Iowa Respiratory Virus Surveillance Webinar

2025-26 SEASON

Iowa Health and Human Services

State Hygienic Laboratory

at the University of Iowa

November 5, 2025

IOWA | Health and Human Services

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Housekeeping

- All participants will be muted during the presentation.
- Questions can be submitted directly to the facilitator via the Q/A feature located on your control panel
- All questions submitted will be answered at the end of the presentation or after the presentation
- Rebroadcast on Friday, November 14 at 10 am

https://www.zoomgov.com/webinar/register/WN_gmTtM6yzTtCwYpoTbhJbIw

- When available, you will receive an email with slides

Presentation Overview

- Respiratory Virus Surveillance Description and Summary
- Influenza and Other Respiratory Outbreaks
- Antiviral Update
- Influenza, COVID-19 and RSV Vaccination Update
- Submitting Specimens to SHL and Survey Test Results

Presenters

- Andy Weigel, LMSW, Influenza Epidemiologist, Iowa HHS
- Michael Patten, DO HAI Program Manager, Iowa HHS
- Shelly Jensen, RN, BSN, Immunization Nurse Clinician, Iowa HHS
- Jeff Benfer, MS, MB (ASCP)^{CM}, Supervisor of Molecular Biology, SHL

Respiratory Virus Surveillance

Andy Weigel

Iowa HHS Influenza Epidemiologist

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Iowa Respiratory Virus Surveillance Report

- Published weekly during the influenza surveillance season
- Posted on the Iowa HHS influenza surveillance page
- Email list is the quickest

View the report or subscribe to regular email reports at hhs.iowa.gov/center-acute-disease-epidemiology/iowa-influenza-surveillance

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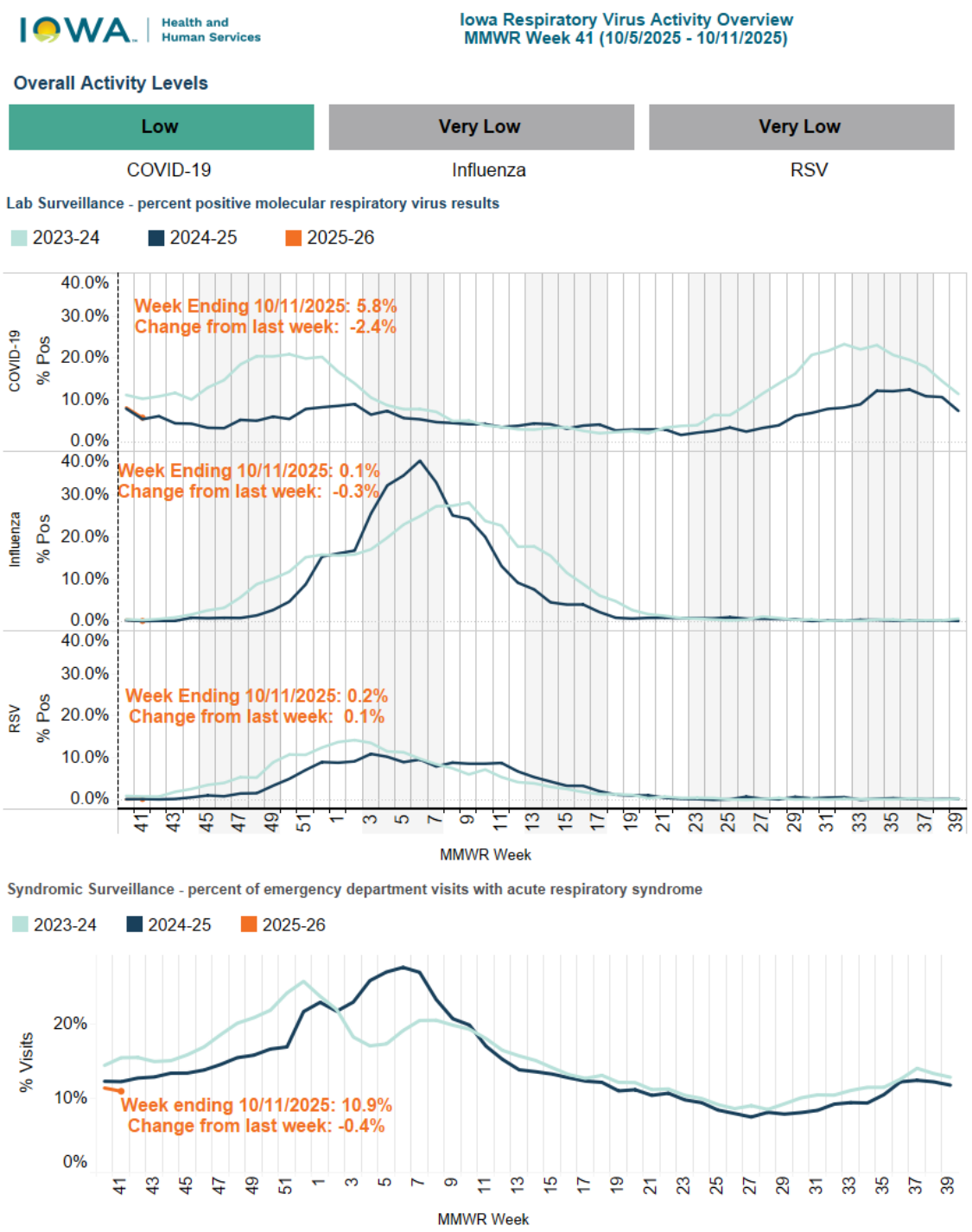


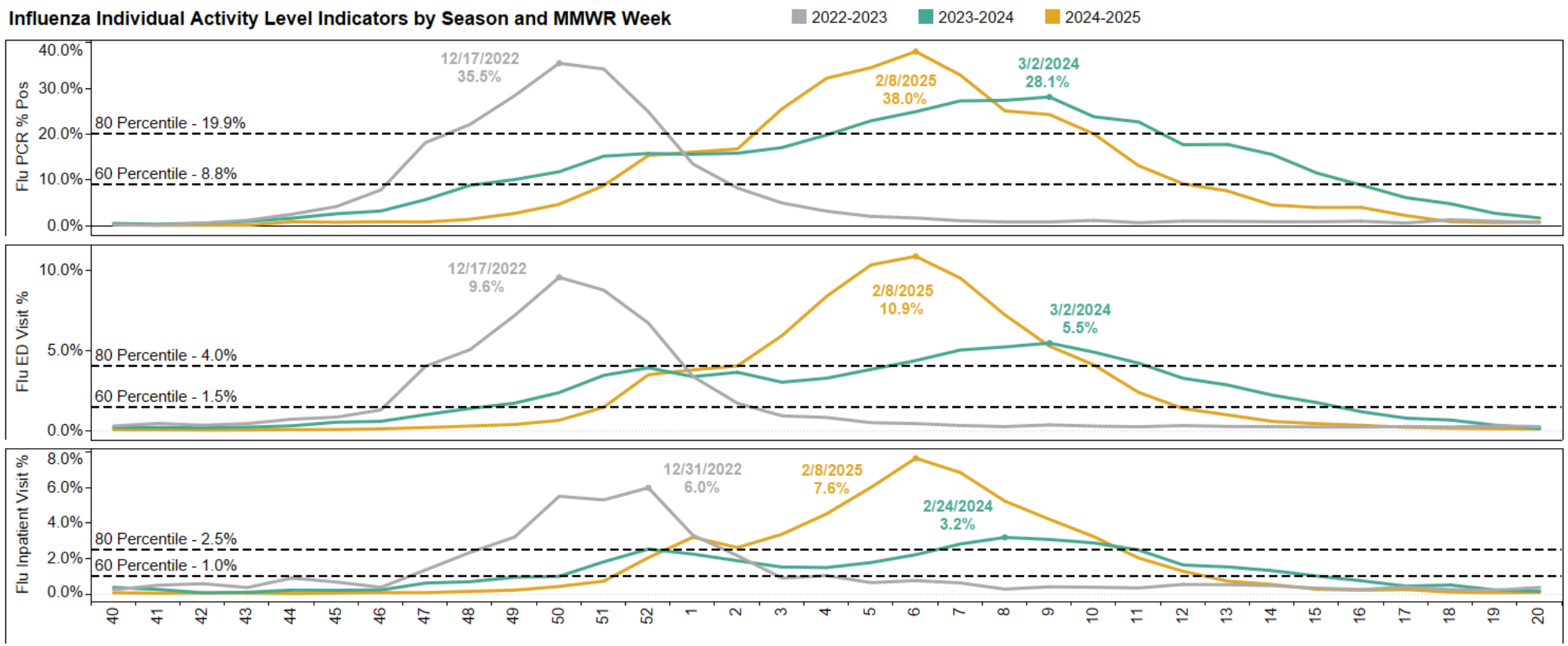
Iowa Respiratory Virus Surveillance

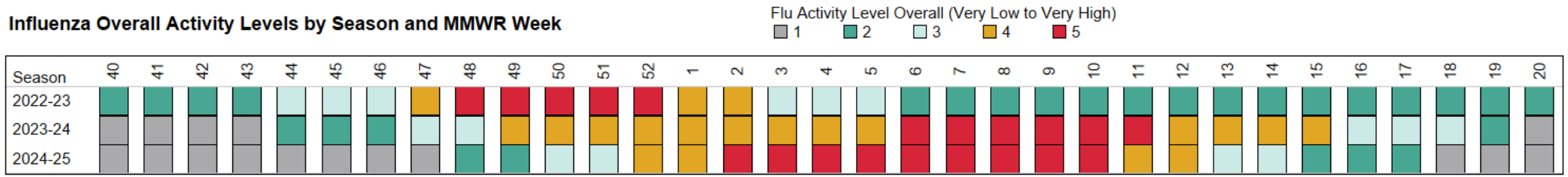
- Public health and clinical laboratory testing
- Wastewater surveillance
- Outpatient respiratory illness visits
- Syndromic ED and inpatient visits
- School and care facility outbreaks
- Deaths

Influenza, COVID-19 and RSV Weekly Activity Levels

- Individual measures (molecular test positivity, ED and inpatient visit proportions) and a composite measure (simple average of the other 3 measures)
- Calculate thresholds from 3-year historical period (2022-25), with flu and RSV excluding data from weeks 21-39
- Individual activity level (less than 20th percentile = very low, 20-40th percentile = low, 40-60th percentile = moderate, 60-80th percentile = high, over 80th percentile = very high)
- Levels do not incorporate slope of weekly change

Influenza Activity 2022-25





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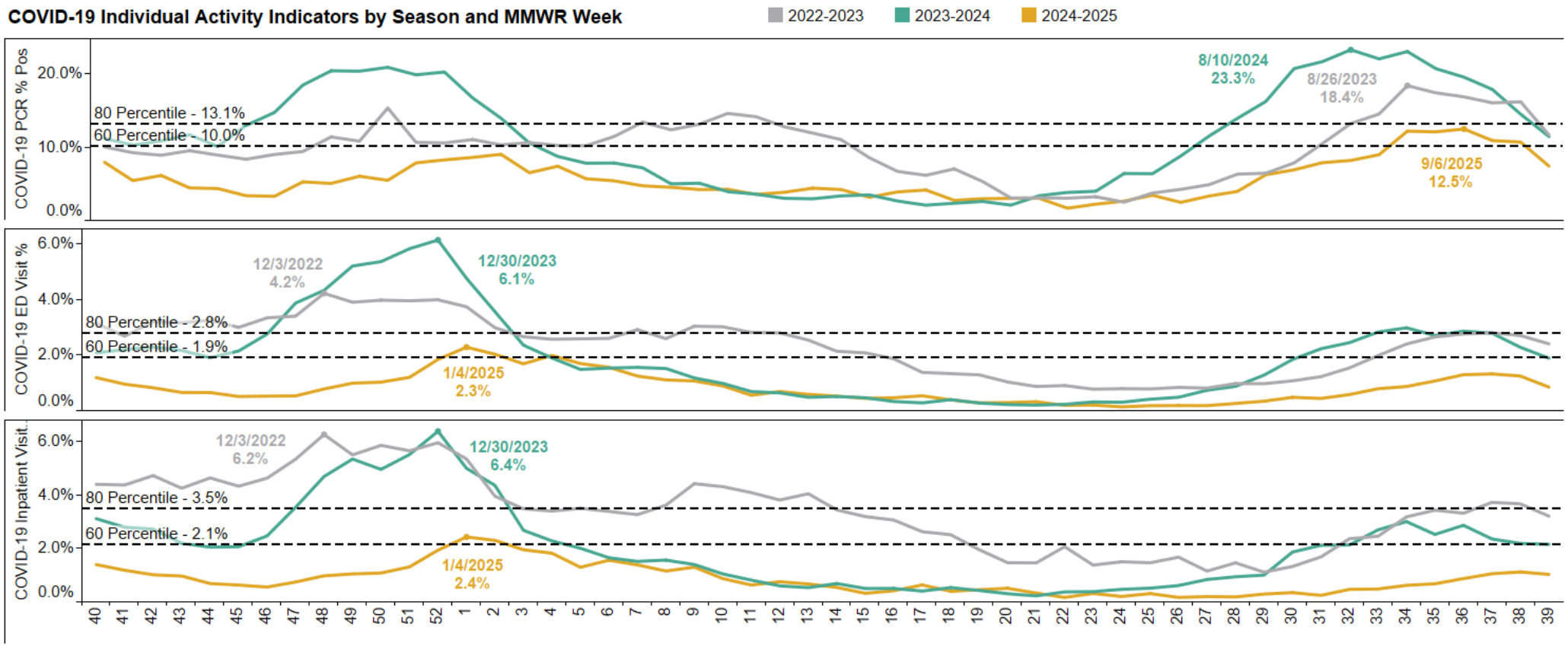
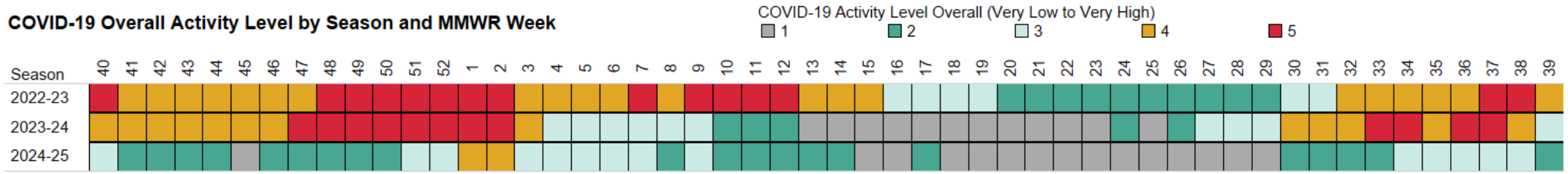
COVID-19 Activity 2022-25





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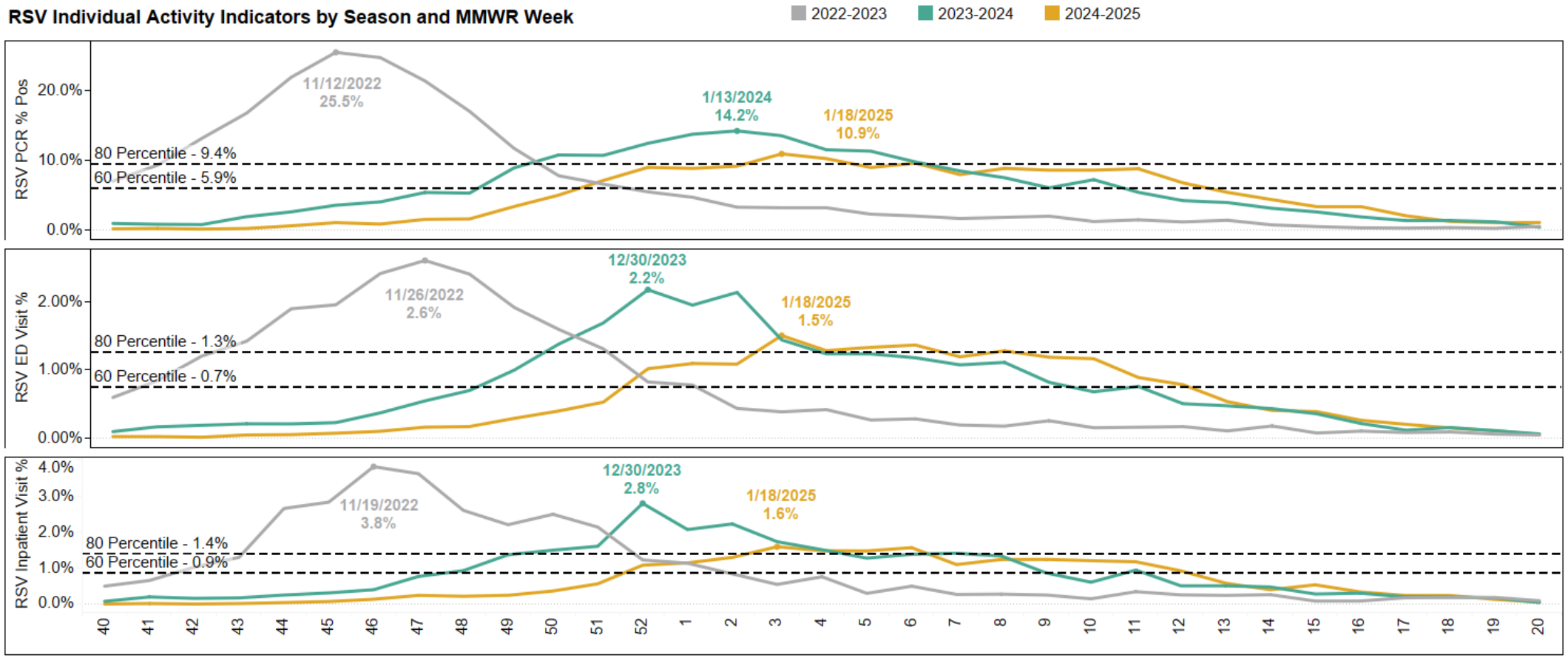
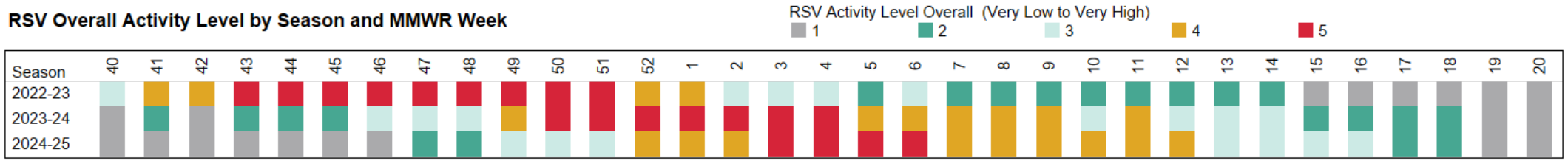
RSV Activity 2022-25





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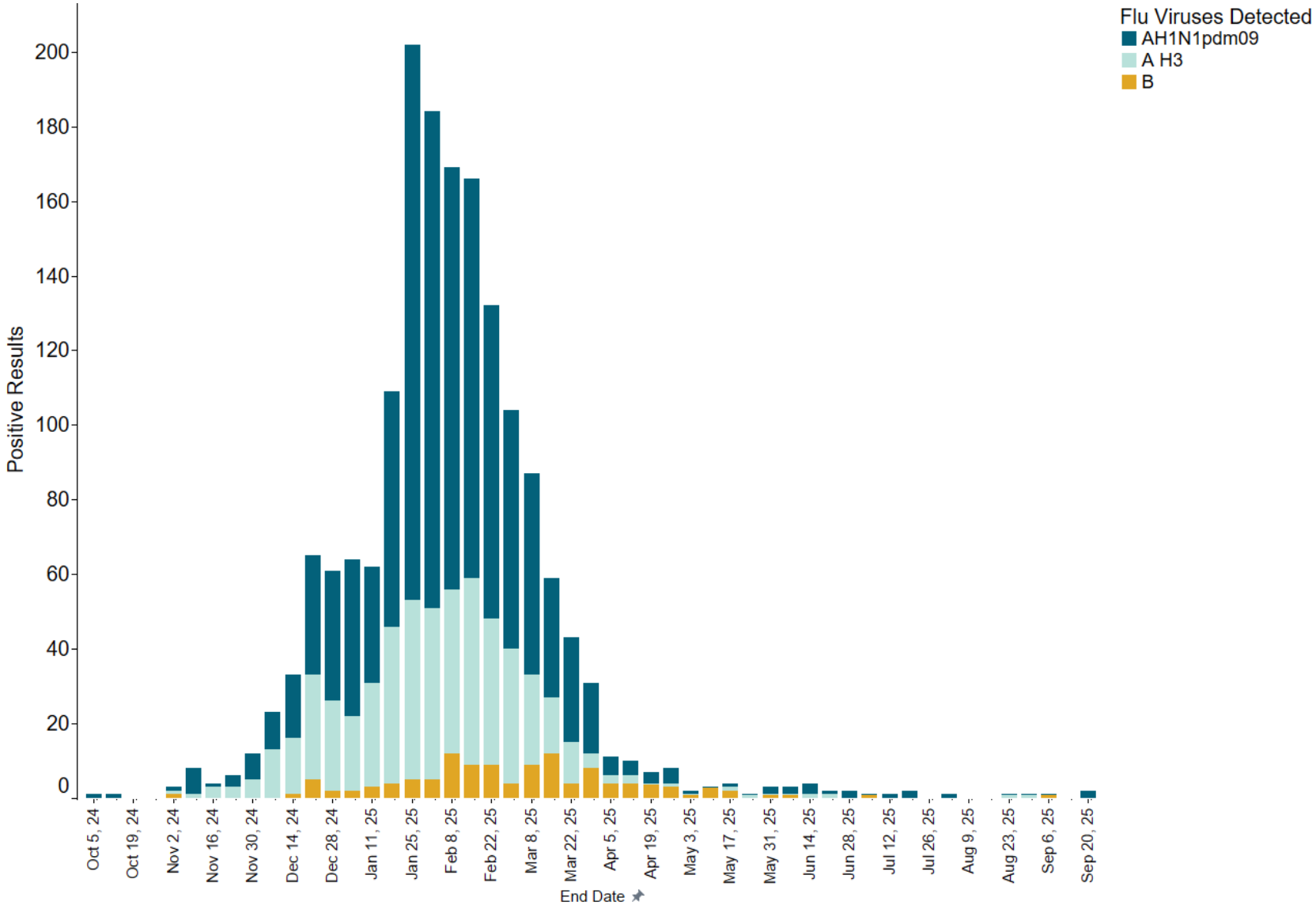
Influenza Testing at SHL

Influenza Positives at SHL: 2024-2025

Influenza Virus Detected	Number of Positives
AH1N1pdm09	1068
AH3	511
B	120
Total	1699



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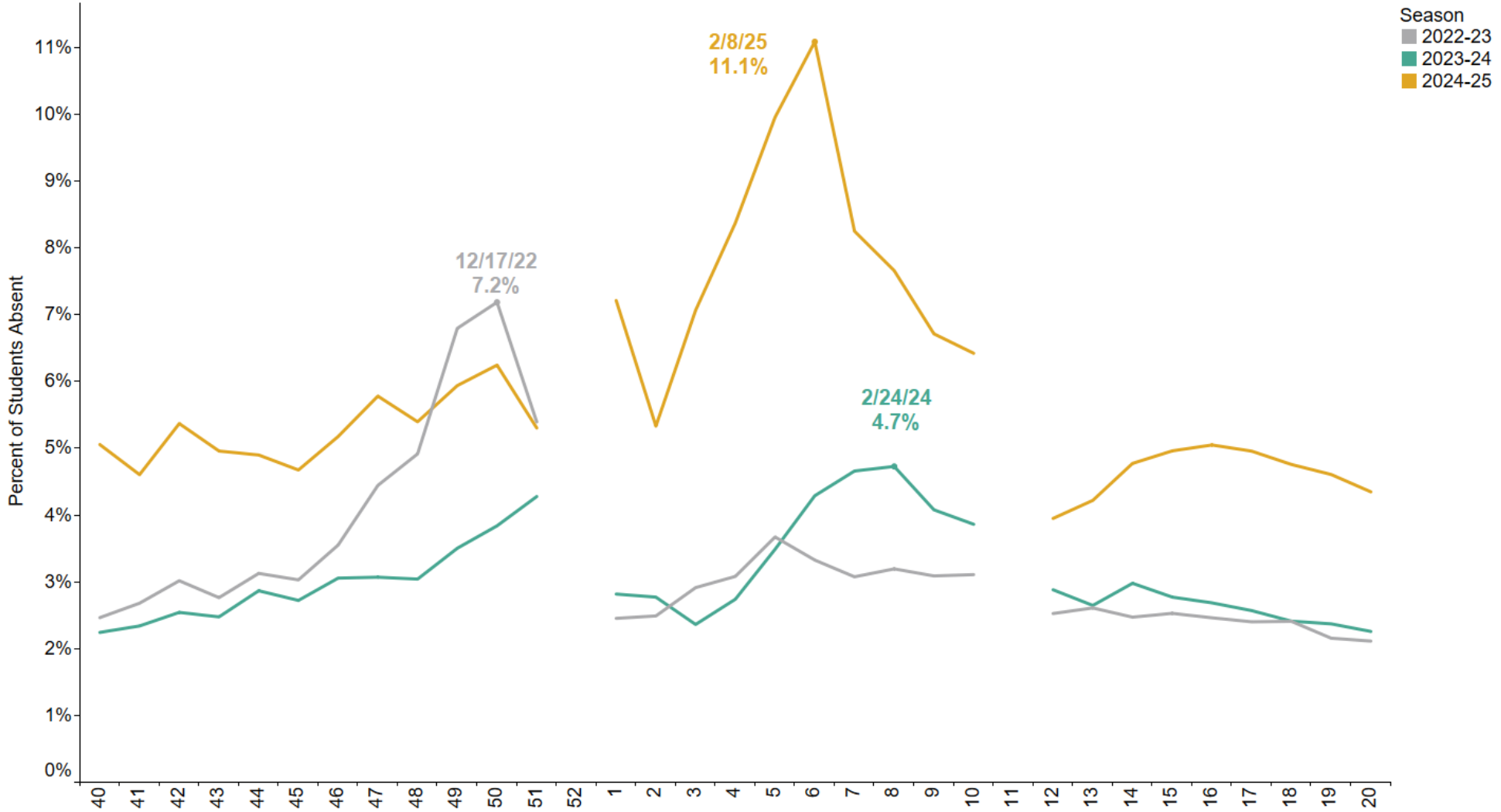
Reporting School Illness

- Daily illness at least 10%
  - All Iowa schools are required to report to Iowa HHS when percent of illness meets or exceeds 10 percent
  - Report using survey https://redcap.link/iowaschool10pct25-26
- Weekly Illness
  - Sites volunteer to submit total illness numbers each week
  - Start reporting your data at https://redcap.link/iowaweeklyschool25-26

To become a school site or to help recruit one, contact Andy Weigel at 515-322-1937 or andy.weigel@hhs.iowa.gov.

Weekly School Illness 2022-25



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Outbreak Control for Schools and Child Care Centers

- Work with local public health agencies to investigate and collect specimens as needed
- Utilize resources at Iowa HHS and CDC
- Reinforce illness policies
- Increase cleaning and disinfecting of key areas
- Encourage and teach hand hygiene
- Notify and educate parents
- Many of the steps we take for any one disease will help for others (e.g., handwashing, staying home when you are sick)

Child Illness and Exclusion Criteria for Education and Child Care Settings

Severe Pediatric Influenza

Pediatric influenza-associated encephalopathy and acute necrotizing encephalopathy: US 2024-25 flu season

- 109 reports of pediatric IAE in US during the 24-25 season (34% ANE)

Influenza-associated pediatric deaths: US 2024-25 flu season

- Highest US deaths since 2004, excluding 2009-10 pandemic season

MMWR Morb Mortal Wkly Rep 2025;74: 556-569.

Contact Information

Andy Weigel, LMSW

Iowa Influenza Epidemiologist

Iowa HHS

Phone: 515-322-1937

andy.weigel@iowa.hhs.gov

THANK YOU!

Respiratory Outbreaks in Long-Term Care Facilities

Investigation and Response

Michael Patten, DO
HAI Program Manager, Iowa HHS

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Reporting Respiratory Outbreaks (including COVID-19)

- While most individual cases are not reportable, in Iowa **all respiratory virus outbreaks are required to be reported** to the Iowa Department of Health and Human Services (Iowa HHS) by Iowa Administrative Code [641] Chapter 1.

- This can be done online using a secure and HIPAA compliant form. https://redcap.link/respiratory_outbreak

Reporting Respiratory Outbreaks (including COVID-19)

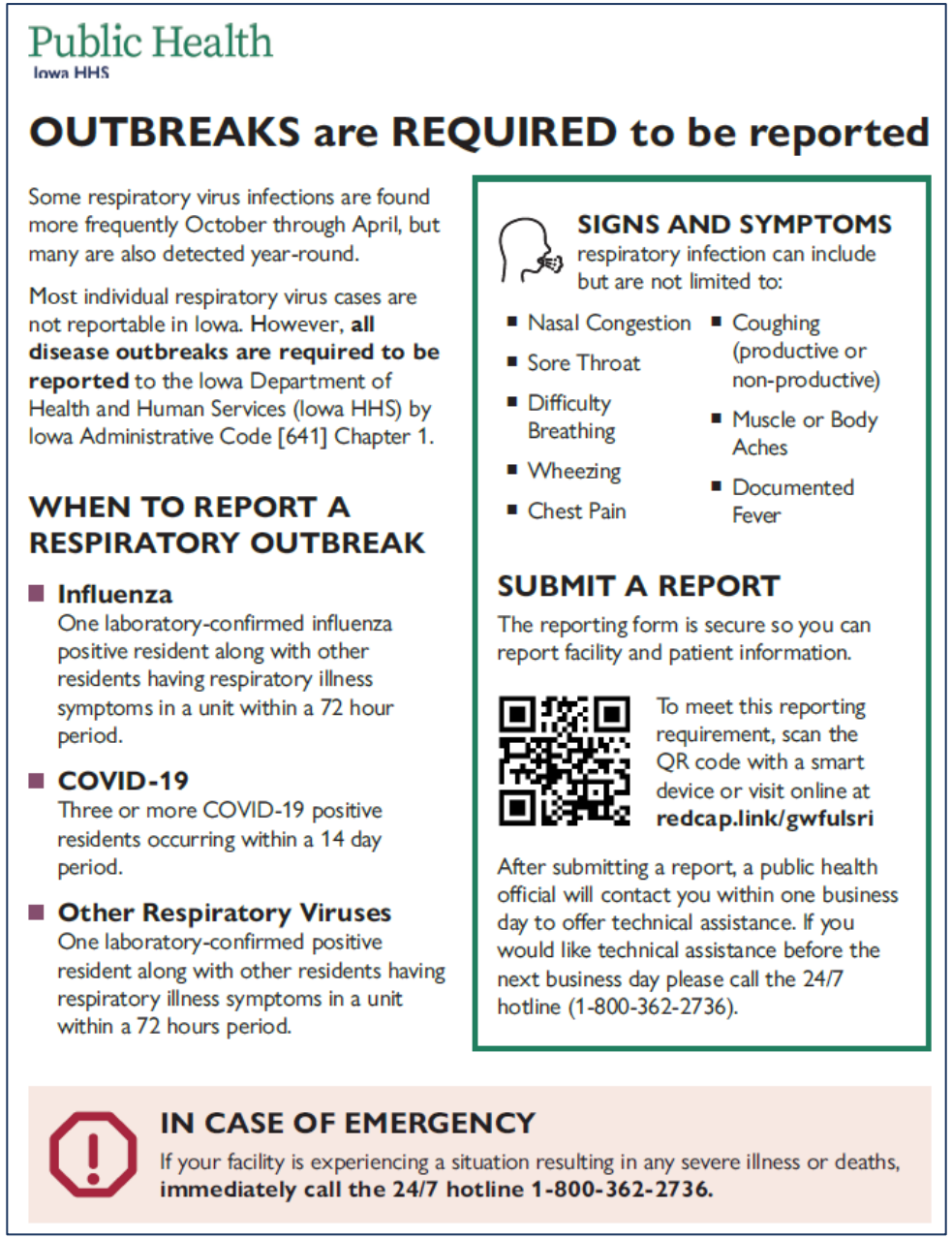
The following outbreak definitions should be used to determine if your facility is experiencing a reportable respiratory virus outbreak:

- Influenza:
  - One laboratory-confirmed influenza positive resident along with other residents having respiratory illness symptoms in a unit within a 72-hour period.
- COVID-19:
  - Three or more COVID-19 positive residents occurring within a 14-day period.
- Other respiratory viruses:
  - One laboratory-confirmed positive resident along with other residents having respiratory illness symptoms in a unit within a 72 hours period.

Signs and symptoms of a respiratory infection can include but are not limited to nasal congestion, sore throat, difficulty breathing, wheezing, chest pain, coughing (productive or non-productive), muscle or body aches, or documented fever.

Don’t forget the CMS NHSN LTCF COVID-19 Module reporting requirement

Reporting Respiratory Outbreaks (including COVID-19) information



Public Health
Iowa HHS

OUTBREAKS are REQUIRED to be reported

Some respiratory virus infections are found more frequently October through April, but many are also detected year-round.

Most individual respiratory virus cases are not reportable in Iowa. However, **all disease outbreaks are required to be reported** to the Iowa Department of Health and Human Services (Iowa HHS) by Iowa Administrative Code [641] Chapter 1.

WHEN TO REPORT A RESPIRATORY OUTBREAK

- **Influenza**
  One laboratory-confirmed influenza positive resident along with other residents having respiratory illness symptoms in a unit within a 72 hour period.
- **COVID-19**
  Three or more COVID-19 positive residents occurring within a 14 day period.
- **Other Respiratory Viruses**
  One laboratory-confirmed positive resident along with other residents having respiratory illness symptoms in a unit within a 72 hours period.

SIGNS AND SYMPTOMS

respiratory infection can include but are not limited to:

- Nasal Congestion
- Sore Throat
- Difficulty Breathing
- Wheezing
- Chest Pain
- Coughing (productive or non-productive)
- Muscle or Body Aches
- Documented Fever

SUBMIT A REPORT

The reporting form is secure so you can report facility and patient information.

To meet this reporting requirement, scan the QR code with a smart device or visit online at **redcap.link/gwfulsri**

After submitting a report, a public health official will contact you within one business day to offer technical assistance. If you would like technical assistance before the next business day please call the 24/7 hotline (1-800-362-2736).

IN CASE OF EMERGENCY

If your facility is experiencing a situation resulting in any severe illness or deaths, **immediately call the 24/7 hotline 1-800-362-2736.**

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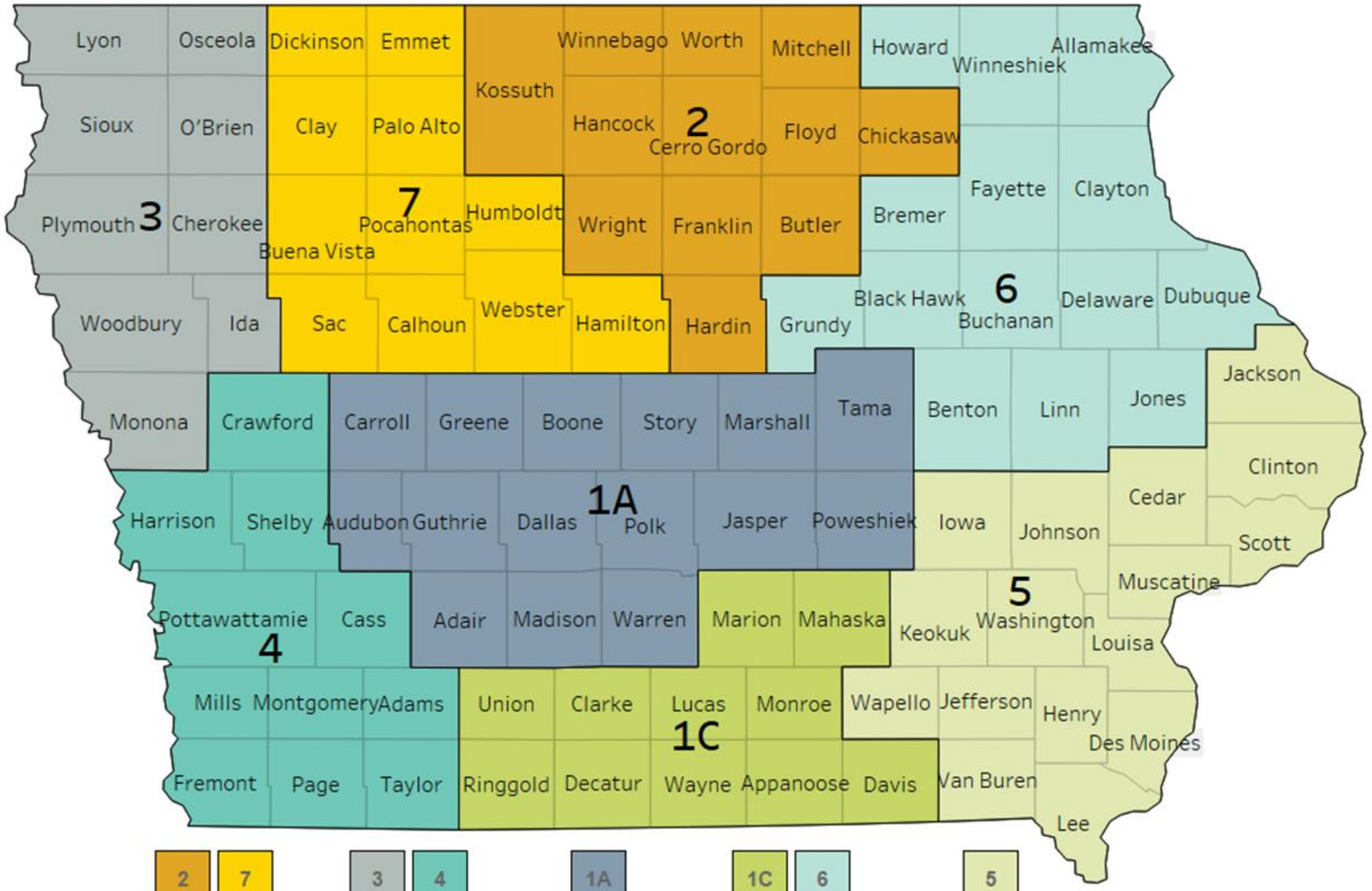
CONTACTS



Updated 7/15/2024

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CONTACTS

hai-ar@hhs.iowa.gov

Antivirals

Matthew Donahue, MD

State Epidemiologist & Deputy Medical Director

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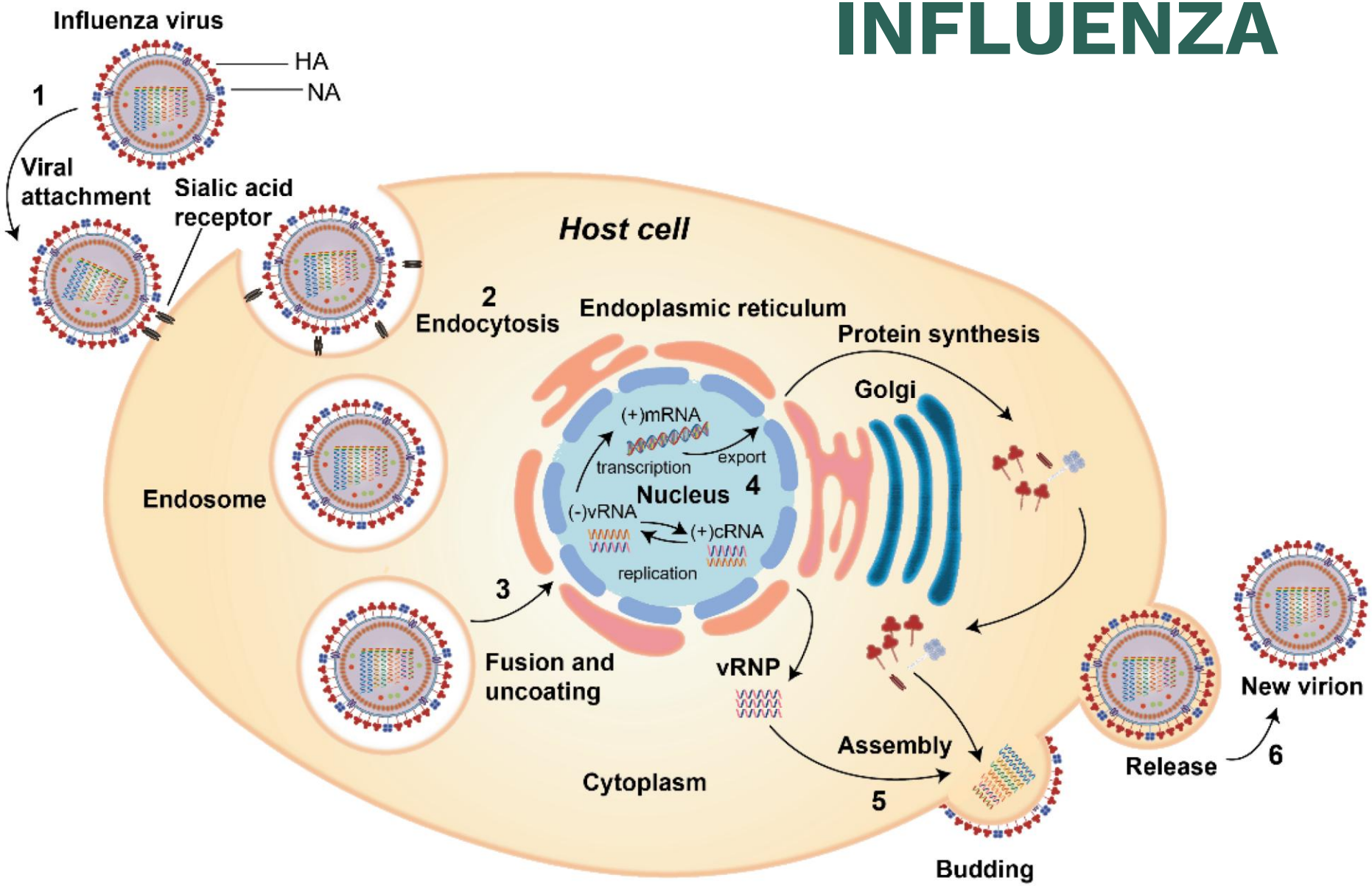
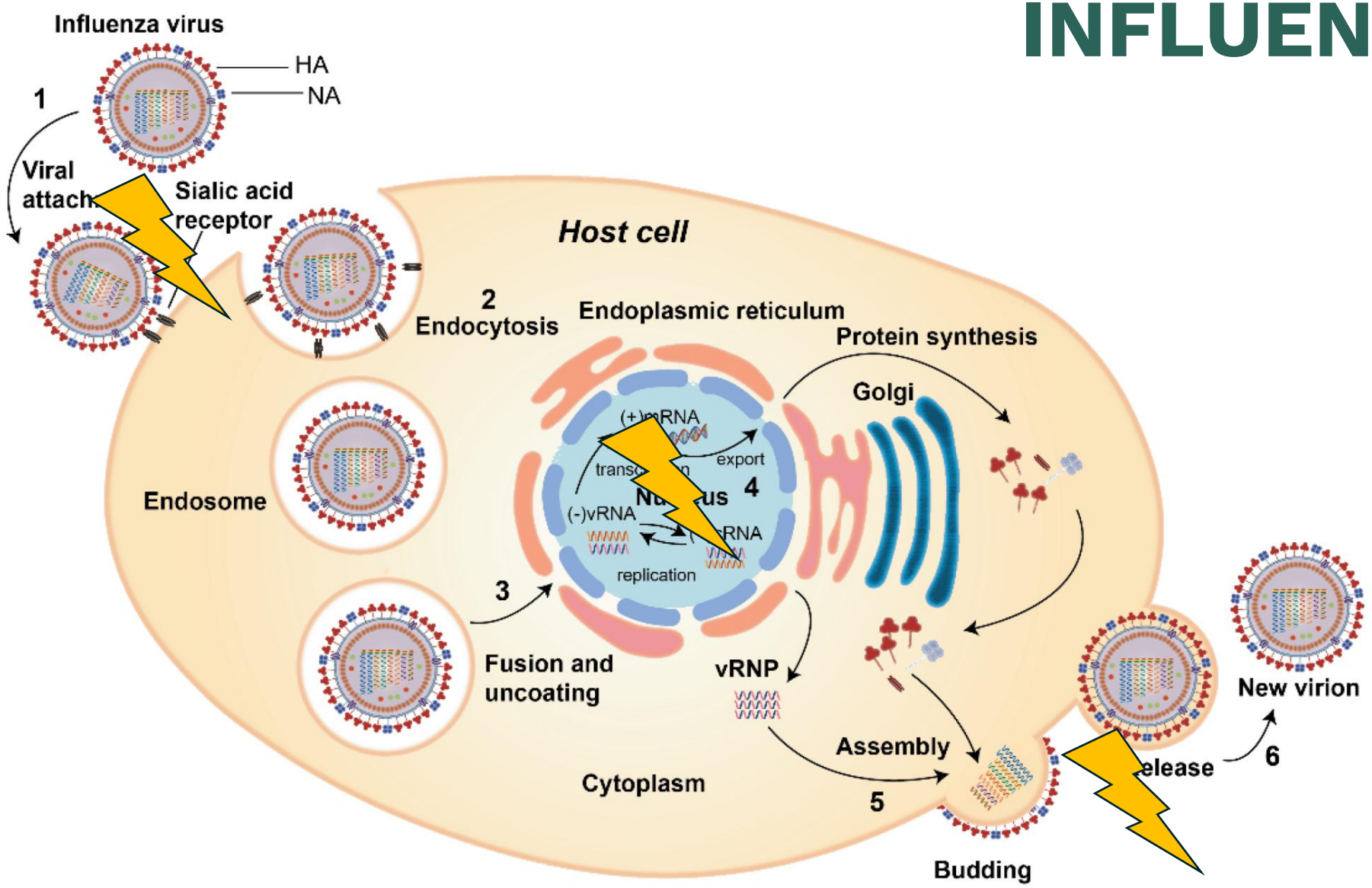
INFLUENZA



https://www.mdpi.com/2076-393X/9/9/1032

INFLUENZA

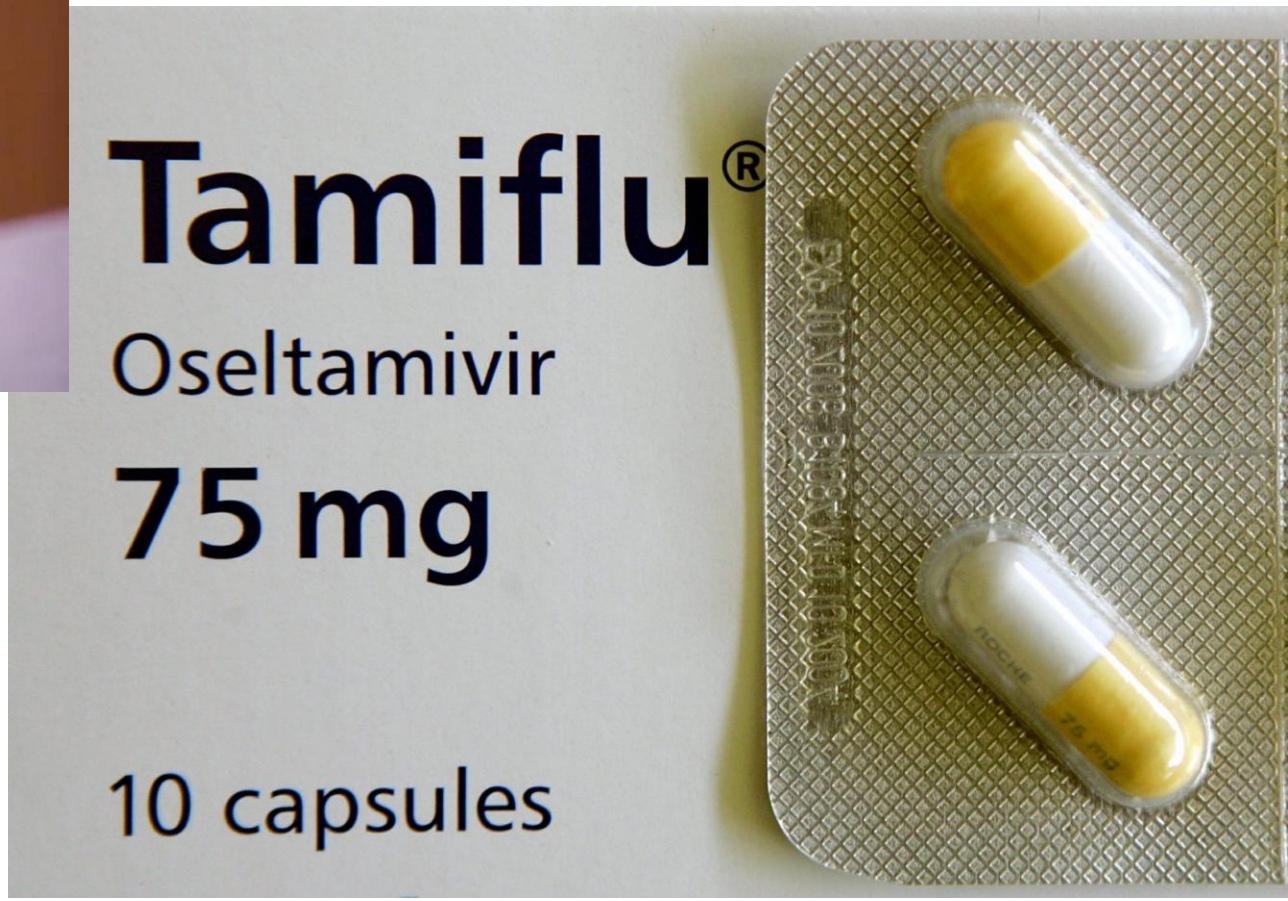


https://www.mdpi.com/2076-393X/9/9/1032

Four FDA recommended options, two most frequently used
Work against influenza A & influenza B

- Neuraminidase inhibitors
  - **Oseltamivir** (oral med, aka “Tamiflu”)
  - **Peramivir** (intravenous)
  - Zanamivir (inhaled)
- Cap-dependent endonuclease inhibitor
  - Baloxavir marboxil (oral)

https://www.cdc.gov/flu/hcp/antivirals/summary-clinicians.html



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https://www.today.com/video/tamiflu-raises-concerns-amid-deadly-flu-epidemic-1151142979915?cid=sm_npd_td_fb_ht

WHY BOTHER with influenza antivirals? Most won't need it. Some really benefit. Know who.

- Two use cases: 1) TREATMENT 2) PREVENTION chemoprophylaxis
- Priority groups
  - Inpatients (hospitalized)
  - Outpatients with severe, complicated, or progressive illness
  - Outpatients with higher risk for influenza complications
- Goal: start as soon as possible for greatest benefit, even while test is pending, within 48 hours of symptom onset

https://www.cdc.gov/flu/hcp/antivirals/summary-clinicians.html

Can children and pregnant women take oseltamivir? Yes.

- Oseltamivir treatment is available for any age (recommended for all children <2 years and all adults >65 years) *IDSA rec 18*
- Oseltamivir chemoprophylaxis is available for children/infants down to 3 months and older
- Safety of oseltamivir in pregnancy has been established through decades of research, across multiple studies (recommended for all pregnant women and those 2 weeks postpartum) *IDSA rec 18*

https://www.cdc.gov/flu/hcp/antivirals/treatment_obstetric.html
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6769232/pdf/ciy874.pdf

Oseltamivir dosing is fairly straight-forward

- Treatment for most adults: one pill (75mg) twice per day for 5 days
- Chemoprophylaxis for most adults: one pill (75mg) once per day for 7-14 days from most recent exposure, longer for congregate settings
- Treatment/chemoprophylaxis for children: weight-based, suspension available
- Dose adjustments needed for chronic kidney disease

https://www.cdc.gov/flu/hcp/antivirals/summary-clinicians.html

What about antiviral resistance? It can happen but rarely happens.

Assessment of Virus Susceptibility to Antiviral Medications

CDC assesses susceptibility of influenza viruses to the antiviral medications including the neuraminidase inhibitors (oseltamivir, zanamivir, and peramivir) and the PA endonuclease inhibitor baloxavir using next generation sequence analysis supplemented by laboratory assays. Information about antiviral susceptibility test methods can be found at U.S. Influenza Surveillance: Purpose and Methods.

Viruses collected in the U.S. since October 1, 2023, were tested for antiviral susceptibility as follows:

Antiviral Medication			Total Viruses	A/H1	A/H3	B/Victoria
Neuraminidase Inhibitors	Oseltamivir	Viruses Tested	5,428	2,007	1,960	1,461
		Reduced Inhibition	1 (0.02%)	1 (0.1%)	0 (0%)	0 (0%)
		Highly Reduced Inhibition	6 (0.1%)	6 (0.3%)	0 (0%)	0 (0%)

https://www.cdc.gov/fluview/surveillance/2024-week-39.html

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Clinical Infectious Diseases

IDSA GUIDELINE

Clinical Practice Guidelines by the Infectious Diseases Society of America: 2018 Update on Diagnosis, Treatment, Chemoprophylaxis, and Institutional Outbreak Management of Seasonal Influenza[a]

Timothy M. Uyeki,[1] Henry H. Bernstein,[2] John S. Bradley,[3,4] Janet A. Englund,[5] Thomas M. File,[6] Alicia M. Fry,[1] Stefan Gravenstein,[7] Frederick G. Hayden,[8] Scott A. Harper,[9] Jon Mark Hirshon,[10] Michael G. Ison,[11] B. Lynn Johnston,[12] Shandra L. Knight,[13] Allison McGeer,[14] Laura E. Riley,[15] Cameron R. Wolfe,[16] Paul E. Alexander,[17,18] and Andrew T. Pavia[19]

DECEMBER 8, 2023

Influenza Antiviral Medications: Summary for Clinicians

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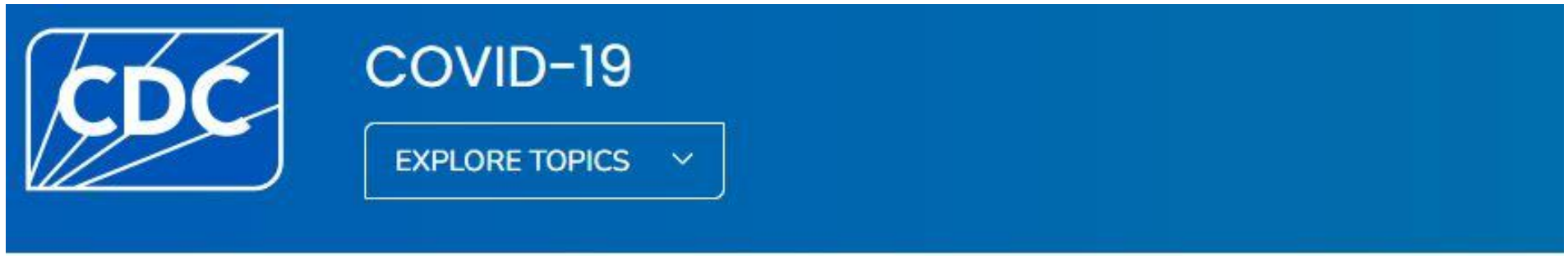
IDSA Guidelines on the Treatment and Management of Patients with COVID-19

Published by IDSA, 5/27/2021. Last updated, 8/12/2024



Types of COVID-19 Treatment

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IDSA Guidelines on the Treatment and Management of Patients with COVID-19

Published by IDSA, 5/27/2021. Last updated, 8/12/2024

The NEW ENGLAND JOURNAL of MEDICINE

CDC COVID-19 EXPLORE TOPICS

Types of COVID-19 Treatment

ACOG The American College of Obstetricians and Gynecologists

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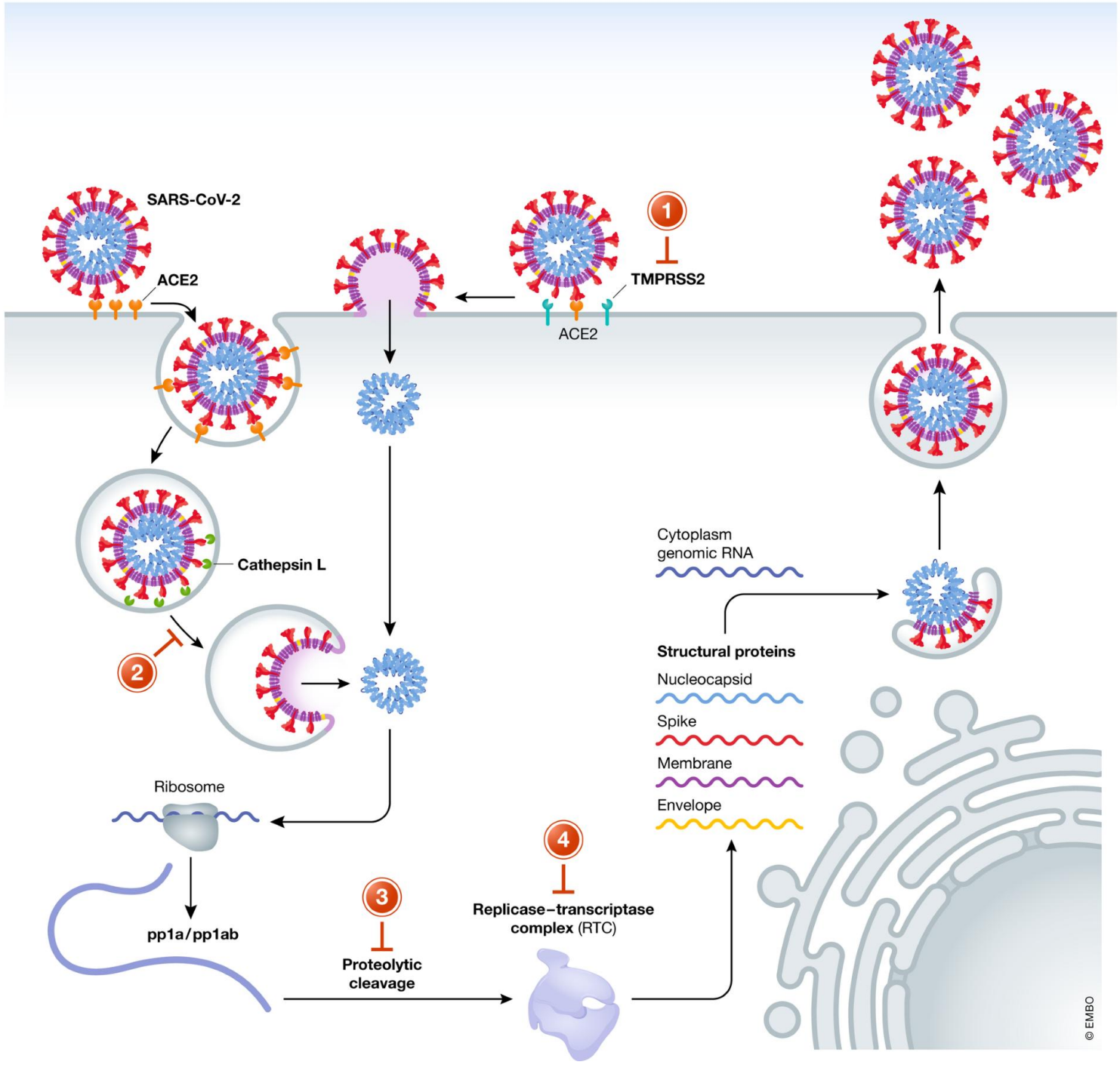
COVID-19



https://www.embopress.org/doi/full/10.15252/emmm.202013105

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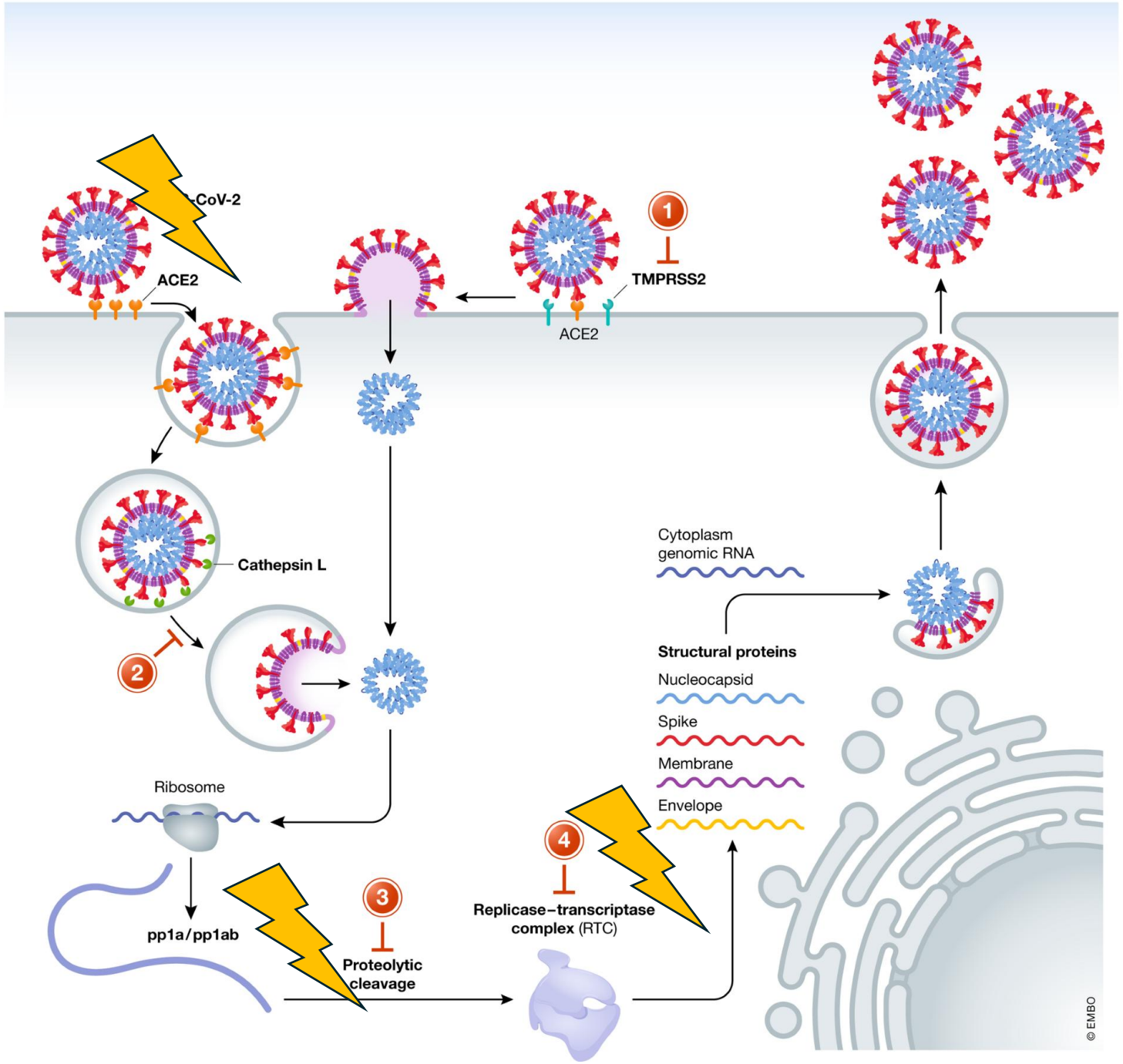
COVID-19



https://www.embopress.org/doi/full/10.15252/emmm.202013105

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Multiple historical options for COVID-19 treatment, **nirmatrelvir-ritonavir (Paxlovid)** remains most available

...similar to influenza antivirals, most won't need it but some really benefit

https://www.cdc.gov/covid/treatment/index.html

300mg nirmatrelvir - 100mg ritonavir twice per day for 5 days

START ASAP, little benefit when started after 5 days from symptom onset

https://www.reuters.com/business/healthcare-pharmaceuticals/pfizer-price-covid-19-drug-paxlovid-1400-five-day-course-wsj-2023-10-18/

WHO benefits the most from nirmatrelvir-ritonavir (Paxlovid)?

- Mild to moderate COVID-19 at HIGH RISK for progression to severe disease
  - High risk- chronic medical conditions, smoking, obesity, >65yo
- Younger healthier adults, especially with vaccination unlikely to benefit

https://www.nejm.org/doi/full/10.1056/NEJMoa2309003

Can children and pregnant women take nirmatrelvir-ritonavir (Paxlovid)? Yes, but…

- Must be 12 years and older, weigh more than 40kg (88lbs)
- Pregnancy excluded from clinical trials so little evidence
- NIH and ACOG recommend AGAINST WITHOLDING treatment, acknowledge little safety data, but supportive animal data and no clear safety signals in humans

https://www.idsociety.org/covid-19-real-time-learning-network/therapeutics-and-interventions/who-still-benefits-from-paxlovid/#/+/0/publishedDate_na_dt/desc/

Nirmatrelvir-ritonavir (Paxlovid) requires some cross-checking

- Dose adjustments needed for chronic kidney disease, similar to oseltamivir (Tamiflu)
- NEED TO SCREEN MEDS FOR DRUG-DRUG INTERACTIONS
- USE LIVERPOOL DRUG INTERACTION CHECKER
- Viral rebound 0.8-6.6%

https://www.covid19-druginteractions.org/checker
https://www.hiv-druginteractions.org/checker

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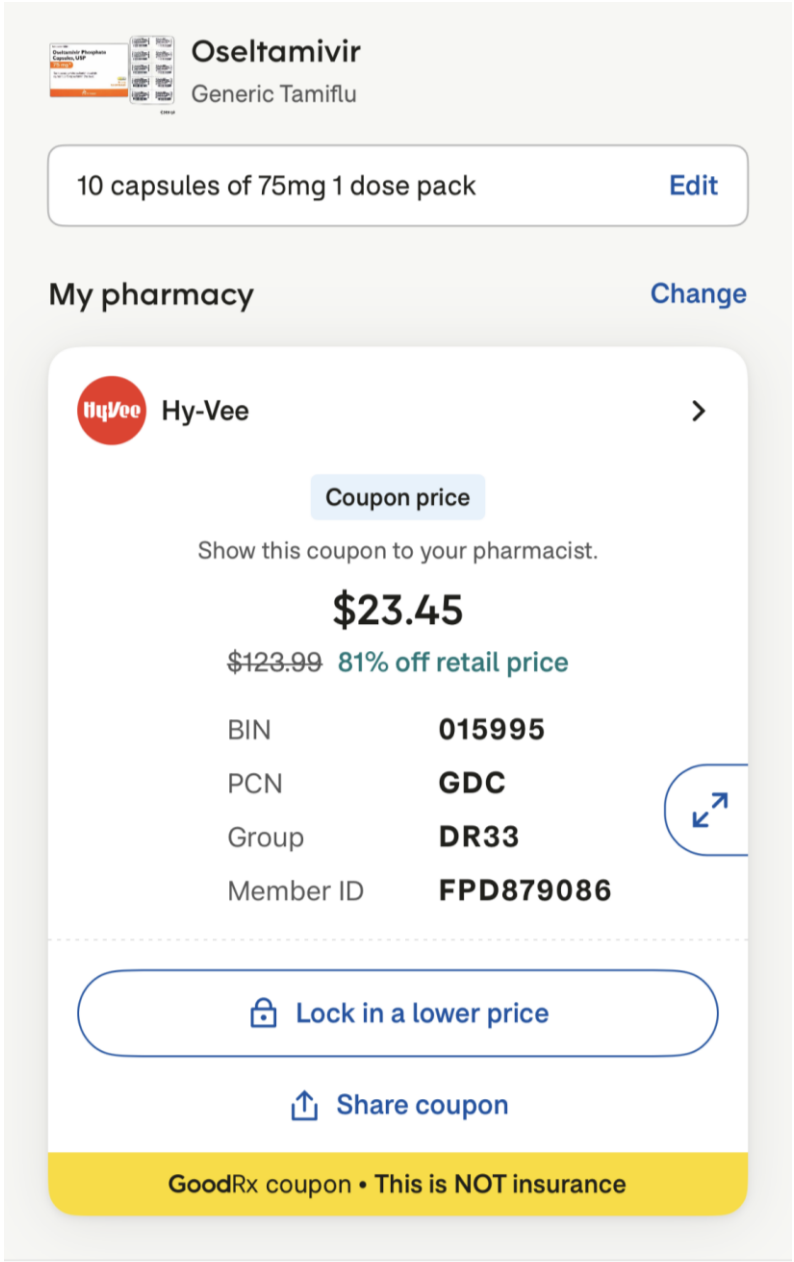
OSELTAMIVIR COST?



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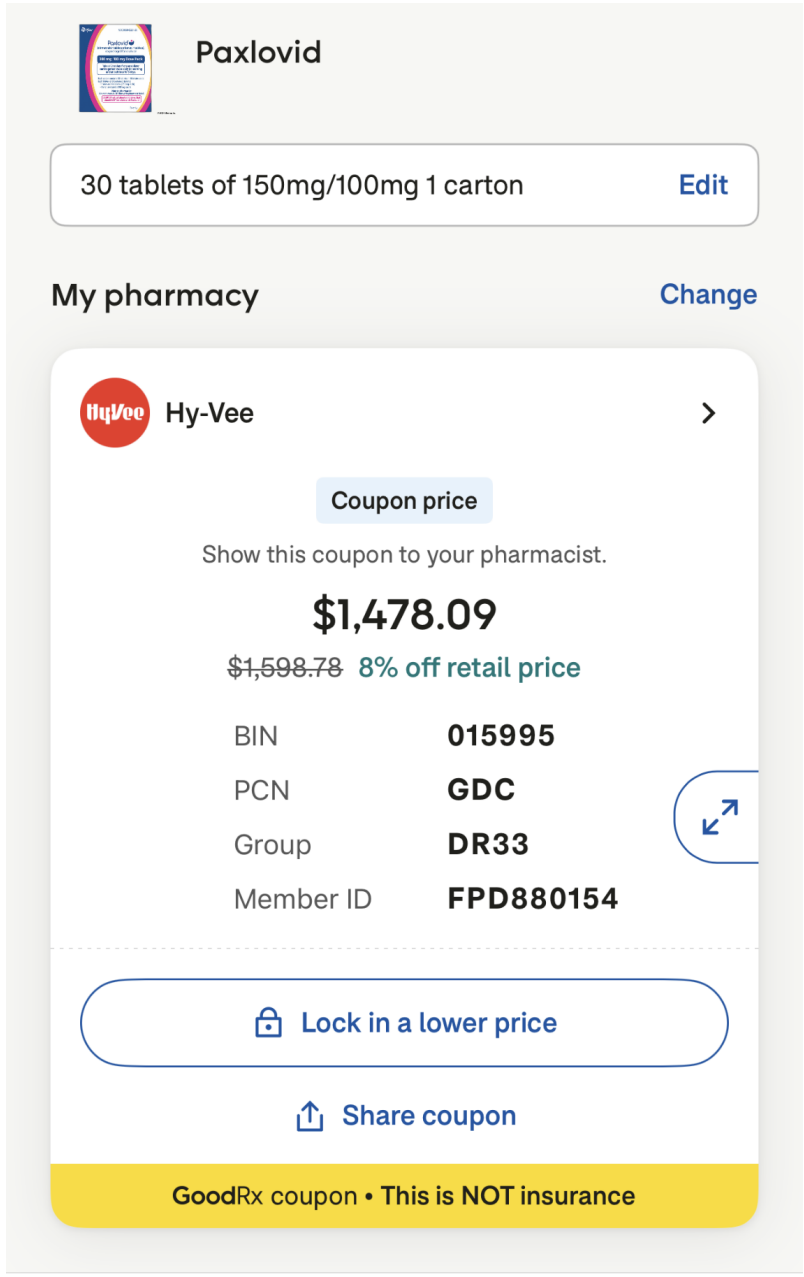
GoodRx

Nirmatrelvir-ritonavir (Paxlovid) COST?



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Nirmatrelvir-ritonavir (Paxlovid) COST?

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https://www.cdc.gov/covid/media/pdfs/2024/07/Treatment-PDF_PAXCESS-Brochure.pdf

Emergency Preparedness and Response

COCA

[COCA Calls | COCA | CDC]

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Respiratory Vaccine Recommendations

Shelly Jensen, RN, BSN
Immunization Nurse Clinician, Iowa HHS

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Influenza Vaccine

- Routine annual vaccination for all persons ≥6 months who do not have a contraindication
- June 2025 ACIP recommendation: single dose formulations free of thimerosal as a preservative
- Children 6 months-8 years who have not received ≥2 doses before July 1, 2025, require 2 doses this season
- Adults ≥65 years preferential recommendation: Fluzone High Dose, Fluad or Flublok

RSV Vaccine: Adults

- 75 years or older: single dose
- 50-74 years at increased risk: single dose
- Available vaccines: Abrysvo, Arexvy, mRESVIA
- Timing: ideally late summer or early fall (can be given at any time of year)

RSV Vaccine: Pregnancy

- Pregnant 32 0/7 weeks - 36 6/7 weeks gestation
- Timing: September - January
- Only approved vaccine: Abrysvo
- Single dose for those who have not previously received vaccine; revaccination not recommended for subsequent pregnancies

RSV Monoclonal Antibody: Infants & Young Children

- Nirsevimab (Beyfortus):
  - Infants <8 months born during or entering their 1st RSV season
  - Young children 8-19 months entering their 2nd RSV season at increased risk for severe RSV disease
- Clesrovimab (Enflonsia):
  - Infants <8 months born during or entering their 1st RSV season
- Timing: October-March

COVID-19 Vaccine

ACIP recommends COVID-19 vaccination for individuals ≥ 6 months be determined by individual decision making. It includes an emphasis that the risk-benefit of vaccination in individuals under age 65 is most favorable for those who are at an increased risk for severe COVID-19 and lowest for individuals who are not at an increased risk, according to the CDC list of COVID-19 risk factors.

COVID-19 Vaccine cont.

- Adults 65 Years of Age and Older: Vaccination based on individual-based decision making* (also known as shared clinical decision making).

- Individuals 6 months to 64 years of age: Vaccination based on individual based decision making* - with the emphasis that the risk-benefit of vaccination is most favorable for individuals who are at an increased risk for severe COVID-19 disease and lowest for individuals who are not at increased risk, according to the CDC list of COVID-19 risk factors.

COVID-19 Vaccine cont.

*Individual decision-making is referred to on the CDC's adult and child immunization schedules as vaccination based on shared clinical decision-making, which references providers including physicians, nurses, and pharmacists. It allows for immunization coverage through all payment mechanisms including entitlement programs such as the Vaccines for Children Program, Children's Health Insurance Program, Medicaid, and Medicare, as well as insurance plans through the federal Health Insurance Marketplace.

Resources

- Flu Vaccine | Health & Human Services
- Home | Immunize.org
- Vaccine Education Center | Children's Hospital of Philadelphia
- Vaccination Recommendations by the AAP
- Immunizations & Vaccines | AAFP
- ACOG Releases Updated Maternal Immunization Guidance for COVID-19, Influenza, and RSV | ACOG

Resources

- ACIP Recommendations Summary | Influenza (Flu) | CDC
- RSV Immunization Guidance for Infants and Young Children | RSV | CDC
- RSV Vaccine Guidance for Adults | RSV | CDC
- RSV Vaccine Guidance for Pregnant Women | RSV | CDC
- Respiratory Syncytial Virus (RSV) Prevention (AAP)
- Immunization Schedules | Vaccines & Immunizations | CDC

Laboratory Respiratory Surveillance in Iowa

Jeff Benfer, Molecular Biology Supervisor, SHL

IOWA Health and Human Services

Overview

- All labs that do influenza testing throughout the state play an important role in influenza surveillance and the ability for the CDC to develop vaccine recommendations and detect novel flu strains and antiviral resistance.

- All labs that do any respiratory virus testing and report their results to the Respiratory Virus Survey are also contributing to national surveillance.

- The flu specimens that labs submit to SHL, we submit a strategic subsampling based on geographic distribution throughout the state of those specimens every two weeks for sequencing.

Iowa Respiratory Surveillance Testing Guidance 2025/2026

- All labs please send to SHL:

Up to One flu positive and One Positive SARS-CoV 2 for PCR per week, per facility

- Note: sequencing results not reported back to submitting facility

- Contact Iowa HHS or SHL for guidance in the event of an ILI outbreak.

SHL Influenza surveillance testing and sequencing serves the following purposes:

- Demonstrates predictive value and accuracy of other tests
- Novel virus detection and monitor for variants of interest or concern (high path avian H5 for example)
- Contribute samples check for antiviral resistance, vaccine strain selection and match to current vaccine
- Surveillance testing is provided at no cost and is partially supported by the Centers for Disease Control and Prevention

Purpose of specimens submitted to SHL

- The goal for this is to have consistent low/moderate levels of specimen submission over the course of the entire respiratory season for subtyping and further characterization.
- Additionally, we are especially interested in flu positive patient specimens if unusual illness or exposure to animals. The goal/purpose of this is to potentially identify novel or increase virulence influenza viruses.

For Flu Surveillance testing this year SHL will use:

- Hologic Flu/SC2/RSV PCR
- December 1 expected validation complete and go live
- Once the new test is live you will also see the RSV result added
  - If positive for Flu A they will be reflexed to Flu A subtyping (H3, H1, or possible variants)
  - If positive for Flu B they will be presumed Victoria since Yamagata is considered extinct

Ordering collection kits

- Visit www.shl.uiowa.edu
- Click “Order a test”
- Click “Order clinical kits”
- Complete form

Specimen Collection

- Do not send specimens used for other testing because they may contain a lysis buffer that could react negatively.

- Validated Specimen Types:
  - Nasopharyngeal (NP) Swab
  - Nasal Swab

Specimen Collection Continued

- Specimens for testing should be collected within three days of onset of symptoms.
- PCR is a very sensitive test and precautions should be taken to not cross-contaminate specimens.
- Wear gloves and change before and after collecting specimen.
- Avoid contact with environmental surfaces.
- Fold printed eForm/ Test Request Form in half and place in the side pocket of biohazard bag (not inside biohazard with specimen).
- Make sure the specimen tube contains two identifiers - name and DOB is enough.
- Send via the SHL courier or can mail in a styro container with ice pack.

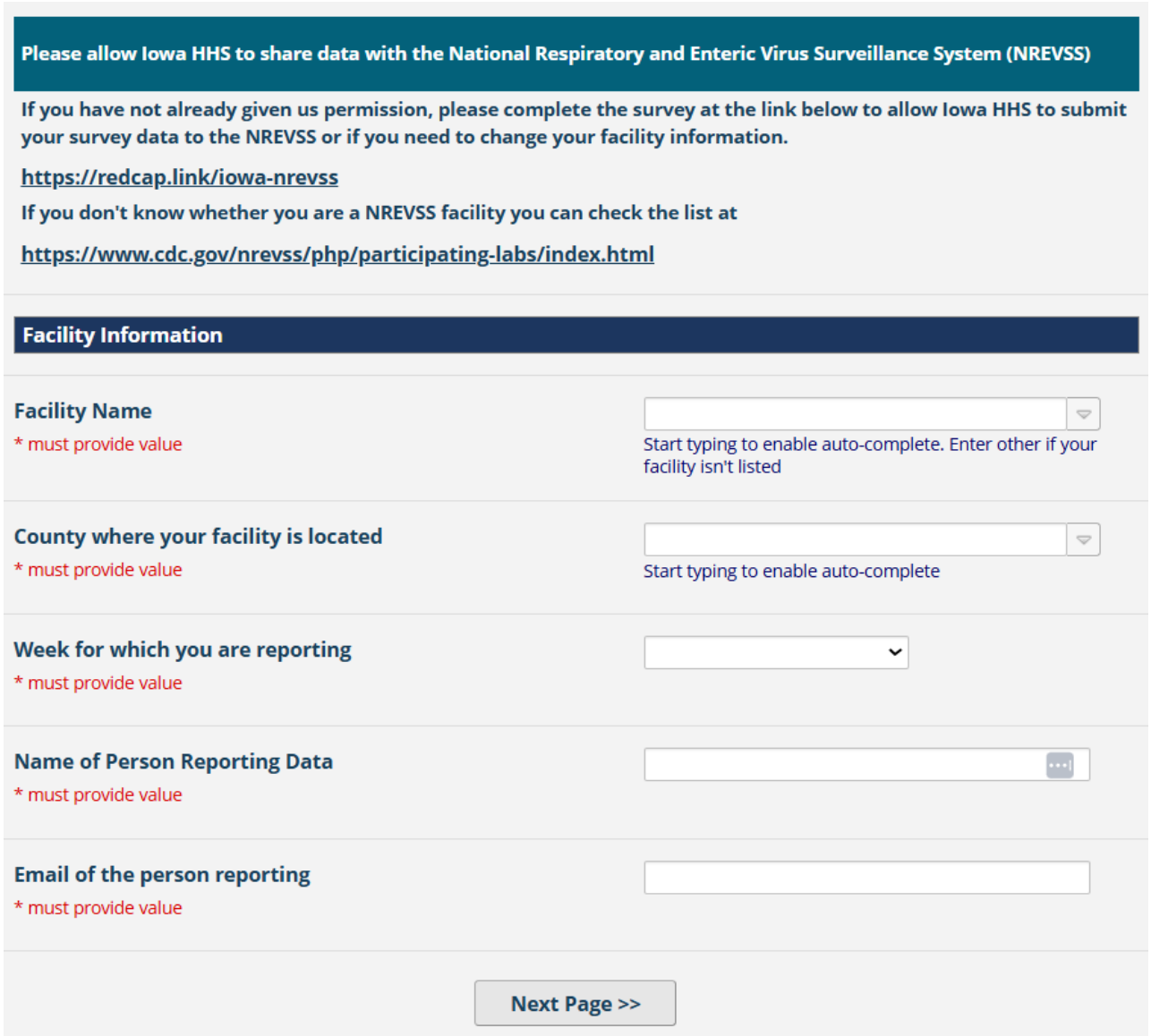
Iowa Respiratory Survey-Submitting Your Lab's Test Results

- Iowa Respiratory Virus Test Results - Clinical Laboratories
- Contact Kris Eveland at (319) 335-4279 or Kristofer-eveland@uiowa.edu if you are interested
- SHL will send you a link to the public survey
  - Each week, we'll send you the combined results from the previous week
- Benefit
  - Situational awareness - what's circulating in your local area
  - Data is used by Iowa HHS for the weekly respiratory virus report.
- We need more labs around the state for better geographic representation

Iowa Respiratory Survey

Please give Iowa HHS permission to pass your weekly lab totals to NREVSS:

https://redcap.link/iowa-nrevss



IOWA Health and Human Services

IOWA State Hygienic Laboratory

Wastewater Surveillance Testing for Flu A, Flu B, and RSV

- Wastewater Testing | State Hygienic Laboratory | The University of Iowa
  - Wastewater Testing Results | Wastewater Testing - State Hygienic Laboratory | The University of Iowa
    - SHL Wastewater WWTP Dashboard | Tableau Public

Laboratory Contact Information

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THANK YOU FOR PARTICIPATING!!!


Questions
IOWA
Health and
Human Services

Registration for the Rebroadcast

- Friday, November 14 10:00 AM

https://www.zoomgov.com/webinar/register/WN_gmTtM6yzTtCwYpoTbhJbIw