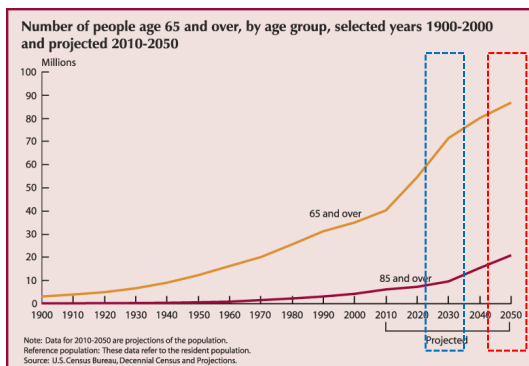


# Alliance for Health Policy: Healthy Aging and Immunizations

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## Why is Healthy Aging important?



**By 2050,**

- 90 million older adults
- 20 million 85 yr and older

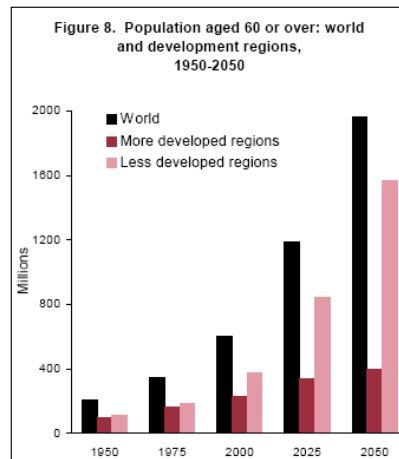
**By 2030,**

- 71 million older adults (65 yr +)
- >20% of total U.S. population
- 25% increase in health care spending

CDC State of Aging in America 2007  
[http://www.cdc.gov/aging/pdf/saha\\_2007.pdf](http://www.cdc.gov/aging/pdf/saha_2007.pdf)



## Why is Healthy Aging important?



United Nations DESA Population Division 2002  
<http://www.un.org/esa/population/publications/worldageing19502050/>



## Immunosenescence

### Aging of the Immune System

- Increased infections
- Poor vaccine responses
- Higher risk of poor outcomes with an infection

*Older Adults are generally defined as age 65 years or older*

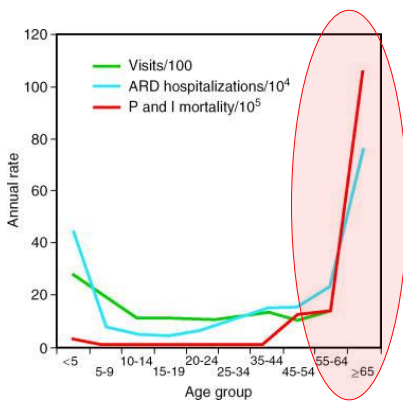


# Vaccines for the Aging Population

- Influenza
- Pneumococcus
- Shingles
- Tetanus
- Special Circumstances
- Travel vaccines
- Vaccines under development:
  - RSV
  - Staphylococcus
  - *C. difficile*



# Influenza



**> 90% of Annual Morbidity and Mortality occurs among older adults**

Pneumonia & Influenza Mortality Rates

Age (years)	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
Deaths/100,000 U.S. standard population	0.5	0.9	2.1	5.1	11.3	35.5	142.2	593.9

MMWR Vol. 48 No. SS-8 CDC 2005 <http://www.disastercenter.com/cdc/Leading%20Cause%20of%20Death%201999-2005.html>



# Influenza Vaccines

- Standard-dose vaccine
- Recombinant vaccine
- High-dose vaccine
- Adjuvanted vaccine
- ❖ No preference

Reduces:  
Influenza  
Hospitalization  
Death  
Cardiovascular events  
Cerebrovascular events

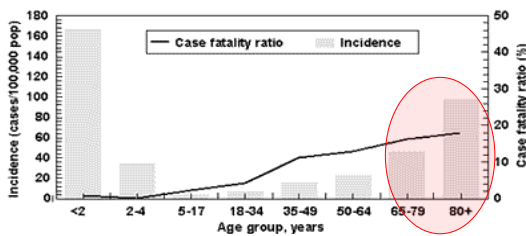
For 2016, uptake of influenza vaccine was only 67.2%  
*Healthy People 2020 goal = 90%*

<https://www.cdc.gov/nchs/fastats/flu.htm>



# Pneumococcus

- 40,000 annual cases of invasive disease
- 175,000 annual hospitalizations for pneumonia



- High Incidence among older adults
- Majority of Case Fatalities among older adults

CDC/Active Bacterial Core Surveillance



## Pneumococcal Vaccines

- Pneumo Conjugate Vaccine (PCV-13)
- Pneumo Polysaccharide Vaccine (PPV-23)
- ❖ Both vaccines should be administered PCV-13 then PPV-23, separated by 1 year

Reduces:  
Invasive disease  
(*& pneumonia*)

through 2016, uptake of pneumo vaccine was only 20%  
*Healthy People 2020 goal = 90%*

[https://www.cdc.gov/mmwr/volumes/66/wr/mm6627a4.htm?s\\_cid=mm6627a4\\_w](https://www.cdc.gov/mmwr/volumes/66/wr/mm6627a4.htm?s_cid=mm6627a4_w)

## Shingles

### Herpes-Zoster (Shingles)

Age (yrs)	Zoster Rate	PHN Rate	Total Rate
20	1.2	0.0	1.2
30	1.5	0.0	1.5
40	2.0	0.0	2.0
50	3.5	0.0	3.5
60	5.0	0.5	5.5
70	6.0	2.5	8.5
≥80	7.5	3.5	11.0

\*Per 1,000 person-years.  
†Defined as ≥90 days of pain.

- >300,000 U.S. cases annually
- 50% will experience an episode by age ≥85 yr
- 50% complication rate in older adults

**Postherpetic neuralgia, encephalitis, myelitis, nerve palsy**

<https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5705a1.htm>

# Shingles Vaccines

- Live, attenuated vaccine
- Subunit vaccine (approved Oct 2017)
- ❖ Subunit vaccine preferred


Reduces:  
Shingles  
Pain (PHN)  
Duration  
Time to Heal

Age (years)	Efficacy
50-59	97%
60-69	97%
70-79	90%
≥ 80	89%

through 2015, uptake of shingles vaccine was only 30%

1. NEJM 2015; 372: 2087-96  
2. NEJM 2016; 375: 1019-1032

# Resources



Talk to your healthcare provider about which vaccines are right for you  
For more information, visit [adultvaccination.org](http://adultvaccination.org)

### Call to Action

Reinvigorating Influenza Prevention in US Adults Age 65 Years and Older

## Healthy Aging and Immunizations

- Increase awareness of vaccines available
- Increase uptake of vaccines available
- Research agenda to develop new and better vaccines
- Global call for *immunization across the lifespan* (WHO, Global Vaccine Action Plan)
- *Community protection* (“herd immunity”), benefits of pediatric immunization