


The Epidemiology of Healthcare-Associated Infections (HAIs) in Long Term Care

UNIT I






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HEALTH CARE ASSOCIATED INFECTIONS (HAIs)

- 25 Million people will be treated in U.S. hospitals this year (2013).
- Approx. 2 million will develop nosocomial HAI infections
- Approx. 90,000 will die!
- Length of stay (LOS) will be increased by 8 million days
- Cost will be increased by \$3-7 billion

HHS ACTION PLAN -2009

- Phase I – Hospitals 
- Phase II – Ambulatory Care Settings 
- Phase III – Long Term Care (2013) 

The Extent of the HAI Problem in LTC

- Difficult to assess due to:
 - Heterogeneity
 - Oversight differences
 - Staffing
 - Payment incentives

The Extent of the HAI Problem in LTC

- Nursing Home – provides primarily long-term maintenance & restorative care for those needing support with activities of daily living.
- Skilled Nursing Facility – offer more intensive medical & nursing services but not as much as acute care hospitals.

The Extent of the HAI Problem in NH/SNFs

- NH/SNF –
 - Vast majority of certified NHs provide this combination of services
 - Current Action Plan focusing here
- Recent estimates-rates of HAIs range between 1.4 to 5.2 infections per 1000 resident-care days.
- Out of the 105 million adults living in NH/SNF - 765,000- 2.8 million infected every year

OUTBREAKS IN NH/SNF's

- Outbreaks are very common
*(1966-2008 – 37 pathogens associated with 206 outbreaks)**
 - Influenza and *Streptococcus pneumonia* respiratory outbreaks
 - *Clostridium difficile* and norovirus cause most GI outbreaks
- * Age Ageing, 2010 May; 39(3):299-305*

OUTBREAKS IN NH/SNF's

- Skin & soft tissue infection outbreaks most commonly associated with MRSA, or Group A Beta Strep
 - UTIs with multi-drug resistant enteric bacteria have recently identified along with
 - Outbreaks of Hepatitis B & C associated with improper injection practices.
- Age Ageing, 2010 May; 39(3):299-305*

Demographics Elderly

Problem likely to worsen.

- 2009 – 84.8% of residents in CMS certified NHs/SNFs were 65yr or older and 36.9% were 85 or older.
 - By 2030 – >65 age group is projected to reach 71.5 million people
 - Estimated 12-14% of U.S. population
- U.S. Census Bureau

Factors That Predispose the Elderly to Infection

■ Impaired Host Defenses

- | | |
|---------------------|------------------------------------|
| ■ Immune senescence | ■ Malnutrition |
| ■ Chronic diseases | ■ Anatomic & functional changes |
| ■ Medications | ■ Degree of exposure to infections |

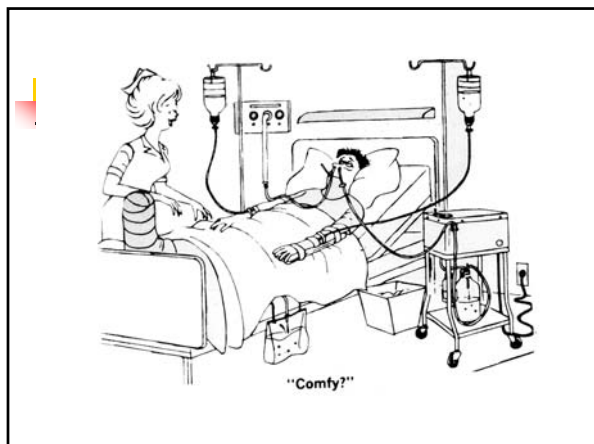
Healthcare-Associated Infections

- Not present on admission & develop after 48 hrs.
- Incidence is greater in elderly than any other age group
- Not all preventable

WHAT IS PREVENTABLE

- Up to 70%????
- If only 30-50% of HAIs are preventable, this equals:
 - **600,000 to 1 million infections;**
 - **30,000-50,000 deaths**





Most Common HAIs seen in NHs/SNFs

- Urinary Tract Infections
- Lower Respiratory Infections
 - Pneumonia and influenza-like illness
- Blood Stream Infections
- Skin and Soft Tissue Infections
- Gastroenteritis
 - *C. diff.*
 - Norovirus