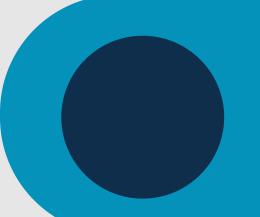






San Diego Skilled Nursing Facility Infection Prevention Collaborative

Grow - Collaborate - Succeed



Coordinated by the County of San Diego Healthcare-Associated Infections (HAI) Program

Reminders







Recording is on!



PHS.HAI.HHSA@ sdcounty.ca.gov



Keep your lines muted



Participate in the polls and chat



Use the chat box for questions



Slides will be emailed

For internal use only. Not for distribution.



Type into the chat your:

- Name
- Title
- Facility



Land Acknowledgement





nfections



Public Health Services would like to begin by acknowledging the Indigenous Peoples of all the lands that we are on today. While we are meeting on a virtual platform, I would like to take a moment to acknowledge the importance of the lands, which we each call home. We respectfully acknowledge that we are on the traditional territory of the Kumeyaay. We offer our gratitude to the First Nations for their care for, and teachings about, our earth and our relations. May we honor those teachings. **Associated**

Agenda





Welcome

General Updates

Announcements

Featured Topic: "FLUNOVID+RSV"

Next Collaborative







Respiratory Virus Update

August 14, 2025





San Diego County

Respiratory Virus Surveillance Report

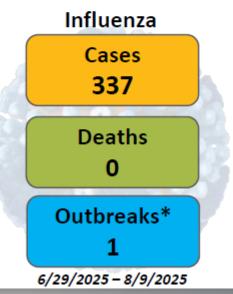
Prepared by Epidemiology and Immunization Services Branch www.sdepi.org

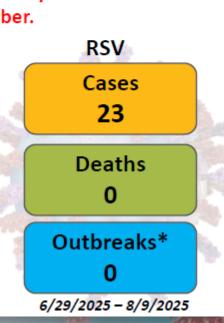
This report will be issued monthly on the second Thursday of the month.

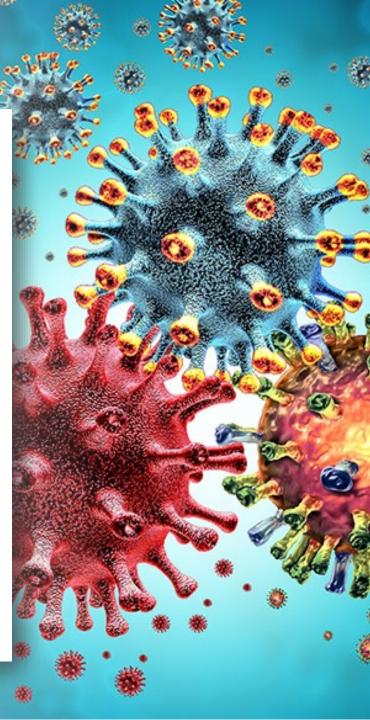
Weekly reporting will resume in October.

	COVID-19	
	Cases	
6	2,751	
	Deaths	
	12	
	Outbreaks*	
- 1	18	

COVID-19

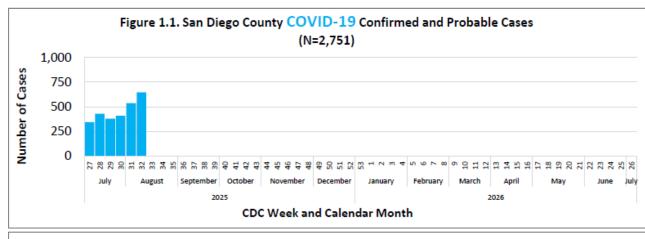


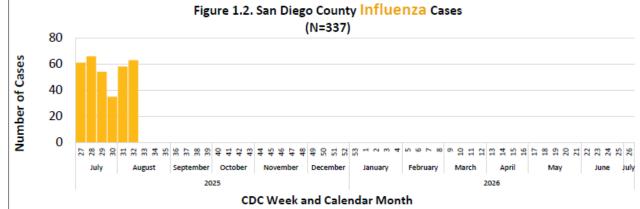


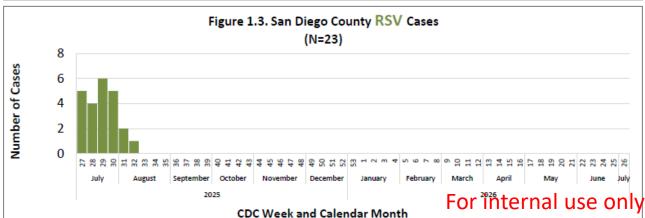


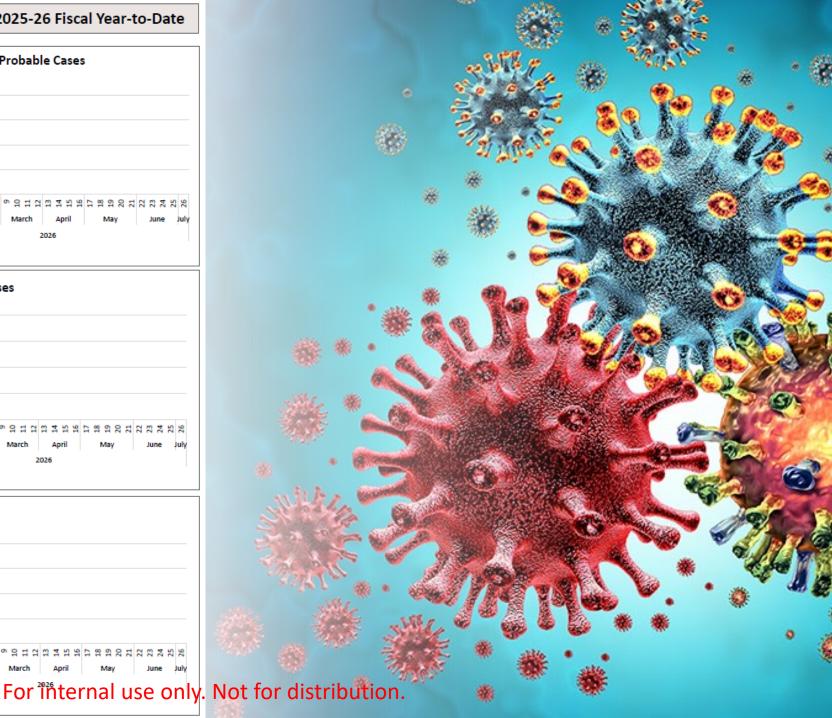
6/29/2025 - 8/9/2025

COVID-19, Influenza, and RSV Cases by CDC Episode Week,* 2025-26 Fiscal Year-to-Date











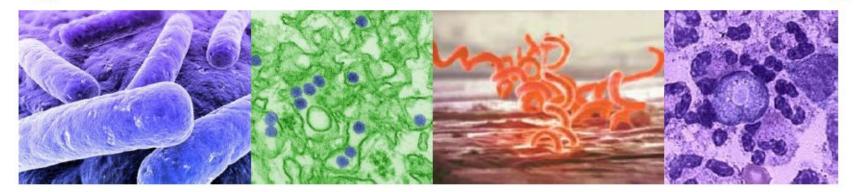








Eighth Annual Communicable Disease Meeting



September 3, 2025, 8:30 AM - 12:30 PM

5520 Overland Avenue, San Diego, CA 92123 - Chambers Room

Registration: https://forms.cloud.microsoft/g/84tC4BkyGX







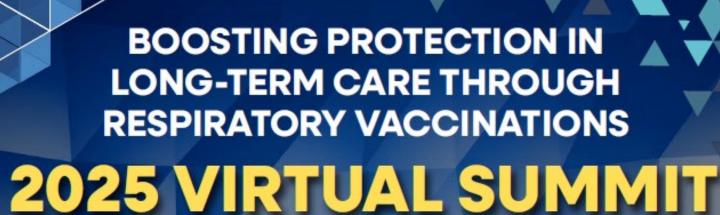


Registration:



https://www.sdizcoalition.org/s-projects-basic/summits





Join us for a virtual webinar on the importance of vaccinations and infection prevention strategies in skilled nursing, long-term care, and congregate care







County/CDPH Briefings





- County LTC Sector Monthly Telebriefing:
 - Bi-monthly 4th Thursday @ 2PM-3PM
 - Next briefing is on 9/25/25





Contact Hour Instructions

Ensure

Ensure your full name identifies you on Teams

Enjoy

Enjoy the full presentation

Complete

Complete the post-evaluation

Presenters



Grace Kang, MPH, RN, PHN, CIC

Public Health Nurse Supervisor

County of San Diego

Healthcare-Associated Infections Program



Elizar Perez, BSN, RN, PHN

Public Health Nurse

County of San Diego

Healthcare-Associated Infections Program



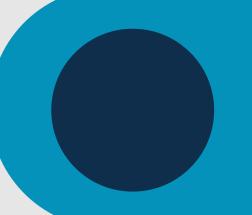






FLUNOVID + RSV

Untangling Infection Prevention in SNFs for Influenza, RSV, Norovirus and COVID-19



Elizar Perez, BSN, RN, PHN Public Health Nurse Grace Kang MPH, RN, PHN, CIC Public Health Supervisor

Objectives









The Learner will be able to:

- Identify four viral conditions that commonly cause outbreaks in skilled nursing facilities.
- Describe how to report outbreaks to public health.
- Explain the infection control actions to mitigate transmission of these viruses during outbreaks.

Seasonality of Viruses



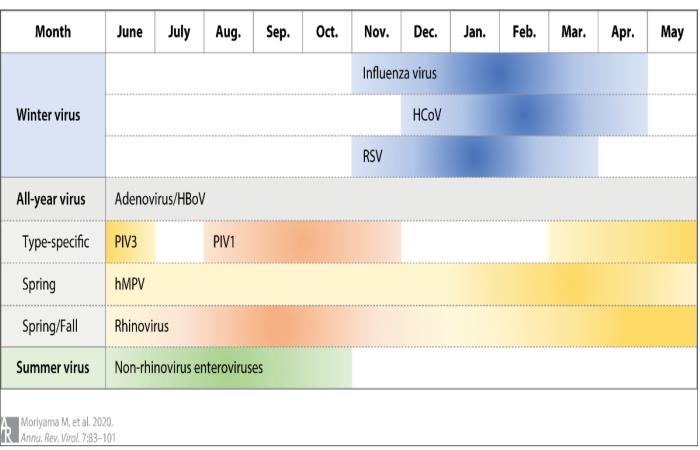






Many common viral infections that impact skilled nursing facilities are somewhat seasonal:

- Influenza virus
- SARS-CoV-2
- Respiratory Syncytial Virus (RSV)
- Norovirus

















Respiratory Viruses

Influenza, COVID-19, Respiratory Syncytial Virus (RSV)

Respiratory Viruses - Overview









INFLUENZA VIRUS – QUICK REFERENCE

Typical Symptoms

- Fever, Myalgia, headache, malaise, nonproductive cough, sore throat; rhinitis
- Persons aged 60 years and older are less likely to have a fever and may present atypically.

Incubation

1-4 days (average 2 days)

Infectious Period

 24 hours prior to symptoms onset to 3-7 days after symptom onset

Transmission

Person to person droplet transmission

Seasonality

Oct. - Apr./May.

Types of Tests

- Molecular PCR
- Antigen

Respiratory Viruses - Overview









SARS-CoV2 (COVID-19) VIRUS – QUICK REFERENCE

Symptoms

 Fever, Chills, Cough, Difficulty Breathing, SOB, Congestion, Runny Nose, Sore Throat, New Loss of Taste or Smell, Fatigue, Muscle/Body Aches, Headache, Nausea/Vomiting, Diarrhea

Incubation

14 days

Infectious Period

 48 hours from symptom onset to 7 days after symptom onset OR 24 hrs. after resolution of symptoms

Transmission

- Person to Person respiratory droplets
- Possible aerosolization
- Contact with contaminated surfaces

Seasonality

Winter and Summer

Types of Tests

- Molecular PCR test
- Antigen

Respiratory Viruses - Overview









RESPIRATORY SYNCYTIAL VIRUS (RSV) – QUICK REFERENCE

Symptoms

 Runny nose, sore throat, decreased appetite, coughing, sneezing, fever, wheezing, headache, fatigue, difficulty breathing

Incubation

2-8 days after exposure

Infectious Period

- Typically 1-2 days prior to symptom onset, up to 3-8 days after symptom onset;
- Longer for immunocompromised

Transmission

- Person to person through respiratory droplet transmission
- Contact with contaminated surfaces

Seasonality

- Starts in the fall; peaks in the Winter
- Can vary year to vear

Types of Tests

- Molecular PCR
- Antigen

Respiratory Virus - High Risk Groups/Settings





Who Is Most at Risk of Serious Complications from Respiratory Syncytial Virus (RSV)?





Underlying
Health
Conditions
6

65 years and older

Children
5 years or
younger

Racial/ethnic minorities

Pregnant people

HCP, Care givers Care For Older Adults?
Care About Flu!

Adults 65+
Are At Higher Risk

50%-70%
of flu-related HOSPITALIZATIONS

UP 85%
of flu-related DEATHS

For internal use only. Not for distribution.

COVID-19: Seek care if you're at higher risk Higher risk people have these conditions 65**1** Chronic lung conditions like Age 65 years congestive heart (including people disease or failure (CHF) Cancer Diabetes survivors Seek care quickly if you start experiencing COVID-19 symptoms like cough, fever or shortness

https://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/immunization_branch/Vaccine Preventable Diseases/Seasonal Influenza/Flu Resources1.html

Where can you find current Respiratory Virus activity?









For internal use only. Not for distribution

August 14, 2025



San Diego County

Respiratory Virus Surveillance Report

Prepared by Epidemiology and Immunization Services Branch www.sdepi.org

This report will be issued monthly on the second Thursday of the month.

Weekly reporting will resume in October.

COVID-19

Cases
2,751

Deaths
12

Outbreaks*

186/29/2025 – 8/9/2025

Cases
337

Deaths
0

Outbreaks*
1

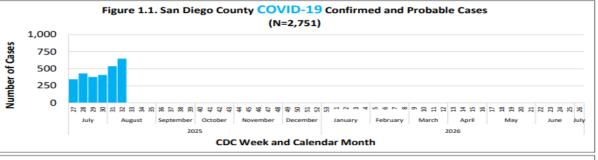
Cases
23

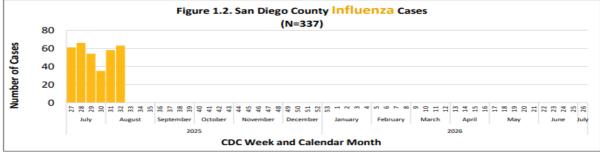
Deaths
0

Outbreaks*
0

6/29/2025 - 8/9/2025
*In residential congregate settings

COVID-19, Influenza, and RSV Cases by CDC Episode Week,* 2025-26 Fiscal Year-to-Date







^{*}Episode date is the earliest available of symptom onset date, specimen collection date, date of death, date reported. Data for the most recent week may be incomplete.

Respiratory Outbreak Guidance









California Department of Public Health Healthcare-Associated Infections Program

Recommendations for Prevention and Control of COVID-19, Influenza, and Other Respiratory Viral Infections in California Skilled Nursing Facilities – 2024-25

Introduction

Skilled nursing facility (SNF) residents are at increased risk for severe disease, hospitalization, death, and outbreaks caused by SARS-CoV-2 (the virus that causes COVID-19), influenza, respiratory syncytial virus (RSV), and other respiratory viruses. This California Department of Public Health (CDPH) guidance document provides streamlined recommendations and strategies that can be broadly applied for the prevention and control of COVID-19, influenza, RSV, and other common respiratory viruses (e.g., adenovirus, parainfluenza virus, etc.) in California SNFs. This guidance aligns with the Centers for Disease Control and Prevention (CDC) <u>Viral Respiratory Pathogens Toolkit for Nursing Homes</u> (www.cdc.gov/long-term-care-facilities/hcp/respiratory-virus-toolkit/).

Key Messages

- Encourage residents and healthcare personnel (HCP) to stay up to date on recommended vaccinations to
 prevent morbidity and mortality from respiratory infections in SNFs.
- Maintain policies for source control masking with well-fitting facemasks or respirators that cover a
 person's mouth and nose to reduce respiratory virus transmission in healthcare settings.
- Initiate prompt testing and treatment of COVID-19 and influenza to reduce the risk of severe illness, hospitalization, and death.

For internal use only. Not for distribution.

Viral Respiratory Pathogens Toolkit for Nursing Homes

https://www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/CA RecsPrevControl RespVirus SNFs.pdf - AFL-23-36

https://www.cdc.gov/long-term-care-facilities/media/pdfs/Viral-Respiratory-Pathogens-Toolkit-508.pdf

Prevention Actions













Ventilation and filtration of indoor air

Monitoring and surveillance

Appropriate management ill HCP

Adherence to Standard Precautions



Prevention: Vaccination









For internal use only. Not for distribution.

Vaccines are one of the very effective tools for preventing infection, hospitalization, serious complications and deaths from respiratory infections.

CDC Adult Vaccination Schedule Excerpt (as of 8/27/25)

Vaccine	19-26 years	27-49 years	50-64 years		≥6	5 years
COVID-19 (1)	1 or more doses of 2024–2025 vaccine (See Notes) 2 or more doses of 2024–2025 vaccine (See Notes) 2 or more doses of 2024–2025 vaccine (See Notes)					024-2025 accine
Influenza inactivated (IIV3, ccIIV3) Influenza recombinant (RIV3) ()	1 dose annually			1 dose annually - (HD-IIV3, RIV3, or alIV3 preferred)		
Influenza inactivated (alIV3; HD-IIV3) Influenza recombinant (RIV3) ()	Solid organ transplant (See <u>Notes</u>)					
Influenza live, attenuated (LAIV3) ()	1 dose	annually				
Respiratory Syncytial Virus (RSV) (RSV)		ion during pregnancy. Notes)	74 years		≥75 years	
Pneumococcal (PCV15, PCV20,PCV21, PPSV23) ①						e <u>Notes</u>

Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of immunity factor or another indication

Recommended vaccination for adults with an additional risk

Recommended vaccination based on shared clinical decision-making

No recommendation/Not applicable

CMS Requires SNFs to develop policies and procedures to educate and offer certain vaccines to residents and HCP. Title 42



PENDING ACIP/CDC UPDATE

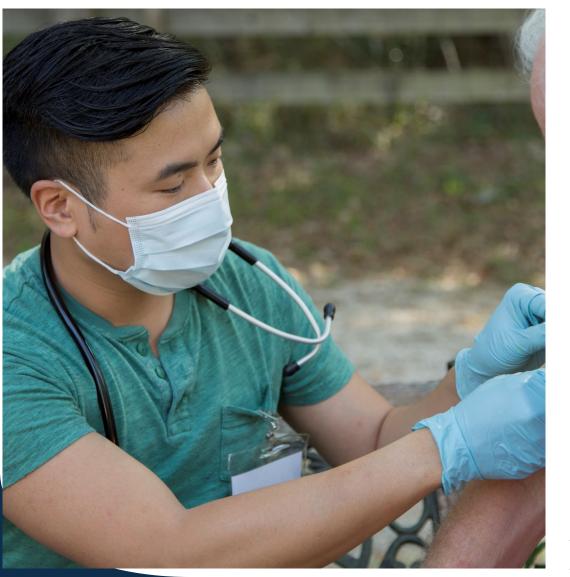
Prevention: Source Control











- Use of masks or respirators for source control prevents transmission of respiratory viral infections.
- Every facility should develop policies for source control masking.
- Implement source control masking:
 - During periods of increased community transmission of respiratory viruses
 - If there are elevated resident or HCP respiratory infections or HCP absenteeism
 - In the event of a facility outbreak

For internal use only. Not for distribution.

https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/COVID-19/Guidance-for-Face-Coverings-as-Source-Control-in-Healthcare-Settings.aspx

County of San Diego Health Officer Order









Flu Vaccination or Mask for Healthcare Personnel During Annual Influenza Season

- All licensed acute care hospitals, skilled nursing facilities, long-term care facilities, ambulatory and community clinics, and ambulance providers in San Diego County require their healthcare personnel (HCP) to receive an annual influenza vaccination, or, if they decline, to wear a mask while in contact with patients or working in patient care areas during each annual influenza season.
- Influenza activity circulates October through May
- County of San Diego mask mandate timeframe for unimmunized HCP: Typically November 1 – March 31



KIMBERLY GIARDINA, DSW, MSW

HEALTH AND HUMAN SERVICES AGENCY

PUBLIC HEALTH SERVICES
5469 KEARNY VILLA ROAD, SUITE 2000, MAIL STOP P-578
SAN DIEGO, CA 92123
(619) 531-5800 • FAX (619) 542-4186

ANKITA S. KADAKIA,MD

ELIZABETH HERNANDEZ, Ph.D
PUBLIC HEALTH SERVICES DIRECTOR

ORDER OF THE HEALTH OFFICER

(Masking or Vaccination of Healthcare Personnel during Annual Influenza Season)

The Centers for Disease Control and Prevention (CDC) preliminary estimate for the 2023-2024 influenza season resulted in between 34 million to 75 million illnesses, between 380,000 to 900,000 hospitalizations, and between 17,000 to 100,000 deaths. Within the country of San Diego, the 2023-2024 flu season resulted in 19,035 cases, and 63 deaths. Persons with chronic medical conditions, infants and children, seniors, and pregnant women are at greater risk for severe influenza-related illnesses and deaths. All healthcare personnel are at risk for both contracting influenza and transmitting the virus to their vulnerable patients. Patients in healthcare facilities are especially vulnerable to influenza. Masking and/or vaccination of healthcare personnel protects patients and reduces employee absenteeism during influenza season. The CDC recommends that all healthcare personnel receive an annual influenza vaccination.

Prevention: Indoor Air Quality









- Proper ventilation and filtration of indoor air helps reduce accumulation of infectious virus particles and reduce the risk of transmission of respiratory viruses in SNFs
 - Increase the amount of outdoor air supplied by HVAC system to maximum capacity. May be necessary to reduce outdoor air supply temporarily when local air quality is poor.
 - Ensure system filters are rated at MERV-14 or higher filter efficiency. If the system cannot tolerate a MERV-14 filter, use highest rated filter tolerated.
 - Run building fans continuously. HVAC fan set to "ON" (vs. "AUTO"); run restroom/kitchen fans continuously.
 - Consider using Portable Air Cleaners to support the HVAC system, particularly in smaller spaces or during an outbreak.
- If using fans for cooling, position fans strategically.



Prevention: Monitoring and Surveillance











- Monitor local respiratory virus activity.
- Be ready to implement actively daily surveillance for symptoms in residents and HCP.
 - Keep a line list of ill individuals (residents, HCP, visitors)
- Educate HCP on routine self-screening for signs and symptoms of illness before reporting to work.
- Educate visitors to self-screen prior to visits. Consider rescheduling visits or offering alternatives if visitors are ill.
- Post signage at facility entrances/common areas (e.g., self-screening, hand hygiene, respiratory/cough etiquette)

Prevention: Testing









- Use testing to identify the diagnosis is necessary for treatment, chemoprophylaxis, and implementing isolation precautions and cohorting decisions.
- Obtain enough testing supplies IN ADVANCE and have a process to obtain confirmatory testing or a multiplex or full respiratory panel, if necessary.
- Co-infections are possible. Positive for one infection does not rule out other virus infections
- Conduct immediate diagnostic testing for any symptomatic residents.
 - Consider circulating viruses in the facility/community to determine what testing is needed beyond COVID/influenza. Use panel that includes RSV if RSV is circulating.



Prevention: Testing, continued









	Influenza	RSV	COVID-19
Asymptomatic, but exposed individuals	Testing not recommended; monitor for symptoms	Testing not recommended; monitor for symptoms	Test immediately (not earlier than 24 hours post-exposure), then again day 3 and day 5. *If contact tracing is not possible or if contact tracing is not halting transmission, broad-based approach is preferred
Symptomatic individuals	Test immediately, use rapid testing if available; follow-up w/ confirmatory testing as necessary.		

Prevention: Supplies









- Please order all supplies IN ADVANCE during respiratory season preparations
- Unfortunately, <u>supplies are no longer available through County</u>
 Public Health
 - Testing supplies
 - Personal protective equipment (PPE)

Mitigation Actions











Continuing Prevention actions AND:

- Infection control precautions
- Isolation & cohorting of residents
- Work exclusions for HCP
- Antiviral treatment
- Communication/Reporting
- Environmental Disinfection

Mitigation: Isolation Precautions & Cohorting

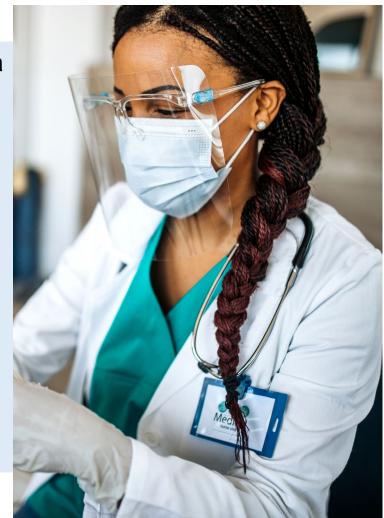








- Residents with lab confirmed viral infection should ideally be placed in a single room if available, or cohorted with other residents with the same infection in shared room or designated area.
- If number of infected residents is small, residents may be isolated in their original rooms.
- If unable to move a resident, maintain in their current room with measures in place to reduce transmission to roommates (e.g., 6+ feet distance, physical barriers, chemoprophylaxis)
- Avoid resident movement, placements, or transfers that could result in additional exposures.



Mitigation: Isolation Precautions, Cohorting for Residents









	Influenza	RSV	COVID-19	
Quarantine (Asymptomatic Exposed)	Generally not necessary	Generally not necessary	Generally not necessary, however residents/HCP should wear a mask for 10 days following exposure.	
Isolation (Symptomatic, pending test result)	Remain in current room under Transmission-based precautions (N95, eye protection, gown, gloves); Restrict from communal dining/group activities If COVID-19 test is negative, but pending influenza/other respiratory virus test results, may downgrade N95 to surgical mask (use surgical mask, eye protection, gown, gloves)			
Isolation (Confirmed positive test result)	Droplet + Standard ≥7* Days from symptom onset	Contact + Standard ≥7 Days* from symptom onset (mask per Standard Precautions)	Transmission-Based Precautions ≥10 Days* from symptom onset	

^{*}may require longer isolation period for severe illness or immunocompromise status

Mitigation: Work Restrictions for HCP









For internal use only. Not for distribution



https://www.cdph.ca.gov/Programs/CHCQ/LCP/Pages/AFL-25-01.aspx

CDPH AFL 25-01

HCP with suspected or confirmed respiratory viral infection, regardless of whether testing is performed, should:

- Not return to work until at least 3 days have passed since symptom onset* and at least 24 hours have passed with no fever (without use of fever-reducing medicines), symptoms are improving, and they feel well enough to return to work.
 - If testing is performed that renders a positive result, but the individual is asymptomatic throughout their infection, HCP should not return to work until at least 3 days have passed since their first positive test.
- Wear a facemask for source control in all patient care and common areas of the facility (e.g., HCP breakrooms) for at least 10 days after symptom onset or positive test (if asymptomatic), if not already wearing a facemask as part of universal source control masking.
- Perform frequent hand hygiene, especially before and after each patient encounter or contact with respiratory secretions.

HCP should be encouraged to stay up to date on influenza and COVID-19 immunizations and follow healthcare facility policies for source control masking.

*Where the first day of symptoms is day 0, making the first possible day of return to work on day 4.

Mitigation: Work Restrictions for HCP











- If HCP develop respiratory infection symptoms while at work, they should wear a mask, notify supervisor, leave promptly, and obtain testing if possible.
- Ensure facility has transparent, non-punitive sick leave policy to allow ill HCP to stay home when sick.

Mitgation: Antiviral Treatment









- Prompt administration of antiviral medications with newly diagnosed influenza and mild-moderate COVID-19 can reduce serious illness, hospitalizations, and death.
- All facilities should develop processes for ensuring rapid treatment per clinical guidelines.
- Antivirals for COVID-19 and Influenza may be prescribed concurrently, if indicated.
- COVID-19 Treatment
 - Antivirals should be started within 5-7 days after symptom onset.
 - All SNF residents should be considered eligible to receive treatment for mild-to-moderate COVID-19 and should be evaluated for therapeutics (<u>CDPH AFL 23-29</u>)
 - Non-ill roommates, and residents on same floor/unit of residents with influenza should be given top priority if there is a limited supply of antivirals.

https://www.cdph.ca.gov/Programs/CHCQ/LCP/Pages/AFL-23-29.aspx

Mitigation: Antiviral Treatment, Continued









Influenza Treatment and Chemoprophylaxis

- Residents with suspected or confirmed influenza should be treated with antivirals as soon as possible, ideally within 48 hours of onset.
- Promptly initiate prophylactic antivirals for all exposed individuals (e.g., roommates) of residents with confirmed influenza.
- As soon as an outbreak is determined, all non-ill residents in the unit/facility are recommended prophylactic antivirals, regardless of vaccination status.
 - If there is a limited supply, prioritize highest risk contacts.



Mitigation: Communication/Reporting









- Prompt outbreak reporting to County Public Health and CDPH
 Licensing & Certification
- Communicate with facility leadership, staff, residents, visitors:
 - In-services and reminders to HCP of the outbreak mitigation plan and progress
 - Post reminder signage at facility entrances/common areas (e.g., hand hygiene, respiratory/cough etiquette)
 - Provide reminders and education to patients/visitors



Additional IPC Measures











- Increase frequency of environmental cleaning w/ focus on high-touch surfaces, common areas, shared equipment.
- Limit or hold new admissions in affected units until no new cases for at least 48 hours.
- Consider temporarily pausing communal dining/group activities until control measures instituted.
- Consult with County of San Diego to determine if facility should limit new admissions. Facility-wide and prolonged closures are not necessary if transmission is controlled and there is an unaffected location available for new admissions.

Respiratory Outbreak Definitions









	Influenza	COVID-19	RSV
Outbreak Definition	≥1 case of lab-confirmed influenza, in a setting of ≥2 influenza cases* within a 72-hour period *Influenza cases = confirmed by lab test OR acute onset of at least 2 symptoms of influenza (fever ≥100F, cough, sore throat, runny nose/congestion, muscle/body aches, HA, fatigue) in the absence of a known cause AND not tested for influena or tested negative for other respiratory illness	≥2 cases of probable or confirmed COVID-19 among residents identified within 7 days OR ≥2 cases of suspect, probable or confirmed COVID-19 among HCP AND ≥1 case of probable or confirmed COVID-19 among residents, with epilinkage	≥1 case of lab-confirmed RSV, in a setting of ≥2 cases of "acute respiratory illness (ARI**) within a 72-hour period **ARI = two or more of the following: fever, cough, rhinorrhea, nasal congestion, sore throat, muscle ache

To report a suspected outbreak to County of San Diego

Call: 619-692-8499

Email: PHS.OutbreakReporting.HHSA@sdcounty.ca.gov

Quick Reference Table for Respiratory Viruses









	Influenza	COVID-19	RSV	
Mask or Respirator	Surgical Mask	N95 or higher level respirator	Surgical Mask	
Eye Protection	Per Standard Precautions	Yes	Per Standard Precautions	
Gown	Per Standard Precautions	Yes	Yes	
Gloves	Per Standard Precautions	Yes	Yes	
Duration of Isolation for Residents	≥ 7 Days with fever resolution and symptom improvement	≥ 10 Days with fever resolution and symptom improvement	≥ 7 Days with fever resolution and symptom improvement	
Duration of Isolation for HCP	 Per CDPH AFL 25-01: Exclude for AT LEAST 3 days since symptom onset AND Afebrile >24 hours w/o antipyretics and symptom improvement Masking upon return x 10 days after symptom onset in all patient care/common areas Perform frequent hand hygiene 			
Vaccination Available	Yes	Yes	Yes	
Post-Exposure Prophylaxis Available	Yes	No	No	
Antiviral Available	Yes	Yes	No	

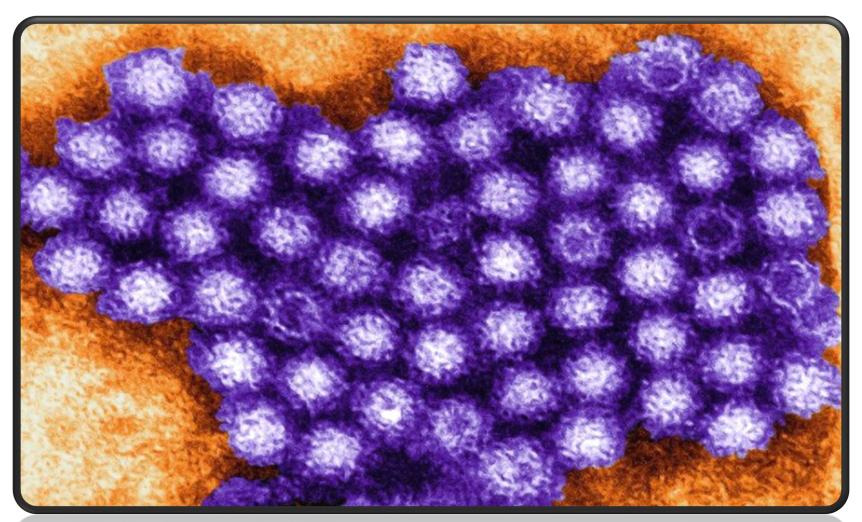
Norovirus/Gastroenteritis











For internal use only. Not for distribution.

Norovirus









- A very contagious virus causing gastrointestinal illness; "stomach flu"
- **Incubation period:** 12-48 hours
- **Duration of symptoms:** 1-3 days
- **Infectious period:** from symptom onset to 48-72 hours after symptom resolution

Common signs/symptoms

- Diarrhea, vomiting, nausea, abdominal cramping, low grade fever, chills, aches, and fatigue
 - Dehydration d/t diarrhea and vomiting



Diarrhea

Nausea, Vomiting, and Low Grade Fever **Stomach Cramping**

and Chills

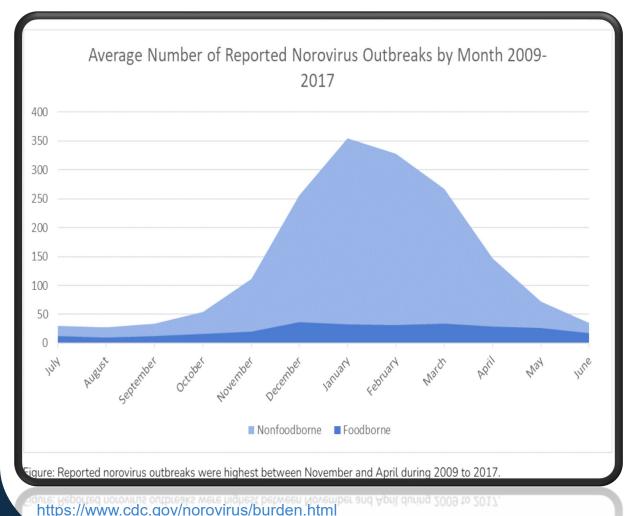
Norovirus





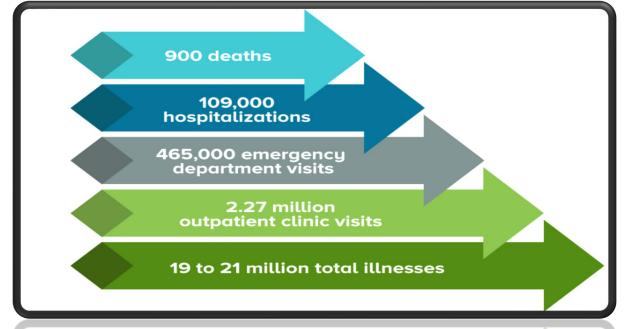






 Seasonality: Infections can happen all year round, however, norovirus outbreaks often peak in the winter months (Nov-April)

U.S. Norovirus Data



Noro: Who is at Risk?









Vulnerable Population

- Young children
- Elderly
- People with medical conditions

At Risk Settings

- Healthcare facilities
- Daycare centers and schools
- Restaurants
- Cruise ships



Noro: Transmission

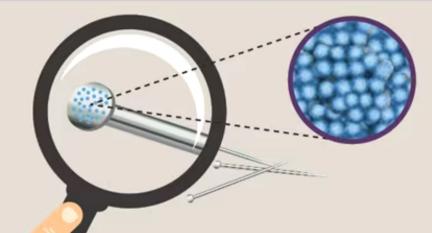








How contagious is norovirus?



Just a very small amount - as few as 18 viral particles - of norovirus on your food or your hands can make you sick.

In fact, the amount of virus particles that fit on the head of a pin would be enough to infect more than 1,000 people!

Source: Journal of Medical Virology, August, 2008

PLoS One. 2015; 10(8): e0134277.

Published online 2015 Aug 19. doi: 10.1371/journal.pone.0134277

PMCID: PMC4545942

PMID: 26287612

Aerosolization of a Human Norovirus Surrogate, Bacteriophage MS2, during Simulated Vomiting

<u>Grace Tung-Thompson</u>, ¹, ¶ <u>Dominic A. Libera</u>, ², ¶ <u>Kenneth L. Koch</u>, ³ <u>Francis L. de los Reyes</u>, <u>III</u>, ², ‡* and <u>Lee-Ann Jaykus</u> ¹, ‡

Transmission Routes:

- Eating contaminated food/drinks
- Touching contaminated objects/surfaces then placing hand to mouth
- Sharing toilet facilities with ill person
- Cleaning up vomit/diarrhea from infected person w/o proper PPE
- Direct contact with infected/symptomatic person
- Noroviruses can survive for long periods on surfaces

NORO: Lab Testing/Diagnosis









Norovirus is diagnosed through PCR or rapid EIA

- PCR is preferred due to poor sensitivity of EIA methods
- Vomitus can be tested, but fresh (unfrozen) stool preferred
- Antibody testing possible but not ideal



Norovirus

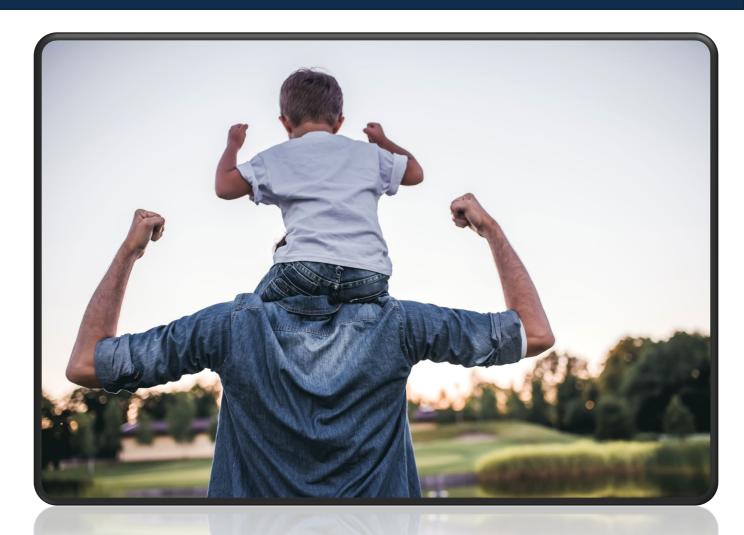








 Treatment: Symptoms typically resolve without treatment; symptoms are managed and supported.



Noro: Outbreak definitions









Viral gastroenteritis Outbreak Definition:

2 or more epidemiologically-linked cases of new onset vomiting and/or diarrhea within a 1-2 day period

To report your suspected outbreak to County:

Call: 619-692-8499

Email: PHS.OutbreakReporting.HHSA@sdcounty.ca.gov

Noro: Available Guidance









For internal use only. Not for distribution.

RECOMMENDATIONS FOR THE PREVENTION AND CONTROL OF VIRAL GASTROENTERITIS OUTBREAKS IN CALIFORNIA LONG-TERM CARE FACILITIES

California Department of Health Services
Division of Communicable Disease Control
In Consultation with Licensing and Certification Program

850 Marina Bay Parkway Richmond, California 94804

October 2006

ARNOLD SCHWARZENEGGER
Governor
State of California





Kimberly Belshé, Secretary Health and Human Services Agency Sandra Shewry, Director Department of Health Services

Sandra Shewry, Director

Norovirus Toolkit for LTCFs This toolkit is designed to be used in conjunction with the guidance Recommendations for the Prevention and Control of Viral Gastroenteritis Outbreaks in California Long-Term Care Facilities (October 2006), authored by the California Department of Health Services in consultation with the Licensing and Certification Program. This document is available at: http://www.cdph.ca.gov/pubsforms/Guidelines/Documents/PCofViralGastroenteritisOutbrea ks.pdf. This toolkit contains supplementary documents authored by the County of San Diego that are intended to help long-term care and other group residence facilities in San Diego County implement the aforementioned guidelines. Best Practices: Control of Viral Gastroenteritis Outbreaks in Group Residence Facilities Norovirus Cleaning and Disinfection O & A: Norovirus NORO-Clean! Questions related to these documents may be directed to the Community Epidemiology Branch at 619-515-6620.

GUIDELINE FOR THE PREVENTION AND CONTROL OF NOROVIRUS

GASTROENTERITIS OUTBREAKS IN HEALTHCARE SETTINGS

Taranisia MacCannell, PhD, MSc¹; Craig A. Umscheid, MD, MSCE²; Rajender K. Agarwal, MD, MPH²; Ingi Lee, MD, MSCE²; Gretchen Kuntz, MSW, MSLIS²; Kurt B. Stevenson, MD, MPH³ and the Healthcare Infection Control Practices Advisory Committee (HICPAC)⁴

- ¹ Division of Healthcare Quality Promotion Centers for Disease Control and Prevention Atlanta, GA
- ² Center for Evidence-based Practice University of Pennsylvania Health System Philadelphia, PA
- ³ Division of Infectious Diseases The Ohio State University, Columbus, OH





Available from: https://www.cdc.gov/infection-control/hcp/norovirus-guidelines/index.html

https://www.sandiegocounty.gov/hhsa/programs/phs/documents/CEB DC noro Norovirus Toolkit for LTCFs web.pdf

https://www.cdc.gov/infectioncontrol/media/pdfs/Guideline-Norovirus-H.pdf

https://www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Dosument%20Library/PCofViralGastroenteritisOutbreaks AD









Surveillance:

- Implement daily active surveillance for symptoms in residents/staff
- Maintain a line list of ill residents, staff, visitors

Personnel Management:

- Exclude symptomatic staff until symptom free for at least 48 hours
- Discontinue floating staff between affected/unaffected units until 4 days after last case onset
- Adherence monitoring to ensure staff are performing hand hygiene and using PPE appropriately

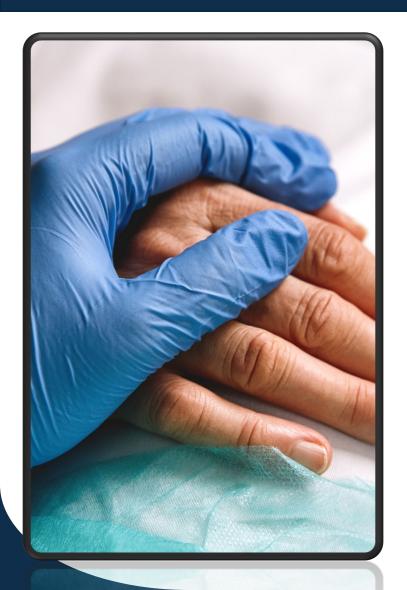












Resident Management:

- Symptomatic residents: confine residents to room until symptom free for at least 48 hours
 - Staff should use PPE when caring for ill residents: Contact
 + Standard
 - Consider adding surgical mask/eye protection if there is anticipated risk of splash to the face during patient care or environmental cleaning
- Minimize resident movement: Asymptomatic/exposed residents should not be moved to unaffected units.
- Limit or hold new admissions in affected units until no new cases for at least 48 hours.
- Cancel/postpone group dining/activities for affected units until
 4 days after the last identified case









Environmental Cleaning/Disinfection:

- If there has been vomit/fecal spillage, important to clean PROMPTLY
 - Clean/disinfect within a 10–25 foot radius of vomit incident, from clean to dirty
 - EVS personnel should wear gown, gloves, surgical mask at minimum.
 - Clean carpets/soft furnishings with hot water and detergent, or steam cleaning. Dry vacuuming is not recommended
- Increase frequency of routine environmental cleaning, including bathrooms, resident rooms, and high-touch surface areas
 - Do not reuse mopheads/cleaning cloths/toilet brushes, etc. in-between resident rooms, especially between ill and non-ill residents
 For internal use only. Not for distribution.



Vomiting Larry: https://youtu.be/sLDSNvQjXe8









Environmental Cleaning/Disinfection, continued:

- Change privacy curtains upon patient discharge/transfer
- Soiled linens should be handled carefully, to avoid agitation.
 - Staff should use appropriate PPE to minimize risk of contamination
 - Use hot water, detergent, and hot dryer until completely dry
 - Store linens/laundry in closed containers until ready to wash













Environmental Cleaning/Disinfection, continued:

- Use EPA approved disinfectant effective against Norovirus or bleach solution (mixed daily) to disinfect potentially contaminated surfaces
 - Bleach: 1:10 of 6% bleach w/ contact time of 5 minutes
 - EPA List G*: https://www.epa.gov/pesticide-registration/list-g-antimicrobial-products-registered-epa-claims-against-norovirus-feline
 - *effectiveness is theoretical, tested on feline calicivirus
- Clean/disinfect shared equipment between resident uses
- Adherence monitoring to ensure cleaning/disinfection is being done correctly







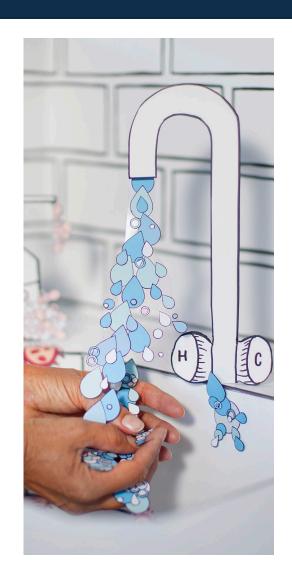


Communication/Education:

- Prompt reporting to County Public Health 619-692-8499 or <u>PHS.OutbreakReporting.HHSA@sdcounty.ca.gov</u> for cluster of cases, if there is a sudden increase in cases, death, or ill food handler
- Communicate with facility leadership, Licensing & Certification, staff, residents, family members, visitors
 - Post signage at facility entrances/common areas (e.g., hand hygiene, staying home if ill)
 - Provide education/reminders/in-services

Hand Hygiene:

- Emphasize hand washing with soap and water for residents/staff/visitors
- Alcohol-based hand sanitizers may be still be used if not visibly soiled



Outbreak Reporting









- All outbreaks are reportable to the Local Health Department,
 per CDPH AFL 23-08 and California Code of Regulations Title 17
- County of San Diego can receive your outbreak report and provide resources
 - **Call**: 619-692-8499
 - Email: PHS.OutbreakReporting.HHSA@sdcounty.ca.gov



What can the HAI Program do to help?









General Respiratory References









- CDC Viral Respiratory Pathogens Toolkit
 https://www.cdc.gov/long-term-care-facilities/media/pdfs/Viral-Respiratory-Pathogens-Toolkit-508.pdf
- CDPH Recommendations for Prevention and Control of COVID-19, Influenza, and Other Respiratory Viral Infections in California Skilled Nursing Facilities 2024-2025
 https://www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/CA_RecsPrevControl_RespVirus_S_NFs.pdf
- County of San Diego Respiratory Viruses Webpage
 https://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/community_epidemiology/dc/respiratoryviruses.htm

Influenza Resources









- CDC Testing and Management Considerations for Nursing Home Residents with Acute Respiratory Illness Symptoms when SARS-CoV-2 and Influenza Viruses are Co-circulating https://www.cdc.gov/flu/hcp/testing-methods/nursing-homes.html
- CDC Interim Guidance for Influenza Outbreak Management in Long Term Care and Post-Acute Care Facilities
 https://www.cdc.gov/flu/hcp/infection-control/ltc-facility-guidance.html
- County of San Diego Guidance for High-Risk Groups
 https://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/immunization_branch/Vaccine Preventable Diseases/Se asonal Influenza/Flu Resources1.html
- County of San Diego HCP Influenza Mandates
 https://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/immunization_branch/Vaccine_Preventable_Diseases/Se
 asonal Influenza/HealthcareFluMandates.html

COVID-19 & RSV Resources









- CDC Infection Control Guidance: SARS-CoV-2
 https://www.cdc.gov/covid/hcp/infection-control
- CDPH COVID-19 Related AFLs
 https://www.cdph.ca.gov/Programs/CHCQ/LCP/Pages/COVID-19-AFLs.aspx
- CDPH Improving Ventilation Practices to Reduce COVID-19 Transmission Risk in Skilled Nursing Facilities
 https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/OHB/Pages/ventilationFAQ.aspx
- County of San Diego COVID-19 Website
 https://coronavirus-sd.com/
- County of San Diego COVID-19 Reporting
 https://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/community_epidemiology/dc/2019-nCoV/Reporting.html
- CDC Respiratory Syncytial Virus Infection (RSV) Webpage
 https://www.cdc.gov/rsv/about/index.html
 For internal use only. Not for distribution.

Noro Resources









- CDC Guideline for Prevention & Control of Norovirus Gastroenteritis Outbreaks in Healthcare Settings (2011 and 2017 updates)
 - https://www.cdc.gov/infection-control/hcp/norovirus-guidelines/
 - https://www.cdc.gov/infection-control/hcp/norovirus-guidelines/updates.html
- LA County Norovirus Outbreak Prevention Toolkit (2023)
 http://publichealth.lacounty.gov/acd/docs/Norovirus/NorovirusToolkit2023.pdf
- County of San Diego Norovirus Page
 https://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/community_epidemiology/dc/dc_norovirus.html





Next Collaborative

September 24, 2025
11:00AM – 12:00PM
Microsoft TEAMS

Featured Topic:

"Infection Precautions during a SNF Evacuation"

1 Contact Hour Offered

Submit questions or feedback about today's meeting to:

PHS.HAI.HHSA@sdcounty.ca.gov



- Ensure your name is your full name
- Complete by August 29th, 5:00 PM
- Expect your certificate by Sept 15th.







Contact us at:

PHS.HAI.HHSA@sdcounty.ca.gov



The Public Health Services department, County of San Diego Health and Human Services Agency, has maintained national public health accreditation, since May 17, 2016, and was re-accredited by the Public Health Accreditation Board on August 21, 2023.



