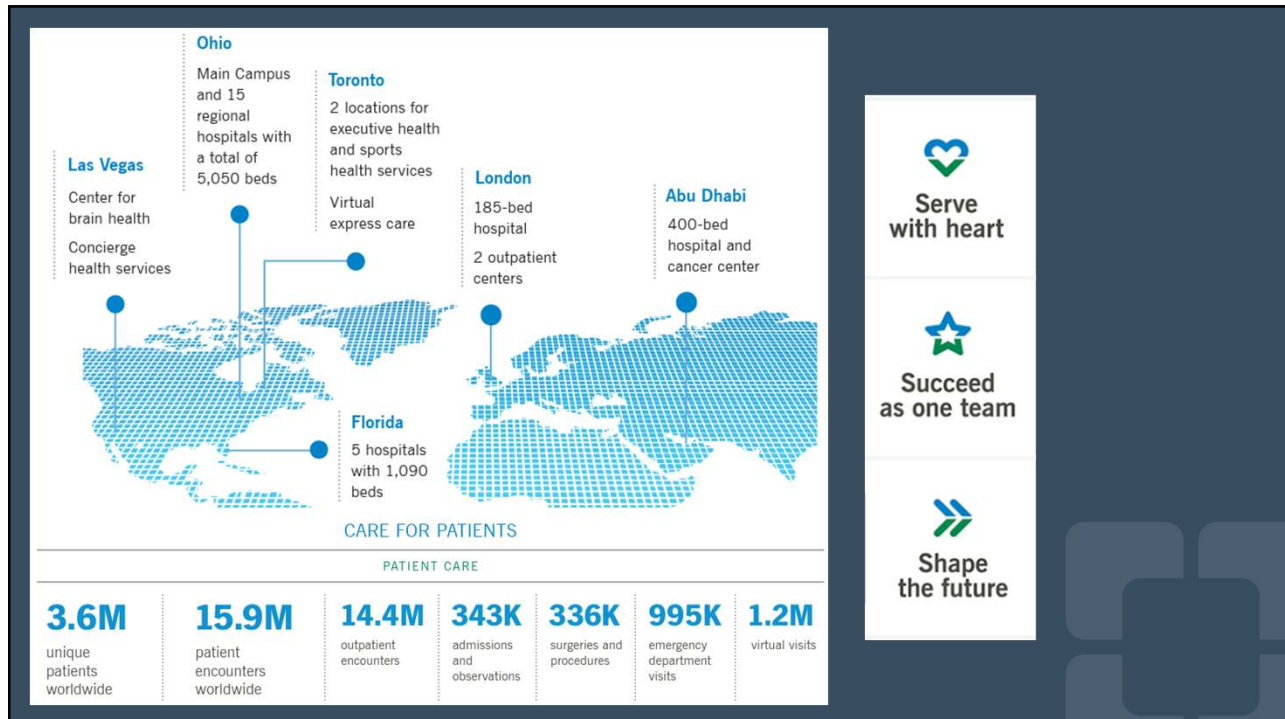


Optimizing the Electronic Health Record for Vaccine Delivery

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Clinical Pharmacist, Vaccines and Public Health



Dr. Rivard is a paid consultant for Pfizer, Inc and Wolters-Kluwer

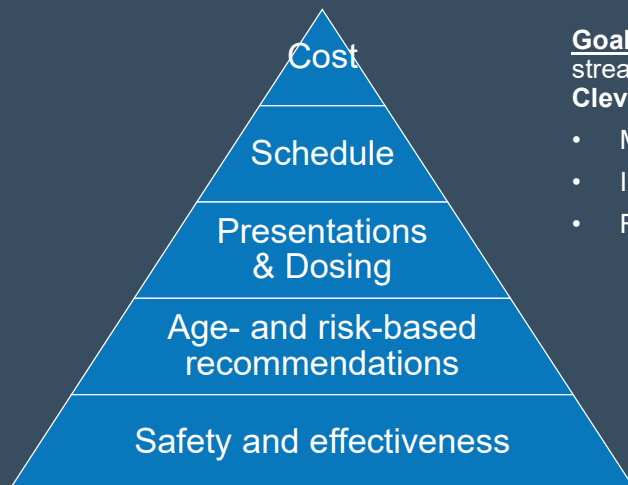


Vaccine Governance Committee

Co-Chairs:
Department Chair, Pediatrics
Clinical Pharmacist, Public Health and Vaccines



Formulary Integration and Standardization



Goal: Maintain and operationalized a streamlined vaccine inventory across all Cleveland Clinic Health System locations

- Maximize adherence
- Interchangeability
- Reduce errors

Immunizations ≥ 19 years				
Vaccine	19-26 yr	27-49 yr	50-64 yr	≥ 65 yr
COVID-19 ¹	COVID			
Influenza ²	Annual influenza vaccination			
Respiratory syncytial virus (RSV) ³	Seasonal administration during pregnancy			RSV
Tetanus, diphtheria, pertussis (Tdap or Td) ⁴	1 dose Tdap each pregnancy; 1 dose Td/Tdap for wound management			
	1 dose Tdap, then Td or Tdap booster every 10 years			
Herpes Zoster (RZV) ⁵	RZV		RZV	
Hepatitis A (HAV) ⁶	HAV			
Hepatitis B (HBV) ⁷	HBV		HBV	
Pneumococcal conjugate vaccine (PCV20) ⁸	PCV20		PCV20	
Mpox ⁹	MPOX			
Measles, mumps, rubella (MMR) ¹⁰	MMR			MMR
Varicella (VAR) ¹¹	VAR		VAR	
<i>Haemophilus influenzae</i> type b (Hib) ¹²	Hib			
Meningococcal (MenACWY) ¹³	MenACWY			
Meningococcal B (MenB) ¹⁴	MenB			

1 COVID-19: [Refer to COVID-19 Vaccine Recommendations table](#)
 2 Influenza: Adults 19-64 years: 1 dose of Fluzone annually. Adults ≥ 65 years: 1 dose of Fluzone High-Dose annually
 3 RSV: Abrysvo. Pregnant at 32-36 weeks gestation from September 1st through January 31st; 1 dose RSV vaccine. Adults ≥ 75 years and 50-74 years at [increased risk](#) of severe RSV disease: 1 dose RSV vaccine.
 4 Tdap: Adacel. Routine vaccination: 1 dose Tdap, then Td or Tdap every 10 years. Pregnancy: 1 dose Tdap during each pregnancy between 27-36 weeks gestation. Follow [CDC guidelines](#) for Td/Tdap wound management
 5 RZV: Shingrix. Adults 19-49 with an immunocompromising condition & Adults ≥ 50 years: 2-dose series (0, 2-6 months)
 6 HAV: Vaaqa or Havrix. Adults at [high risk](#) for Hepatitis A infection: 2-dose series (0, ≥ 6 months). Twinrix (HepA-HepB combination vaccine): 3-dose series (0, 1, 6 months)
 7 HBV: Hepisav-B, Engerix-B, or Recombivax HB. Routine vaccination for adults 19-59 years. Adults ≥ 60 years at [high risk](#) for Hepatitis B infection. Refer to CDC [guidelines](#) for detailed information on number of doses/series based on product used.
 8 PCV20: Prevnar-20. Adults 19-49 years of age with certain [underlying medical conditions or risk factors](#): 1 dose PCV20. Adults ≥ 50 years who have not previously received PCV: 1 dose PCV20. For patients with history of pneumococcal vaccination, refer to [CDC guidelines](#) for detailed information on pneumococcal vaccine series and spacing

Barriers to Provider-based Immunization

Fear of Errors

Product Confusion

Cost and Coverage

Age-Based Immunization Alerts

The image displays two overlapping screenshots of 'OurPractice Advisory' alerts. The top alert, titled 'OurPractice Advisory - Zzz, Grace', is marked as 'Important (1)'. It features a yellow header with a warning icon and the text: 'Inappropriate age for this immunization. This immunization is for patients **6 weeks - 6 years old ONLY**. Please consider ordering an age appropriate immunization.' Below this, it asks 'Remove the following orders?' and shows a button for 'DTAP VACCINE, AGE LESS THAN 7 YR (INFANRIX)'. The bottom alert, titled 'OurPractice Advisory - Zzz, Def', is also marked as 'Important (1)'. It has a similar yellow header with the text: 'Inappropriate age for this immunization. This immunization is for patients **7 years old and older**. Please consider ordering an age appropriate immunization.' It asks to remove orders and shows a button for 'TDAP VACCINE, AGE 7+ YR (ADACEL, BOOSTRIX)'. Both alerts include an 'Acknowledge Reason' field with options like 'Wrong Time in Workflow', 'Wrong Alert Logic', and 'Wrong Provider', and a footer with '© 2024 Epic Systems Corporation'.

Immunization Look-Back Alerts

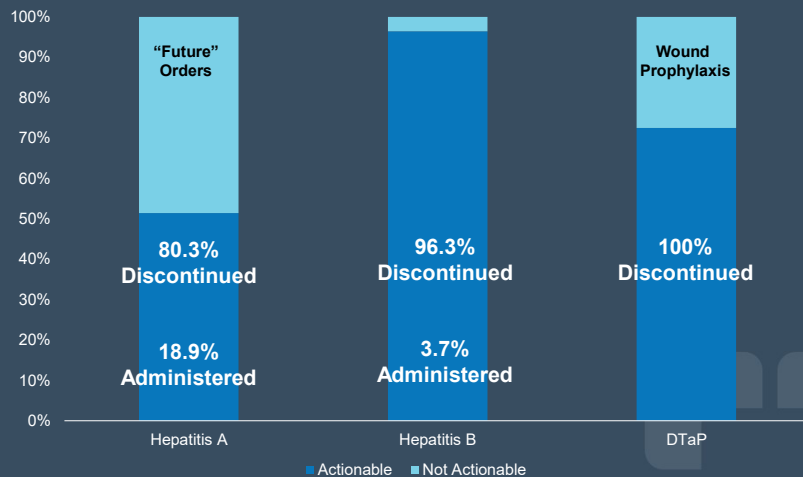
The image displays two overlapping screenshots of 'OurPractice Advisory' alerts. The top alert, titled 'OurPractice Advisory - Zzz, Def', has a yellow header with a warning icon and the text: 'Available information indicates that a **hepatitis A vaccine** has already been ordered, administered, or deferred within the last **6 months**. Please assess the timing and need for the ordered immunization prior to signing.' It includes an 'Immunization Record' link and an 'Acknowledge Reason' field with the option 'Benefit Outweighs Risk'. The bottom alert, titled 'OurPractice Advisory - Zzz, Bugs B', has a yellow header with a warning icon and the text: 'Available information indicates that a **PCV-20 or PCV-21 vaccine** may not be appropriate at this time, since another pneumococcal vaccine has already been ordered, administered, or deferred:'. It lists two reasons: 'PPSV-23 or PCV-13 vaccine within the last year' and 'PCV-15, PCV-20, or PCV-21 vaccine at any time'. It also includes an 'Immunization Record' link, an 'Acknowledge Reason' field with the option 'Benefit Outweighs Risk', and a footer with '© 2024 Epic Systems Corporation'.

Impact of Vaccine Look-back Alerts

3,617 alerts in 6 months

Top 5 alerts:

- Hepatitis A
- Hepatitis B
- DTaP
- Polio
- Influenza



SmartSets Immunization Order Sets

Search for new SmartSet + Add

SmartSets

Associate Edit Multiple Patient Estimate Providers Research Association Cleveland Clinic Home Delivery Pharmacy 855-276-0885 Remove Pend Efile

ADULT IMMUNIZATIONS 2025-2026 Manage User Versions

- Adult Immunizations
 - COVID-19 VACCINE
 - FLU VACCINE ORDERS 2025-2026
 - Influenza Vaccine, PRSV FREE, AGE 65+ YR, HIGH DOSE, TRIVALENT (FLUZONE HIGH-DOSE)
 - Influenza Vaccine
 - Influenza Vaccine
 - Hepatitis A (2 Dose S)
 - Hepatitis B (2 Dose S)
 - Hepatitis B (3 Dose S)
 - Hepatitis B - Series f
 - Hepatitis A & B COM
 - HIB
 - HPV (age 15+)
 - MMR VACCINES
 - MENINGOCOCCAL
 - PNEUMOCOCCAL
 - RSV
 - SHINGRIX
 - Tdap / Td
 - VARICELLA VACCINES
 - Diagnosis
 - IMMUNIZATION DIAGNOSIS
 - Need for vaccination
 - Add to Problem List
 - Ad hoc Orders

RSV

- **Patients 50+ years with commercial insurance:** RSV vaccine is covered as a medical benefit for **In-Office Administration**.
- **Patients 65+ on Medicare:** RSV vaccine is covered through Medicare Part D. Please order the **Pharmacy RX** option for these patients.
- **Pregnant patients:**
 - EHP covers RSV vaccine for in office administration when associated with a diagnosis code indicating third trimester pregnancy.
 - Vaccination for pregnant patients is only indicated 9/1 - 1/31.

RSV vaccine (ABRVSV0) - In-Office Administration for non-Medicare patients

RSV vaccine (ABRVSV0) - Pharmacy RX for Medicare patients
Disp-1 each, R-0


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Alerts for Medicare Part D Coverage

OurPractice Advisory [REDACTED]

High (1)

RSV not covered in the office setting

 You are ordering RSV on a patient that appears to have Medicare Part D. If the patient does have Part D, RSV is not covered in the office setting. Placing the order "RSV Printed Pharmacy Instructions" will print instructions for the patient to receive their vaccine at the pharmacy.

Remove the following orders? _____

Back Office, Routine

Apply the following? _____

Acknowledge Reason _____

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Administration Questions

Administered Immunization

Name:

Date: Time:

Lot:

Dose: mL

NDC: All

Site:

Manufacturer:

Route:

Product:

External:

Expiration Date:

Next Due:

Given By:

VIS Publish Date:

Comment:

Admin Location (Facility):

Diluent used for reconstitution (document expiration date in comments) Sterile water No Diluent Required

LOT of diluent used for reconstitution

Is the immunization patient supplied? Yes No

VIS provided: Yes Declined

Opportunities

- BCMA in ambulatory space
- In-office Medicare D billing
- Evaluate impact of other EHR-based interventions

Acknowledgements

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