

Grand Rounds 11/8/22

Flu, RSV, COVID, Oh My!



Sherrill Brown, MD
Medical Director, Infection Prevention

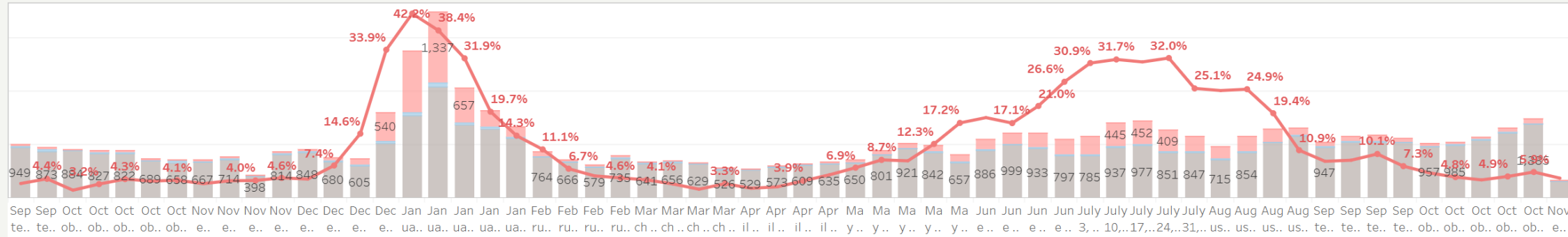
AltaMed
QUALITY CARE WITHOUT EXCEPTION™

Infectious Diseases Update

- Flu cases are the highest they have been at this time of the year in 3 years
- RSV is also increasing hospitalizations for young people and elderly
 - OC declared a state of emergency due to RSV
 - Older children now getting infected with RSV
- COVID-19 cases expected to rise due to Variant BQ.1 and BQ.1.1
- Review testing and treatment strategies for Flu/COVID/URI Seasons
- Putting it all together for holiday gatherings
- Vaccines Update

COVID Testing Results

COVID Weekly Lab Results All



Test Result Type

- Abnormal
- Indeterminate
- Normal

Result Date

Last 60 weeks

AVP Region Rollup

(All)

Lab Test

(All)

Age (group)

(All)

Race

(All)

Ethnicity

(All)

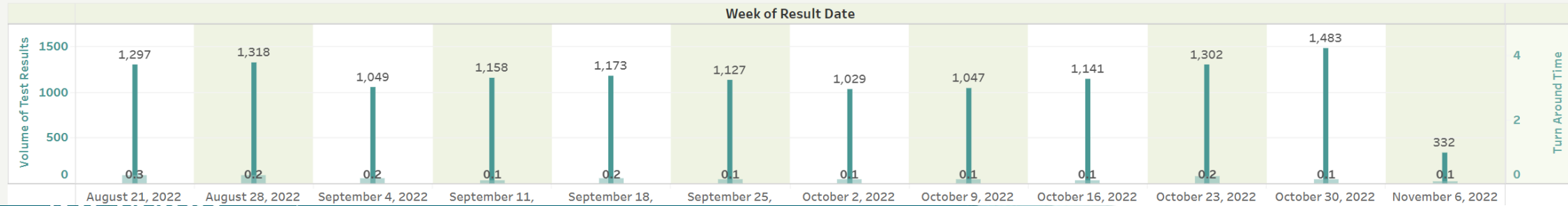
Measure Names

- # Test Results
- TAT (Days)

| | September 19, 2021 | September 26, 2021 | October 3, 2021 | October 10, 2021 | October 17, 2021 | October 24, 2021 | October 31, 2021 |
|-----------------|--------------------|--------------------|-----------------|------------------|------------------|------------------|------------------|
| # Normal | 949 | 873 | 884 | 827 | 822 | 689 | 658 |
| # Indeterminate | 18 | 23 | 10 | 29 | 22 | 11 | 27 |
| # Abnormal | 33 | 41 | 16 | 28 | 38 | 28 | 29 |
| # Test Results | 1,000 | 937 | 910 | 884 | 882 | 728 | 714 |
| % Normal | 95% | 93% | 97% | 94% | 93% | 95% | 92% |
| % Indeterminate | 2% | 2% | 1% | 3% | 2% | 2% | 4% |

Source: SQL12.MCIS.Epic_Covid_Lab_Results | Filter: Results_Date | Definitions: Normal: If Is Abnormal = 'N' AND Is Indeterminate = N | Indeterminate: If Is Abnormal = 'N' AND Is Indeterminate = 'Y' | Abnormal: If Is Abnormal = 'Y'

Average Test Result Turn Around Time All

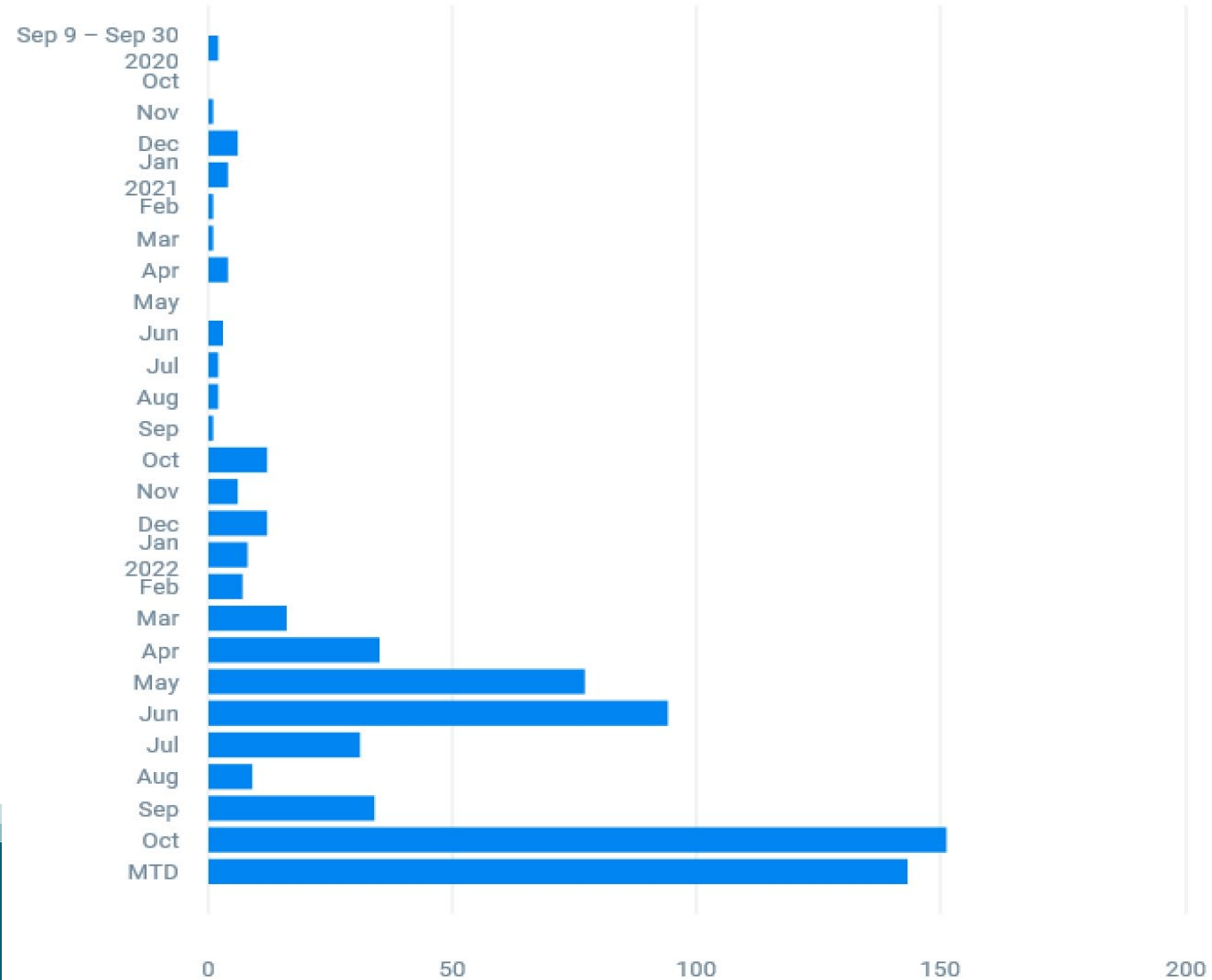


+Rapid Flu Tests at AltaMed

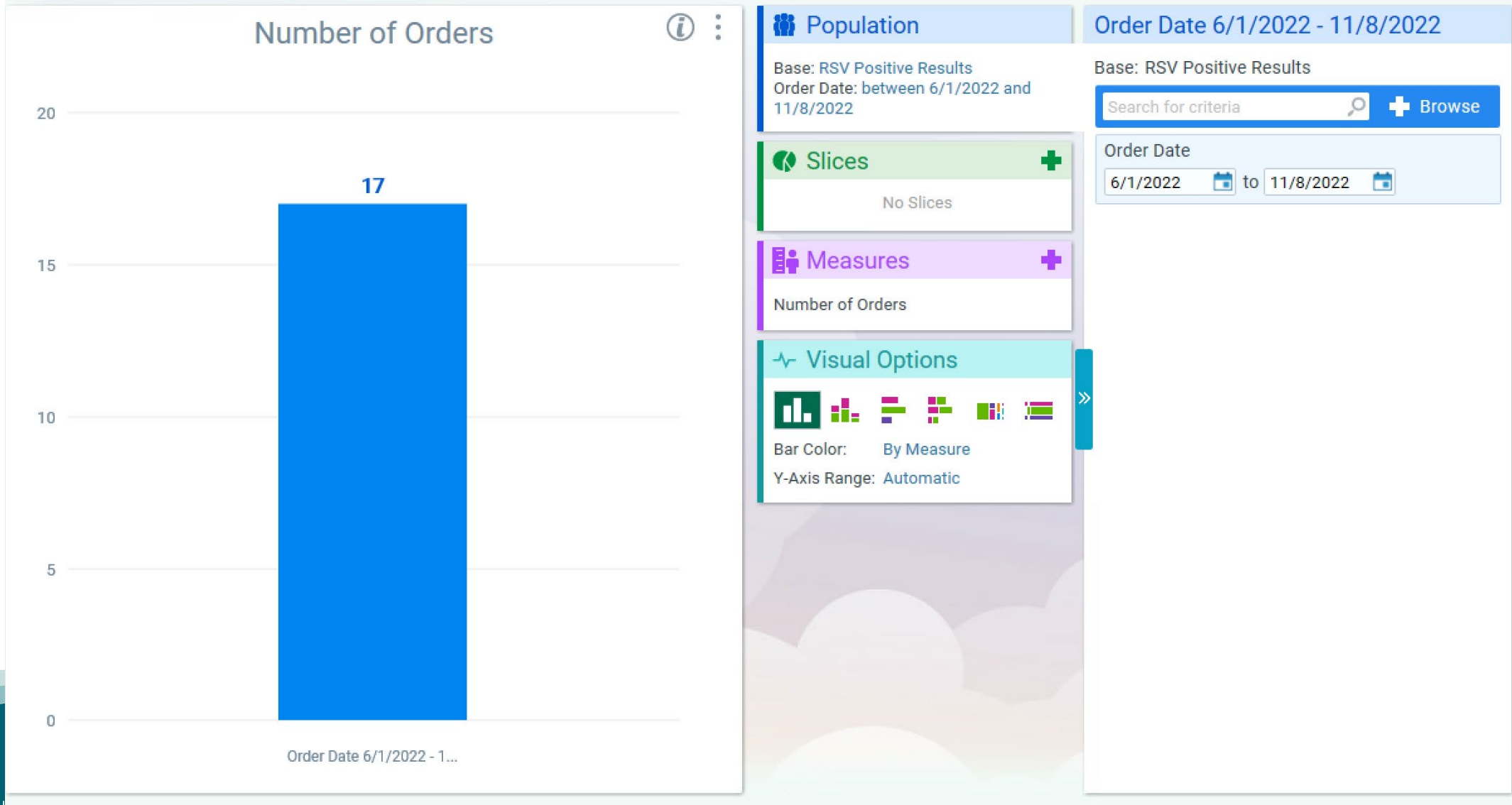
Number of Patients



Between 9/9/2020 and 11/8/2022 by month

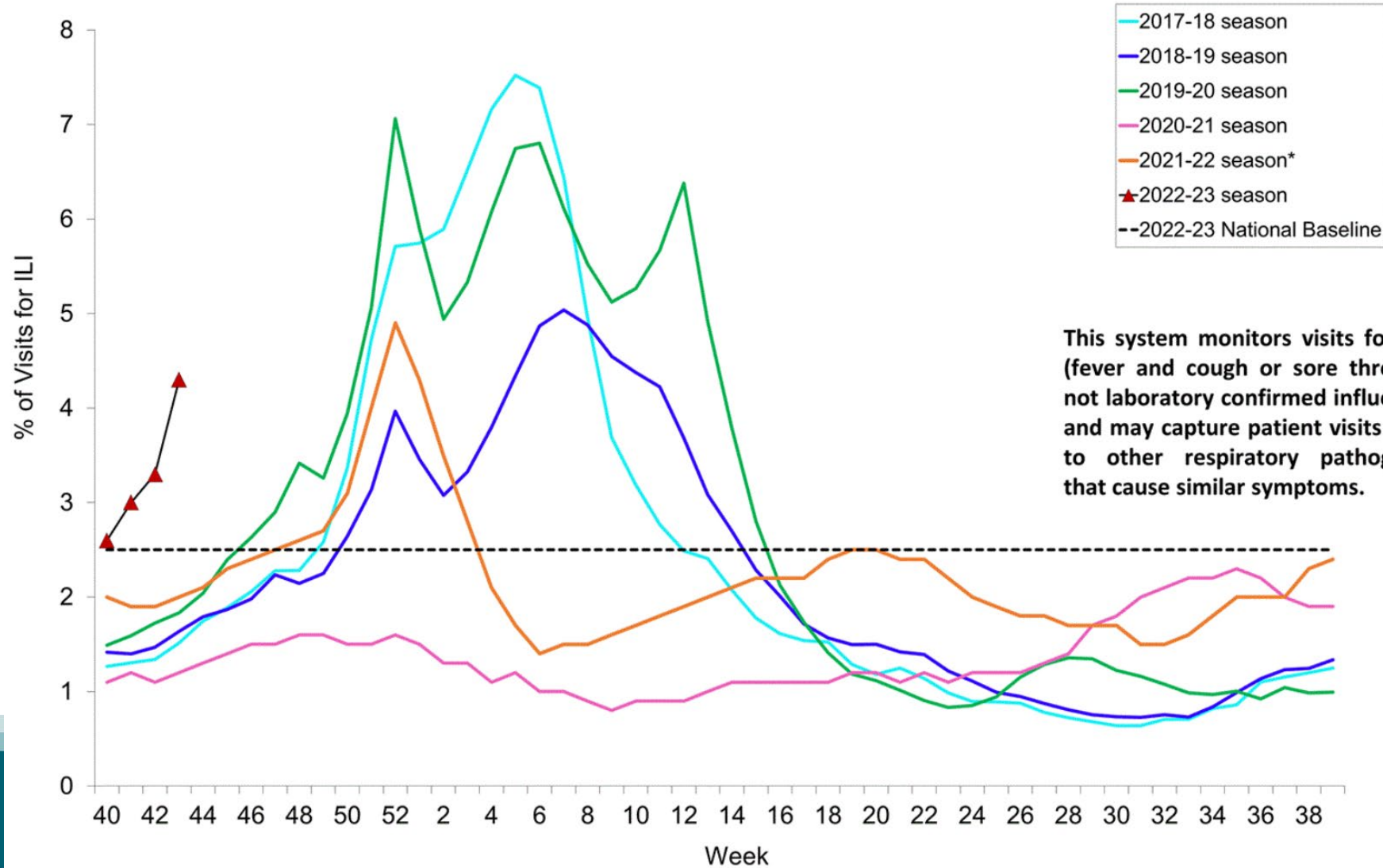


RSV



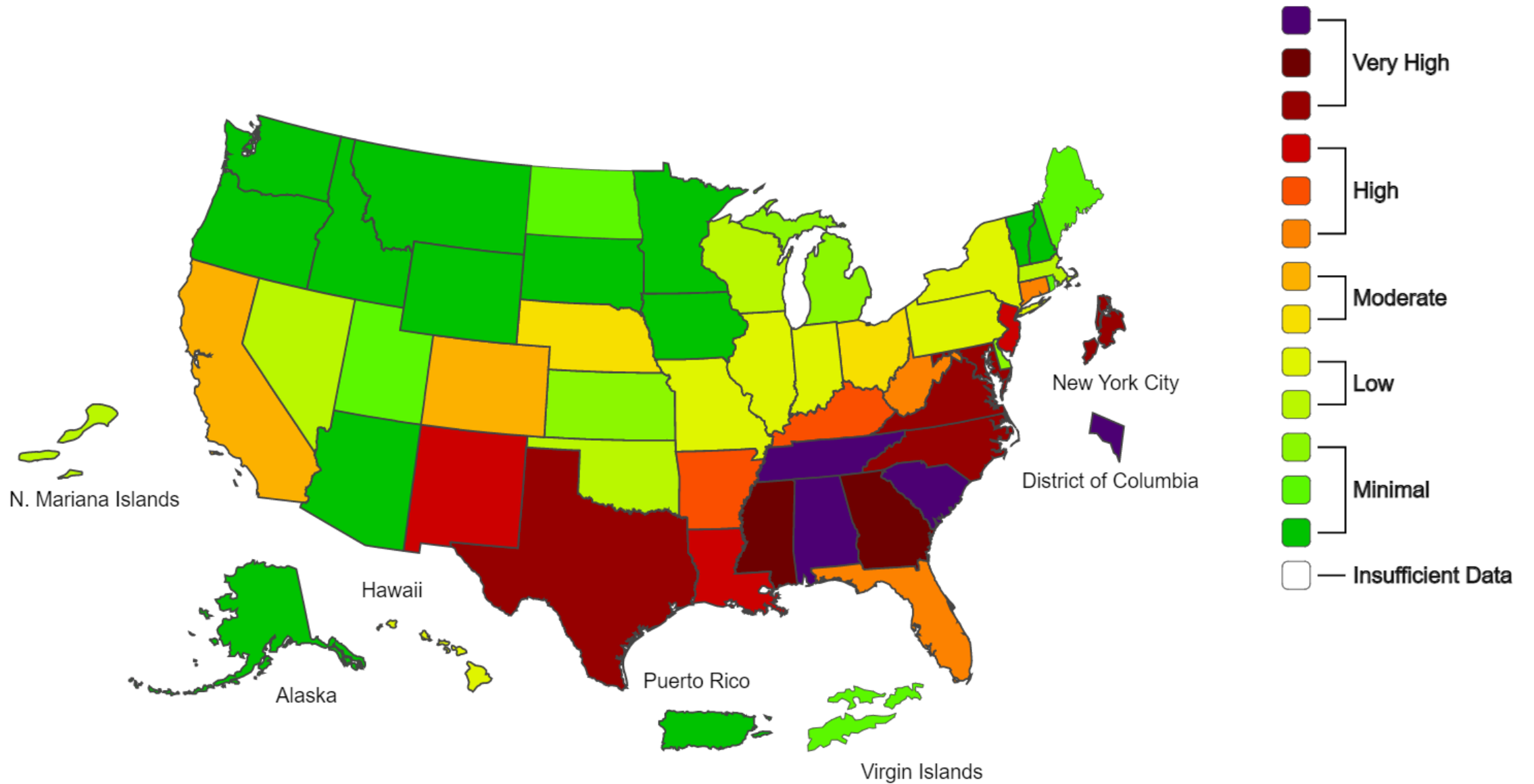
Influenza

Percentage of Outpatient Visits for Respiratory Illness Reported By The U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Weekly National Summary, 2022-2023* and Selected Previous Seasons



This system monitors visits for ILI (fever and cough or sore throat), not laboratory confirmed influenza and may capture patient visits due to other respiratory pathogens that cause similar symptoms.

US Flu Activity



Everyone 6 months and older should get the flu shot

Group below should definitely get the flu shot and treatment when needed

- Adults 65 years and older
- Children younger than 2 years old¹
- Asthma
- Neurologic and neurodevelopment conditions
- Blood disorders (such as sickle cell disease)
- Chronic lung disease (such as chronic obstructive pulmonary disease [COPD] and cystic fibrosis)
- Endocrine disorders (such as diabetes mellitus)
- Heart disease (such as congenital heart disease, congestive heart failure and coronary artery disease)
- Kidney diseases
- Liver disorders
- Metabolic disorders (such as inherited metabolic disorders and mitochondrial disorders)
- People who are obese with a body mass index [BMI] of 40 or higher
- People younger than 19 years old on long-term aspirin- or salicylate-containing medications.
- People with a weakened immune system (HIV, chemo, chronic immune suppressing medications)
- People who have had a stroke
- Pregnant people and people up to 2 weeks after the end of pregnancy
- People who live in nursing homes and other long-term care facilities
- People from certain racial and ethnic minority groups are at increased risk for hospitalization with influenza, including non-Hispanic Black persons, Hispanic or Latino persons, and American Indian or Alaska Native persons

Flu Prevention, Testing and Treatment

- **Flu Prevention**

- Get your flu shot—everybody get their flu shot (give the gift of herd protection)
- Wear a mask when indoors
- Wash your hands, especially after touching communal surfaces or shaking hands
- Avoid shaking hands with people, hugging and kissing
- Oseltamivir 75qday for prophylaxis of high risk patients w/in 48hrs

- **Flu Testing**

- Fever, sudden fatigue, headache, bad cough, muscle aches, malaise, sore throat, sometimes GI sx or earache
- Rapid testing available in clinic for Flu A and B

- **Flu Treatment**

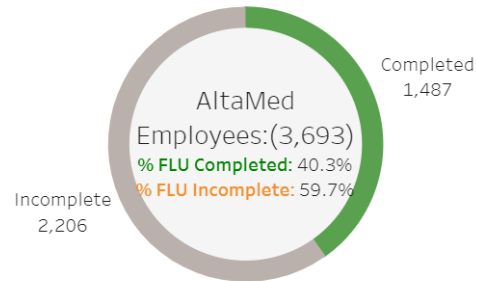
- Oseltamivir wt based for kids, 75mg po bid for adults
- Kids <2 and people at high risk of severe flu disease should get treated
- Ideally within 48 hours of sx but for people:
 - <2, >65, chronic lung, heart, metabolic conditions, immune compromised, pregnant and within 2 wks post partum
- They need to isolate like COVID



Staff Flu Vaccine By Business Line

Flu Vaccine - Employees

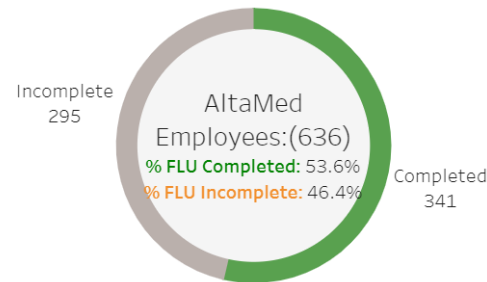
Altamed Employee FLU



Employee FLU Summary by Executive Leadership Team

| ELT Name | Employee Total | Flu Completed Count | Flu Incomplete Count | Flu Completed Pct | Flu Incomplete Pct |
|----------------------|----------------|---------------------|----------------------|-------------------|--------------------|
| | 667 | 235 | 432 | 35.2% | 64.8% |
| Casillas, Esiquio | 727 | 365 | 362 | 50.2% | 49.8% |
| de la Rocha, Castulo | 12 | 8 | 4 | 66.7% | 33.3% |
| Escobar, Zoila D. | 250 | 107 | 143 | 42.8% | 57.2% |
| Esparza, Jose U | 173 | 62 | 111 | 35.8% | 64.2% |
| Knight, Frederick D | 12 | 2 | 10 | 16.7% | 83.3% |
| Lowe, Raymond B | 65 | 19 | 46 | 29.2% | 70.8% |
| Rico, Cristian | 277 | 130 | 147 | 46.9% | 53.1% |
| Talamantes, Efrain | 1,154 | 488 | 666 | 42.3% | 57.7% |
| Tran, Anna | 355 | 70 | 285 | 19.7% | 80.3% |
| Zamora, Maria E | 1 | 1 | 0 | 100.0% | 0.0% |
| Grand Total | 3,693 | 1,487 | 2,206 | 40.3% | 59.7% |

PACE Employee FLU



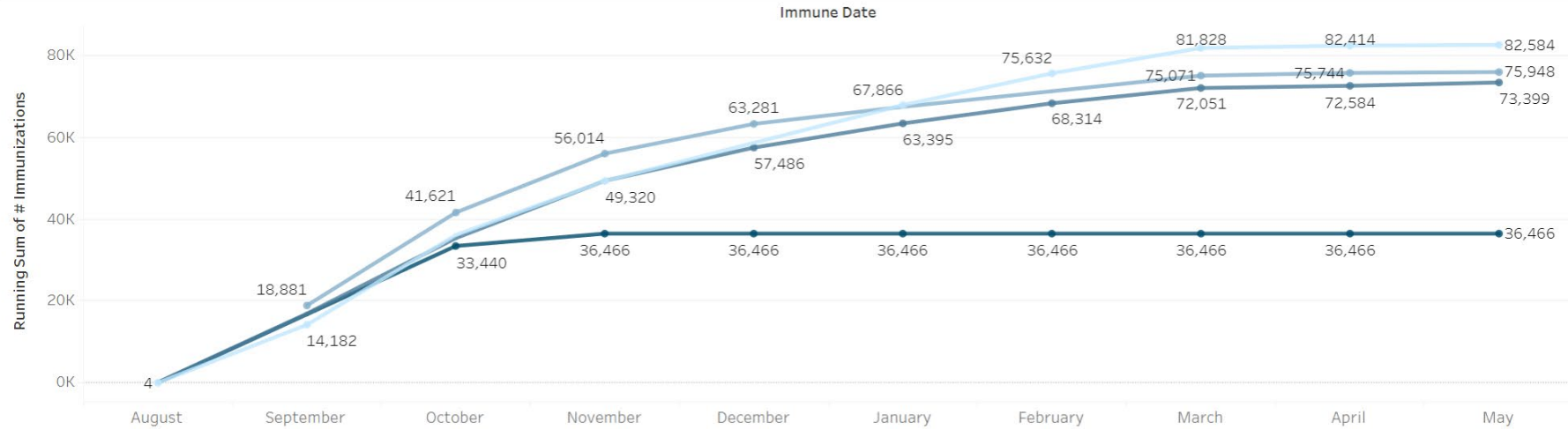
Employee FLU Summary by PACE Location

| Business Unit | Employee Total | Flu Completed Count | Flu Incomplete Count | Flu Completed Pct | Flu Incomplete Pct |
|------------------------|----------------|---------------------|----------------------|-------------------|--------------------|
| PACE - Anaheim | 24 | 19 | 5 | 79.2% | 20.8% |
| PACE - Covina | 65 | 34 | 31 | 52.3% | 47.7% |
| PACE - Downey | 2 | 1 | 1 | 50.0% | 50.0% |
| PACE - East LA | 98 | 49 | 49 | 50.0% | 50.0% |
| PACE - El Monte | 60 | 41 | 19 | 68.3% | 31.7% |
| PACE - Grand Plaza | 79 | 30 | 49 | 38.0% | 62.0% |
| PACE - Huntington Park | 109 | 55 | 54 | 50.5% | 49.5% |
| PACE - Long Beach | 38 | 26 | 12 | 68.4% | 31.6% |
| PACE - Lynwood | 69 | 43 | 26 | 62.3% | 37.7% |
| PACE - Santa Ana | 29 | 17 | 12 | 58.6% | 41.4% |
| PACE - South LA | 63 | 26 | 37 | 41.3% | 58.7% |
| Grand Total | 636 | 341 | 295 | 53.6% | 46.4% |

Patient Flu Vaccines

Seasonal Flu Immunization Running Total from August to May (08/15 - 05/31)

Seasonal running total of flu immunizations administered by AltaMed (Includes PACE)



Flu Season Status

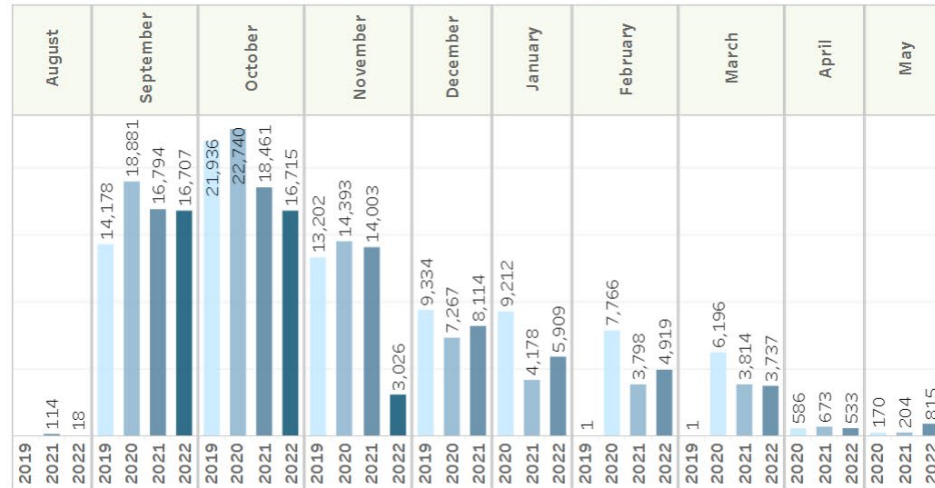
- 2019-2020 Flu Season
- 2020-2021 Flu Season
- 2021-2022 Flu Season
- 2022-2023 Flu Season

Site Name

(All) ▼

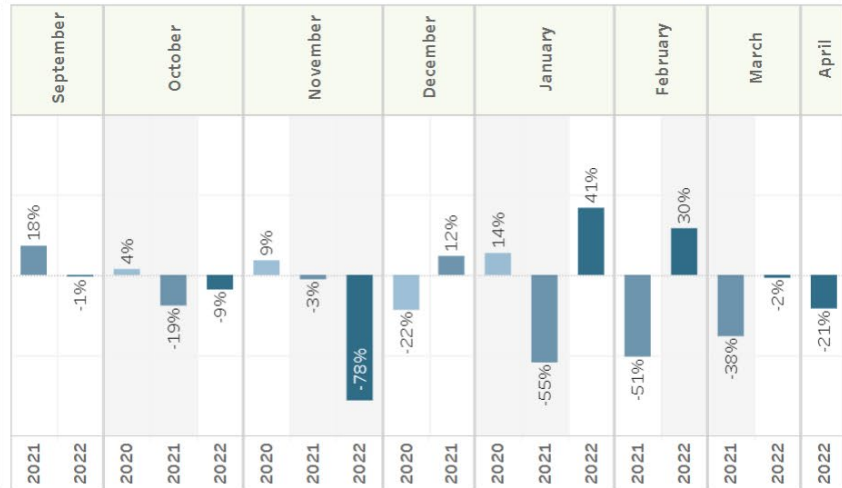
YoY Flu Immunizations

YoY comparison of seasonal monthly flu immunizations administered by AltaMed (Aug 15 - May 31)




YoY Flu Immunizations

YoY comparison of seasonal monthly flu immunizations administered (Aug 15 - May 31)



RSV

RSV: HISTORY, EPIDEMIOLOGY, CLINICAL FIN



David Weber

- Respiratory syncytial virus (RSV) was discovered in 1956 and has since been recognized as one of the most common causes of childhood illness. It causes annual outbreaks of respiratory illnesses in all age groups. In most regions of the United States, RSV usually circulates during fall, winter, and spring, but the timing and severity of RSV season in a given community can vary from year to year. (CDC, <https://www.cdc.gov/rsv/clinical/index.html>)
- Infants and young children: RSV infection can cause a variety of respiratory illnesses in infants and young children. It most commonly causes a cold-like illness but can also cause lower respiratory infections like bronchiolitis and pneumonia. One to two percent of children younger than 6 months of age with RSV infection may need to be hospitalized. Severe disease most commonly occurs in very young infants. Also at risk: Premature infants, infants <6 months; children <2 years old with chronic lung disease or congenital heart disease; children with suppressed immune systems; and, children with neuromuscular disorders.
- Older adults and adults with chronic medical conditions: Adults who get infected with RSV usually have mild or no symptoms. Symptoms are usually consistent with an upper respiratory tract infection which can include rhinorrhea, pharyngitis, cough, headache, fatigue, and fever. Disease usually lasts less than five days. Some adults, however, may have more severe symptoms consistent with a lower respiratory tract infection, such as pneumonia. Those at high risk for severe illness from RSV include: Older adults, especially those 65 years and older; adults with chronic lung or heart disease; and, adults with weakened immune systems. RSV can sometimes also lead to exacerbation of serious conditions such as asthma, COPD, and congestive heart failure.

RSV IN CHILDREN, US, CDC

David Weber

RSV is the leading cause of hospitalization in U.S. infants

- Most (68%) infants are infected in the first year of life and nearly all (97%) by age 2¹
- Premature infants born at <30 weeks gestation had hospitalization rates ~3x higher than term infants²
 - Preterm infants have higher rates of ICU admission, mechanical ventilation³
 - Average cost of hospitalization in infant <29 weeks ~4x higher than for term infant³
- 79% of children hospitalized with RSV aged <2 years had no underlying medical conditions²
- 2-3% of all infants will be hospitalized for RSV^{2,4}



Image: Goncalves et al. Critical Care Research and Practice 2012

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¹Glezen et al, Arch Dis Child, 1986; ²Hall et al, Pediatrics, 2013; ³McLaurin et al, J Perinatol, 2016; ⁴Langley & Anderson, PIDJ, 2011

Each year in U.S. children aged less than 5 years, RSV is associated with...



¹Thompson et al, JAMA, 2003; ²Hansen et al, JAMA Network Open, 2022; ³Hall et al, NEJM, 2009; ⁴McLaughlin et al, J Infect Dis, 2022 (*estimate 80,000 hospitalizations in infants <1y)

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RSV IN ADULTS, US, CDC

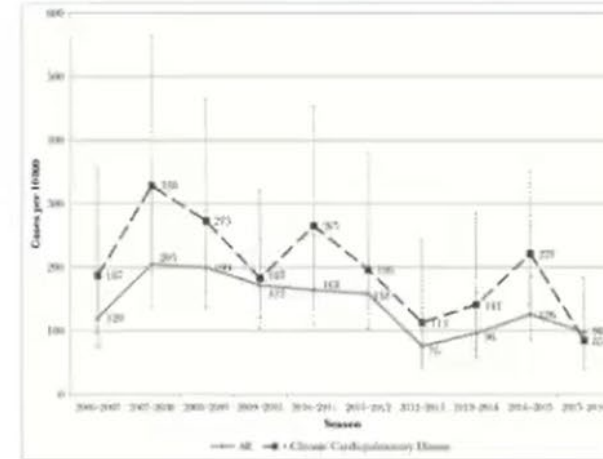
Among adults ≥65 years of age in the United States, RSV is associated with...



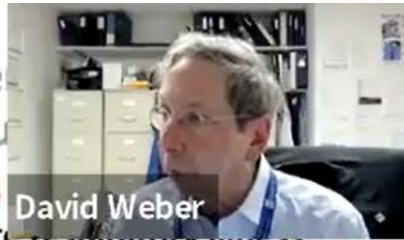
¹Falsey et al, NEJM (2005); ²Adapted from Falsey et al, NEJM (2005)

Havers F. ACIP, 2022, 23 June

Substantial burden of medically attended outpatient visits for RSV in older adults



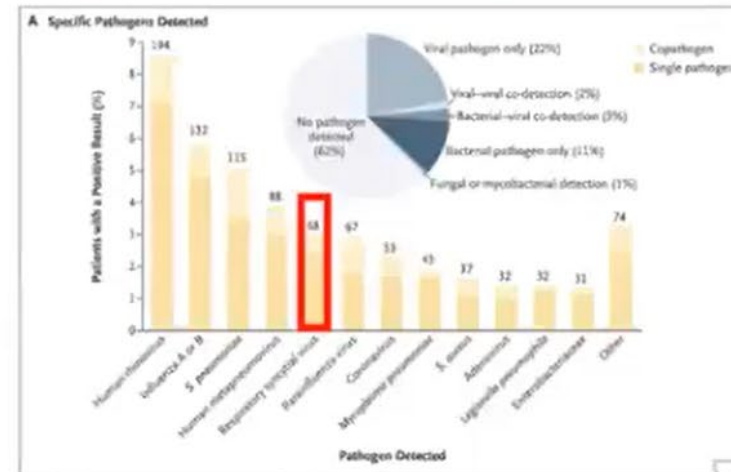
Belongia, et al. Open Forum Infect Dis, Volume 5, Issue 12, December 2018, efy316, <https://doi.org/10.1093/ofid/ofy316>
¹Serious outcome defined as hospitalization, emergency department visit and pneumonia.



- **11%** David Weber acute respiratory illness
- **19%** had a serious outcome¹
- Rates nearly **2x** higher in patients with chronic cardiopulmonary disease compared with others

Seasonal incidence and 95% confidence limits of medically attended RSV by age group in a community cohort of adults ≥60 years old

RSV is a frequent cause of pneumonia in hospitalized adults



EPIC study:
Pathogen Detection among U.S. Adults with Community-Acquired Pneumonia Requiring Hospitalization, 2010–2012.

- RSV detected in 3% of adults hospitalized with pneumonia
- RSV was fifth most commonly detected pathogen

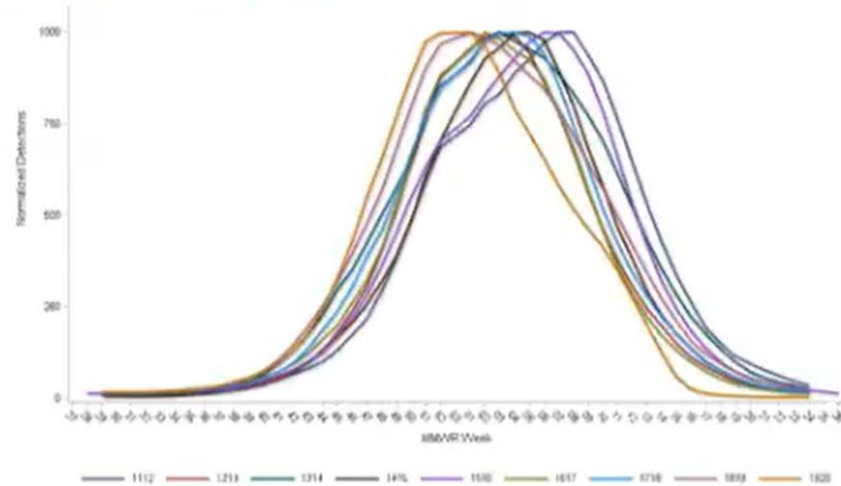


RSV SEASONALITY, US, CDC

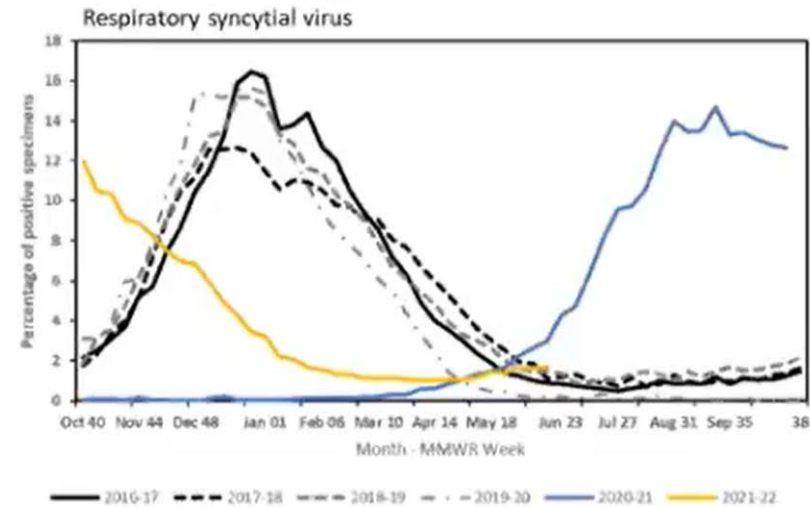


David Weber

During 2011-2020, RSV circulation was highly seasonal in the U.S. with predictable peak activity during December – February annually



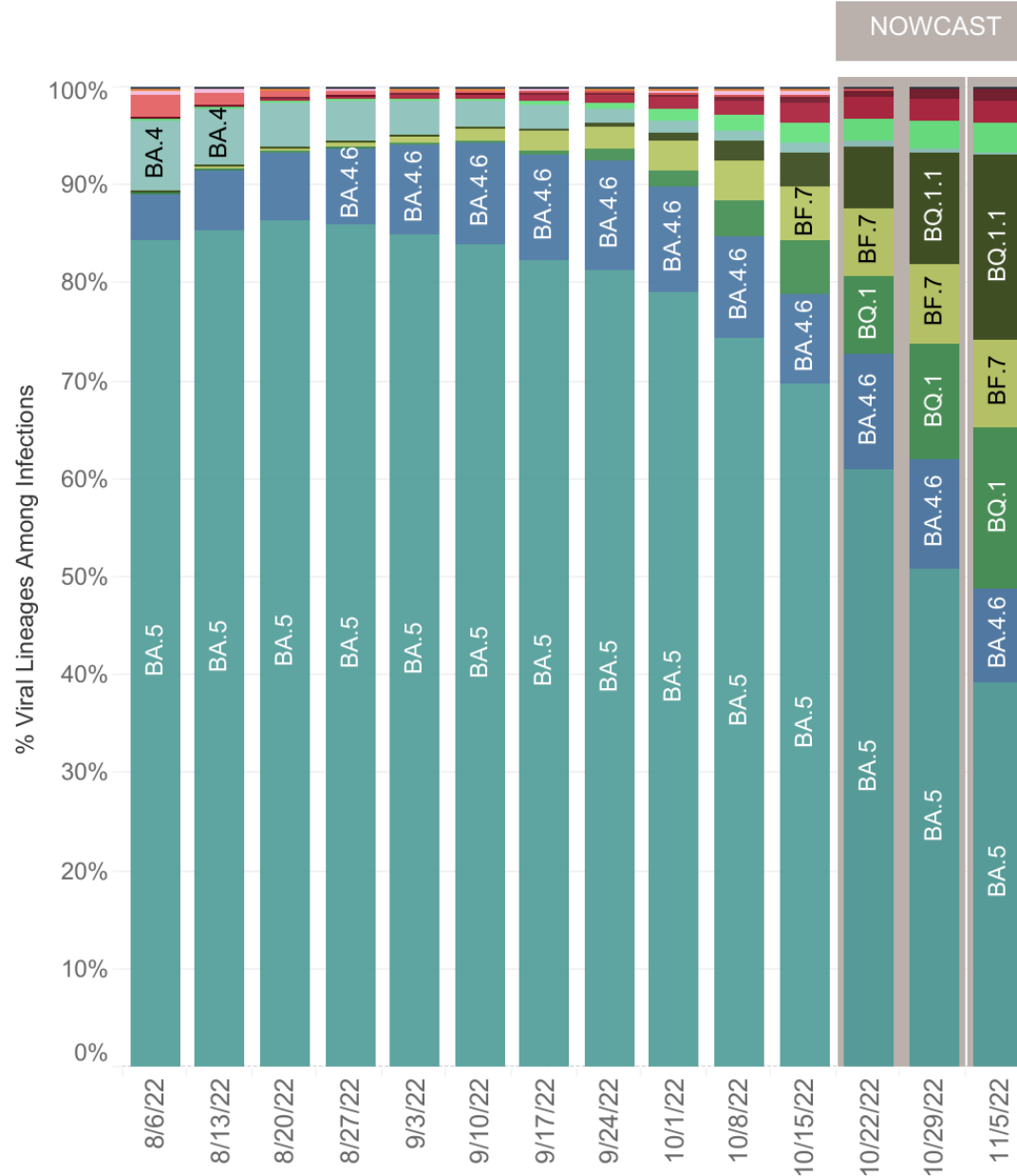
Following over 1 year of limited RSV circulation, the U.S. experienced an intraseasonal RSV wave that peaked in early August 2021



RSV Prevention, Testing And Treatment

- **RSV spread by droplets and contact**
 - Masks and hand hygiene can work well
 - Avoid kissing and hugging, avoid sharing beverages/food
 - Palivixumab FDA approved for prophylaxis is high risk infants (premature or heart lung conditions)
 - Monthly injections in the clinic, BPA alert to help providers order
 - Protect those babies and older individuals
- **Rapid RSV testing in clinic**
 - Consider testing to change management (such as closer monitoring)
 - Most sensitive in young children less than 6, standing order for those 6mo-2yrs
 - Infants less than 6mo and kids with difficulty clearing their airway are at the highest risk of complications/morbidity/mortality
- **Treatment for RSV**
 - Typically children are sick enough to need admission
 - Ribavirin or Paliviximab inpatient
 - Infected need to isolate similar to COVID

COVID-19 Updates



USA

| WHO label | Lineage # | US Class | %Total | 95%PI |
|-----------|-----------|----------|--------|------------|
| Omicron | BA.5 | VOC | 39.2% | 36.2-42.3% |
| | BQ.1.1 | VOC | 18.8% | 15.7-22.4% |
| | BQ.1 | VOC | 16.5% | 13.6-20.0% |
| | BA.4.6 | VOC | 9.5% | 8.6-10.5% |
| | BF.7 | VOC | 9.0% | 7.9-10.1% |
| | BA.5.2.6 | VOC | 3.1% | 2.5-3.7% |
| | BA.2.75 | VOC | 2.3% | 1.9-2.8% |
| | BA.2.75.2 | VOC | 1.3% | 0.9-1.7% |
| | BA.4 | VOC | 0.2% | 0.2-0.3% |
| | BA.1.1 | VOC | 0.0% | 0.0-0.0% |
| | B.1.1.529 | VOC | 0.0% | 0.0-0.0% |
| | BA.2.12.1 | VOC | 0.0% | 0.0-0.0% |
| | BA.2 | VOC | 0.0% | 0.0-0.0% |
| Delta | B.1.617.2 | VBM | 0.0% | 0.0-0.0% |
| Other | Other* | | 0.1% | 0.0-0.1% |

* Enumerated lineages are US VOC and lineages circulating above 1% nationally in at least one week period. "Other" represents the aggregation of lineages which are circulating <1% nationally during all weeks displayed.

** These data include Nowcast estimates, which are modeled projections that may differ from weighted estimates generated at later dates

BA.1, BA.3 and their sublineages (except BA.1.1 and its sublineages) are aggregated with B.1.1.529. Except BA.2.12.1, BA.2.75, BA.2.75.2 and their sublineages, BA.2 sublineages are aggregated with BA.2. Except BA.4.6, sublineages of BA.4 are aggregated to BA.4.



COVID Guidance: What has not changed at AltaMed?

- CDPH requires all healthcare workers to have primary series **AND** a booster
- **All staff** should either get a flu shot or document their declination and send proof/declination to employee health
- **All patients and staff** will continue to screen for COVID-19 symptoms (may be passive screening)
- CDPH and AltaMed require **all staff** to wear a mask when not eating and drinking at any AltaMed sites

COVID-19

- **COVID-19 Prevention**

- Up-to-date on COVID-19 vaccine
- Masking indoors and in crowded spaces
- Wash hands frequently, avoid kissing, hugging, shaking hands, sharing food
- Increase ventilation/filtration
- Evushield for severely immune compromised patients, even if vaccinated

- **COVID-19 Testing**

- Have antigen tests at home
- Repeated Tests if any symptoms or if exposed to COVID-19, prior to gatherings and post crowded gatherings
- Rapid tests available at AltaMed, automatically reported +
- PCR tests available at AltaMed, no need to report + unless hospitalized or death from COVID-19

- **COVID-19 Treatment**

- Paxlovid #1 treatment, must be given within 5 days of treatment
- Everyone should have a treatment plan
- Making Test to Treat Program even more robust this year

Putting it Together for Holiday Gatherings

- **Avoid getting sick at baseline**
 - Get vaccinated (flu vaccine, updated COVID booster, Tdap, Pneumococcal vaccine, be up-to-date)
 - Wear your mask indoors & outside of your home (also kids while indoors at school)
 - Wash your hands for the full 20 seconds, carry hand sanitizer
 - Avoid shaking hands, kissing and hugging (elbow bumps)
- **Test before you go**
 - Test (at a minimum) the day of your event, consider also 2 days ahead as well
 - Stay home if you are feeling ill (Buy your Secret Santa gift early just in case, FaceTime in, binge watch a cool show)
 - No COVID or flu but can't get out of gathering, wear a mask around everyone and don't hug, kiss or shake hands
- **Protect those at risk**
 - Babies, especially <6months old. Keep them at home and or away from hugging kissing relatives
 - Older adults, recommend mask usage, vaccines, hand hygiene
 - Improve ventilation/filtration, decrease crowding indoors
 - If someone gets sick, have a plan for testing and treatment ASAP

COVID-19 Vaccine Update November 2022

COVID-19 Pediatric Bivalent Boosters (5-11 years of age)



On October 12th the FDA approved EAUs for pediatric bivalent boosters and the CDC quickly followed with approval and recommendations for use of:

- Pfizer for 5-11 years of age (dose 0.2ml)
- Moderna for 6-11 years of age (dose 0.25ml)

Bivalent Boosters aka Updated Boosters



*People ages 5 years and older are recommended to receive 1 age-appropriate bivalent mRNA booster dose after completion of any FDA-approved or FDA-authorized monovalent primary series or previously received monovalent booster dose(s). This means mixing and matching of bivalent boosters is permitted for patients ages 6+. *Patient's 5 years of age, prior to 6th birthday can ONLY receive Pfizer(5-11yo) booster **

- Can be administered at least 2 months after either completion of the primary series or last monovalent booster dose.
- This new booster recommendation replaces all prior booster recommendations for this age group.
- Monovalent mRNA vaccines are no longer authorized as a booster dose for people ages 5 years and older.
- Only monovalent vaccines are approved or authorized for primary series doses.

COVID-19 Vaccines Currently Available at AltaMed Health Services Clinic

Primary Series Vaccines:

- Pfizer Orange Cap Monovalent Pediatric Vaccines for Patients 5-11 years of age
- Pfizer Gray Cap Monovalent Vaccines for Patients 12 years and older

- Moderna Magenta Border Monovalent Vaccines for patients 6 months to 5 years
- Moderna Purple Border Monovalent Vaccines for patients 6-11 years
- Moderna (Red Cap) Light Blue Border Monovalent Vaccines for patients 18 years and older.

***** Due to the increased risk of Myocarditis and Pericarditis, we are not administering Moderna Vaccines to patients 12-17 years of age.

- Novavax Royal Blue Cap Vaccine for patients 12 years and older

COVID-19 Vaccines Currently Available at AltaMed Health Services Clinic

Bivalent Booster Vaccines:

- ❖ Pfizer Bivalent Booster Vaccine for patients 5-11 years of age.
- ❖ Pfizer Bivalent Booster Vaccine for patients 12 years and older
- ❖ Moderna Bivalent Booster Vaccine for patients 6 years and older (One vial for all age groups/dose varies by age). ***** Due to the increased risk of Myocarditis and Pericarditis we are not administering Moderna Bivalent Booster Vaccines to patients 12-17 years of age.

Important Reminders/Information:

- Patients 5 years old (up to their 6th birthday) may only receive the Pfizer Bivalent booster.
- Mixing and matching is approved for patients 6 years and older for the bivalent boosters. As a result most clinics will only have the Moderna Bivalent Boosters available but we have Pfizer Peds Bivalent doses available at Corporate if you have a demand for it.
- Pfizer Peds Bivalent Boosters will be available at **CHLA, Westlake Peds, Anaheim and Goodrich.**

Where are Pediatric COVID-19 Vaccines Available?

The following clinics are administering Pfizer 5-11 year old monovalent vaccines (2nd and 3rd doses only), Moderna 6 months- 5 years monovalent vaccines, Moderna 6-11 years monovalent vaccines and Moderna Bivalent Boosters for 6-11 year olds.

| | |
|---------------|-----------------|
| CHLA | First Street |
| Westlake Peds | Boyle Heights |
| SouthGate | West Covina |
| Goodrich | Pico Slauson |
| Anaheim | El Monte-Valley |

Our goal is to move towards all Moderna COVID-19 pediatric vaccines by the end of 2022, so we are only using Moderna for patients starting their primary series. In addition, we will continue to expand these vaccines to the rest of our Health Services Clinics.

Where are Adult COVID-19 Vaccines Available?

Novavax monovalent primary series are available at Anaheim and Goodrich

Anaheim on Wednesdays from 12-6PM

Goodrich on Tuesdays from 1:30-2PM and 3-6:30PM and Fridays from 10AM-12:30 and 2-3PM

* **Novavax Booster** dose has been approved for patients:

- At least 18 years of age **AND**
- Completed a primary COVID-19 vaccine series with any FDA-approved or FDA-authorized monovalent COVID-19 vaccine **AND**
- Has not received any booster doses of COVID-19 vaccine **AND**
- Unable (e.g., mRNA vaccine contraindicated or not available) or unwilling to receive an mRNA vaccine; would otherwise not receive a COVID-19 booster dose.

Timing

Administer a booster dose of Monovalent Novavax COVID-19 Vaccine at least 6 months after completion of a primary series.

*** We are currently working on updating the Standing Orders and providing education to the staff so these boosters are not being administered yet.

Where are Adult COVID-19 mRNA Monovalent and Bivalent Vaccines Available?

| | |
|-----------------|--|
| Boyle Heights | Moderna and Pfizer |
| CHLA | Pfizer (Monovalent) and Moderna (Bivalent Booster only). |
| Commerce ELA | Moderna |
| Goodrich | Moderna and Pfizer |
| El Monte | Pfizer |
| El Monte (SA) | Moderna |
| First Street | Pfizer |
| Huntington Park | Moderna and Pfizer |
| Pico Passons | Moderna and Pfizer |
| Pico Slauson | Pfizer |

Where are Adult COVID-19 mRNA Monovalent and Bivalent Vaccines Available?

South Gate Moderna and Pfizer

West Covina Moderna and Pfizer

Westlake Adult Moderna and Pfizer

Westlake Peds Moderna and Pfizer (Bivalent boosters only)

*** The plan is to expand COVID-19 vaccines to the remaining 3 clinics (Florence-Firestone, Huntington Park-Rugby and Pasadena) by the end of the year. These clinics will have Moderna products only.

What's Next in COVID-19 Vaccines?

Information provided by the California Department of Health indicates:

- Pfizer Bivalent Boosters for patients 12 years and older will be available in single dose starting the week after Thanksgiving
- Single dose vaccines will be available for the pediatric populations at the end of 2022 or early 2023 (Not confirmed yet).
- Bivalent mRNA vaccines will be used for primary series vaccines starting in early 2023 and monovalent vaccines will no longer be used (not confirmed yet).
- We will likely see these vaccines switch to private sales, VFC already has plans to add the pediatric vaccines to their inventory.

COVID-19 Vaccine Product Guide



Check vaccine labels and [EUA fact sheets](#) before use to avoid mix-ups.

EUA fact sheets supersede info on vials and carton. Refer to [CDC Product Guide](#) for more information.

| Pfizer | | | | | |
|--|---|---|-----------------------------------|---|----------------------------------|
| | Infant/Toddler 6 months– 4 years* | Pediatric Primary Series 5–11 years | Bivalent Booster 5–11 years | Adol/Adult Primary Series 12+ years | Bivalent Booster 12+ years |
| | | | | | |
| | Maroon Cap | Orange Cap | Orange Cap | Gray Cap | Gray Cap |
| Packaging | Maroon Cap | Orange Cap | Orange Cap | Gray Cap | Gray Cap |
| Doses Per Vial | 10 doses | 10 doses | 10 doses | 6 doses | 6 doses |
| Carton Size | 100 doses | 100 doses | 100 doses | 60 doses | 60 doses |
| Min. Standard Order | 100 doses | 100 doses | 100 doses | 300 doses | 300 doses |
| NDC-Unit of Use (vial) | 59267-0078-01 | 59267-1055-01 | 59267-0565-01 | 59267-1025-01 | 59267-0304-01 |
| CVX Code | 219 | 218 | 301 | 217 | 300 |
| Storage Limits Before Puncture: Label vaccine with expiration and use-by dates. | | | | | |
| ULT (-90°C to -60°C) | Until expiration | | | | |
| Thermal Shipper | | | | | |
| Freezer | | | | | |
| Refrigerator (2–8°C) | Up to 10 weeks (write the date on carton) | | | | |
| Expiration Date | 12 months from manufacture date printed on vial and carton or check product website . | | | | |
| Administration | | | | | |
| Diluent (supplied) | 2.2 mL per vial | 1.3 mL per vial | 1.3 mL per vial | Do not dilute. | Do not dilute. |
| Dose Volume–Primary/Additional | 0.2 mL [†] (3 mcg dose) | 0.2 mL [†] (10 mcg dose) | N/A | 0.3 mL (30 mcg dose) | N/A |
| Dose Volume–Booster | N/A | Do not use for boosters. | 0.2 mL [†] (10 mcg dose) | Do not use for boosters. | 0.3 mL (30 mcg dose) |
| Refrigerator Thaw Time (2° to 8°C/ 36°F to 46°F) | Up to 2 hours in carton | Up to 4 hours in carton | Up to 4 hours in carton | Up to 6 hours in carton | Up to 6 hours in carton |
| (Do not refreeze) | | | | | |
| Room Temp Thaw Time | Vial: 30 minutes at up to 25°C (77°F) | | | | |
| Total Time at Room Temp (Do not refreeze) | Up to 12 hours (including thaw time) at up to 25°C (77°F) | | | | |
| Storage Limits After Puncture: Record puncture and use-by time on vial label. | | | | | |
| Use-By Limit (Discard Time After 1st Puncture) | Discard after 12 hours at 2°C to 25°C (35°F to 77°F) | | | | |

* Labels for Pfizer 6 months-4 years product may not reflect expanded age ranges. [Refer to Provider Letter.](#)

† Syringes in ancillary kits may require estimating volume between lines, or using private stock.

<https://eziz.org/assets/docs/COVID19/IMM-1425.pdf?msdyntrid=uhqkW7kicWtuHPXJiEVudoxQnTm6AEa3l6iKYagSs#page=73>

COVID-19 Vaccine Product Guide



Check vaccine labels and [EUA fact sheets](#) before use to avoid mix-ups.

EUA fact sheets supersede info on vials and carton. Refer to [CDC Product Guide](#) for more information.

| Moderna | | | | |
|--|--|--|--|--|
| | Infant/Toddler 6 months–5 years | Pediatric 6–11 years* | Adol/Adult 12+ years | Bivalent Booster 6+ years |
| | | | | |
| | Magenta Border | Purple Border | Light Blue Border | Gray Border |
| Packaging | Dark Blue Cap | Dark Blue Cap | Red Cap | Blue Cap |
| Doses Per Vial | 10 doses | 5 doses | 10-11 doses | 5-10 doses |
| Carton Size | 100 doses | 50 doses | 100 doses | 50-100 doses |
| Min. Standard Order | 100 doses | 100 doses | 100 doses | 100 doses |
| NDC-Unit of Use (vial) | 80777-0279-05 | 80777-0275-05 | 80777-0273-10 | 80777-0282-05 |
| CVX Code | 228 | 221 | 207 | 229 |
| Storage Limits Before Puncture: Label vaccine with expiration and use-by dates. | | | | |
| ULT (-90°C to -60°C) | | | | |
| Thermal Shipper | | | | |
| Freezer | Until expiration at -50°C to -15°C (-58°F to 5°F) | | | |
| Refrigerator | Up to 30 days (write the date on carton) at 2–8°C (36–46°F) | | | |
| Expiration Date | Check product website or QR code. | | | |
| Administration | | | | |
| Diluent | Do not dilute. | | | |
| Dose Volume–Primary/Additional | 0.25 mL [†] (25 mcg dose) | 0.5 mL (50 mcg dose) | 0.5 mL (100 mcg dose) | N/A |
| Dose Volume–Booster | N/A | Do not use for boosters, despite label.* | Do not use for boosters. | Ages 12+: 0.5 mL Ages 6–11: 0.25 mL [†] |
| Refrigerator Thaw Time (2° to 8°C/ 36°F to 46°F) | 2 hours (Let vial stand at room temp for 15 min before administering.) | 2 hours (Let vial stand at room temp for 15 min before administering.) | 2.5 hours (Let vial stand at room temp for 15 minutes before administering.) | 2 hours (Let vial stand at room temp for 15 minutes before administering.) |
| (Do not refreeze) | | | | |
| Room Temp Thaw Time | 45 minutes at 15° to 25°C (59° to 77°F) | 45 minutes at 15° to 25°C (59° to 77°F) | 1 hour at 15° to 25°C (59° to 77°F) | 45 minutes at 15° to 25°C (59° to 77°F) |
| Total Time at Room Temp (Do not refreeze) | Store up to 24 hours at 8°C to 25°C (46°F to 77°F) | | | |
| Storage Limits After Puncture: Record puncture and use-by time on vial label. | | | | |
| Use-By Limit (Discard Time After 1st Puncture) | Discard after 12 hours at 2°C to 25°C (36°F to 77°F) | | | |

* Labels for early shipments of Moderna 6-11 years (dark blue cap/purple border) product do not reflect authorized age ranges. [Refer to Provider Letter.](#)

† Syringes in ancillary kits may require estimating volume between lines, or using private stock.

<https://eziz.org/assets/docs/COVID19/IMM-1425.pdf?msdyntrid=uhqkW7kicWtuHPXJiEVudoxQnTm6AEa3l6iKYagSs#page=65>

COVID-19 Vaccine Timing



Routine Schedule

| Age* | Vaccine | Primary Doses | Booster Dose |
|------------------|---|--|--|
| 6 months–4 years | Pfizer–Infant/Toddler | 1st Dose → 3-8 weeks [^] → 2nd Dose → ≥8 weeks → 3rd Dose | |
| 6 months–5 years | Moderna–Infant/Toddler | 1st Dose → 4-8 weeks [^] → 2nd Dose | |
| 5–11 years | Pfizer–Pediatric | 1st Dose → 3-8 weeks [^] → 2nd Dose | <p>Bivalent Booster</p> <p>Pfizer: Ages 5-11 Pfizer: Ages 12+</p> <p>Moderna: Ages 6+</p> <p>(For people who previously received a monovalent booster dose(s), the bivalent booster is administered at least 2 months after the last monovalent booster dose.)</p> |
| 6–11 years | Moderna–Pediatric | 1st Dose → 4-8 weeks [^] → 2nd Dose | |
| 12+ years | Moderna–Adol/Adult | 1st Dose → 4-8 weeks [^] → 2nd Dose | |
| 12+ years | Pfizer/Adol/Adult | 1st Dose → 3-8 weeks [^] → 2nd Dose | |
| 12+ years | Novavax | 1st Dose → 3-8 weeks [^] → 2nd Dose | |
| 18+ years | Janssen (J&J) Pfizer/Moderna preferred** | 1st Dose | |

≥2 months

* See schedules for children in transition from a younger to older age group: [Pfizer](#) | [Moderna](#).
 ** Although use of mRNA COVID-19 vaccines is preferred, the Janssen vaccine may be offered in [some situations](#).
[^] An 8-week interval may be preferable for some people, especially for males 12-39 years.
 View [Interim Clinical Considerations for Use of COVID-19 Vaccines](#) for details. Schedule is subject to change.

COVID-19 Vaccine Timing



Schedule if Moderately or Severely Immunocompromised

| Age* | Vaccine | Primary Doses | Booster Dose |
|------------------|---|---|--|
| 6 months–4 years | Pfizer–Infant/Toddler | 1st Dose → 3 weeks → 2nd Dose → ≥8 weeks → 3rd Dose | |
| 6 months–5 years | Moderna–Infant/Toddler | 1st Dose → 4 weeks → 2nd Dose → ≥4 weeks → 3rd Dose | |
| 5–11 years | Pfizer–Pediatric | 1st Dose → 3 weeks → 2nd Dose → ≥4 weeks → 3rd Dose | <p>Bivalent Booster</p> <p>Pfizer: Ages 5-11 Pfizer: Ages 12+</p> <p>Moderna: Ages 6+</p> <p>(For people who previously received a monovalent booster dose(s), the bivalent booster is administered at least 2 months after the last monovalent booster dose.)</p> |
| 6–11 years | Moderna–Pediatric | 1st Dose → 4 weeks → 2nd Dose → ≥4 weeks → 3rd Dose | |
| 12+ years | Moderna–Adol/Adult | 1st Dose → 4 weeks → 2nd Dose → ≥4 weeks → 3rd Dose | |
| 12+ years | Pfizer/Adol/Adult | 1st Dose → 3 weeks → 2nd Dose → ≥4 weeks → 3rd Dose | |
| 12+ years | Novavax | 1st Dose → 3 weeks → 2nd Dose | |
| 18+ years | Janssen (J&J) Pfizer/Moderna preferred** | 1st Dose → 4 weeks → 2nd Dose of Moderna/ Pfizer | |

≥2 months

* See schedules for children in transition from a younger to older age group: [Pfizer](#) | [Moderna](#).
 ** Although use of mRNA COVID-19 vaccines is preferred, the Janssen vaccine may be offered in [some situations](#).
 View [Interim Clinical Considerations for Use of COVID-19 Vaccines](#) for details. Schedule is subject to change.

Co-Administration of Vaccines

- Flu + Any Vaccine= Yes Please
- Flu + Bivalent Booster= Yes Please
- Flu + Monkeypox Vaccine= Yes Please
- **Monkeypox + COVID-19= Ok for All Women and Men >39**
 - 12-39 (risk of myocarditis/pericarditis)
 - Wait 4 wks for now from last vaccine

Question: I didn't get my second Monkeypox vaccine after 4 weeks. Can I get it now?

Yes, they should be scheduled for their 2nd dose+Flu shot.

Question: Can I get the Bi-Valent booster if I've had COVID-19?

Yes, they can. May be worthwhile to wait for 1-3 months post infection.

Thank you.

Sherrill Brown, MD

Medical Director of Infection Prevention

Darlene Dickens-Jeffers, MSN-Ed, RN, PHN, IP, CIC

Director of Infection Prevention



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