



CAHF'S GUIDE TO N95 FACEPIECE RESPIRATORS

NOVEL INFLUENZA A (H1N1) VIRUS OR "SWINE FLU":

Novel Influenza A (H1N1) virus or "swine flu" is a type of influenza virus that causes respiratory disease that can spread between people. Most people infected with this virus in the United States have had mild cases, but some have had more severe illness. On June 11, 2009, the World Health Organization (WHO) raised the worldwide pandemic alert level to Phase 6 in response to the ongoing global spread of the virus. Since the WHO declaration of a pandemic, the new H1N1 virus has continued to spread and the number of countries reporting cases of H1N1 has nearly doubled. In the United States, significant H1N1 illness has continued into the summer, with localized and in some cases intense outbreaks occurring. There is concern that the H1N1 virus, combined with seasonal influenza, will cause a significant burden on the healthcare system this fall. The California Association of Health Facilities (CAHF) participates in weekly briefing calls with the California Department of Public Health (CDPH) on this issue, and will continue to represent the needs of long term care as this pandemic unfolds.

Here is a checklist of actions that all CAHF members could be taking now to prepare for an outbreak of H1N1 in their facility:

- ✓ Monitor the status of H1N1 outbreaks in the State. This can be done through your local health department and the CDPH website at: <http://www.cdph.ca.gov/HealthInfo/discond/Pages/SwineInfluenza.aspx>.
- ✓ Educate yourself, your staff, and your families on the prevention, symptoms, and treatment of H1N1.
- ✓ Review the guidance from the California Department of Public Health (CDPH), Centers for Disease Control and Prevention (CDC), and Centers for Medicare and Medicaid Services (CMS) on infection control for H1N1 in long term care settings and ensure your policies and practices are in compliance. The latest guidance from these agencies is available on the CAHF website at: <http://www.cahf.org/public/swineflu4-09.php>.
- ✓ Prepare now for the possibility that you may need to implement a respiratory protection program for your employees.
- ✓ Download and review the CAHF's Model Respiratory Protection Program (MRPP) and other important pandemic resources at: <http://www.cahf.org/public/swineflu4-09-reference.php>.
- ✓ Consider purchasing fit testing equipment and one week's supply of N95 Respirators to have on hand in the facility, and find out where you can get more in the event that you have an outbreak.

The California Division of Occupational Safety and Health (Cal/OSHA), CDC and CDPH have all maintained their position that healthcare workers who are at risk for exposure to H1N1 must be protected by fit tested N95 respirators. The CAHF Model Respiratory Protection Program describes the steps involved in setting up such a program (e.g. medical clearance, training, fit testing). Additionally, CAHF has conducted research on N95 facepiece respirators in order to provide guidance to our members on purchasing fit testing equipment and respirators.



CAHF'S GUIDE TO N95 FACEPIECE RESPIRATORS

N95 FACEPIECE RESPIRATORS:

A respirator is a personal protective device that is designed to protect the wearer against inhalation of infectious respiratory aerosols. To be in compliance with guidance from CDC and CDPH, only N95 or higher filtering facepiece respirators certified by the U.S. National Institute for Occupational Safety and Health (NIOSH) should be used. All NIOSH approved N95 respirators will show that information on the front of the respirator.

Disposable N95 facepiece respirators come in many different types and models including; molded, folded, pleated, duck billed, and some with exhalation valves. NIOSH-certified respirators are designed to provide respiratory protection to help reduce the risk of exposure to certain airborne contaminants. Different models fit different faces so a variety should be purchased for fit testing employees. Respirators are designed to seal to the face and therefore most of the inhaled air is drawn through the filter media when properly fitted and worn. N95 respirators are expected to provide 90% or greater reduction in exposure to a contaminant. NIOSH and Cal/OSHA require that respirators be used in the context of a complete respiratory protection program which includes medical clearance, training, and fit testing as described in the CAHF Model Respiratory Protection Program.

For more information on respirators please see: <http://www.cdc.gov/niosh/npptl/topics/respirators>

Note: Although surgical and procedure masks look similar to disposable filtering facepiece respirators, they are NOT designed as respiratory protection devices and do not offer appropriate respiratory protection against small-particle aerosols.

PURCHASING N95 FACEPIECE RESPIRATORS:

1. **THE SUPPLY OF N95 FACEPIECE RESPIRATORS MAY BE LIMITED** due to increased demand this summer and fall. Some suppliers are reporting that currently there is a delay in filling orders for N95 facepiece respirators. This delay may lead to further scarcity in the coming months.

N95 facepiece respirators are designed and produced by manufacturers (e.g. 3M) who then supply a chain of distributors, such as Clean Source, Empire Safety & Supply, and McKesson Medical. While some large long term care companies may be able to order in bulk directly from a manufacturer; most facilities will be purchasing smaller amounts from an N95 distributor.



CAHF'S GUIDE TO N95 FACEPIECE RESPIRATORS

PURCHASING N95 FACEPIECE RESPIRATORS (CONTINUED):

To aid facilities in the ordering process, CAHF has compiled a list of distributors available for download from CAHF's website at: <http://www.cahf.org/public/swineflu4-09.php>. The information is sorted so that distributors are listed per CAHF Region, Chapter, and County. Below is a snapshot of what the list looks like:

	CHAPTER	COUNTY	DISTRIBUTOR	3M	MOLDEX
REGION TWO	SACRAMENTO	SACRAMENTO	R. S. HUGHES COMPANY 8173 A BELVEDERE AVE., SACRAMENTO, CA 95826 PHONE: (916) 381-5557	X	
			GRAINGER INTEGRATED SUPPLY HWY 50 & HAZEL, RANCHO CORDOVA, CA 95670 PHONE: (916) 355-3303	X	X
			EMPIRE SAFETY & SUPPLY 10624 INDUSTRIAL AVE., ROSEVILLE, CA 95678 PHONE: (916) 781-3003	X	

- Several formulas are available to figure out how many N95 facepiece respirators a facility will need for use in the event of a pandemic. There are variables to each formula which cause the total amount to fluctuate. These variables include; anticipated number of pandemic patients, number of healthcare workers who would need to be provided protection (patient contact), number of patient contacts per day, and length of period that the respirators will be needed. Additionally there should be some additional percentage added to account for breakage and surge.

The formulas presented in this section are based upon 100% of beds in a given facility having an infected patient and 50% of beds having an infected patient. The 100% scenario is a “worst case scenario”. The more conservative estimate (50%) would assume that not all residents will be ill at one time, and therefore not all healthcare workers will need to don N95’s for all patient visits.

Note: The information in this document relates to disposable N95 facepiece respirators. Since there currently are no official standards for the reuse of disposable N95 face piece respirators, HCW must dispose of the respirator upon leaving the isolation area, and don a new one when returning. Cohorting infected patients in order to group care delivery will be important to ensure the most efficient use of the N95 respirator supply.



CAHF'S GUIDE TO N95 FACEPIECE RESPIRATORS

PURCHASING N95 FACEPIECE RESPIRATORS ^(CONTINUED):

CAL-OSHA MODEL FROM ANNEX B "PERSONAL PROTECTIVE EQUIPMENT (PPE): A FRAMEWORK FOR PLANNING

100% INFECTED:

- Based upon average of 100 bed facility @ 12 Health Care Worker (HCW) visits per 24 hour day per patient = 1,200 HWC visits per day (based upon each bed being occupied by infected patient) 1,200 HCW visits per day x 7 days (one week) = 8,400 HCW visits per week.
- 20% increase in respirators due to possible facility surge and breakage $(8,400 + 20\%) = 10,080$.
- 10,080 respirators times \$1.00 per respirator* = \$10,080 per facility for one (1) week for 100 infected patients.

50% INFECTED:

- Based upon average of 100 bed facility with 50% infection rate @ 12 Health Care Worker (HCW) visits per 24 hour day per patient = 600 HWC visits per day.
- 600 HCW visits per day x 7 days (one week) = 4,200 HCW visits per week.
- 20% increase in respirators due to possible facility surge and breakage $(4,200 + 20\%) = 5,040$.
- 5,040 respirators times \$1.00 per respirator* = \$5,040 per facility for one (1) week for 50 infected patients.

- * Based on average between 3M Respirator Part No. 9210 & 3M Respirator Part No. 8200; however, price may be less due to special agreements for purchasing respirators.

CDC software is available for calculations related to planning for PPE supplies. The software can be accessed at: http://www.cdc.gov/flu/pdf/flusurge2.0_manual_060705.pdf.

Facilities should store facepiece respirators in a climate controlled area in order to assure the reliability of the product.

PURCHASING N95 FACEPIECE RESPIRATORS (CONTINUED):

3. There is a variety of types and models of N95 facepiece respirators. As stated previously, only the NIOSH approved N95 facepiece respirators should be used. The following are a few examples of N95 facepiece respirators by different manufacturers.

GERSON	
<p>N95 cup-style Particulate Respirator, Part No. 81730</p> 	<p>N95 Smart-Mask foldable Particulate Respirator, Part No. 82130K</p> 
3M	
<p>N95 Particulate Respirator, Part No. 8200</p> 	<p>N95 Particulate Respirator, 3 Panel, Part No. 9210</p> 
SPERIAN	
<p>N95 Disposable Particulate Respirator with Exhalation Valve, Part No. 14110445</p> 	<p>N95 Flat-Fold Disposable Particulate Respirator, Part No. 14110452</p> 
MOLDEX	
<p>N95 Series Particulate Respirators, Part No.2200</p> 	<p>N95 Series Particulate Respirator with Exhalation Valve, Part No.2300</p> 

PURCHASING N95 FACEPIECE RESPIRATORS (CONTINUED):

FIT TEST KITS:



Grainger Qualitative Fit Test Apparatus,
Part No. 4JG31

Fit Test Kits are available from most distributors of N95 facepiece respirators and vary in price. Some can cost as low as \$150.00 but average around \$400.00. The Qualitative Fit Test Apparatus shown in the picture is priced at \$271.00 and includes: one multiple language Laminated Instruction Booklet, One Hood, One Collar Assembly, Nebulizer No. 1 (Sensitivity), Nebulizer No. 2 (Fit Test), Two Sets Replacement Nebulizer Inserts, Fit Test Solution and Sensitivity Solution.

CONCLUSION:

It is important for CAHF members to take this threat of the H1N1 pandemic seriously. Facilities that do not prepare now may find it difficult to access supplies and implement a respiratory protection program once H1N1 is in their facility. Given such, we encourage you to look at the following steps and consider these actions:

- Prepare for a possible H1N1 outbreak this coming flu season (fall and winter).
- Educate yourself, your staff, and your families on the prevention, symptoms, and treatment of H1N1.
- Have a Respiratory Protection Program in place and ready to go if needed.
- Acquire 1 week's supply NIOSH approved N95 facepiece respirators in your facility.