- Any new onset of symptoms of fever, cough, and shortness of breath, vomiting, diarrhea and/or pneumonia in patients must be reported to the attending physician immediately and a message for Infection Prevention & Control must be left at:
(Sunnybrook: 416.480.6100 ext. 7135, WCCACC: 416.323.6271, HOAC: 416.480.6100 ext. 7971).

Sunnybrook Campus: → Leave completed surveillance tool in a designated place on the unit ready for pickup by Infection Prevention & Control Monday to Friday at 0830. (Weekend forms will be picked up on Monday)

WCCACC Campuses: → Fax to: 416.323.6116

HOAC Campus: → Fax to: 416.480.6845

NAME/ HFN/ ROOM	ADMISSION DATE	DATE OF NEW ONSET	FEVER >38°C	COUGH	SOB	HYPOXIA (O ₂ Sat below)	VOMITING	DIARRHEA	DROPLET PRECAUTIONS (YES OR NO)	ACTION(S)	INITIALS

General Personal Preventive Practices

- Annual influenza immunization
 - Frequent hand hygiene
 - workplace, home, public settings
 - Stay home from work when ill
 - culture change
 - non-punitive attendance management
 - Respiratory etiquette:
 - cover mouth/nose with tissues when coughing/sneezing
 - dispose of tissues
 - hand hygiene
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Respiratory Infections

Health Care Workers as Introducers of Infection



Reported pH1N1 Outbreaks: LTC Homes MMWR 59; 3, 2010

- Colorado, October 2009
 - Attack rate 28%: 11 residents; 10/25 staff
 - One staff member worked while ill, 2 days before onset in residents
 - Maine, November 2009
 - Increasing rates of staff absenteeism in the week before index patient
 - New York, October 2009
 - Attack rate: resident 11%; staff: 22%
 - Ill staff member worked with ILI day before onset in first resident
 - pH1N1 vaccine had not been given to residents or staff prior to outbreaks
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Respiratory Infections

Health Care Workers as Introducers of Infection: it's not just influenza:

- Respiratory syncytial virus (RSV)
 - Human metapneumovirus (hMPV)
 - Parainfluenza virus
 - Human coronaviruses
 - Adenovirus, etc.
- New diagnostic tests, e.g. PCR, demonstrate increasing proportion of lower respiratory tract infections requiring hospitalization are due to viruses
 - “Trivial” infections for HCWs cause significant morbidity and mortality for patients/residents
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Gastrointestinal Viral Infections

- Gastrointestinal viral infections are common, particularly during winter
 - Highly transmissible by contact
 - low infectious dose (<100 virions)
 - prolonged shedding
 - prolonged survival in environment; ES considerations
 - Failure to contain at source puts other patients and HCWs at risk
 - Syndromic surveillance
 - Institute contact precautions at onset
 - Protects HCWs and other patients
 - Acute and non-acute settings
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General Personal Preventive Practices

- Frequent hand hygiene
 - workplace, home, public settings
 - Stay home from work when ill
 - until symptom-free for 48 hours for norovirus
 - culture change
 - non-punitive attendance management
 - Proper food handling
 - kitchen and ward
 - No eating or drinking in patient care areas
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Gastrointestinal Infections

Health Care Workers as Victims and Propagators of Infection



Norovirus

- Healthcare norovirus outbreaks invariably involve HCWs
 - Eating/drinking in patient care areas are a common factor and a cultural norm
 - engage Joint Health and Safety Committee
 - Cultural norm of continuing to work even though ill propagates infection in both staff and patients
 - engage Occupational Health and Human Resources
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Hepatitis A

Hepatitis A hospital outbreaks involving staff – all associated with eating in patient care areas:

- Journal of Infectious Diseases (JID) 1993:167:567-71 (Neonatal ICU outbreak)
 - JID 1991:164:476-82 (Neonatal ICU outbreak)
 - Infection Control and Hospital Epidemiology (ICHE) 2002:23:343-345 (paediatric unit)
 - American J of Public Health 1993:83:1679-1684 (burn unit)
 - J of Hospital Infection 2006:62:414-420 (review)
 - Infection Control 1987 8:364-370 (adult medical unit)
 - JAMA 1984:252:2711-2715 (nursery)
 - JAMA 252:2716-2721 (nursery)
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Summary:

- Prevention is always preferable over control
 - Syndromic surveillance for early identification of patients and isolation at onset of symptoms
 - educated, empowered front-line staff
 - Healthy Workplace
 - culture change required
 - engage OHS in surveillance
 - non-punitive attendance management policies
 - HCW immunization programs
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