

# Immunizations and Infectious Disease in the Elderly



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PADONA ANNUAL CONVENTION  
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# Learning Objectives



- Review the current status of immunization and infectious disease in the elderly
- Examine infectious diseases prevalent in the nursing home setting
- Recommend appropriate immunizations for specific patient populations
- Discuss regulations pertaining to immunization and infection control



# Review the current status of immunization and infectious disease in the elderly



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# The Aging Population



- Until the early 20th century, infectious diseases were primarily responsible for mortality in the United States, resulting in an average life expectancy of 47 years
- With the advent of antiseptic techniques, vaccinations, antibiotics, and other public health measures, life expectancy in the early 21st century has increased to 76–80 years in most developed nations



# Call to Action



**Infectious disease and antibiotic resistance is one of the world's most pressing public health threats.**

**Patients, clinicians, healthcare facility administrators, and policy makers must work together to employ effective strategies for improving treatment and preventative measures- ultimately improving medical care and saving lives.**



# Basics



- **Infection:** most common cause of human disease, ranging from the common cold- to chronic diseases like hepatitis C- to life threatening diseases such as AIDs
- **Pathogens:** disease causing microbes including virus, bacteria, parasite, fungi (or another person's tissue)
- **Immune System:** network of cells, tissues, and organs that work together to defend the body against attacks by “foreign” invaders
- **Vaccine:** help the body's immune system prepare for future attacks

# Healthcare Associated Infections (HAIs)



- There are between 1.6 and 3.8 million HAIs in nursing homes every year
- Annually, these infections result in an estimated 150,000 hospitalizations, 388,000 deaths, and between \$673 million and \$2 billion dollars in additional healthcare costs



# Infection Control Challenges in Nursing Facilities



- For many individuals, nursing facilities are their homes
- Nursing homes are required to provide social activities for residents, which may increase the risk of transmission and exposure to communicable diseases and infections
- Residents are often frail, elderly individuals who have increased susceptibility to infections from malnutrition, dehydration, comorbidities, functional impairments, or medications that diminish immunity
- As patients are discharged from hospitals to nursing homes sooner, the nursing home population increasingly has more residents with greater medical needs

# Scope of the antibiotic problem in Nursing Homes



- **Up to 70% of long-term care facilities' residents receive an antibiotic every year.**
- **Up to 75% of antibiotics are prescribed incorrectly in the nursing home setting**
- **Estimates of the cost of antibiotics in the long-term care setting reach up to \$137 million per year**
- **Among the antibiotic-resistant organisms found in nursing home populations are multi-drug resistant gram-negative bacteria, methicillin-resistant staphylococcus aureus (MRSA), and vancomycin resistant enterococci (VRE)**

# Antibiotic Resistance Outcomes



- **Antibiotic resistance in long-term care is associated with:**
  - Increased risk of hospitalization
  - Increased cost of treatments
  - Increased risk of death

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# Vaccines



- **Vaccinations are recommended throughout life to prevent vaccine-preventable diseases and their sequelae**
- **Vaccine-preventable diseases cause long-term illness, hospitalization, and death**

# Vaccine Rates



<b>Vaccine</b>	<b>Vaccination Rate (%) in adults &gt;65 years old</b>
Pneumococcal	59.7%
Tetanus	56.4%
Herpes Zoster	24.2% (aged >60 years)
Influenza	65.0%



# Why focus on nursing homes?



- **Challenges with separating colonization from true infection can contribute to antibiotic overuse in this setting**
- **Poor communication in transitions of care, for example from a hospital to a nursing home and vice-versa, can result in antibiotic misuse**
- **Infectious disease and antibiotic-related complications can be more severe, difficult to treat, and lead to more hospitalizations and deaths among people over 65 years**  
**Long-term care facility residents are particularly at risk for these complications.**

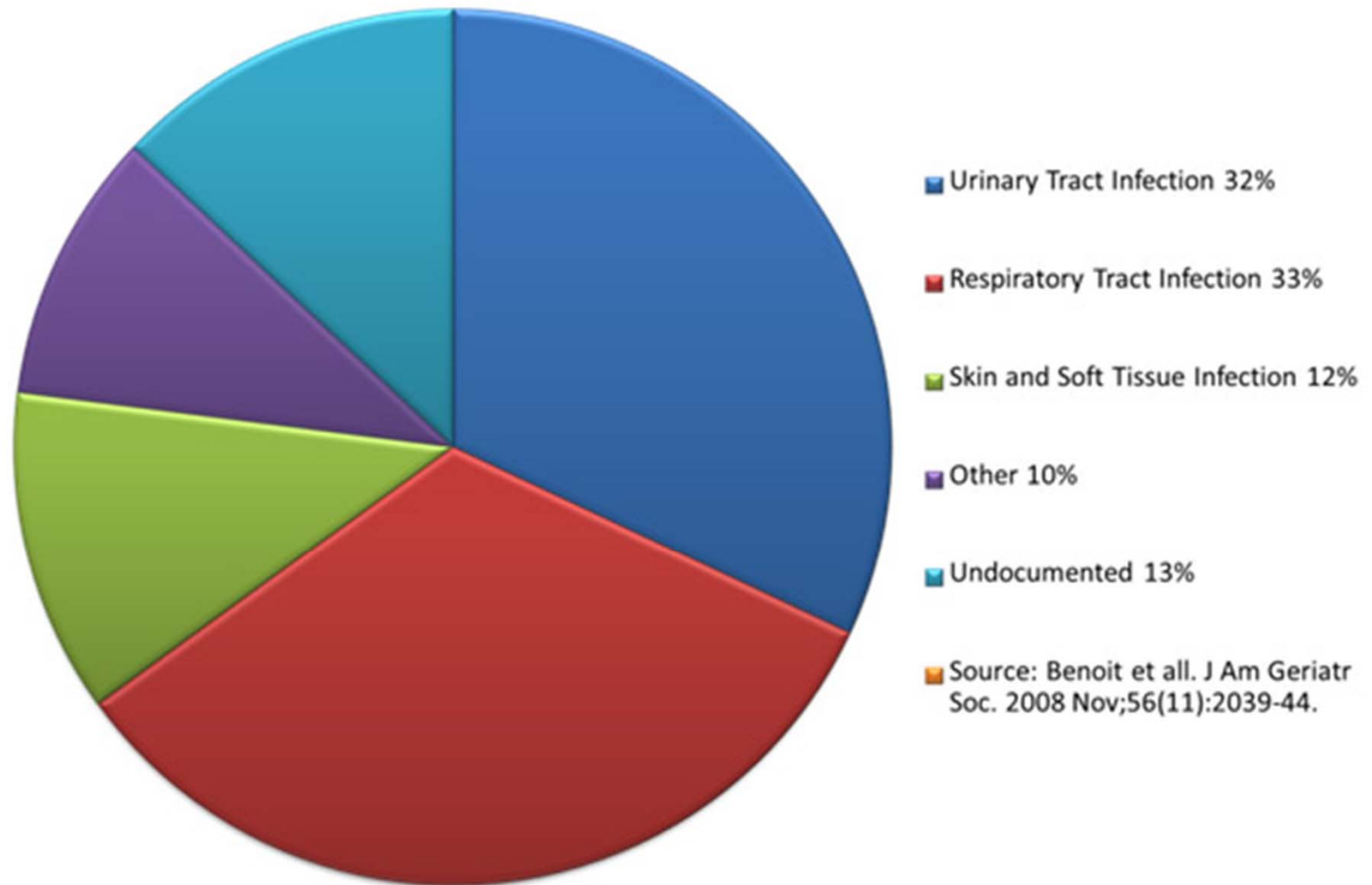
# Examine infectious diseases prevalent in the nursing home setting



**INFLUENZA**  
**PNEUMOCOCCAL DISEASE**  
**SKIN & SOFT TISSUE INFECTIONS**  
**HERPES ZOSTER**  
**URINARY TRACT INFECTION**  
**CLOSTRIDIUM DIFFICILE**

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## Most common infections treated with antibiotics in nursing homes



# Influenza



- Annually, the flu sends more than 200,000 people in the United States to the hospital
- While it can be deadly at any age, it is most deadly among adults 65 years of age and older
- 90% of flu-related deaths and more than half of flu-related hospitalizations occur in people age 65 and older



# Influenza- treatment & prevention



- Four antiviral agents—amantadine (Symmetrel), rimantadine (Flumadine), zanamivir (Relenza) and oseltamivir (Tamiflu)—are approved for prevention or treatment of influenza.
  - These agents must be taken within 48 hours of the onset of illness
- Antibiotics are NOT an appropriate choice for treatment of influenza!
- Yearly influenza vaccine

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# Pneumococcal Disease



- Pneumonia and lower respiratory tract infections remain the leading cause of mortality in nursing home residents and a primary reason for resident transfer to a hospital
- More than 60 percent of people 65 years and older are admitted to hospitals because of pneumonia



# Pneumonia Treatment & Prevention



- Treatment in the community setting: Oral and/or IV Antibiotics and respiratory support
- Prevention
  - A systematic review of randomized controlled trials reveals that **oral hygiene** has positive preventive effects on pneumonia and respiratory tract infections in elderly hospitalized patients and NH residents, with absolute risk reductions of 6.6–11.7%
  - Pneumococcal conjugate vaccine (Pneumovax 13®) and Pneumococcal polysaccharide vaccine (Pneumovax 23®)

# Skin and Soft Tissue Infections



- Older NH residents are particularly predisposed to skin and soft tissue infections due to several physiologic changes that occur with aging, including atrophy of epidermis and dermis, reduced resistance to external insults, and prolonged wound healing
- Types of Skin & Soft Tissue Infections:
  - Acute Bacterial: cellulitis, necrotizing fasciitis
  - Chronic wound infections: pressure ulcers, diabetic wounds, and vascular ulcers
  - Viral infections: herpes zoster, scabies



# Skin & Soft Tissue Infections: Treatment & Prevention



- **Treatment**
  - Staphylococcal and Streptococcal skin infections: oral or IV antibiotic therapy
  - Scabies: topical permethrin
- **Note: Skin and ulcers are colonized with bacteria. Therefore, antibiotic therapy is not appropriate for positive surface-swab cultures without signs or symptoms of infection**
  - Signs of infection: increase in temperature, erythema, tenderness, discharge, presence of foul smell
- **Prevention**
  - Scabies: patient isolation, cleaning and eradication of fomites, clipping of elongated nails, repeat treatment after 1 week, ensuring appropriate hand hygiene and glove use
  - Management of risk factors that lead to pressure ulcers and diabetic wounds

# Herpes Zoster



- Infection with herpes zoster is caused by a reactivation of varicella virus dormant in dorsal root ganglia
- The hallmark of herpes zoster is skin lesions that progress from discrete patches of erythema to grouped vesicles in a dermatomal pattern that pustulate and crust within seven to 10 days
- Pain is the most common symptom associated with herpes zoster, and it can be debilitating in frail elderly patients.

# Herpes Zoster- Treatment & Prevention



- **Antiviral therapy (famciclovir, valacyclovir, acyclovir) initiated within 72 hours after the appearance of the rash can reduce the acute pain (to less than one month) associated with herpes zoster and reduce the duration of the eruption.**
  - The use of antiviral agents has been shown to reduce the duration of an outbreak of herpes zoster by one to two days.
- **The acute pain may be reduced with the addition of corticosteroid therapy if no contraindications exist**
- **Prevention: Zoster vaccine once after the age of 60**

# Urinary Tract Infection



- UTI is the most common infection and the most over-diagnosed infection in NHs
- Older people often have bacteria in their urine, even if they have no urinary symptoms (asymptomatic bacteriuria)
- Unnecessary tests and treatment can be costly and lead to adverse antibiotic effects
- Avoid ordering a urine test for vague symptoms such as confusion, irritability, falling without investigation for underlying causes

# UTI: treatment and prevention



- **When to test urine/ treat with antibiotics:**
  - New or Worsening: urgency, frequency, incontinence, hematuria, suprapubic pain, flank pain
  - Fever
  - Acute delirium
  - Leukocytosis
- **Prevention**
  - Hydration: encourage fluids
  - Urination habits: urinate often and completely
  - Hygiene: frequent changing of incontinence products
  - Catheters: remove as soon as possible

# Clostridium Difficile



- The incidence of asymptomatic colonization with *C. difficile* in NHs varies from 4 to 20%
- Risk factors for *C. difficile* infection in NHs include age, a recent hospital stay, use of acid suppressants, and presence of nasogastric or gastrostomy feeding tube, and antibiotic use
- 8–33% of NH residents treated with antibiotics acquire *C. difficile*
- clinical spectrum of illness caused by *C. difficile* ranges in severity from an asymptomatic carrier state to self-limited mild and watery diarrhea to life-threatening pseudomembranous colitis, fulminant colitis and death

## C. Diff: Treatment and Prevention



- **Treatment: metronidazole, vancomycin, fidaxomicin**
- **Prevention**
  - CDC recommends using US Environmental Protection Agency (US EPA)-registered disinfectants with a sporicidal claim for environmental surfaces in contaminated patient areas
  - Since alcohol-based hand gels are not sporicidal, appropriate hand hygiene with soap and water is required to remove spores from skin surfaces
  - Appropriate signage and staff education
  - Avoidance of risk factors ( prolonged acid suppression therapy and antibiotic therapy)

# Antimicrobial Stewardship



- Antimicrobial stewardship refers to coordinated interventions designed to improve and measure the appropriate use of antimicrobials by promoting the selection of the optimal antimicrobial drug regimen, dose, duration of therapy, and route of administration.
- Antimicrobial stewards seek to achieve optimal clinical outcomes related to antimicrobial use, minimize toxicity and other adverse events, reduce the costs of health care for infections, and limit the selection for antimicrobial resistant strains.
- Up to 75% of antibiotics prescribed in nursing homes are given incorrectly
  - Drug is unnecessary
  - Wrong drug
  - Wrong dose
  - Wrong duration
  - Wrong route of administration



# What can you do at your facility?



- **Nursing Home Directors Can:**
  - Have clear policies and practices to ensure that patients are not started on antibiotics unless they are needed.
  - Review the facility's microbiology reports and antibiogram to detect trends in antibiotic resistance.
  - Implement policies that encourage best practices for antibiotic prescribing, including establishment of minimum criteria for prescribing antibiotics and review of antibiotic appropriateness and resistance patterns.
  - Implement nursing protocols for monitoring patients' status for an evolving condition if there is no specific indication for antibiotics.

# What can you do at your facility?



- **Nursing home providers can:**
  - Obtain microbiology cultures prior to starting antibiotics when possible so antibiotics can be adjusted or stopped when appropriate.
  - Remember that treatment with antibiotics is only appropriate when the practitioner determines, on the basis of an evaluation, that the most likely cause of the patient's symptoms is a bacterial infection.
  - Avoid use of antibiotics to treat viral illnesses such as colds, influenza, and viral gastroenteritis.
  - Engage residents and their family members in addressing the need to improve antibiotic use in your facility.

# POLST: Pennsylvania Orders for Life-Sustaining Treatment



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## **ANTIBIOTICS:**

- No antibiotics. Use other measures to relieve symptoms.
- Determine use or limitation of antibiotics when infection occurs, with comfort as goal
- Use antibiotics if life can be prolonged

*Additional Orders*



**pennsylvania**  
DEPARTMENT OF HEALTH

# Core Elements to Improve Antibiotic Use



- **Leadership commitment:** Demonstrate support and commitment to safe and appropriate antibiotic use.
- **Accountability:** Identify leaders who are responsible for promoting and overseeing antibiotic stewardship activities at the nursing home.
- **Drug expertise:** Establish access to experts with experience or training in improving antibiotic use.
- **Action:** Take at least one new action to improve the way antibiotics are used in the facility.
- **Tracking:** Measure how antibiotics are used and the complications (e.g., *C. difficile* infections) from antibiotics in the facility.
- **Reporting:** Share information with healthcare providers and staff about how antibiotics are used in the facility.
- **Education:** Provide resources to healthcare providers, nursing staff, residents and families to learn about antibiotic resistance and opportunities for improving antibiotic use.

# Get Smart About Antibiotics Week



Get Smart About Antibiotics Week is an annual one-week observance in **November** to raise awareness of the threat of antibiotic resistance and the importance of appropriate antibiotic prescribing and use.

# Proposed New CMS Requirement for Antibiotic Stewardship program



- Requirements for the facility to perform a facility-specific assessment of their resident population and facility (§ 483.70)
- Integration of the infection prevention and control program (IPCP) with the facility's QAPI processes (§ 483.75)
- Revising the description of the infection control program and adding a requirement to periodically review and update the program (§ 483.80)
- Requiring an antibiotic stewardship program that includes antibiotic use protocols and a system for monitoring antibiotic use (§ 483.80)
- Designation of specific infection prevention and control officers (IPCOs) (§ 483.80)
- Written policies and procedures for the IPCP (§ 483.80)
- Education or training related to the infection control program (§ 483.80)

# Recommend appropriate immunizations for specific patient populations




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# Community Immunity




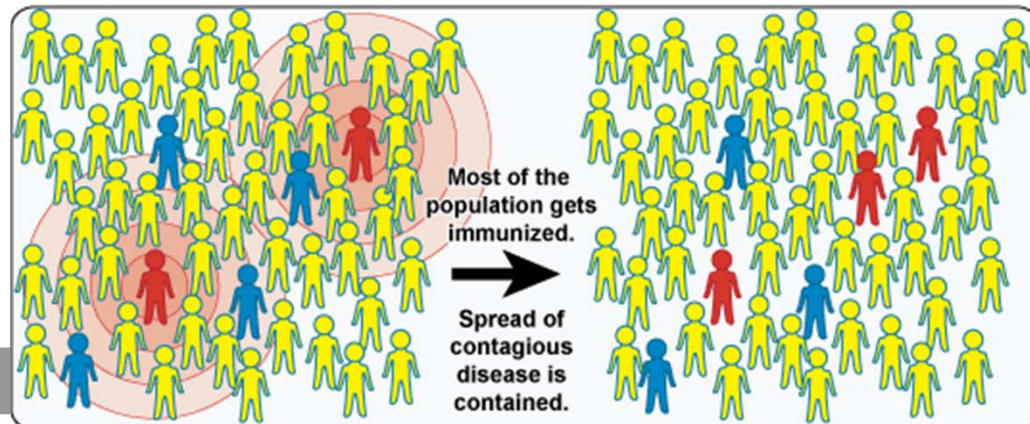
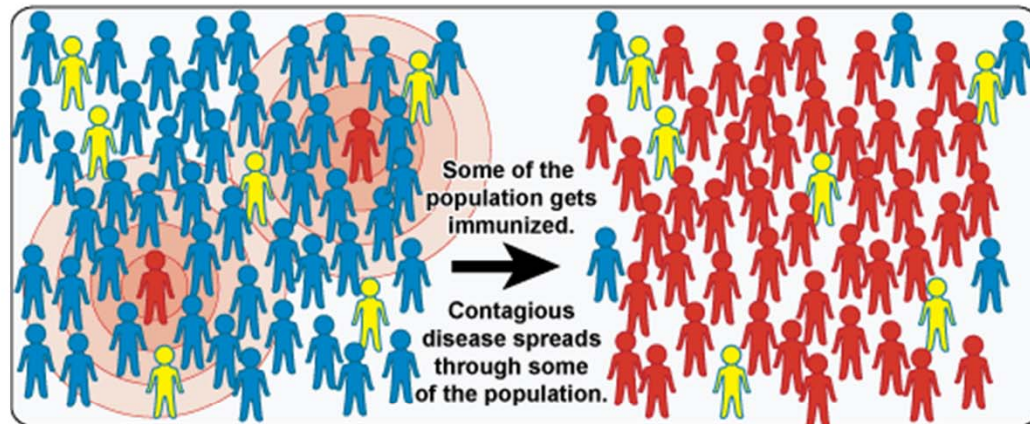
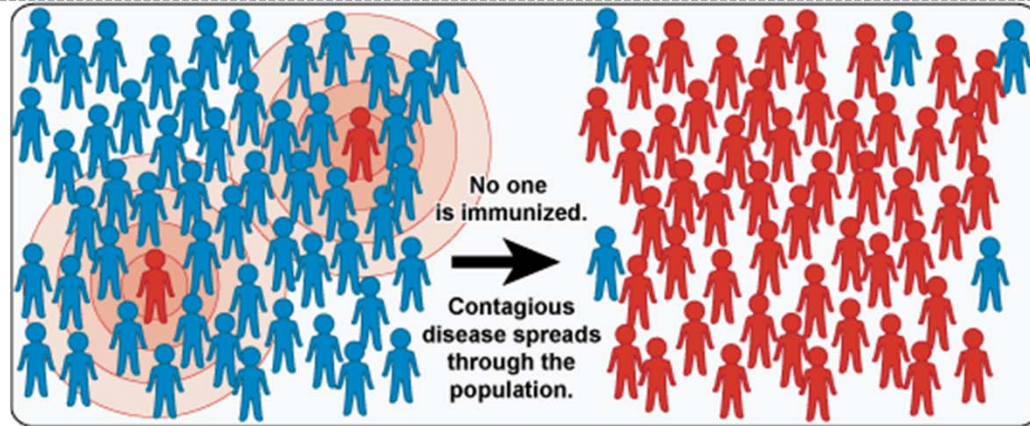
- **When a critical portion of a community is immunized against a contagious disease, most members of the community are protected against that disease because there is little opportunity for an outbreak.**

# Community Immunity

 = not immunized but still healthy

 = immunized and healthy

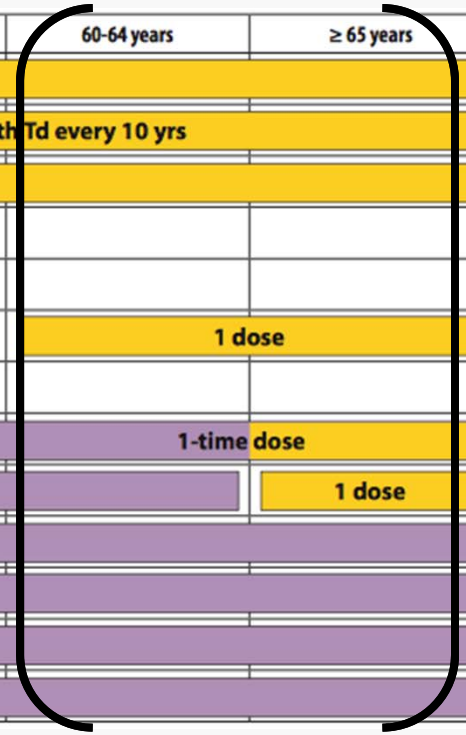
 = not immunized, sick, and contagious



# Recommended Adult Immunization Schedule United States 2015



VACCINE ▼	AGE GROUP ►	19-21 years	22-26 years	27-49 years	50-59 years	60-64 years	≥ 65 years
Influenza* <sup>2</sup>		1 dose annually					
Tetanus, diphtheria, pertussis (Td/Tdap)* <sup>3</sup>		Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs					
Varicella* <sup>4</sup>		2 doses					
Human papillomavirus (HPV) Female* <sup>5</sup>		3 doses					
Human papillomavirus (HPV) Male* <sup>5</sup>		3 doses					
Zoster <sup>6</sup>						1 dose	
Measles, mumps, rubella (MMR)* <sup>7</sup>		1 or 2 doses					
Pneumococcal 13-valent conjugate (PCV13)* <sup>8</sup>						1-time dose	
Pneumococcal polysaccharide (PPSV23) <sup>8</sup>				1 or 2 doses			1 dose
Meningococcal* <sup>9</sup>				1 or more doses			
Hepatitis A* <sup>10</sup>				2 doses			
Hepatitis B* <sup>11</sup>				3 doses			
<i>Haemophilus influenzae</i> type b (Hib)* <sup>12</sup>				1 or 3 doses			



# Influenza (IIV, LAIV, RIV)



- Annual vaccination against influenza is recommended for all persons aged 6 months or older
- Persons aged 6 months or older, including persons with hives-only allergy to eggs, can receive the inactivated influenza vaccine (IIV).
- Adults aged 18 years or older can receive the recombinant influenza vaccine (RIV) (FluBlok). RIV does not contain any egg protein and can be given to age- appropriate persons with egg allergy of any severity.
- Healthy, nonpregnant persons aged 2 to 49 years (not the elderly!) without high-risk medical conditions can receive either intranasally administered live, attenuated influenza vaccine (LAIV) (FluMist) or IIV.
- Health care personnel who care for severely immunocompromised persons who require care in a protected environment should receive IIV or RIV; health care personnel who receive LAIV should avoid providing care for severely immunosuppressed persons for 7 days after vaccination.
- Adults aged 65 years or older can receive the standard-dose IIV or the high- dose IIV (Fluzone High-Dose)

# Egg Allergy and the Influenza Vaccine



<b>Patient Reaction to Eggs</b>	<b>Appropriate Vaccine Strategy</b>
Can eat lightly cooked egg (ex: scrambled eggs) without reaction	Administer vaccine per usual protocol
Experiences hives ONLY after eating eggs or egg-containing foods	Administer IIV and observe the patient for at least 30 minutes
After eating eggs or egg-containing foods, symptoms may include: <ul data-bbox="178 889 961 1219" style="list-style-type: none"><li>- Cardiovascular changes (hypotension)</li><li>- Respiratory distress (wheezing)</li><li>- GI symptoms (nausea/vomiting)</li><li>- Reaction requiring epinephrine or EMS</li></ul>	Administer RIV3 for patients age 18-39 or refer to physician with expertise in management of allergic conditions

# High Dose Flu Vaccine (Fluzone High-Dose ®)



- **Fluzone High-Dose is an influenza vaccine designed specifically for people 65 years and older**
  - contains four times the amount of antigen contained in regular flu shots
  - safety profile is similar to that of regular flu vaccines, although some adverse events (which are also reported after regular flu vaccines) were reported more frequently after vaccination with Fluzone High-Dose
- **Data from clinical trials comparing Fluzone to Fluzone High-Dose among persons aged 65 years or older indicate that a stronger immune response (i.e., higher antibody levels) occurs after vaccination with Fluzone High-Dose.**
  - Whether or not the improved immune response leads to greater protection has been the topic on ongoing research.
- **The CDC and its Advisory Committee on Immunization Practices have not expressed a preference for any flu vaccine indicated for people 65 and older.**

# Tetanus, Diphtheria, Pertussis (Td/ Tdap)



- **Persons aged 11 years or older who have not received Tdap vaccine or for whom vaccine status is unknown should receive a dose of Tdap followed by tetanus and diphtheria toxoids (Td) booster doses every 10 years thereafter. Tdap can be administered regardless of interval since the most recent tetanus or diphtheria-toxoid containing vaccine.**
- **Adults with an unknown or incomplete history of completing a 3-dose primary vaccination series with Td-containing vaccines should begin or complete a primary vaccination series including a Tdap dose.**

# Varicella



- All adults without evidence of immunity to varicella (as defined below) should receive 2 doses of single-antigen varicella vaccine or a second dose if they have received only 1 dose.
- Evidence of immunity to varicella in adults includes any of the following:
  - documentation of 2 doses of varicella vaccine at least 4 weeks apart;
  - U.S.-born before 1980, except health care personnel and pregnant women;
  - history of varicella based on diagnosis or verification of varicella disease by a health care provider;
  - history of herpes zoster based on diagnosis or verification of herpes zoster disease by a health care provider;
  - Or laboratory evidence of immunity or laboratory confirmation of disease.

# Zoster



- A single dose of zoster vaccine is recommended for adults aged 60 years or older regardless of whether they report a prior episode of herpes zoster. Although the vaccine is licensed by the U.S. Food and Drug Administration for use among and can be administered to persons aged 50 years or older, ACIP recommends that vaccination begin at age 60 years
- Persons aged 60 years or older with chronic medical conditions may be vaccinated unless their condition constitutes a contraindication, such as severe immunodeficiency

# Herpes Zoster- FAQ



- **ACIP continue to recommend that herpes zoster vaccine and pneumococcal vaccine be administered at the same time if the patient is eligible for both vaccines**
- **There is no specific length of time you must wait after having shingles before receiving the vaccine, but the CDC generally recommends waiting until the shingles rash has disappeared**
- **The vaccine should not be administered to patients who are immunosuppressed**
- **This vaccine reduces the risk of developing shingles by 51% and neuralgia by 67%**

# Pneumococcal (PCV13 and PPSV23)



- In October 2014, the CDC and ACIP released updated recommendations stating that people over the age of 65 should get BOTH Pneumovax 23 and Prevnar 13 vaccines



# Pneumococcal Vaccination Schedule



<b>Pneumococcal vaccine Status</b>	<b>First Give:</b>	<b>Then Give:</b>
None/ Unknown	<b>Prevnar 13</b>	<b>Pneumovax 23</b> 6-12 months after Prevnar 13
Pneumovax 23 Given AFTER 65 <sup>th</sup> birthday	<b>Prevnar 13</b> >12 months after Pneumovax 23	None (schedule complete)
Pneumovax 23 Given BEFORE 65 <sup>th</sup> birthday	<b>Prevnar 13</b> At age >65 and >1 year after pneumovax 23	<b>Pneumovax 23</b> 6-12 months after Prevnar 13 and 5 years after first Pneumovax 23 dose

# Pneumococcal (PCV13 and PPSV23)



- **General information**
  - When indicated, only a single dose of PCV13 is recommended for adults.
  - No additional dose of PPSV23 is indicated for adults vaccinated with PPSV23 at or after age 65 years.
  - When both PCV13 and PPSV23 are indicated, PCV13 should be administered first;
  - PCV13 and PPSV23 should not be administered during the same visit
  - When indicated, PCV13 and PPSV23 should be administered to adults whose pneumococcal vaccination history is incomplete or unknown.

# Pneumococcal- special populations



- **Pneumococcal vaccination is recommended for adults aged 19-64 years who meet the following criteria:**
  - Immunocompromising conditions
  - Asplenia
  - Cerebrospinal fluid leaks
  - Cochlear implants
  - Chronic heart disease
  - Chronic lung disease
  - Chronic liver disease
  - Alcoholism
  - Diabetes
  - Smoke cigarettes
  - Reside in long-term care facility

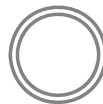


# Regulations pertaining to immunization and infection control



**INFECTION CONTROL  
IMMUNIZATIONS  
UNNECESSARY MEDICATIONS  
REPORTING**





**F441**

**§483.65 Infection Control**

**§483.65(a) Infection Control Program**

**§483.65(b) Preventing Spread of Infection**

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## **§483.65 Infection Control**



The facility must establish and maintain an Infection Control Program designed to provide a safe, sanitary and comfortable environment and to help prevent the development and transmission of disease and infection.



# §483.65(a) Infection Control Program



- **The facility must establish an Infection Control Program under which it –**
  - (1) Investigates, controls, and prevents infections in the facility;
  - (2) Decides what procedures, such as isolation, should be applied to an individual resident; and
  - (3) Maintains a record of incidents and corrective actions related to infections.

# Functions of the Infection Control Program



- Perform surveillance and investigation to prevent, to the extent possible, the onset and the spread of infection;
- Prevent and control outbreaks and cross-contamination using transmission-based precautions in addition to standard precautions;
- Use records of infection incidents to improve its infection control processes and outcomes by taking corrective actions, as indicated;
- Implement hand hygiene (hand washing) practices consistent with accepted standards of practice, to reduce the spread of infections and prevent cross-contamination; and
- Properly store, handle, process, and transport linens to minimize contamination.

# Components of an Infection Prevention and Control Program



- Policies, procedures, and practices which promote consistent adherence to evidence-based infection control practices;
- Program oversight including planning, organizing, implementing, operating, monitoring, and maintaining all of the elements of the program and ensuring that the facility's interdisciplinary team is involved in infection prevention and control;
- Infection preventionist, a person designated to serve as coordinator of the infection prevention and control program;
- Surveillance, including process and outcome surveillance, monitoring, data analysis, documentation and communicable diseases reporting (as required by State and Federal law and regulation);
- Education, including training in infection prevention and control practices, to ensure compliance with facility requirements as well as State and Federal regulation; and
- Antibiotic review including reviewing data to monitor the appropriate use of antibiotics in the resident population.

## **§483.65(b) Preventing Spread of Infection**



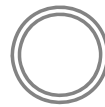
- (1) When the Infection Control Program determines that a resident needs isolation to prevent the spread of infection, the facility must isolate the resident.
- (2) The facility must prohibit employees with a communicable disease or infected skin lesions from direct contact with residents or their food, if direct contact will transmit the disease.
- (3) The facility must require staff to wash their hands after each direct resident contact for which hand washing is indicated by accepted professional practice.

# Factors Associated with the Spread of Infection in Nursing Homes



- Individual resident: medications, chronic diseases, compromised defense
- Institution: transfer from hospital, air circulation, communal living space
- Direct transmission (person-to-person): hands
- Indirect transmission (inanimate object): thermometers, lab coats/ uniforms





**F334**

**§483.25(n) Influenza and pneumococcal  
immunizations---**

**F386**

**§483.40(b) Physician Visits**

## **§483.25(n) Influenza and pneumococcal immunizations---**

- Before offering the influenza immunization, each resident or the resident's legal representative receives education regarding the benefits and potential side effects of the immunization;
- Each resident is offered an influenza immunization *October 1 through March 31 annually*, unless the immunization is medically contraindicated or the resident has already been immunized during this time period;
- The resident or the resident's legal representative has the opportunity to refuse immunization; and
- The resident's medical record includes documentation that indicates, at a minimum, the following:
  - (A) That the resident or resident's legal representative was provided education; and
  - (B) That the resident either received the influenza immunization or did not receive the influenza immunization due to medical contraindications or refusal.

## §483.25(n) Influenza and pneumococcal immunizations---



- Before offering the pneumococcal immunization, each resident or the resident's legal representative receives education regarding the benefits and potential side effects of the immunization;
- Each resident is offered an influenza immunization, unless the immunization is medically contraindicated or the resident has already been immunized (*no season, unlike influenza*)
- The resident or the resident's legal representative has the opportunity to refuse immunization; and
- The resident's medical record includes documentation that indicates, at a minimum, the following:
  - (A) That the resident or resident's legal representative was provided education regarding the benefits and potential side effects of pneumococcal immunization; and
  - (B) That the resident either received the pneumococcal immunization or did not receive the pneumococcal immunization due to medical contraindications or refusal.

## **§483.25(n) Influenza and pneumococcal immunizations---**

- **Exception.** As an alternative, based on an assessment and practitioner recommendation, a second pneumococcal immunization may be given after 5 years following the first pneumococcal immunization, unless medically contraindicated or the resident or the resident's legal representative refuses the second immunization.

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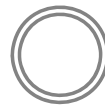
## §483.40(b) Physician Visits



- **F386**
  - **The physician must–**
  - **Sign and date all orders with the exception of influenza and pneumococcal polysaccharide vaccines, which may be administered per physician-approved facility policy after an assessment for contraindications.**

The logo for Garda Rx, featuring a stylized signature in the background and the text "Garda Rx" in a serif font.

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**F329**

**§483.25(l) Unnecessary Drugs**

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# Unnecessary Drugs



- Each resident's drug regimen must be free from unnecessary drugs. An unnecessary drug is any drug when used:
  - (i) In excessive dose (including duplicate therapy); or
  - (ii) For excessive duration; or
  - (iii) Without adequate monitoring; or
  - (iv) Without adequate indications for its use; or
  - (v) In the presence of adverse consequences which indicate the dose should be reduced or discontinued; or
  - (vi) Any combinations of the reasons above.

# Antibiotics



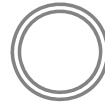
- **Indications**

- Use of antibiotics should be limited to confirmed or suspected bacterial infection

- **Adverse Consequences**

- Any antibiotic may cause diarrhea, nausea, vomiting, anorexia, and hypersensitivity/allergic reactions
- Antibiotics are non-selective and may result in the eradication of beneficial microorganisms and the emergence of undesired ones, causing secondary infections such as oral thrush, colitis, and vaginitis

The Pennsylvania Code  
Title 28. Health and Safety



Chapter 211: Program Standards for Long-Term Care  
Nursing Facilities

**§ 211.1. Reportable diseases**



## § 211.1. Reportable diseases.

(a) When a resident develops a reportable disease, the administrator shall report the information to the appropriate health agencies and appropriate Division of Nursing Care Facilities field office. **Reportable diseases, infections and conditions are listed in § 27.21a** (relating to reporting of cases by health care practitioners and health care facilities).

(b) Cases of **scabies** and **lice** shall be reported to the appropriate Division of Nursing Care Facilities field office.

(c) Significant nosocomial outbreaks, as determined by the facility's medical director, Methicillin Resistant Staphylococcus Aureus (**MRSA**), Vancomycin-Resistant Staphylococcus Aureus (**VRSA**), Vancomycin-Resistant Enterococci (**VRE**) and Vancomycin-Resistant Staphylococcus Epidermidis (**VRSE**) shall be reported to the appropriate Division of Nursing Care Facilities field office.

## § 27.21a. Reporting of cases by health care practitioners and health care facilities.

The following diseases, infections and conditions are reportable within **24 hours** after being identified by symptoms, appearance or diagnosis:

- Animal bite.
- Anthrax.
- Arboviruses.
- Botulism.
- Cholera.
- Diphtheria.
- Enterohemorrhagic E. coli.
- Food poisoning outbreak.
- Haemophilus influenzae invasive disease.
- Hantavirus pulmonary syndrome.
- Hemorrhagic fever.
- Lead poisoning.
- Legionellosis.
- Measles (rubeola).
- Meningococcal invasive disease.
- Plague.
- Poliomyelitis.
- Rabies.
- Smallpox.
- Typhoid fever.

## **§ 27.21a. Reporting of cases by health care practitioners and health care facilities.**



The following diseases, infections and conditions are reportable within **5 work days** after being identified by symptoms, appearance or diagnosis (not comprehensive list):

- Guillain- Barre Syndrome
- Hepatitis
- Influenza
- Listeriosis
- Lyme disease
- Malaria
- Meningitis
- Mumps
- Pertussis
- Rubella
- Salmonellosis
- Shigellosis
- Tetanus
- Tuberculosis

# Vaccine Adverse Event Reporting



- Any clinically significant adverse event that occurs after the administration of a vaccine should be reported to Vaccine Adverse Events Reporting System (VAERS)
  - 1-800-822-7967
  - [vaers.hhs.gov](http://vaers.hhs.gov)

The logo for Garda Rx, featuring the text "Garda Rx" in a serif font, with a stylized signature or scribble behind it. The logo is enclosed in a double-lined rectangular border.

Garda Rx

# Clinical Pearl



**“An ounce of prevention is worth a pound of cure”  
- Benjamin Franklin**

# Questions?



**Thank you for your attention!**



# Contact Information



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