

The Silver Book

**Infectious Diseases and Prevention through
Vaccination**

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National Foundation for Infectious Diseases

- NFID was founded in 1973
- Dedicated to educating the public and healthcare professionals about the causes, treatment, and prevention of infectious diseases.

- This mission
 - Educating the Public
 - Educating Healthcare Professionals
 - Supporting Research and Training in Infectious Diseases
 - Building Coalitions
 - Honoring Scientific and Public Health Achievement, Legislative Contributions, and Philanthropy in Infectious Diseases

Disease Burden

- Despite antibiotics,
 - Pneumonia and influenza is the 8th leading cause of death
 - Sepsis is the 11th leading cause of death
 - Combining these infections, infections are the 6th leading cause of death
 - These numbers are actually higher in those 65 years and older

Impact of Age

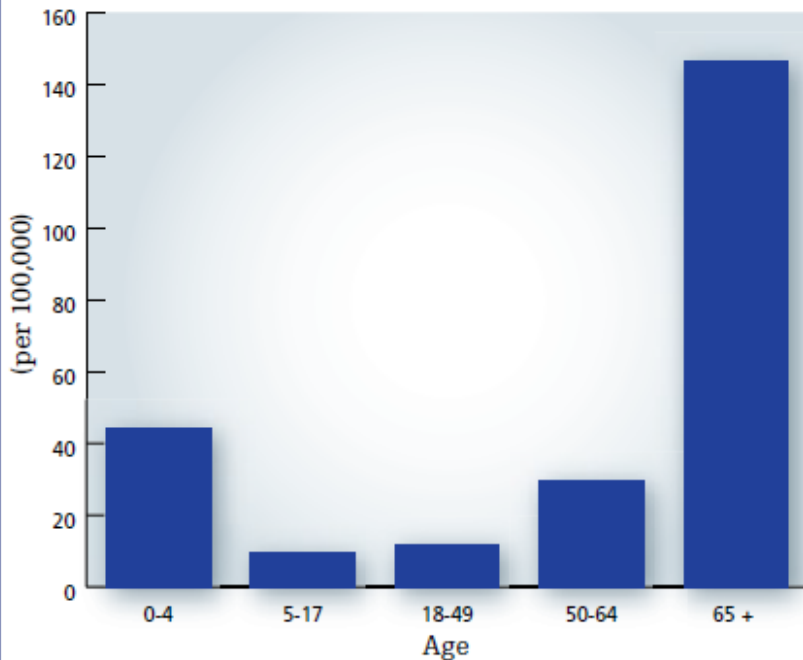
- Diseases that may be mild or temporarily incapacitating in healthy younger adults can be life threatening in older adults.

INFLUENZA VIRUSES

Fever		
Common Cold		Pneumonia
Pneumonia	“Common Cold”	Emphysema
Ear Infection	(cough, nasal congestion)	Heart Failure
Children	Young, Healthy Adults	Older Adults

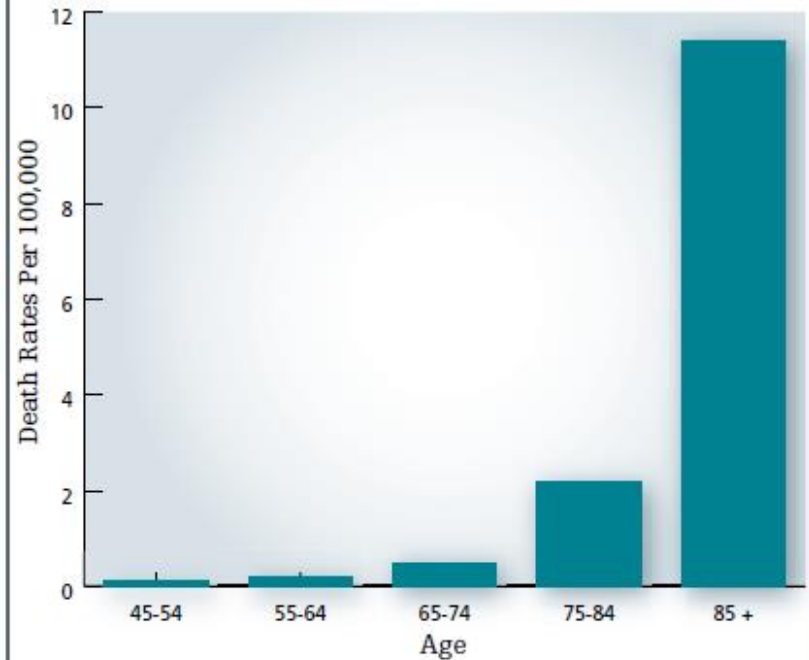
Morbidity & Mortality due to Influenza

Cumulative Hospitalization Rate (Per 100,000) Of Laboratory-Confirmed Influenza By Age From October 1, 2012 To February 9, 2013



CDC 2013, Update: Influenza Activity

Influenza Death Rate Per 100,000 By Age: United States, 2004



Gorina et al. 2008, Trends in Influenza and Pneumonia Among Older Persons in the U.S.

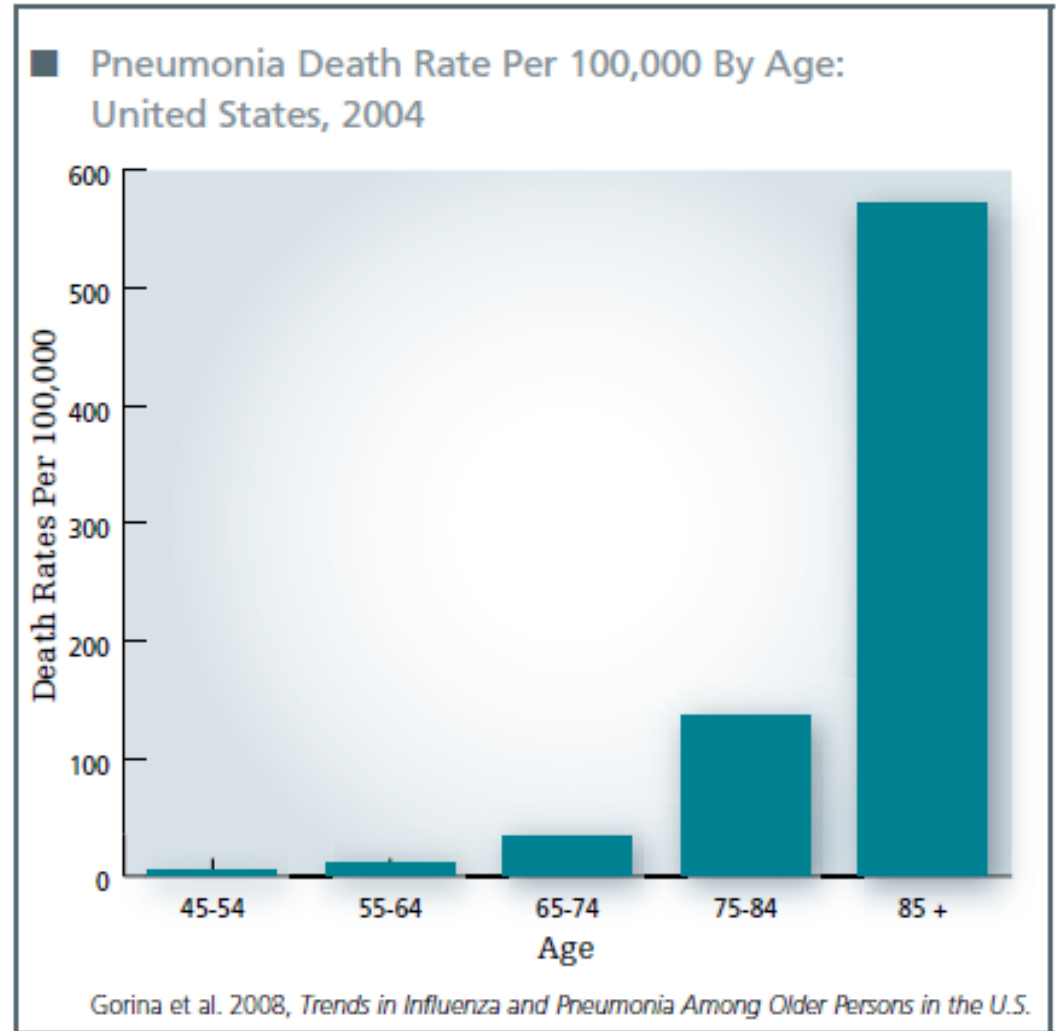
Cost of Influenza

- \$87 billion a year
 - \$10.4 billion is direct medical costs
- 65% of cost due to those 65+

Pneumonia

- Hospital-treated pneumonia in Medicare patients cost at least \$7 billion in 2010.
- Medicare patients hospitalized for pneumonia have medical expenses that are \$15,682 higher than in Medicare patients without pneumonia.

Thomas et al. 2012, *Incidence and Cost of Pneumonia in Medicare Beneficiaries*

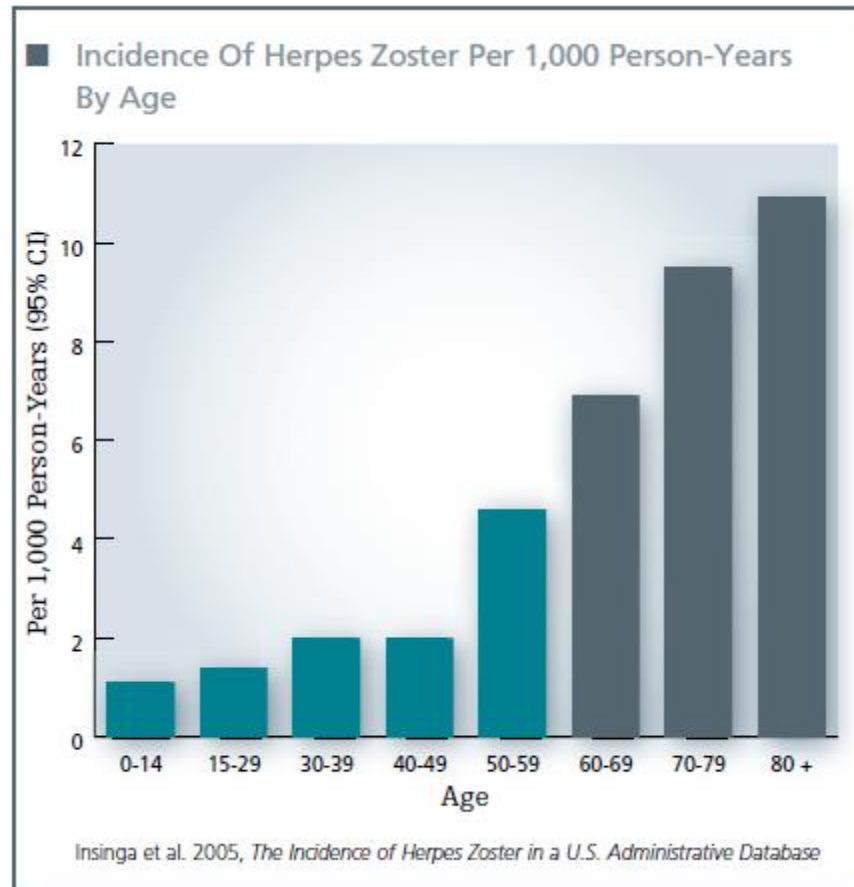


Shingles

- Complication of the chicken pox
- Pain can be debilitating – for years
- Can cause blindness
- Can become super-infected with bacteria



Shingles



Cost of Shingles

- \$1 billion dollars on direct medical costs
- 74% of shingles related hospital charges occurred in a population that could be vaccinated!

Prevention

- Many of these illnesses are PREVENTABLE
- VACCINES prevent illness and complications of illness
- VACCINES only work if used

Influenza Vaccine

- Over 6 years, the influenza vaccine prevented
 - an estimated 13 million influenza cases.
 - more than 110,000 hospitalizations and
 - 5.8 million medical visits.
- Recent studies from the CDC show that the influenza vaccine can reduce the risk of illness in the overall U.S. population by around 60%.

Pneumococcal Vaccines

- Protect against streptococcus pneumoniae
- Two types
 - PPSV-23: protects against 23 types of pneumococcus
 - PCV-13: protects against 13 types but is more effective in immunocompromised and children.

Pneumococcal Vaccines

- PPSV23 is 60 - 80% effective in preventing pneumococcal bacteremia
- PCV13 is estimated to prevent 15,000 more cases of invasive pneumococcal disease and 1.2 million cases of pneumonia.
- PCV13 in children has significantly reduced invasive pneumococcal disease rates in older adults.

Shingles Vaccine

- Use of a live attenuated shingles vaccine
 - reduced the incidence of shingles by 51.3%
 - the incidence of post-herpetic neuralgia by 66.5%.
- Use of the shingles vaccine
 - could eliminate 300,000 outpatient visits,
 - 375,000 prescriptions,
 - 9,700 emergency room visits, and
 - 10,000 hospitalizations.

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