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Stay Informed
CALTCM.org**

Webinar Series COVID-19: CALTCM Weekly Rounds

September 21, 2020

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Thank you to our Planning Committee!

Patricia Latham Bach, PsyD, RN

Heather D'Adamo, MD

Michelle Eslami, MD, FACP, CMD

Janice Hoffman-Simen, Pharm.D., EdD, APh, BCGP, FASCP

Ashkan Javaheri, MD

Albert Lam, MD

Jay Luxenberg, MD

Karl Steinberg, MD, CMD, HMDC

Michael Wasserman, MD, CMD



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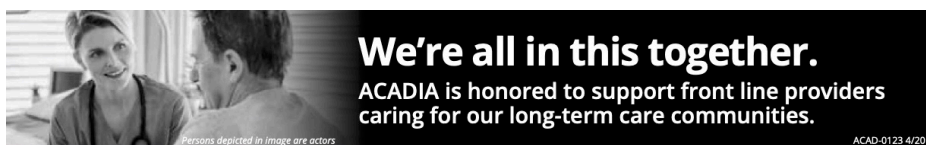
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Webinar Faculty

Lily Horng, MD MPH

Public Health Medical Officer

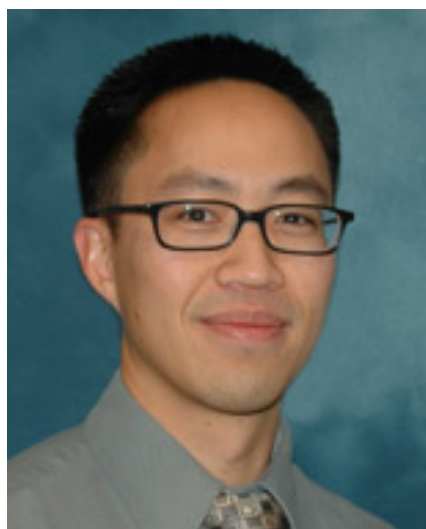
Immunization Branch

California Department of Public Health



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Webinar Faculty & Moderator

Albert Lam, MD

Geriatrician, Chair, Dept of Geriatric Medicine,
Palo Alto Foundation Medical Group

CALTCM BOD member and President-Elect



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Webinar Faculty

Jay Luxenberg, MD

Chief Medical Officer, On Lok
CALTCM, Wave Editor-in-Chief



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Webinar Faculty

Steve Nickell, PhD

Chief, Registry & Assessment Section
Immunization Branch
Division of Communicable Disease Control
Center for Infectious Diseases
CA Dept of Public Health



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Webinar Faculty

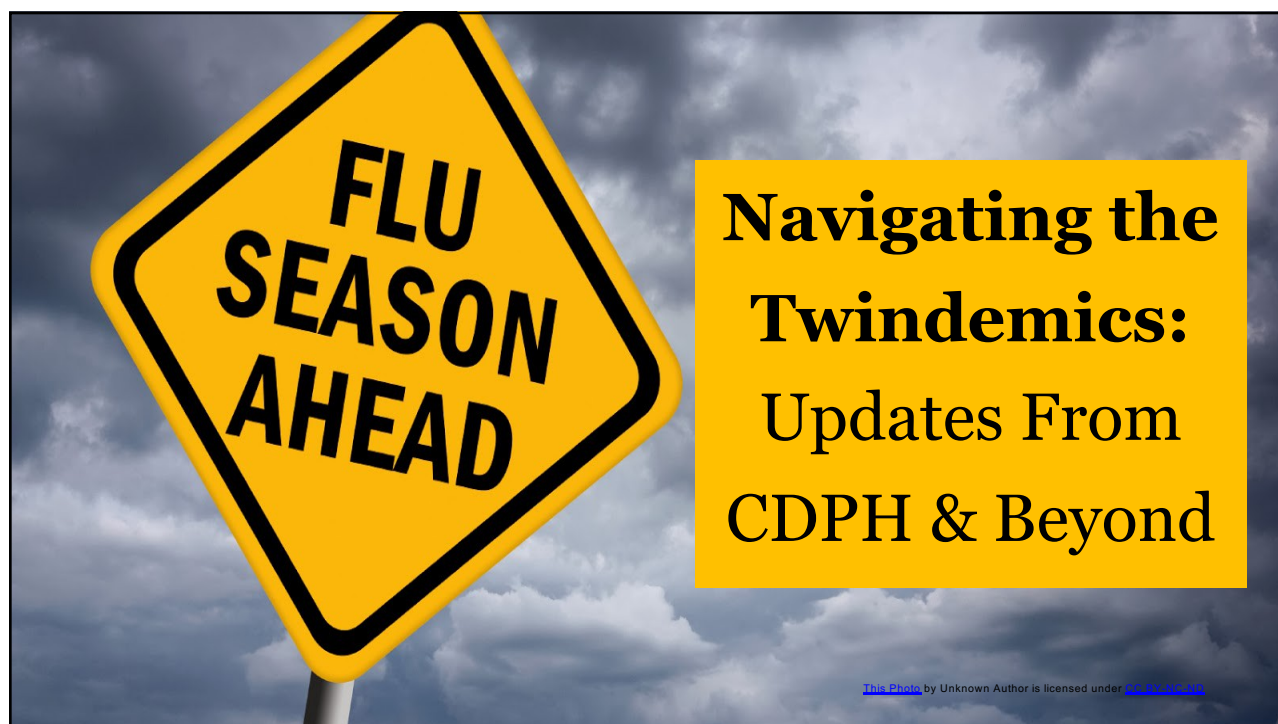
Michael Wasserman, MD, CMD

Geriatrician, President, CALTCM,
Medical Director, Eisenberg Village,
Los Angeles Jewish Home

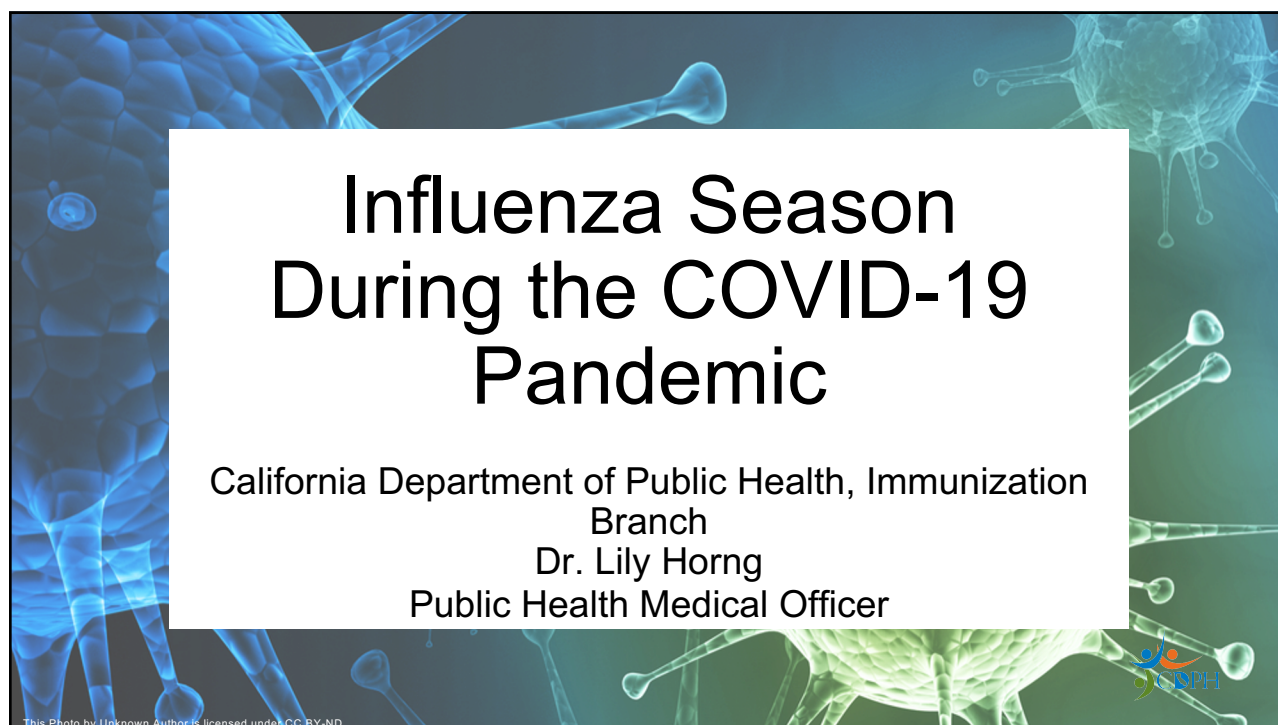


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Influenza and COVID-19

- Epidemiology
- Clinical presentation
- Diagnosis
- Treatment
- Prevention
 - Influenza Vaccination



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Burden of Influenza Versus COVID-19

	Influenza	COVID-19
Global	<i>Annual estimates:</i> 1,000,000,000 cases 290-650,000 deaths (1)	<i>As of 9/17/2020:</i> 29,737,453 cases 937,391 deaths (3)
USA	<i>10/2019-4/2020 estimates:</i> 39-56,000,000 cases 24-62,000 deaths (2)	<i>As of 9/17/2020:</i> 6,613,331 cases 196,277 deaths (4)



- 1.) www.who.int/news-room/detail/11-03-2019-who-launches-new-global-influenza-strategy
 2) www.cdc.gov/flu/about/burden/preliminary-in-season-estimates.htm
 3) <https://covid19.who.int/>
 4) <https://covid.cdc.gov/covid-data-tracker/>



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COVID-19 in California

- State: 766,201 cases and 14,721 deaths as of 9/17/20 (1)
- SNF residents: 25,234 cases and 4,340 deaths (2)
- SNF staff: 18,784 cases and 147 deaths

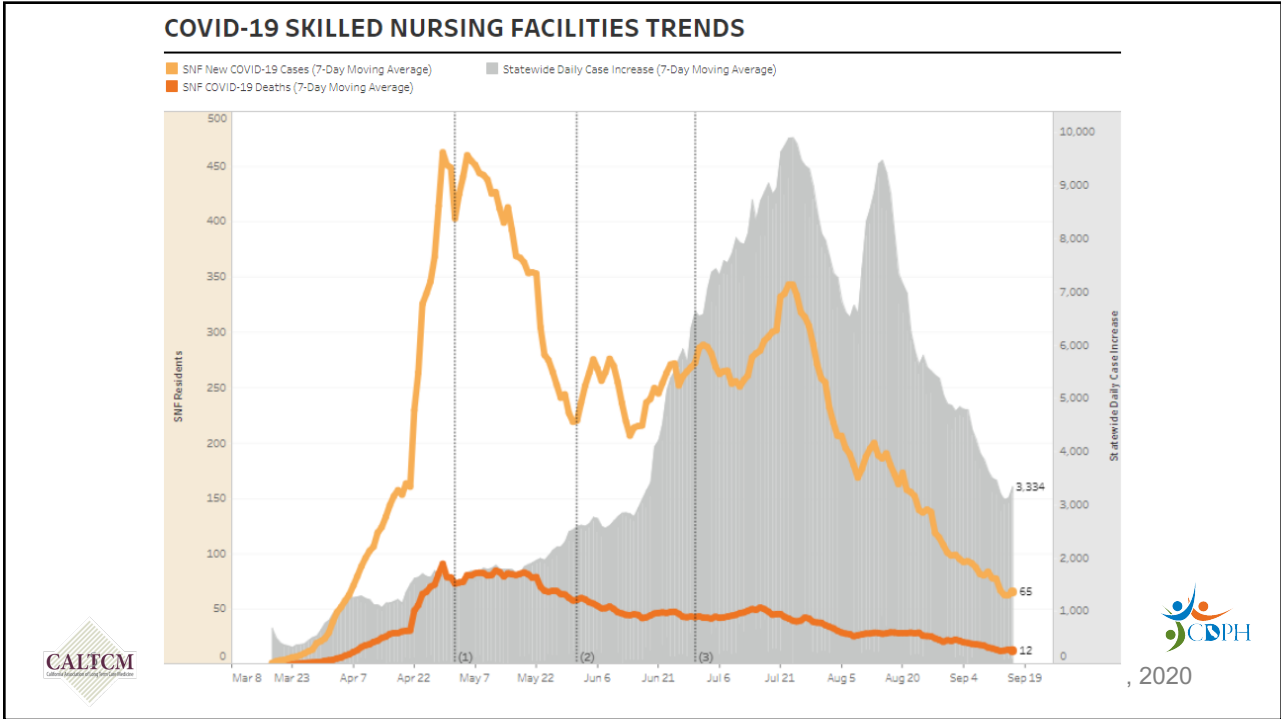


- 1.) <https://update.covid19.ca.gov/#top>
 2) https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/COVID-19/SNFsCOVID_19.aspx

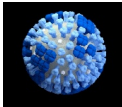


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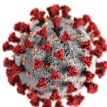
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Influenza Virus vs. SARS-CoV-2 Virus



Influenza virus	SARS-COV-2 virus
Orthomyxovirus family 3 influenza types infect humans A and B cause epidemics Type A: H and N surface proteins reassort in human <-> bird <-> pig	Coronavirus family 7 coronaviruses infect humans Common cold 229E, NL63, OC43, HKU1 Novel epidemics MERS, SARS-CoV, and SARS-CoV-2
Transmission mainly droplets, less commonly contact	Transmission mainly droplets, aerosols, less commonly contact
Incubation: 1-4 days	Incubation: ~5 days (range 2-14)
Contagiousness: 1 day before symptoms 7 days after symptoms	Contagiousness: 2 days before symptoms, if any* 10 days after symptoms



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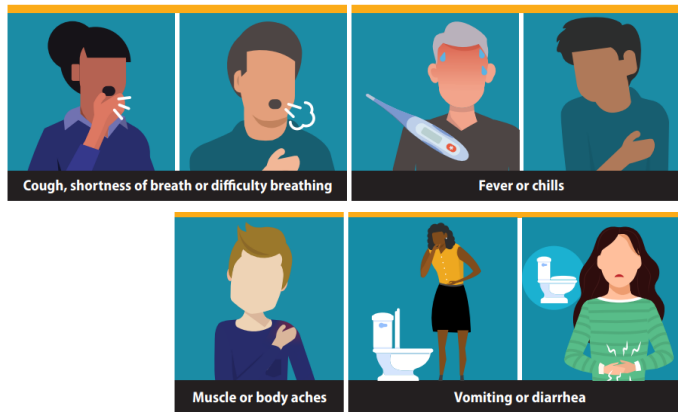


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Flu and COVID-19 symptoms are *similar*.

Complications in both

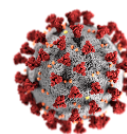
- Resp: pneumonia, ARDS
- Cardiac: myocarditis, pericarditis
- Neuro: encephalitis
- Sepsis, multiorgan failure
- Secondary bacterial infections



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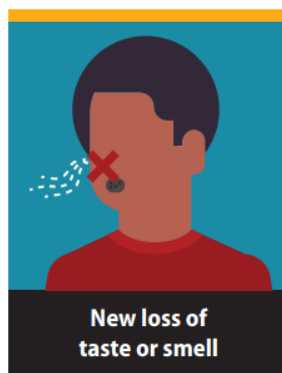
Unique Features of COVID-19



- **Up to 40%** of people with COVID-19 have **no symptoms**.
- Olfactory symptoms are common

Complications specific to COVID-19

- Hypercoagulability: MI, PE, DVT
- Children: MIS-C
- Post-COVID syndrome
- What next?



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- How often and how severe? ...few case reports

[illegible]

webinar on co-infection: <https://www.mihlifesciences.com/covid19-coalition>

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The good physician treats the disease;
the great physician treats the patient
who has the disease.

~Sir William Osler

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Diagnostic Tests

- Ideal test
 - **Multiplex RT-PCR for Influenza A, Influenza B, and SARS-CoV-2**
 - RT-PCR preferred over antigen
 - Antibody/serology not diagnostic and not recommended
- Inflammatory markers
 - WBC, CRP, procalcitonin, LFTs nonspecific
 - D-dimer for hypercoagulability (COVID19) nonspecific
- Radiology
 - CT chest not recommended for diagnosis
 - ‘Viral’ picture in influenza, SARS-CoV-2, and other respiratory viruses: normal to bilateral ground-glass



<https://www.idsociety.org/covid-19-real-time-learning-network/disease-manifestations--complications/co-infection/>

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Treatment for Influenza

- Empiric antiviral treatment of influenza is recommended ASAP in:
 - Hospitalized patients with respiratory illness
 - Outpatients with severe, complicated, or progressive respiratory illness
 - Outpatients at higher risk for influenza complications



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Treatment for Influenza

Flu A + B Antivirals	Use	Age and recommendations	Adverse events
Oral Oseltamivir	Treatment and prophylaxis	Rx: any age* PPx: ≥ 3 mo	Nausea, vomiting, headache Transient neuropsych Skin
Inhaled Zanamivir	Treatment and prophylaxis	Rx: ≥ 7 yr PPx: ≥ 5 yr <i>Avoid in asthma, COPD, underlying resp disease</i>	Bronchospasm, sinusitis Dizziness Transient neuropsych Skin
Intravenous Peramivir	Treatment	≥ 2 yr	Diarrhea Transient neuropsych
Oral Baloxavir	Treatment	≥ 12 yr	

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Treatment for COVID-19

- Treatment of COVID-19 only in:
 - Hospitalized patients with severe illness
 - Steroids
 - Veklury (remdesivir) under EUA
 - Clinical trials of many more agents



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Prevention

- **Non-pharmaceutical interventions**
 - Appropriate mask use and respiratory hygiene
 - Physical distancing
 - Hand hygiene
- **Vaccination**
 - Influenza vaccines
 - Pneumococcal vaccines
- **Chemoprophylaxis**
 - Influenza antivirals



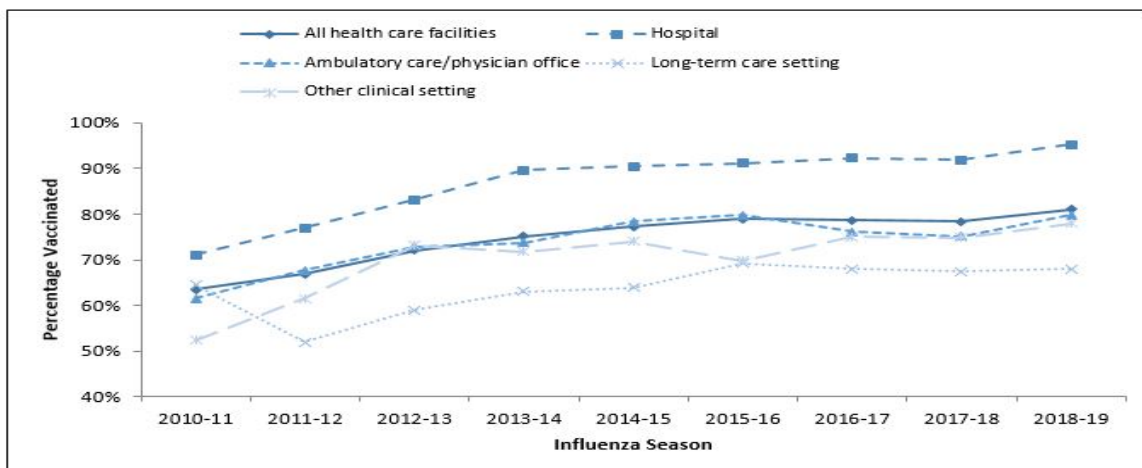
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Flu vaccination is important in patients and HCW

Reducing overall respiratory illnesses with flu vaccination can save lives and reduce stress on healthcare system.

FIGURE 1. Percentage of health care personnel who received influenza vaccination, by work setting* surveys,[†] United States, 2010–11 through 2018–19 influenza seasons



https://www.cdc.gov/flu/fluview/hcp-coverage_1819estimates.htm

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High-Priority Persons for Influenza Vaccines

- **Essential workers**
- **Persons at higher risk for severe illness from COVID-19**
 - adults ≥ 65 years
 - residents in nursing homes
 - people with chronic medical conditions
 - racial/ethnic groups disproportionately impacted by COVID-19
- **Persons at higher risk for influenza complications**
 - infants and young children; children with neurologic conditions
 - pregnant women
 - adults ≥ 65 years
 - people with chronic medical conditions



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2020-2021 Influenza Vaccination Recommendations

- Flu vaccine is recommended for **all persons ≥ 6 months**.
- **Any** licensed, age-appropriate flu vaccine is best.
 - Egg-based influenza vaccines
 - Inactivated (IIV)
 - Standard dose
 - High dose (HD-IIV)
 - Adjuvanted (aIIV)
 - Live attenuated (LAIV)
 - Non-egg-based (egg-free) influenza vaccines
 - Cell-culture inactivated (ccIIV)
 - Recombinant (RIV)



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2020-2021 Available Influenza Vaccines

Vaccine type	6 through 23 mos	2 through 3 yrs	4 through 17 yrs	18 through 49 yrs	50 through 64 yrs	≥65 yrs
IIV4s (egg)	Afluria Quadrivalent Fluarix Quadrivalent FluLaval Quadrivalent Fluzone Quadrivalent					
ccIIV4 (cell)			Flucelvax Quadrivalent			
RIV4 (recombinant)				Flublok Quadrivalent		
Adjuvanted aIIV3 (egg)						Fluad
Adjuvanted aIIV4 (egg)						Fluad Quadrivalent NEW
High-dose HD-IIV4 (egg)						Fluzone High-Dose Quadrivalent NEW
LAIV4 (egg)		FluMist Quadrivalent				



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Cal/OSHA Aerosol Transmissible Disease (ATD) Standard

“Every Employer shall furnish employment and a place of employment that is safe and healthful for the employees therein.”

~California Labor Code Section 6400

- Employers are *required* to provide seasonal influenza vaccine to employees with occupational exposure.
 - Employers include hospitals, skilled nursing facilities, and long term health care facilities.
 - Vaccine must be provided at no cost and at a time and place reasonable for employees.
- ATD regulation www.dir.ca.gov/title8/5199.html



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Strategies to Increase HCW Flu Vaccination

- Document and track flu vaccination rates
 - Use declination forms
- Increase access
 - Offer vaccine on multiple days/shifts and in convenient locations
 - Use a mobile vaccination cart to reach staff
- Educate to counter misconceptions
 - Flu vaccine is safe and does not cause flu illness.
 - Flu vaccine prevents severe flu complications and prevents transmission to coworkers, patients, and families.
- Create a culture promoting vaccination
 - Peer advocates, contests, incentives, badge stickers
 - Show vaccination rates to staff



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Resources

- **CDC Influenza resources**
 - <https://www.cdc.gov/flu/resource-center/index.htm>
 - <https://www.cdc.gov/flu/season/faq-flu-season-2020-2021.htm>
 - <https://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm>
 - <https://www.cdc.gov/flu/professionals/vaccination/prepare-practice-tools.htm>
- **CDC COVID-19 resources**
 - <https://www.cdc.gov/coronavirus/2019-ncov/>
 - <https://www.cdc.gov/flu/symptoms/flu-vs-covid19.htm>
 - <https://www.cdc.gov/vaccines/pandemic-guidance/index.html>
 - https://emergency.cdc.gov/coca/calls/2020/callinfo_082020.asp
- **CDC/IDSA COVID-19 Clinician resources**
 - <https://www.idsociety.org/covid-19-real-time-learning-network/>
- **Media/communication resources**
 - <https://www.immunizeca.org/DontWaitVaccinate/>
 - <https://eziz.org/resources/flu-promo-materials>
 - <https://www.cdc.gov/flu/resource-center/freeresources/print/print-healthcare.htm>



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Questions?

Lily Horng, MD, MPH
lily.horng@cdph.ca.gov



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CAIR2

California Immunization Registry (CAIR2)



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The CAIR System



CAIR2

CAIR San Joaquin

CAIR San Diego

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CDPH

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CAIR - *Vision and Mission*

Vision:
Any authorized user anywhere in the state of California can immediately obtain comprehensive immunization information on any California resident.

Mission:
CAIR supports the secure, electronic exchange of immunization records to support the elimination of vaccine-preventable diseases.

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CAIR - *Statute*

- Health & Safety 120440
- Voluntary, all ages
- Authorized users:
 - Health care providers
 - Schools
 - Childcare facilities
 - Local health departments
 - WIC
 - Health care plans (read-only, HEDIS)
 - Foster care agencies
 - County welfare departments



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CAIR – *Standard IIS Features*

- Consolidates immunizations from different sources into a single patient record
- Assists providers in determining immunizations due
- Manages vaccine inventory
- Assists providers to do reminder/recall
- Produces a variety of patient-specific and aggregate reports





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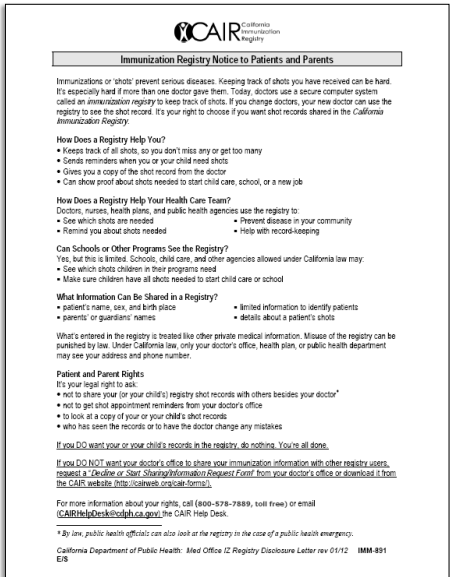
CAIR - Requirement for Disclosure

- Patient must receive disclosure before data can be shared with CAIR
- Discusses benefits and patient rights
- Right to “Lock” record to prevent other users from viewing






<http://cairweb.org/cair-forms/>




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CAIR2 - Data Sources

- 83% of data submission to CAIR2 comes from health care provider EHR systems



Data Source	Sites	
	#	%
Provider EHRs	4,174	83%
Manual Entry	841	17%
TOTAL SUBMITTERS	5,015	100%



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CAIR2 – Patients and Doses

Measure	0-5 yrs	6-18 yrs	19+ yrs	All Ages
CA Population	2,500,378	5,922,031	26,584,795	35,007,204
Patients In	3,533,617	6,454,094	22,554,143	32,541,854
% Patients In	141%	109%	85%	93%
Patients w/ ≥ 2 doses	2,098,358	5,931,833	16,178,614	24,208,805
% w/ ≥ 2 doses	84%	100%	61%	69%
Vaccine Doses	36,796,525	122,889,462	131,848,820	291,534,807



* As of 8/13/2020. CAIR2 only.

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CAIR - Resources

- <http://cairweb.org>



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The California Immunization Registry (CAIR2) is a secure, confidential, statewide computerized immunization information system for California residents.

Welcome Imperial County

[Find out more](#)

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- ▶ **Enroll Your Organization in CAIR2!**
Enroll to submit information electronically from your EHR
Enroll to enter information manually into CAIR2
- ▶ **CAIR2 Account Update (Supervisors Only)**
[Manage your existing CAIR2 Organization Account](#)
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How to Maintain High Data Quality
View CAIR2 Patient Data In Your EHR – Sign Up Now for BiDX
Data Exchange (DX) FAQs
- ▶ **Pharmacies**
[Learn How to Report Immunizations to CAIR2](#)

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Hours: 9am-4pm Monday to Thursday
Afternoon: 2:30-4:30pm, 4:30-6:00pm

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Questions?

- Steve.nickell@cdph.ca.gov



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Q & A



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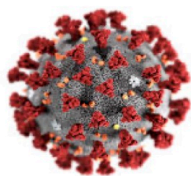
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<https://www.caltcm-summit-for-excellence.org/>



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