WISCONSIN DEPARTMENT of HEALTH SERVICES

Wisconsin HAI Long-Term Care Education Series

October 27, 2022

Today's Agenda

- Acute Gastroenteritis Outbreaks
  - **Lynn Roberts, DVM, MPH,** Epidemiologist, Enteric and Waterborne Diseases Unit, Division of Public Health

- COVID-19 and Pneumococcal Vaccines
  - **Stephanie Borchardt, PHD, MPH,** Epidemiologist, Immunization Section, Division of Public Health
  - **Tanner Van Drisse,** Adult Immunization Coordinator, Immunization Section, Division of Public Health

WISCONSIN DEPARTMENT of HEALTH SERVICES

Prevention and control of acute gastroenteritis outbreaks

Lynn Roberts, DVM, MPH
Epidemiologist
Enteric and Waterborne Diseases Unit
Division of Public Health

October 27, 2022

Outline

- Background
- Outbreak preparation
- Outbreak identification and response initiation
- Outbreak management

Background

Norovirus

- Most common cause of enteric illness
- Member of the *Caliciviridae* family
  - Non-enveloped viruses = harder to “kill”
- Formerly known by many names
  - Norwalk virus, snow mountain virus, winter vomiting disease, small round structured virus (SRSV)

History of Norovirus

- 1929: “Winter vomiting syndrome” first described
- 1968: Identified as cause of outbreak in Norwalk, Ohio
- Late 1980s: Received national attention due to large cruise ship outbreaks
- 1990s: Use of molecular diagnostics became more widespread

Clinical Picture

- Incubation: 24 to 48 hours (range: 10 to 50 hours)
- Illness duration: 12 to 60 hours
- Symptoms: non-bloody diarrhea, vomiting, abdominal pain, low-grade fever
- Self-limiting illness
- **Not the flu**

Transmission

- Person-to-person
  - Fecal-oral
  - Aerosolized vomitus
- Environmental
- Foodborne
- Waterborne

Viral Shedding

- Humans are the only known reservoir.
- Virus is shed in feces and vomitus.
- Shedding can begin 24 hours before symptoms.
- Shedding can last for weeks.
- About one-third of infections are asymptomatic.

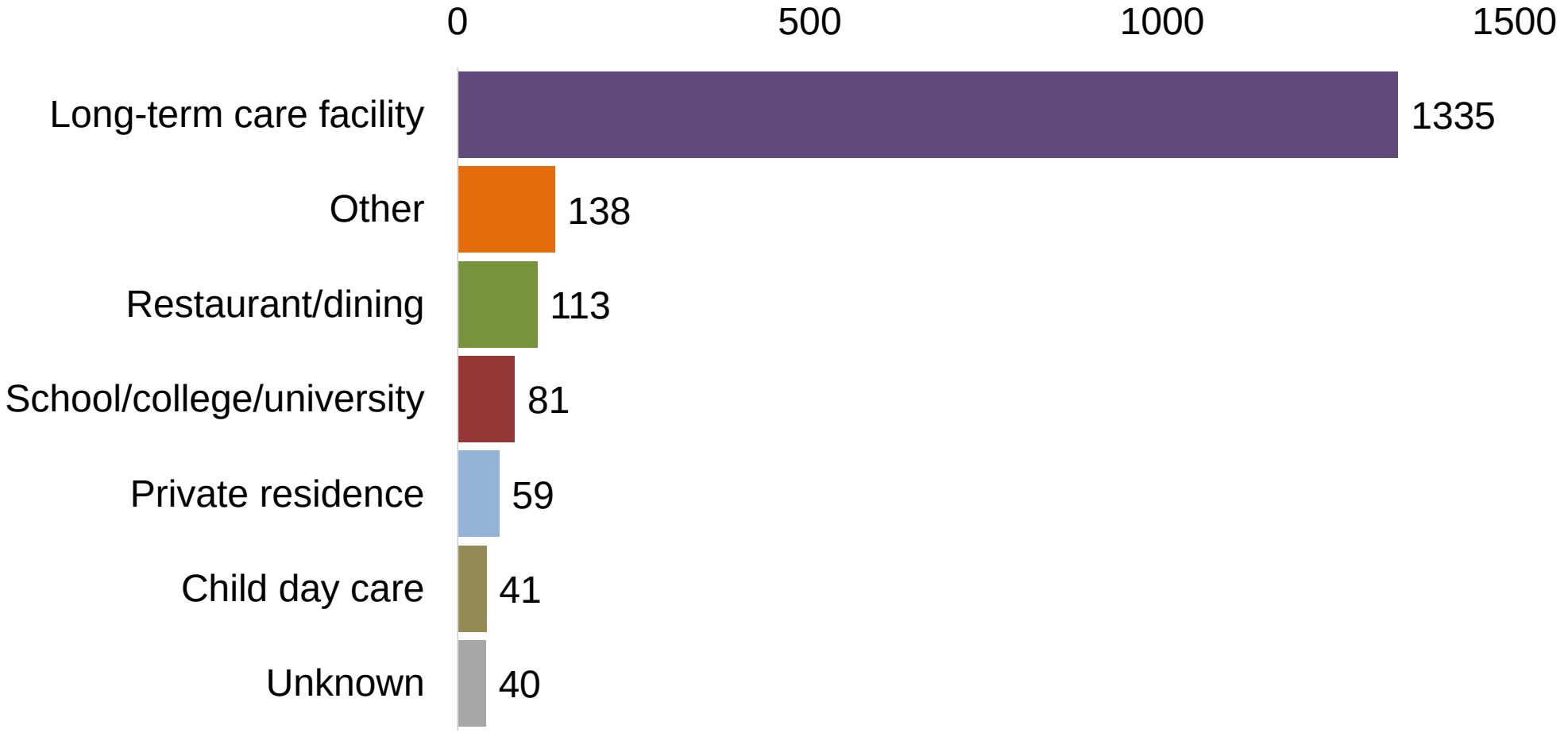
Transfer of Norovirus

- **There are up to 10,000,000 norovirus particles per gram of feces.**
- Infectious dose can include as few as 10 virus particles.
- Norovirus can be transferred from contaminated fingers to up to seven surfaces.

Journal of Hospital Infection (2004) Barker, et al.

Treatment

- There is no vaccine.
- There are no norovirus-specific antiviral medications.
- Severe illness is possible in elderly individuals.
- Deaths have been reported in association with outbreaks.



Acute gastroenteritis outbreaks by exposure setting

Wisconsin, 2012–2017

GI Outbreak Preparation

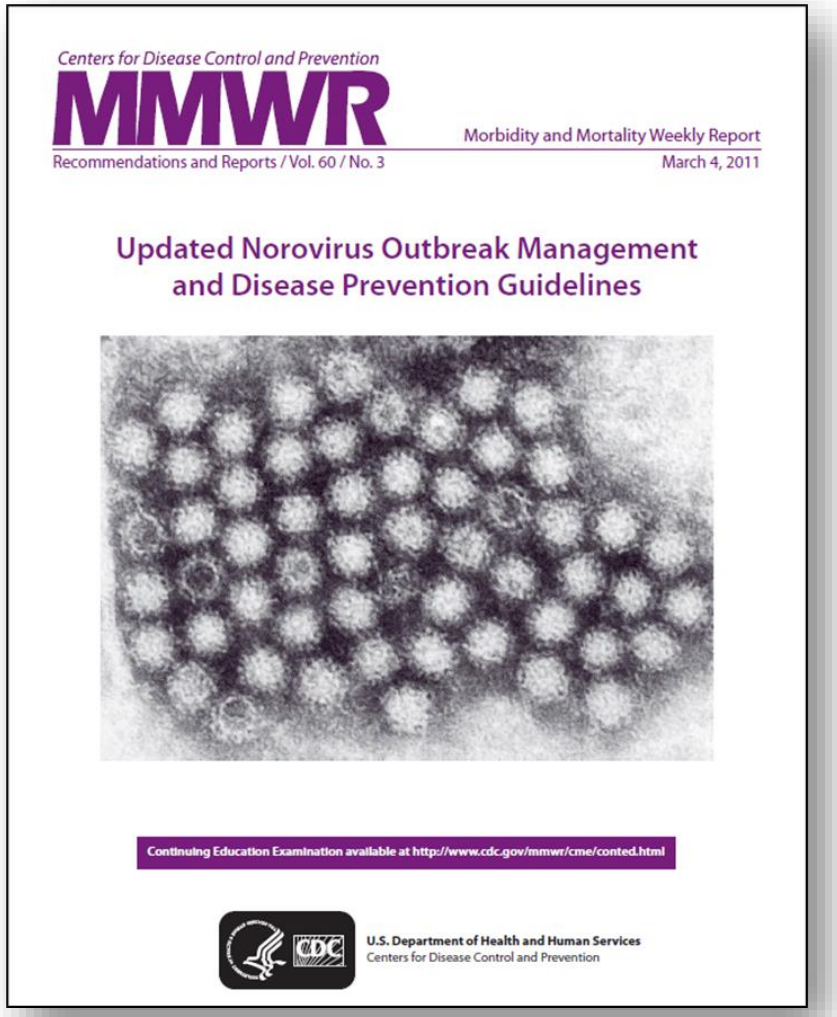
Preparing for Outbreaks

Be familiar with guidelines and resources:

- Wisconsin Division of Public Health (DPH)/Division of Quality Assurance (DQA): Prevention and Control Recommendations For Viral Gastroenteritis Outbreaks in Wisconsin Long-Term Care Facilities (LTCF)

Prevention and Control Recommendations for Acute Gastroenteritis Outbreaks in Wisconsin Long-Term Care Facilities

Preparing for Outbreaks

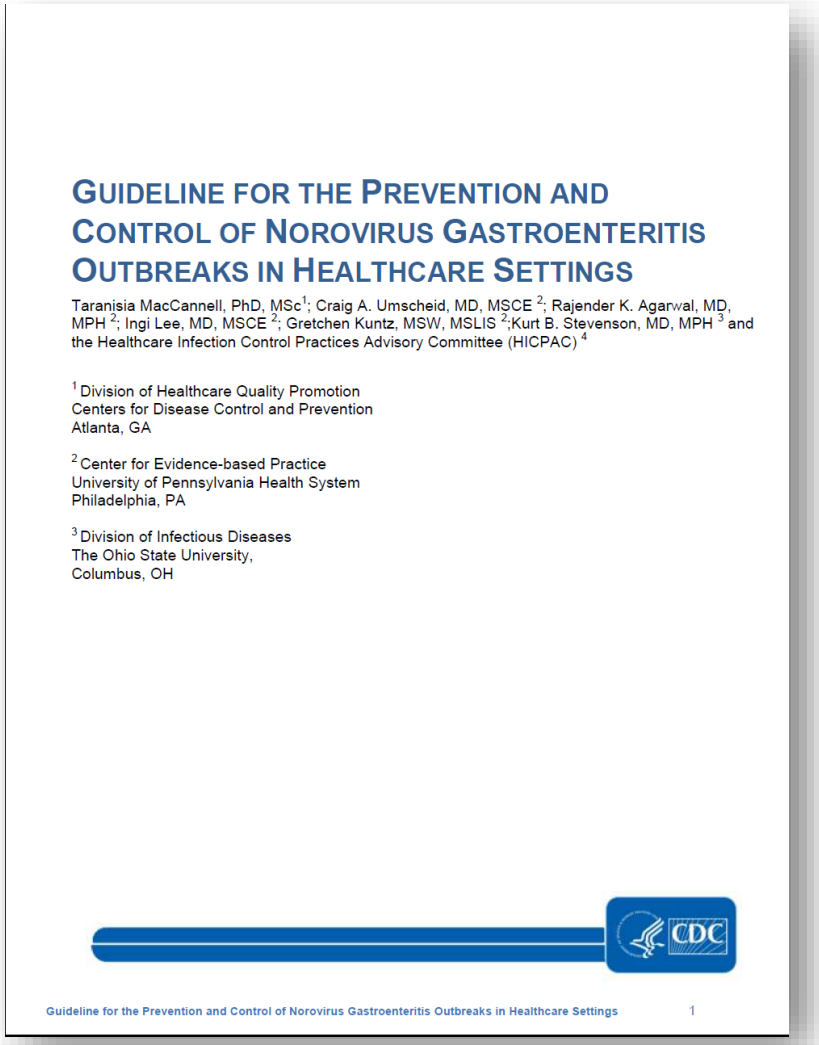


Be familiar with guidelines and resources:

- Centers for Disease Control and Prevention (CDC) MMWR: Updated Norovirus management and Disease Prevention Guidelines

[Updated norovirus outbreak management and disease prevention guidelines (cdc.gov)]

Preparing for Outbreaks



GUIDELINE FOR THE PREVENTION AND CONTROL OF NOROVIRUS GASTROENTERITIS OUTBREAKS IN HEALTHCARE SETTINGS

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The Ohio State University,
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CDC

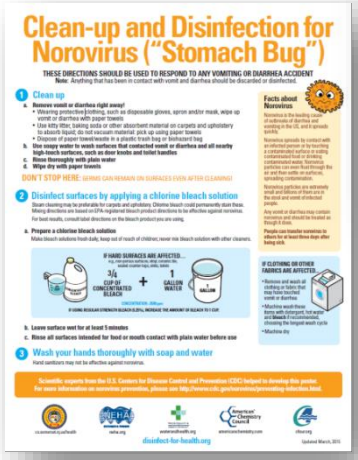
Guideline for the Prevention and Control of Norovirus Gastroenteritis Outbreaks in Healthcare Settings 1

Be familiar with guidelines and resources:

- CDC: Guideline for the Prevention and Control of Norovirus Gastroenteritis Outbreaks in Healthcare Settings

[Guideline for the Prevention and Control of Norovirus Gastroenteritis Outbreaks in Healthcare Settings (cdc.gov)]

Preparing for Outbreaks



- Be familiar with guidelines and resources:
  - DHS Norovirus fact sheet
  - DHS Handwashing fact sheet
  - CDC norovirus cleaning instructions

Norovirus (wisconsin.gov)
Wash your hands (wisconsin.gov)
NorovirusIncident_8.5x11_Eng_Clr_Concentrated_v4 (waterandhealth.org)

Outbreak Identification and Response Initiation

When to Suspect an Outbreak?

- **An outbreak is based on symptomology, not on clinical diagnoses.**
- Suspect an outbreak when two or more residents **and/or** staff experience vomiting and/or diarrhea within a 72-hour period and have geographic commonality.
- An example outbreak could be:
  - Three residents with symptoms of vomiting,
  - On the same wing,
  - With onset of illness within two days.

Clinical Features of Viral GI Illness

- Sudden onset of vomiting and/or diarrhea, which may also include:
  - Headache
  - Fever
  - Chills
  - Abdominal cramps
- Common viral GI pathogens include norovirus, rotavirus, and sapovirus.

Surveillance Considerations

- Early reporting of acute gastroenteritis (AGE) is key.
- Ideally staff can monitor for and report GI illness year-round.
- Communication between staff on different shifts is essential.
- Each facility should have a surveillance mechanism in place that will monitor for GI illness.

Ways to Detect an Outbreak

- Maintain line lists of ill residents and staff.
- Review and track 24-hour logs for individuals with GI illness.
- Plot ill residents on a facility map to identify clusters.

Initiation of an Outbreak Response

- Notify local health departments (LHDs) and facility administration when an outbreak is suspected.
- The outbreak notification should include:
  - Number of ill residents and staff
  - Onset dates
  - Signs and symptoms of the illness
  - Any laboratory tests completed or pending

Facility Responsibilities

- Report suspected outbreaks to LHD.
- Create an outbreak management plan.
- Implement control measures when needed.
- Reach out to your LHD for assistance when needed.

LHD Responsibilities

- Report outbreaks to DPH.
- Serve as resource to the facility and assist when needed.
- Facilitate fee-exempt stool testing.

DPH Responsibilities

- Report outbreaks to CDC.
- Provide recommendations.
- Provide technical assistance to LHD regarding outbreak management.
- Manage state-wide surveillance.

Staff-Only Outbreaks

- The goal: determine if there is transmission within the facility.
- In outbreaks with only staff ill, consider the following:
  - Did ill staff work within 50 hours of becoming ill?
  - Do ill staff members have sick family members at home?
  - Do ill staff members work in the same areas or have contact with the same residents?

Outbreak Management

Staff Management

- Maintain the same staff to resident assignments if possible.
- Limit staff from moving between affected and unaffected units.
- Staff from the affected unit should deliver food to their residents.
- Use soap and water for hand hygiene.
- Staff should be excluded from work duties until free of diarrhea and vomiting for **at least** 48 hours.

Resident Management

- Restrict ill residents' activities until at least 48 hours after they are well.
- Evaluate the need to cancel communal meals and group activities.
- Ensure health care providers managing a symptomatic resident are aware.
- Discourage sharing of personal food supplies during the outbreak.

Restriction of New Admissions

- Upon recognition of an outbreak, consider restricting new admissions.
- If the outbreak is confined, consider admissions to only unaffected areas.
- Restriction of new admissions should be considered until 48 hours after resolution of symptoms in the last case.

Readmissions

- The facility should consider the readmission of ill residents.
- The appropriate infection control measures should be implemented.
- The facility should inform the resident and resident's provider of the outbreak.

Cleaning and Disinfection

- Increase frequency of both
- Use chlorine bleach at a concentration at 3500 ppm (3/4 cup per gallon of water)
- Clean from low contamination to high contamination areas
- Consider steam cleaning wherever contamination has occurred on non-bleachable surfaces
- Ensure cleaning staff is aware of the outbreak

Laboratory Testing for Norovirus

- Fee-exempt testing at the Wisconsin State Laboratory of Hygiene (WSLH)
- Test method: RT- PCR test (not a culture)
  - Viral sequencing to determine circulating strains of norovirus
  - Kit #10 (culture and sensitivity)
  - Refrigerate and ship with an ice pack
- Bacterial culture not routinely run on viral GI outbreaks

Who and How Many to Test?

- Usually three kits
- Collect timely and representative samples
- Focus on individuals with active illness
- Test to confirm the etiology of outbreak, not to determine if an outbreak is occurring

Preparing a Line List

- Log of symptomatic residents and staff in the facility
- Tool to track illness within the facility during the outbreak
- Should be used as a resource for:
  - Identifying an outbreak
  - Managing an outbreak
  - Identifying when an outbreak is over
  - Confirming when restrictions can be lifted

Line List Considerations

- Ensure all patients who submitted lab specimens are listed
- Only include GI illnesses
- Maintain a line list in real time
- Fill in key pieces of information:
  - Onset and well dates
  - Symptoms
  - Hospitalization, death data

Termination of an Outbreak Response

- Maintain ill residents on contact precautions until 48 hour asymptomatic
- Maintain heightened surveillance for 7-10 days after the last ill person became asymptomatic
- Send a final line list to the LHD

Questions welcome!

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For any questions about enteric or waterborne diseases or outbreaks, feel free to contact our unit's shared inbox at DHSDPHEnterics@dhs.wisconsin.gov
608-267-7143

WISCONSIN DEPARTMENT of HEALTH SERVICES

COVID-19 and Pneumococcal Vaccine Recommendations

Stephanie Borchardt, PhD, MPH
Tanner Van Drisse
October 27, 2022

Pneumococcal Vaccines for Adults

- PCV20 (Pfizer) is a 20-valent pneumococcal conjugate vaccine approved during June 2021 for use among adults during June 2021.
- PCV15 (Merck) is a 15-valent pneumococcal conjugate vaccine approved during July 2021 for use among adults.
- PPSV23 (Merck) is a 23-valent pneumococcal polysaccharide vaccine approved during 1983 for use among adults.
- PCV13 is no longer available to order for use among adults.

Pneumococcal Schedule

Adults aged 65 years and older who have not previously received PCV or whose previous vaccination history is unknown should receive one dose of PCV (either PCV20 or PCV15). When PCV15 is used, it should be followed by a dose of PPSV23.

For those who have never received a pneumococcal vaccine or those with unknown vaccination history

Administer one dose of PCV15 or PCV20.

If **PCV20** is used, their pneumococcal vaccinations are complete.

PCV20

If **PCV15** is used, follow with one dose of PPSV23.

- The recommended interval is at least 1 year.
- The minimum interval is 8 weeks and can be considered in adults with an immunocompromising condition*, cochlear implant, or cerebrospinal fluid leak.
- Their pneumococcal vaccinations are complete.

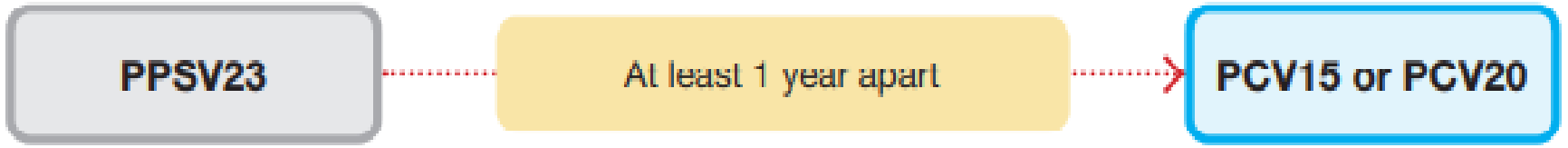
PCV15 → At least 1 year apart (8 weeks can be considered) → **PPSV23**

For those who previously received PPSV23 but who have not received any pneumococcal conjugate vaccine (e.g., PCV13, PCV15, PCV20)

You may administer one dose of PCV15 or PCV20.

Regardless of which vaccine is used (PCV15 or PCV20):

- The minimum interval is at least 1 year.
- Their pneumococcal vaccinations are complete.



Pneumococcal Schedule

Adults aged 19-64 years *with certain underlying medical conditions* or other risk factors who have not previously received PCV or whose previous vaccination history is unknown should receive one dose of PCV (either PCV20 or PCV15). When PCV15 is used, it should be followed by a dose of PPSV23.

CDC recommends pneumococcal vaccination for

- Adults 65 years old and older
- Adults 19 through 64 years old with certain underlying medical conditions or other risk factors:
  - Alcoholism
  - Cerebrospinal fluid leak
  - Chronic heart/liver/lung disease
  - Chronic renal failure*
  - Cigarette smoking
  - Cochlear implant
  - Congenital or acquired asplenia*
  - Congenital or acquired immunodeficiencies*
  - Diabetes
  - Generalized malignancy*
  - HIV infection*
  - Hodgkin disease*
  - Iatrogenic immunosuppression*
  - Leukemia*
  - Lymphoma*
  - Multiple myeloma*
  - Nephrotic syndrome*
  - Sickle cell disease or other hemoglobinopathies*
  - Solid organ transplants*

* Considered an immunocompromising condition

Pneumococcal Spacing

- When PCV15 is used the recommended interval between administration of PCV15 and PPSV23 is 1 year or more.
- A minimum interval of 8 weeks can be considered for adults with an immunocompromising condition, cochlear implant, or cerebrospinal fluid leak to minimize the risk for invasive pneumococcal disease caused by serotypes unique to PPSV23 in these vulnerable groups.

Adults with Previous Pneumococcal Vaccination

- Adults who have only received PPSV23 may receive a PCV (either PCV20 or PCV15) 1 year or more after their last PPSV23 dose.
- When PCV15 is used in those with history of PPSV23 receipt, it need not be followed by another dose of PPSV23.

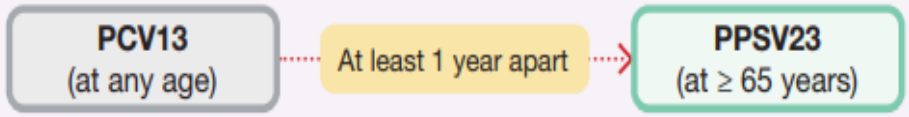
Adults with Previous Pneumococcal Vaccination

Adults who have previously received PCV13 should complete the recommended pneumococcal schedule; however, one dose of PCV20 may be used if PPSV23 is not available.

Pneumococcal vaccine timing for adults who previously received PCV13 but who have not received all recommended doses of PPSV23

The previous pneumococcal recommendations remain in effect pending further evaluation. Use the following information for guidance on the number of and interval between any remaining recommended doses of PPSV23.

Adults 65 years or older without an immunocompromising condition, cerebrospinal fluid leak, or cochlear implant



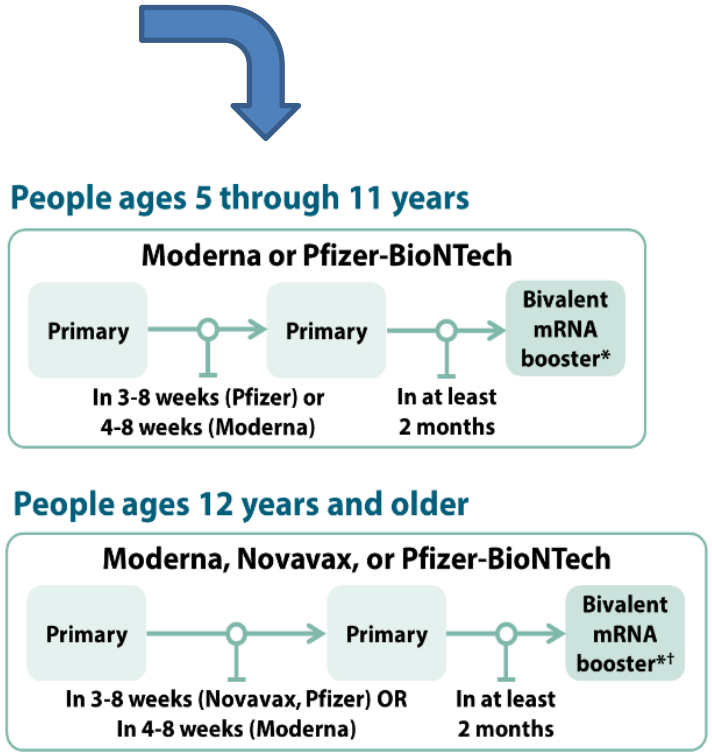
CDC recommends 1 dose of PPSV23 at age 65 years or older.**
Administer a single dose of PPSV23 at least 1 year after PCV13 was received. Their pneumococcal vaccinations are complete.

Monovalent COVID-19 Vaccines

- Pfizer COVID-19 vaccine is an mRNA vaccine approved for use among persons aged 6 months and older
- Moderna COVID-19 vaccine is an mRNA vaccine approved for use among persons aged 6 months and older
- Novavax is a protein subunit vaccine approved for use among persons aged 12 years and older
- Janssen (J&J) is a recombinant vector vaccine approved for use among persons aged 18 years and older

Monovalent (original) Vaccines

SHOULD still be used for the primary series



Should NOT be used as boosters for those aged 5 years and older.

Omicron Booster Vaccines

- Pfizer Omicron Booster is an mRNA vaccine approved for use among persons aged 5 years and older
- Moderna Omicron Booster is an mRNA vaccine approved for use among persons aged 6 years and older

Why new boosters?

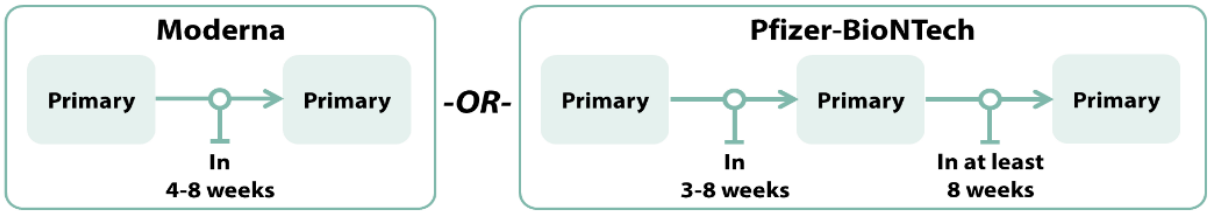
- Updated COVID-19 boosters can both help restore protection that has waned since previous vaccination, and provide broader protection against newer variants.
- They target the most recent Omicron subvariants, BA.4 and BA.5 that are more transmissible and more likely to be able to evade antibodies made against earlier subvariants.

Current Recommendation

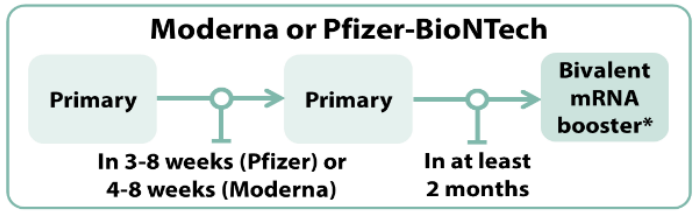
- Everyone ages 5 years and older is recommended to receive one age-appropriate bivalent mRNA booster dose.
- This is regardless of primary series product and number of monovalent booster doses previously received.
- People are eligible to receive updated boosters at least 2 months since their last COVID-19 dose (either the final primary series dose or the last booster).

COVID-19 Vaccination Schedule Infographic for People who are NOT Moderately or Severely Immunocompromised

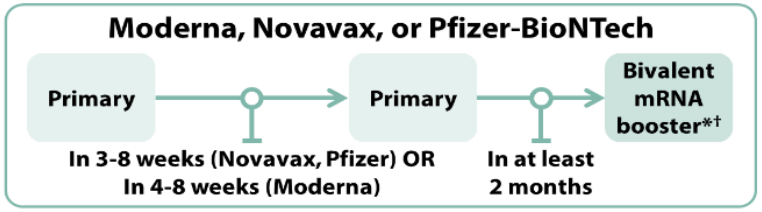
People ages 6 months through 4 years



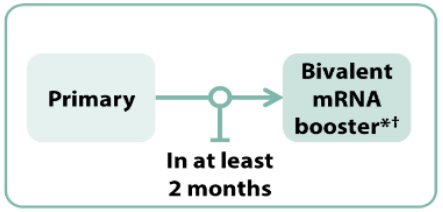
People ages 5 through 11 years



People ages 12 years and older



People ages 18 years and older who previously received Janssen primary series dose‡



*Administer an age-appropriate mRNA bivalent booster (i.e., Pfizer-BioNTech for people age 5 years and either Pfizer-BioNTech or Moderna for people ages 6 years and older). For people who previously received a monovalent booster dose(s), the bivalent booster dose is administered at least 2 months after the last monovalent booster dose.

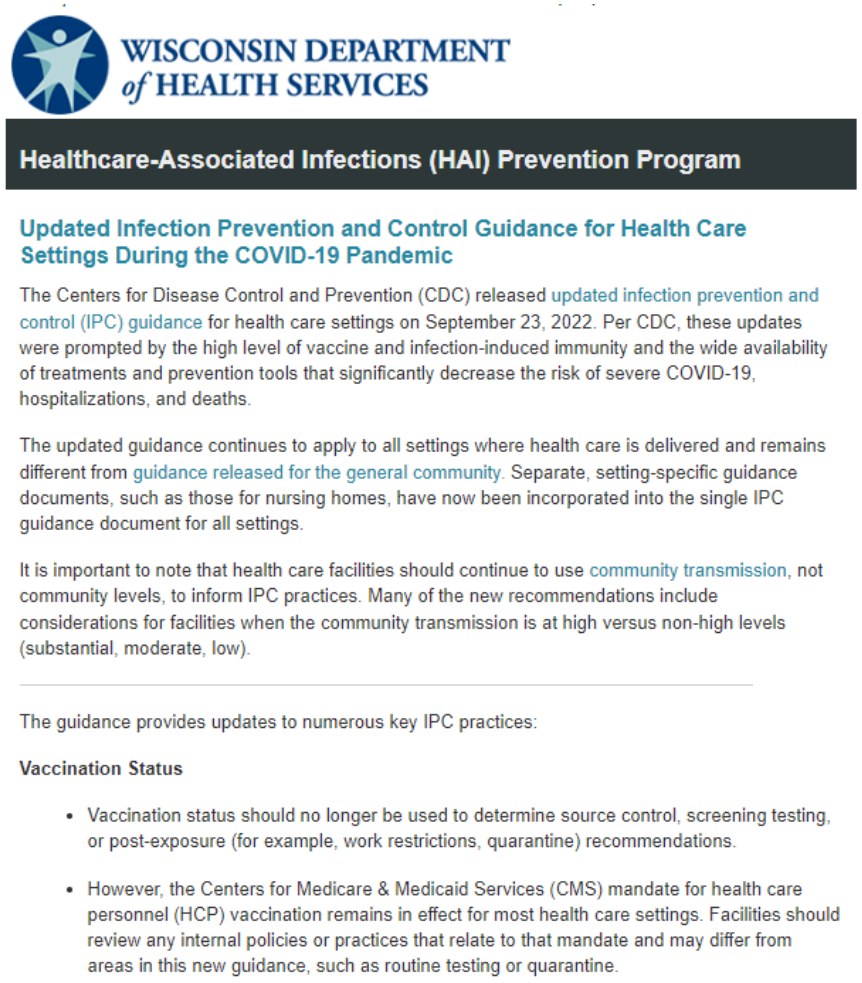
† A monovalent Novavax booster dose may be used in limited situations in people ages 18 years and older who completed a primary series using any COVID-19 vaccine, have not received any previous booster dose(s), and are unable or unwilling to receive an mRNA vaccine. The monovalent Novavax booster dose is administered **at least 6 months** after completion of a primary series.

‡ Janssen COVID-19 Vaccine should only be used in certain limited situations. See: https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us-appendix.html#appendix-a

Questions?

Updated Guidance

- CDC has updated infection prevention and control recommendations for health care settings
- https://content.govdelivery.com/accounts/WIDHS/bulletins/331773b



WISCONSIN DEPARTMENT of HEALTH SERVICES

Healthcare-Associated Infections (HAI) Prevention Program

Updated Infection Prevention and Control Guidance for Health Care Settings During the COVID-19 Pandemic

The Centers for Disease Control and Prevention (CDC) released updated infection prevention and control (IPC) guidance for health care settings on September 23, 2022. Per CDC, these updates were prompted by the high level of vaccine and infection-induced immunity and the wide availability of treatments and prevention tools that significantly decrease the risk of severe COVID-19, hospitalizations, and deaths.

The updated guidance continues to apply to all settings where health care is delivered and remains different from guidance released for the general community. Separate, setting-specific guidance documents, such as those for nursing homes, have now been incorporated into the single IPC guidance document for all settings.

It is important to note that health care facilities should continue to use community transmission, not community levels, to inform IPC practices. Many of the new recommendations include considerations for facilities when the community transmission is at high versus non-high levels (substantial, moderate, low).

The guidance provides updates to numerous key IPC practices:

Vaccination Status

- Vaccination status should no longer be used to determine source control, screening testing, or post-exposure (for example, work restrictions, quarantine) recommendations.
- However, the Centers for Medicare & Medicaid Services (CMS) mandate for health care personnel (HCP) vaccination remains in effect for most health care settings. Facilities should review any internal policies or practices that relate to that mandate and may differ from areas in this new guidance, such as routine testing or quarantine.

Questions?

HAI Prevention Program

dhswihaipreventionprogram@dhs.wisconsin.gov

608-267-7711

HAI Prevention Program Staff Contacts:

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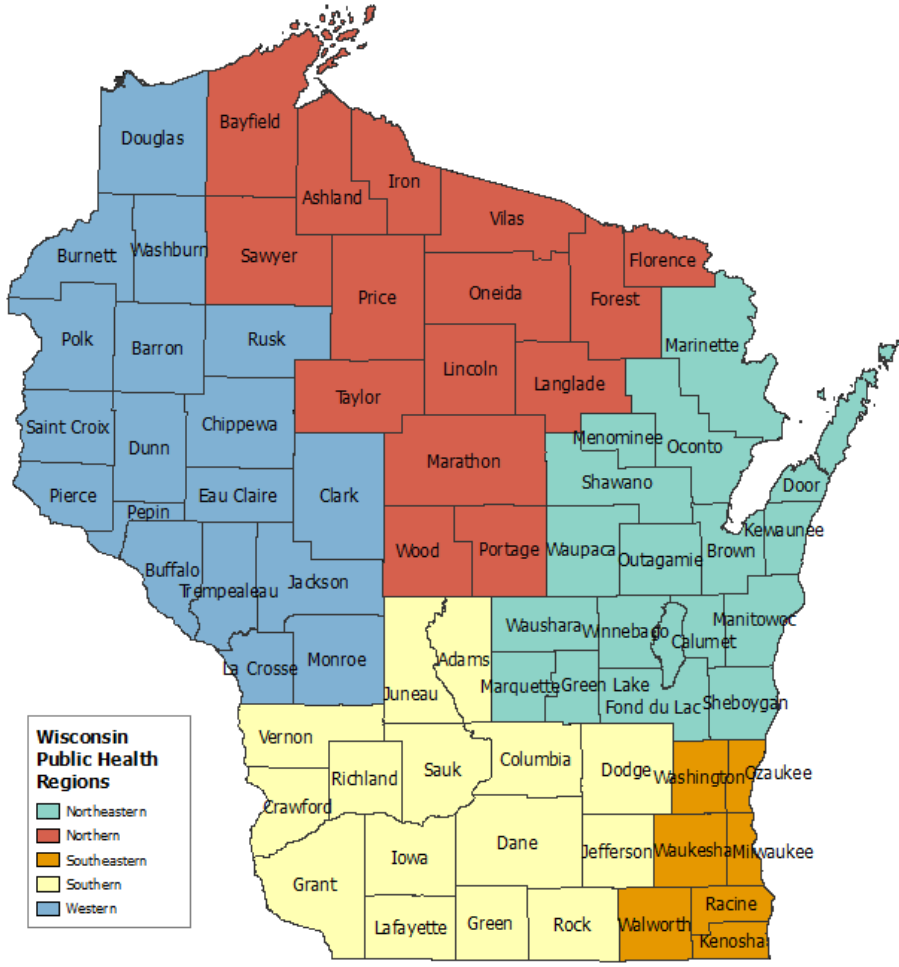

www.dhs.wisconsin.gov/hai/contacts.htm

https://www.dhs.wisconsin.gov/hai/ip-education.htm

Upcoming LTC Education Session

November 17, 2022

Topic: Water Management Plans