



IMMUNIZATION SCHEDULE GUIDANCE

Presented by:

Illinois Primary Health Care Association

2023

Developed by:

Naila Al-Hasni, MPH, PCMH, *Senior Manager of Clinical Quality Improvement*

Paula Campbell, *Director of Health Equity + EP Response*

Ashley Colwell, MS, *Vice President of Clinical Services + Workforce Development*

Sandhya Poudel, *IPHCA Intern*

Adefunke Idowu, *IPHCA Intern*

Children ages birth – 12 years old

The Centers for Disease Control and Prevention (CDC) as of April 27, 2023, recommends the following immunizations for all children within the group range of 0 to 12 years of age:

❖ **Hepatitis B (Hep B)**

1st dose: Birth x

2nd dose: 1 - 2 months

3rd dose: 6 - 18 months

<https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html#note-hepb>

<https://www.cdc.gov/vaccines/vpd/hepb/hcp/index.html>

❖ **Rotavirus (RV)**

1st dose: 2 months

2nd dose: 4 months

3rd dose: 6 months

<https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html#note-rotavirus>

<https://www.cdc.gov/vaccines/vpd/rotavirus/hcp/index.html>

❖ **Diphtheria, tetanus, & acellular pertussis (DTaP)**

1st dose: 2 months

2nd dose: 4 months

3rd dose: 6 months

4th dose: 15 - 18 months

5th dose: 4 – 6 years

<https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html#note-dtap>

<https://www.cdc.gov/vaccines/vpd/dtap-tdap-td/hcp/index.html>

❖ **Hemophilus influenzae type b (Hib)**

1st dose: 2 months

2nd dose: 4 months

3rd dose: 6 months

4th dose: 12 - 15 months

<https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html#note-hib>

<https://www.cdc.gov/vaccines/vpd/hib/hcp/index.html>

❖ **Pneumococcal conjugate (PCV13)**

1st dose: 2 months

2nd dose: 4 months

3rd dose: 6 months

4th dose: 12 - 15 months

<https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html#note-pneumo>

<https://www.cdc.gov/vaccines/vpd/pneumo/hcp/index.html>

❖ **Inactivated poliovirus (IPV)**

1st dose: 2 months

2nd dose: 4 months

3rd dose: 6 - 18 months

4th dose: 4 – 6 years

<https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html#note-polio>

<https://www.cdc.gov/vaccines/vpd/polio/hcp/index.html>

❖ **Respiratory Syncytial Virus (RSV)**

- Recommended for infants 8 months and younger and some older babies at increased risk of severe illness.

- <https://www.cdc.gov/media/releases/2023/p-0803-new-tool-prevent-infant-hospitalization-.html>

❖ **COVID-19 Vaccination**

Age 6 months–4 years:

Unvaccinated: 2 doses of 2023-2024 Moderna 0.25 mL/25mg or 3 doses 2023-2024 Pfizer-BioNtech 0.3 mL/3mg

Previously vaccinated: Moderna 1 or more doses receive 1 dose 2023-2024 Moderna Pfizer-BioNtech; 1 dose any Pfizer-BioNtech receive 2 doses 2023-2024 Pfizer-BioNtech 0.3 mL/3mg; 2 or more doses any Pfizer-BioNtech receive 1 dose 2023-2024 Pfizer-BioNtech 0.3 mL/3mg

Age 5–12 years:

Unvaccinated: 1 dose of 2023-2024 Moderna 0.25 mL/25Mg or 1 dose 2023-2024 Pfizer-BioNtech 0.3 mL/10mg

Previously vaccinated: 1 or more doses any mRNA vaccine receive 1 dose of 2023-2024 Moderna 0.25 mL/25Mg or 1 dose 2023-2024 Pfizer-BioNtech 0.3 mL/10mg

[COVID-19 Vaccination Recommendations Infographic](#) (Updated 10/13/2023)

[COVID-19 Vaccination Recommendations Infographic \(Immunocompromised\)](#) (Updated 10/13/2023)

(CDC, 2023). Accessed on 07/10/2023 from: <https://www.cdc.gov/vaccines/covid-19/downloads/COVID-19-immunization-schedule-ages-6months-older.pdf>

❖ **Influenza (IIV4)**

Annual vaccination (1 or 2 doses): 6 months – 8 years

Annual vaccination (1 dose only): 9 – 12 years

OR

Influenza (LAIV4)

Annual vaccination (1 or 2 doses): 2 – 8 years

Annual vaccination (1 dose only): 9 – 12 years

<https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html#note-flu>

<https://www.cdc.gov/vaccines/vpd/flu/hcp/index.html>

❖ **Measles, mumps, rubella, (MMR)**

1st dose: 12-15 months

2nd dose: 4 – 6 years

<https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html#note-mmr>

<https://www.cdc.gov/vaccines/vpd/mmr/hcp/index.html>

❖ **Varicella (VAR)**

1st dose: 12-15 months

2nd dose: 4 – 6 years

<https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html#note-varicella>

<https://www.cdc.gov/vaccines/vpd/varicella/hcp/index.html>

❖ **Hepatitis A (Hep A)**

2 dose series: 12 – months

<https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html#note-hepa>

<https://www.cdc.gov/vaccines/vpd/hepa/hcp/index.html>

❖ **Tetanus, diphtheria, acellular pertussis (Tdap)**

1 dose: 11 – 12 years

<https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html#note-tdap>

<https://www.cdc.gov/vaccines/vpd/dtap-tdap-td/hcp/index.html>

❖ **Meningococcal (MenACWY-D)**

1st dose: 11 – 12 years

<https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html#note-mening>

<https://www.cdc.gov/vaccines/vpd/mening/hcp/index.html>

❖ **Human papillomavirus (HPV)**

2- or 3-dose series depending on age at initial vaccination:

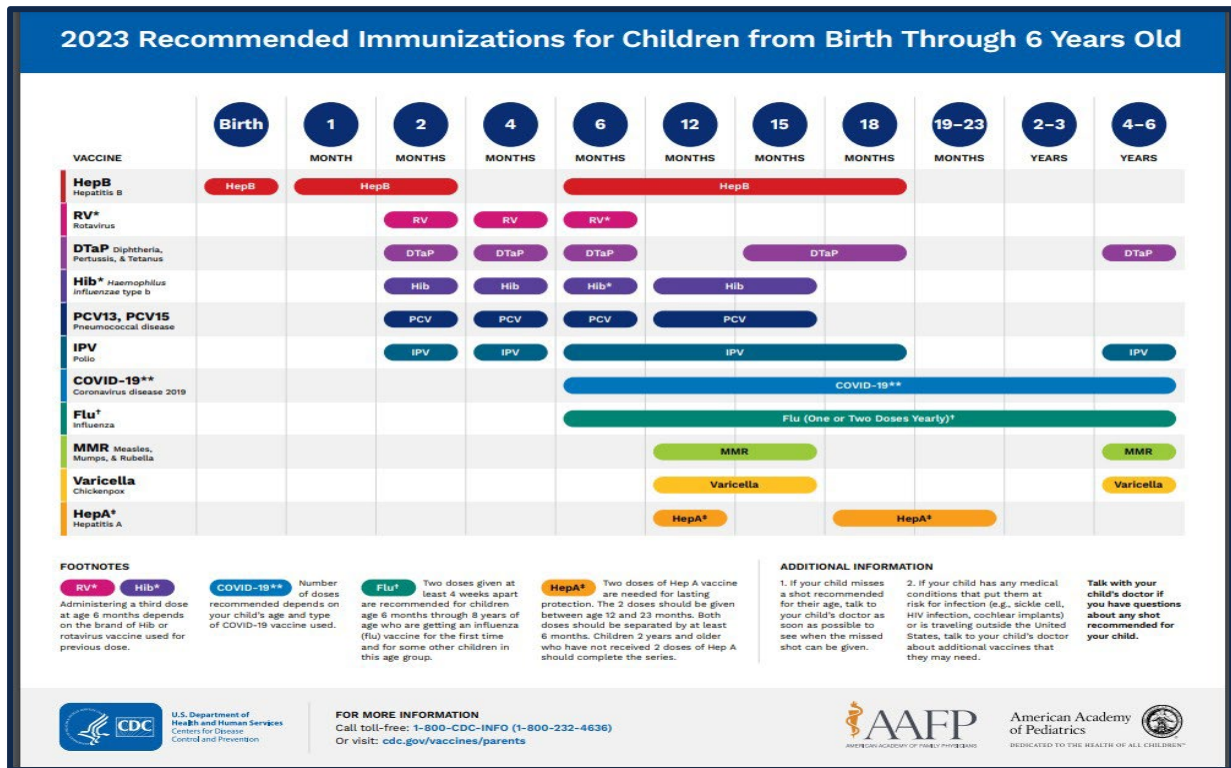
Age 9 –12 years at initial vaccination: 2-dose series at 0, 6–12 months (minimum interval: 5 months; repeat dose if administered too soon)

<https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html#note-hpv>

<https://www.cdc.gov/vaccines/vpd/hpv/hcp/index.html>

<https://www.cdc.gov/vaccines/vpd/hpv/hcp/recommendations.html>

CDC (2023). Accessed on 10/30/2023 from: <https://www.cdc.gov/vaccines/parents/downloads/parent-ver-sch-0-6yrs.pdf>



Adolescent ages 13 – 18 years old

The Centers for Disease Control and Prevention (CDC) recommends the following immunizations for adolescent within the group range 13 to 18 years of age:

❖ COVID-19 Vaccination

Age 12 & older:

Unvaccinated: 1 dose of 2023-2024 Moderna 0.5 mL/50mg or 1 dose 2023-2024 Pfizer-BioNtech 0.3 mL/30mg or 2 doses 2023-2024 Novavax 0.5mL/5mg 50mg adjuvant

Previously vaccinated: 1 or more doses of any mRNA vaccine or Novavax or Janssen, including in combination with any original monovalent or bivalent COVID-19 vaccine doses receive 1 dose of 2023-2024 Moderna 0.5 mL/50mg or 1 dose 2023-2024 Pfizer-BioNtech 0.3 mL/30mg or 1 dose 2023-2024 Novavax 0.5mL/5mg 50mg adjuvant

<https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html#note-covid-19>

<https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html>

❖ **Influenza (IIV4)**

Annual vaccination (1 dose only): 13 – 18 years

OR

❖ **Influenza (LAIV4)**

Annual vaccination (1 dose only): 13 – 18 years

<https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html#note-flu>

<https://www.cdc.gov/vaccines/vpd/flu/hcp/index.html>

❖ **Meningococcal (MenACWY-D)**

2nd dose: 16 years

<https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html#note-mening>

<https://www.cdc.gov/vaccines/vpd/mening/hcp/index.html>

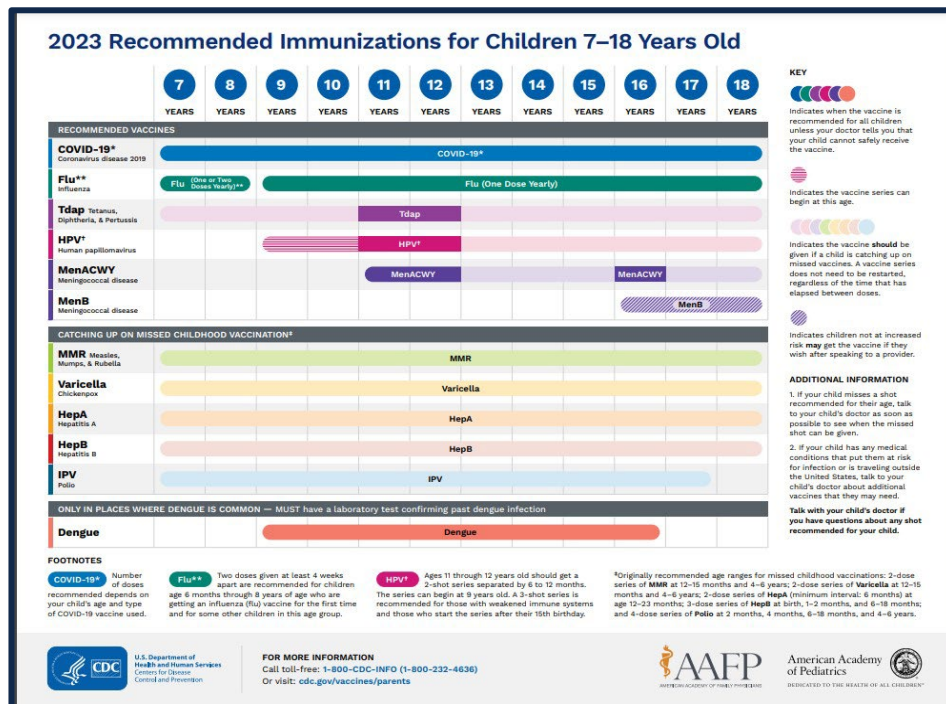
❖ **Human papillomavirus (HPV)**

2- or 3-dose series depending on age at initial vaccination:

Age 13 –14 years at initial vaccination: 2-dose series at 0, 6–12 months (minimum interval: 5 months; repeat dose if administered too soon)

<https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html#note-hpv>

<https://www.cdc.gov/vaccines/vpd/hpv/hcp/index.html>



CDC (2023). Accessed on 10/30/2023 from:

<https://www.cdc.gov/vaccines/schedules/downloads/teen/parent-version-schedule-7-18yrs.pdf>

CDC (2023). Accessed on 10/30/2023 from: <https://www.cdc.gov/vaccines/schedules/downloads/child/0-18yrs-child-combined-schedule.pdf>

Adult ages 19 years or older

The Centers for Disease Control and Prevention (CDC) as of April 27, 2023, recommends the following immunizations for adult ages 19 years and older:

(CDC, 2023). Accessed on 07/09/2023 from:

<https://www.cdc.gov/vaccines/schedules/downloads/adult/adult-combined-schedule.pdf>

Table 1 COVID-19 vaccination recommendations have changed. Find the latest recommendations at www.cdc.gov/covidschedule
Recommended Adult Immunization Schedule for ages 19 years or older, United States, 2023

Vaccine	19–26 years	27–49 years	50–64 years	≥65 years
COVID-19	2- or 3- dose primary series and booster (See Notes)			
Influenza inactivated (IIV4) or Influenza recombinant (RIV4)	1 dose annually			
Influenza live, attenuated (LAIV4)	1 dose annually			
Tetanus, diphtheria, pertussis (Tdap or Td)	1 dose Tdap each pregnancy; 1 dose Td/Tdap for wound management (see notes)			
	1 dose Tdap, then Td or Tdap booster every 10 years			
Measles, mumps, rubella (MMR)	1 or 2 doses depending on indication (if born in 1957 or later)			For healthcare personnel, see notes
Varicella (VAR)	2 doses (if born in 1980 or later)		2 doses	
Zoster recombinant (RZV)	2 doses for immunocompromising conditions (see notes)		2 doses	
Human papillomavirus (HPV)	2 or 3 doses depending on age at initial vaccination or condition	27 through 45 years		
Pneumococcal (PCV15, PCV20, PPSV23)	1 dose PCV15 followed by PPSV23 OR 1 dose PCV20 (see notes)			See Notes
Hepatitis A (HepA)	2, 3, or 4 doses depending on vaccine			
Hepatitis B (HepB)	2, 3, or 4 doses depending on vaccine or condition			
Meningococcal A, C, W, Y (MenACWY)	1 or 2 doses depending on indication, see notes for booster recommendations			
Meningococcal B (MenB)	19 through 23 years	2 or 3 doses depending on vaccine and indication, see notes for booster recommendations		
Haemophilus influenzae type b (Hib)	1 or 3 doses depending on indication			

 Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection
 Recommended vaccination for adults with an additional risk factor or another indication
 Recommended vaccination based on shared clinical decision-making
 No recommendation/Not applicable

Pregnancy & Vaccines

Before pregnancy:

- MMR and Varicella vaccine (get one month or more before pregnancy, unless you're already protected)

During pregnancy:

- Tdap vaccine (to help protect against whooping cough)
- Flu vaccine- It is recommended by the CDC and American College of Obstetricians and Gynecologists (ACOG) that all people who are or will be pregnant during influenza season receive the inactivated influenza vaccine when available. Influenza vaccine can be given during any trimester of pregnancy.

After pregnancy: It is safe to receive vaccines after giving birth, even while you are breastfeeding.

Whooping Cough: Pregnant women should get the whooping cough vaccine (Tdap) in the third trimester of each pregnancy.

Other vaccines

The need for other vaccines such as hepatitis A, pneumococcal, meningococcal, HPV and others may be recommended if women did not get the vaccines at a younger age, have certain health conditions, work in a lab, or travel to countries with increased risk of exposure to the vaccine-preventable disease.

(CDC, 2023). Accessed on 07/09/2023 from: <https://www.cdc.gov/vaccines/parents/by-age/pregnancy.html>

Adult Vaccines

Adults 50-64 years

Adults 50-64 years should be up to date on the following vaccines:

- COVID-19 vaccine
- Flu vaccine
- Shingles vaccine
- Tdap (tetanus, diphtheria, and whooping cough)
- Based on other factors, the following vaccines may be recommended by the healthcare provider:
 - Hepatitis B vaccine (recommended for all adults up to 59 years old)
 - MMR vaccine (if born in 1957 or later)

Adults 65 years and older

All adults 65 years and older should be up to date on the following vaccines:

- COVID-19 vaccine
- Flu vaccine
- Pneumococcal vaccine
- Shingles vaccine
- Tdap

CDC (2023). Recommended Vaccines for Adults. Accessed on 07/24/2023. Retrieved from: <https://www.cdc.gov/vaccines/adults/rec-vac/index.html>

RSV Vaccine for Adults 60 Years and older

- CDC Advisory Committee on Immunization Practices' (ACIP) recommends for the use of new Respiratory Syncytial Virus (RSV) vaccines from GSK and Pfizer for people ages 60 years and older.
- A single dose of the RSV vaccine based on discussions with their healthcare provider about whether RSV vaccination is right for them.

CDC (2023) RSV Vaccination for Adults 60 Years of Age and Over. Accessed 10/30/2023 <https://www.cdc.gov/vaccines/vpd/rsv/hcp/older-adults.html>

COVID-19 Vaccine

- COVID-19 vaccination is recommended for everyone ages 6 months and older in the United States for the prevention of COVID-19.
- There is currently no FDA-authorized COVID-19 vaccine for children younger than age 6 months.
- CDC recommends that people ages 6 months and older receive at least 1 bivalent mRNA COVID-19 vaccine and keep up with recommended boosters.
- Janssen COVID-19 vaccine is no longer available in the U.S. All remaining U.S. government stock of Janssen COVID-19 Vaccine expired May 7, 2023. Dispose of any remaining Janssen COVID-19 Vaccine in accordance with local, state, and federal regulations.
- People ages 18 years and older who received 1 or 2 Janssen COVID-19 Vaccine dose are recommended to receive 1 bivalent mRNA dose (Moderna or Pfizer-BioNTech) at least 2 months after completion of the previous dose.
- Free COVID-19 vaccines will be available through Illinois Department of Public Health and Chicago Department of Public Health in accordance to the HHS Bridge Access Program to maintain broad access for millions of uninsured.

CDC Resources

CDC COVID-19 vaccine Interim Considerations <https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html>

Interim COVID-19 Immunization Schedule <https://www.cdc.gov/vaccines/covid-19/downloads/COVID-19-immunization-schedule-ages-6months-older.pdf>

COVID-19 Vaccination Recommendations Infographic <https://www.cdc.gov/vaccines/covid-19/downloads/COVID19-vaccination-recommendations-most-people.pdf>

COVID-19 Vaccination Recommendations Infographics (Immunocompromised)
<https://www.cdc.gov/vaccines/covid-19/downloads/COVID19-vaccination-recommendations-immunocompromised.pdf>

CDC COVID-19 Vaccine Product Information <https://www.cdc.gov/vaccines/covid-19/info-by-product/index.html>

CDC COVID-19 Vaccine Storage and Handling Toolkit
<https://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/index.html>

CDC (2023). Accessed on 07/10/2023 from: <https://www.cdc.gov/vaccines/covid-19/downloads/COVID19-vaccination-recommendations-most-people.pdf>

Vaccine Storage and Handling Toolkit COVID-19 Vaccination Provider Requirements

The Vaccine Storage and Handling Toolkit has been updated with a COVID-19 and Mpox Vaccines Addendum with information on Storage and Handling best practices for these vaccines. All COVID-19 and Mpox vaccination providers participating in the specified Vaccination Program must store and handle vaccines under proper conditions to maintain the cold chain as outlined in the toolkit and addendum.

For more information about COVID-19 vaccination provider requirements and resources on enrollment, ordering, and data in support of vaccination visit [CDC COVID-19 Vaccination Program Provider Requirements and Support](#).

You can also access additional [resources](#) including web-based trainings, videos, checklists, and references related to vaccine storage and handling.

(CDC, 2023). Accessed on 07/12/2023 from:
<https://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/index.html>

Vaccine Cold Chain

A cold chain is a temperature-controlled supply chain that includes all vaccine-related equipment and procedures. The cold chain begins with the cold storage unit at the manufacturing plant, extends to the transport and delivery of the vaccine and proper storage at the provider facility, and ends with administration of the vaccine to the patient.

Manufacturers, distributors, public health staff, and health care providers share responsibility to ensure the vaccine cold chain is maintained from the time vaccines are manufactured until they are administered.

Refrigerators and Freezers

CDC recommends the following types of refrigerators and freezers:

- Purpose-built or pharmaceutical-grade units designed to either refrigerate or freeze biologics, including vaccines, are preferred. These units can be compact, under-the-counter style or large units.
- If a purpose-built or pharmaceutical-grade unit is not available, a stand-alone, household-grade unit may be an acceptable option in some practice settings. Only the refrigerator compartment of a household-grade combination refrigerator/freezer unit should be used. The freezer compartment of this type of unit is not recommended for storing vaccines and there may be areas of the refrigerated compartment that should not be used as well. These units have cold spots and temperature fluctuations, and air circulating from the freezer could expose refrigerated vaccines to freezing

temperatures. A separate freezer unit is necessary for storage for facilities that stock frozen vaccines.

All units should have enough space to store the largest inventory expected at the busiest point in the year (e.g., flu season) without crowding.

Never store any vaccine in a dormitory-style or bar-style combined unit. These units often have a single exterior door and an evaporator plate/cooling coil, usually located in an icemaker/freezer compartment. These units pose a significant risk of freezing vaccines, even when used for temporary storage.

Temperature Monitoring Devices (TMDs)

Every vaccine storage unit must have a reliable TMD. CDC recommends (and VFC requires) the use of a continuous monitoring and recording device called a “digital data logger” (DDL), set at recording intervals of at least every 30 minutes. Many DDLs use a buffered temperature probe. Temperatures measured by a buffered probe match vaccine temperature more closely than those measured by standard thermometers, which tend instead to reflect air temperature. DDLs provide details on how long a unit has been operating outside the recommended temperature range (a temperature excursion). Each DDL should have a current and valid Certificate of Calibration Testing (also known as a “Report of Calibration”) to ensure device accuracy.

Temperature Ranges

Refrigerators should maintain temperatures between 2°C and 8°C (36°F and 46°F). Freezers should maintain temperatures between -50°C and -15°C (-58°F and +5°F). Refrigerator or freezer thermostats should be set at the factory-set or midpoint temperature, which will decrease the likelihood of temperature excursions.

Thermostats are marked in various ways and, in general, show levels of coldness rather than temperatures. The only way to know the temperature where vaccines are stored is to measure and monitor it with a TMD.

Storing Vaccines at the Destination

Immediately upon arrival at the off-site location, vaccines should be stored in an appropriate storage unit with a TMD. Follow recommended guidelines for monitoring and recording storage unit temperatures:

- If the device displays minimum/maximum temperatures, this information should be checked and recorded.
- If the device does not display minimum/maximum temperatures, then the current temperature should be checked and recorded a minimum of two times (at the start and end of the workday).

If vaccines cannot be stored in an on-site storage unit, they should be kept in the portable vaccine storage unit using the following guidance:

- Place a TMD (preferably with a probe in a thermal buffer) as close as possible to the vaccines and check and record temperatures hourly.
- Keep the container closed as much as possible.

(CDC, 2023). Accessed 07/12/2023

<https://www.cdc.gov/vaccines/pubs/pinkbook/vac-storage.html>

State of Illinois Vaccination Requirement for 2023/2024 School Year

Illinois state law requires certain immunizations for children and adults enrolled in childcare, school, or college. State law also mandates immunizations for adults in specific fields of work (healthcare).

<https://dph.illinois.gov/topics-services/prevention-wellness/immunization/minimum-immunization-requirements.html>

References

Center for Disease Control and Prevention. (2023). Child and Adolescent Immunization Schedule by Age. Accessed from: <https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html>

Center for Disease Control and Prevention. (2023). Adult Immunization Schedule by Age. Accessed from: <https://www.cdc.gov/vaccines/schedules/hcp/imz/adult.html>

Center for Disease Control and Prevention. (2021). HPV Vaccination Recommendations. Accessed from: <https://www.cdc.gov/vaccines/vpd/hpv/hcp/recommendations.html>

Center for Disease Control and Prevention. (2023). Pregnancy and Vaccines. Accessed from: <https://www.cdc.gov/vaccines/parents/by-age/pregnancy.html>