

Keeping the "Bugs" Away

Understanding Immunizations

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Today's Objectives

- Provide brief overview of context nationally and New Jersey's goal
- Update and increase vaccine knowledge for all staff in the post-acute setting
- Increase understanding of immunology and immunization standards
- Clarify home health's role and responsibility in ensuring appropriate immunizations levels in our patients



Welcome and Framing

- Why do I care about adult immunizations?
- Why does home health play a role in improving influenza and pneumonia immunization rates?
- How can I increase my ability to discuss adult immunization practices?
- How can I support my agency in its immunization assessments and practices?



What is Quality Insights?

- Quality Innovation Network – Quality Improvement Organization
- A collaboration among five former QIOs:
 - Quality Insights of Delaware
 - **Healthcare Quality Strategies, Inc. (New Jersey)**
 - Quality Insights of Pennsylvania
 - West Virginia Medical Institute
 - eQHealth Solutions (Louisiana)



Key Roles of QIN-QIOs

- Champion local-level, results-oriented change
 - Data-driven
 - Active engagement of patients and other partners
 - Proactive, intentional innovation and spread of best practices that “stick”
- Facilitate Learning and Action Networks (LANs)
 - Creating an “all teach, all learn” environment
 - Placing impetus for improvement at the bedside level – e.g., hand washing
- Teach and advise as technical experts
 - Consultation and education
 - The management of knowledge so learning is never lost
- Communicate effectively
 - Optimal learning, patient activation and sustained behavior change



Alignment of National & New Jersey Goals

- CMS goal to align with Healthy People 2020
 - Increase immunization rates
 - Reduce preventable infectious diseases
- 11SOW QIN-QIO immunization campaign
 - Increase influenza and pneumonia immunization rates among nation's elderly receiving home health services
- Align with NJ collaborative initiative
 - Increase influenza immunization rate among home visiting staff



Immunology Basics



- Immunology:
 - A science that deals with the ways in which the body protects itself from diseases and infections (Miriam Webster)
 - The branch of medicine and biology concerned with immunity (Oxford University Press)
- Immunity:
 - The state of being insusceptible to a particular disease (dictionary.com)

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Immunology Basics

- The immune system is a complex system of interacting cells
 - Purpose is to identify foreign substances (antigen)
 - Enables the immune system to develop a defense against the antigen
- Types of Immunity:
 - Active Immunity: Protection produced by your own immune system
 - Often lasts for a lifetime
 - Passive Immunity: Protection transferred from one animal or human to another
 - Effective protection that wanes over time

Source: Epidemiology & Prevention of Vaccine-Preventable Diseases the Pink Book: Course Textbook – 13th Edition (2015) Chapter One - Principles of Vaccination (From CDC)

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Immunology Basics

- **Antigen** – an active or inactivated substance capable of producing an immune reaction
- **Antibody** – Protein molecules in the produced in the body to help identify & eliminate an antigen
- **A General Rule:** “The more similar a vaccine is to the disease-causing form of the organism, the better the immune response to the vaccine.”

Source: Epidemiology & Prevention of Vaccine-Preventable Diseases the Pink Book: Course Textbook – 13th Edition (2015) Chapter One - Principles of Vaccination (From CDC)

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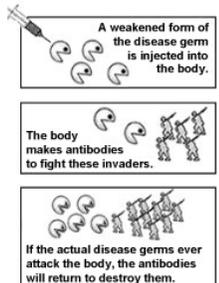
Immunology Basics

- How vaccines work:
 - “Vaccines greatly reduce the risk of infection by working with the body’s natural defenses to safely develop immunity disease”
 - Body’s natural defense system
 - Macrophages, Antibodies, T-lymphocytes

Source: <http://www.cdc.gov/vaccines/parents/vaccine-decision/prevent-diseases.html>



Immunology Basics



A weakened form of the disease germ is injected into the body.

The body makes antibodies to fight these invaders.

If the actual disease germs ever attack the body, the antibodies will return to destroy them.

Source: [Cdc.gov/vaccines/hcp/patienteducation](http://www.cdc.gov/vaccines/hcp/patienteducation)



Immunization Basics

- Timing and spacing of vaccines – is complex, is based on evidence important to the appropriate use and scheduling of vaccines
 - Recommendations developed/revised by the Advisory Committee on Immunization Practices (ACIP) of CDC
 - Examples:
 - Inactivated vaccines are generally not affected by circulating antibody to the antigen
 - Live-attenuated vaccines may be affected by circulating antibody to the antigen
 - Specific schedules per age and vaccines, timely and catch-up schedules
 - Minimal and maximum intervals
 - Changing the interval between doses of a multidose vaccine may interfere with the effectiveness of a vaccine

Source: Epidemiology & Prevention of Vaccine-Preventable Diseases the Pink Book: Course Textbook – 13th Edition (2015) Chapter Two - General Recommendations on Immunization (From CDC)



Vaccine Safety



- Maintaining requirements for vaccine storage, protection during transport to immunization sites and administration guidelines are necessary to maintain the successful immunization of patients

Source: Epidemiology & Prevention of Vaccine-Preventable Diseases the Pink Book: Course Textbook – 13th Edition (2015) Chapters 3 - 5



Vaccine Safety

- Vaccination is among the most significant public health success stories
 - Decreases in disease risk and increases attention on vaccine risks
- Public confidence in vaccine safety is critical
 - Higher standard of safety is expected of vaccines
 - Those receiving vaccines are generally healthy
 - Vaccination universally recommended and mandated, to prevent illness and to protect the public



Benefits of Vaccination

- **Prevention of disease**
 - Approximately **42,000 adults** die each year from vaccine preventable diseases
 - **90%** of flu deaths are adults **65 and older**
 - **70 million adults** at highest risk for contracting pneumonia remain unvaccinated
 - CDC estimates **200,000 hospitalizations** are related to seasonal influenza annually

Source: HHQI



Additional Benefits of Vaccination

- **Prevention of disease (continued)**
 - CDC estimates that, between 1976 & 2007, flu-associated deaths in the US range between **3000 and 49,000 people**
 - “Flu costs businesses approximately **\$10.4 billion** in direct costs ...for adults” (Molinari, et al., 2007, p. 5086)
 - Avoids disruptive staffing and patient schedules
 - When staff are **immunized**, patients are **protected**

Source: HHQI



Evaluation of Immunization Status

- **Assessment – Physicians, nurses, pharmacists and other immunizing personnel assess patients for:**
 - Immunization status according to recommendations of ACIP and patients immunization history
 - Patients are screened for precautions and contraindications
 - HHA nurses who immunize in the home also assess the patients, and administer vaccines per the agency’s standing orders
 - Home care visiting staff may be asked by a patient
- **What does this mean for the HH clinician & OASIS:**
 - Understanding of the process to be able to enhance patient education and understanding




Evaluation of Immunization Status

- **Adverse event vs. adverse reaction**
- **Reactions may be localized, systemic or allergic**
 - Localized: Erythema or discomfort at the site
 - Systemic: Fever, headache, malaise
 - Allergic: Anaphylactic – occurs within minutes or hours of receiving the vaccine, requires medical attention
 - Hives, swelling of the mouth and/or throat, difficulty breathing, wheezing, hypotension, shock
 - Very rare, and can be minimized by appropriate screening
- **VAERS - The Vaccine Adverse Event Reporting of CDC**



Evaluation of Immunization Status

- **Contraindication** – a condition that increases the likelihood of a serious adverse reaction to a vaccine for a patient with that condition
- **Permanent contraindications to vaccination**
 - Only four are generally considered to be permanent contraindications, some are specific reaction to a specific vaccine
 - SEVERE allergic reaction to a vaccine component or following a prior dose
 - Encephalopathy not due to another identifiable cause occurring within seven days of pertussis vaccination
- **What does this mean for the HH clinician and OASIS:**
 - Who has determined that the patient should not receive the vaccine, and document such

Source: Epidemiology & Prevention of Vaccine-Preventable Diseases the Pink Book: Course Textbook – 13th Edition (2015) Chapter Two - General Recommendations on Immunization (From CDC)



Evaluation of Immunization Status

- **Precaution** – a condition in a recipient that might increase the chance or severity of an adverse reaction or could compromise the ability of the vaccine to produce immunity
- **Invalid contraindications to vaccination**
 - Mild illness
 - Antimicrobial therapy
 - Disease exposure or convalescence
 - Misperceptions that result in missed opportunities

Source: Epidemiology & Prevention of Vaccine-Preventable Diseases the Pink Book: Course Textbook – 13th Edition (2015) Chapter Two - General Recommendations on Immunization (From CDC)



Barriers to Adult Immunization

- Fear of vaccines
- Lack of education
- Uninsured; cost factors
- Lack of physician recommendation
- Lack of encouragement by provider's clinical & support staff, staff education



Additional Barriers to Adult Immunization

- Providers who are non-immunizing, but do not refer as appropriate
- Inadequate documentation and communication between providers and with patients
- **Influenza immunization is a yearly event; influenza vaccine evolves from year to year**
- Cost to physicians and HHAs to purchase and store vaccines appropriately
- Need for vaccine information sharing mechanisms, vaccination data not readily accessible



A Look at Influenza: Influenza Facts

- U.S. flu season can begin in October and last until May
- Flu viruses are circulating at higher levels
- Every flu season is different and affects people differently
- Receiving an annual seasonal flu vaccine reduces the chance you will become ill and spread the disease to others
- When more people get vaccinated against the flu, less flu can spread through that community (herd immunity)
- Flu vaccines cause antibodies to develop in the body about two weeks after vaccination
- Yearly vaccine “match”

Source: <http://www.cdc.gov/flu/protect/keyfacts.htm>



A Look at Influenza: Epidemiology and Surveillance

- Influenza epidemiology
 - Reservoir – Human
 - Animals (Type A only)
 - Transmission – Respiratory
 - Probably airborne
 - Communicability 1 day before to 5 days after onset in adults
- Surveillance – monitor prevalence of circulating strains and detect new strains



Source: Epidemiology & Prevention of Vaccine-Preventable Diseases the Pink Book: Course Textbook – 13th Edition (2015) Chapters 12 - Influenza



A Look at Pneumonia: Pneumonia Facts

- Case fatality rates are highest among the elderly and those with underlying medical conditions
 - Among elderly - may be as high as 60% (CDC, 2015)
- Pneumonia classification – dependent of the location of the person's exposure
 - Community-acquired (CAP)
 - Healthcare-associated (HCAP)
- Pneumonia pathogens
 - Bacteria
 - Virus
 - Fungi

Source: Epidemiology & Prevention of Vaccine-Preventable Diseases the Pink Book: Course Textbook – 13th Edition (2015) Chapters 17 - Pneumococcal Disease



A Look at Pneumonia: Epidemiology

- Pneumonia epidemiology
 - Reservoir
 - Asymptomatic humans
 - Transmission – Respiratory
 - Droplet (cough, sneeze, talk)
 - 1 meter or less by air
 - Touch (autoinoculation)
 - Inanimate objects, then self
 - Communicability - 1 to 3 weeks, varies by strain

Source: HHQI, Immunization & Infection Prevention BPP



Meet our Respondents...

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HHQI: Resources, Strategies

- Best Practice Intervention Package - Immunization and Infection Prevention
 - "3 As approach"
 - **Awareness** – includes information on immunizations specific to home health
 - **Assessment** – program evaluation of current evidence-based guidelines for immunization
 - **Action** – agency guidance on immunization to improve the quality of care to home health patients
- Primary focus is to provide information and resources
- Value of the home health role in immunization work
 - Cardiovascular and immunization initiatives are linked
 - The burden of preventable disease is greater in patients with chronic conditions or who are immunosuppressed due to disease or age
 - The home setting provides a critical touch point for patient and family education



HHQI: Resources, Strategies

- Clinician benefit
 - Adult Immunizations course (HHQI University)
 - Hospitalization Course Catalog
 - 2 nursing CEUs
- Organization benefit
 - OASIS immunization questions are NQF approved
 - Important component of the patient's assessment
 - They are cross-setting measures
 - Influenza measure is part of the 'Quality of Patient Care Star Rating' on HH Compare



Resources

- Epidemiology and Prevention of Vaccine-Preventable Diseases - The Pink Book
 - <http://www.cdc.gov/vaccines/pubs/pinkbook/index.html>
- HHQI BPIP; requires log-in
 - <https://www.homehealthquality.org/special-pages/login.aspx?ReturnUrl=%2fEducation%2fBest-Practices%2fFiles%2fImmunization-and-Infection-Prevention-BPIP.aspx>
- Immunization Action Coalition
 - <http://www.immunize.org/>
- CDC re: Vaccines & Immunizations
 - <http://www.cdc.gov/vaccines/>
- Updated pneumonia information
 - <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6434a4.htm>
- Specific CDC information re: 2015-2016 flu season
 - <http://www.cdc.gov/flu/about/season/flu-season-2015-2016.htm>



Resources, cont.

- QIN Resources
- Improving Adult Immunization Rates
 - https://www.qin.tomorrowshhealthcare.org/index.php?option=com_content&view=category&layout=blog&id=147&Itemid=531
- NJ Department of Health Communicable Disease resources
 - <http://www.nj.gov/health/cd/>
- Resources for providers of adult immunizations
 - <http://www.izsummitpartners.org/adult-vaccination-resources/>
- Vaccine recommendations of the Advisory Committee for Immunization Practices (ACIP), a CDC site
 - <http://www.cdc.gov/vaccines/hcp/acip-recs/>



Opportunity for Discussion, Sharing



Next Steps

- What is your take-away? Take a minute to jot it down.
- **Recommend the vaccines**
 - Health care providers are powerful motivators
 - Patients are likely to follow recommendation of providers
 - Support and encourage full immunization of agency staff



Contact Us

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