

## COVID-19 and the Use of Cloth Face Masks

### Summary of Findings

#### Issues:

Should cloth masks be worn during this COVID-19 pandemic in either the community setting or in places of business where food is sold?

#### Conclusions:

1. There is no incontrovertible, compelling or even a preponderance of evidence to support an Order to wear a cloth mask in the community setting at this time.
2. I am supportive of cashiers and customers wearing cloth masks inside a grocery store or any essential business where social distancing is difficult to maintain. Supporting evidence is not strong enough to issue an Order to mandate the use of cloth masks at this time; consumer preference is already accomplishing this in most parts of the County.

### Introduction

A number of counties in California have adopted recommendations regarding the use of cloth masks in the community setting. The evidence is not conclusive regarding whether this practice is helpful or harmful in reducing the spread of COVID-19. There are convincing arguments both for and against the use of cloth masks in public places (see table: The Pros and Cons of Wearing a Cloth Mask). In creating a guideline for Ventura County, we have considered the prevalence of COVID-19 in our community as well as our success in flattening the curve by implementing known infection control strategies such as strict social distancing.

Note that local, state, and national guidelines, when they support the use of masks, uniformly support the use of cloth masks only and recommend **against** the use of medical masks (whether called surgical or procedure masks or N95 respirators). There is a global shortage of personal protective equipment (PPE) for healthcare workers and without adequate supplies of masks, gloves and gowns, our medical professionals are not only putting themselves at risk, they are putting their patients at risk.

A study of 600 patrons at 6 retailers in Ventura County (see table: Grocery Store Masks Polling Data) demonstrates that over 50% of people choosing to wear face masks in public are wearing medical-grade masks. We urge those of you who have a supply of unused medical-grade masks to donate these for use by our local health care providers by going to [vcemergency.com](http://vcemergency.com) and using the "donate" tab.

Arguments in Favor of Wearing a Mask	Arguments Against Wearing a Mask
<p>performed immediately after putting on the mask.</p> <p>“Any mask (cloth or medical), no matter how efficient at filtration or how good the seal, will have minimal effect if is not used in conjunction with other preventative measures such as... good respiratory etiquette and regular hand hygiene.”</p> <p><a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108646/pdf/S1935789313000438a.pdf">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108646/pdf/S1935789313000438a.pdf</a></p>	<p>The conclusions of this study “caution against the use of cloth masks”.</p> <p><a href="https://bmjopen.bmj.com/content/5/4/e006577">https://bmjopen.bmj.com/content/5/4/e006577</a></p>
<p>The California Department of Public Health recommends people wear cloth masks if they feel comfortable doing so however it should not be a replacement for other evidence-based practices such as physical distancing, frequent hand washing, and remaining at home.</p> <p>“There may be a benefit to reducing asymptomatic transmission and reinforcing physical distancing from the use of (cloth) face coverings.”</p> <p><a href="https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Face-Coverings-Guidance.aspx">https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Face-Coverings-Guidance.aspx</a></p>	<p>“Available evidence shows that (cloth masks)... may even increase the risk of infection due to moisture, liquid diffusion and retention of the virus. Penetration of particles through cloth is reported to be high.” “Altogether, common fabric cloth masks are not considered protective against respiratory viruses and their use should not be encouraged.”</p> <p><a href="https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/face-masks.html">https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/face-masks.html</a></p>
<p>CDC recommends wearing cloth masks in public settings where other social distancing measures are difficult to maintain (e.g., grocery stores and pharmacies) especially in areas of significant community-based transmission.</p> <p><a href="https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cloth-face-cover.html">https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cloth-face-cover.html</a></p>	<p>“Moisture retention, reuse of cloth masks and poor filtration may result in increased risk of infection.”</p> <p>The virus may survive on the surface of the facemasks.”</p> <p>“Self-contamination through repeated use and improper doffing is possible.”</p> <p><a href="https://bmjopen.bmj.com/content/5/4/e006577">https://bmjopen.bmj.com/content/5/4/e006577</a></p>
<p>In close proximity (approximately 3 ft.), medical masks can block up to 90% of large droplets (not viral aerosols) expelled directly onto the front surface of the mask. In this study, only 7% of the droplets penetrated the mask.</p>	<p>Textile materials (that can be used for cloth masks) can contain harmful chemicals and dyes (i.e. formaldehyde). There is no research available regarding the safety of breathing through such materials but formaldehyde is a gas that can irritate a person’s eyes, nose, throat and lungs, or trigger an asthma attack,</p>



Arguments in Favor of Wearing a Mask	Arguments Against Wearing a Mask
<p>There is limited (some) evidence that wearing a medical mask by healthy individuals in the households or among contacts of a sick patient, or among attendees of mass gatherings may be beneficial as a preventive measure.</p> <p><a href="https://www.who.int/publications-detail/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-(2019-ncov)-outbreak">https://www.who.int/publications-detail/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-(2019-ncov)-outbreak</a></p>	<p>Frequent washing and drying of a cloth mask can decrease the filtration capacity of the mask.</p> <p><a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6599448/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6599448/</a></p>
	<p>Failing to wash a cloth mask daily increases the risk of self-contamination for the person wearing the mask due to contaminants found on the outer surface of the mask after use. The risk increases with longer duration of use.</p> <p><a href="https://bmcinfectdis.biomedcentral.com/track/pdf/10.1186/s12879-019-4109-x">https://bmcinfectdis.biomedcentral.com/track/pdf/10.1186/s12879-019-4109-x</a></p>
	<p>Buying pre-manufactured masks such as N95 and medical masks can create shortages of PPE for health care providers.</p> <p><a href="https://www.who.int/news-room/detail/03-03-2020-shortage-of-personal-protective-equipment-endangering-health-workers-worldwide">https://www.who.int/news-room/detail/03-03-2020-shortage-of-personal-protective-equipment-endangering-health-workers-worldwide</a></p>
	<p>Virus-contaminated aerosols can pass through cloth and medical masks with coughing and sneezing.</p> <p><a href="https://annals.org/aim/fullarticle/2764367">https://annals.org/aim/fullarticle/2764367</a></p>
	<p>“The evidence is not sufficiently strong to support widespread use of facemasks as a protective measure against COVID-19.”</p> <p><a href="https://www.medrxiv.org/content/10.1101/2020.04.01.20049528v1">https://www.medrxiv.org/content/10.1101/2020.04.01.20049528v1</a></p>

All community members should respect the desires of individual establishments or cities that have elected to require face masks. I endorse their doing so without reservation but based on the evidence, do not feel I can require it at this time.

This review is in no way intended to lead to the conclusion that one should use medical masks over cloth masks; medical masks are for health care providers. This review will leave the reader with **the two valid choices of using either a cloth mask in a community setting or no mask at all.**

The fact that there are more comments listed in the "Against" column is not a reflection of bias on behalf of this reviewer but rather that there seem to be more researchers performing studies that produced those results. More plentiful results do not mean more meaningful results.

The reason that this document is lengthy and does not point to a clear-cut conclusion is because there is no conclusive evidence on either side of the issue. One might say that the obvious choice then is to choose the more conservative masking side of the issue. This might be the clear approach were it not for concerns raised about the safety of wearing cloth masks and their effectiveness. If unable to accept the complexity of the issue, then rely on your beliefs.

Statements of endorsement and concern are expressed about the use of cloth masks by reputable organizations on both sides of the issue.

In an effort to better understand usage patterns in Ventura County, a survey was conducted of mask choices worn by individuals exiting selected places of business.

#### **Grocery Store Mask Polling Data\***

Store	N95 Mask	Surgical Mask	Cloth Mask	Dust Mask	No Mask
Walmart Oxnard	15	30	35	1	19
Costco Oxnard	13	33	42	4	8
Vallarta Oxnard	12	47	38	3	0
Whole Foods Oxnard	20	39	38	0	3
Trader Joes Ventura (Victoria)	22	30	44	4	0
Target Camarillo	17	31	41	1	10
<b>Total</b>	<b>99</b>	<b>210</b>	<b>238</b>	<b>13</b>	<b>40</b>

\*This survey was performed on 4/23/2020. One hundred customers were counted as they exited each store and the type of mask each person was wearing was recorded.



For CDC guidance on how to make a cloth mask, please visit <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/diy-cloth-face-coverings.html>

If you should decide to wear a cloth face mask, please remember to:

- Wash your hands after putting the mask on and after taking the mask off
- Do not touch your face or the mask while wearing it
- Disinfect areas where the mask is stored while not in use
- Wash your cloth mask daily
- Do not fail to abide by social distancing standards

### **Plexiglass Shields**

Plexiglass shields have been placed in many essential businesses as a barrier between the cashier and the customer. If interfering with the passage of respiratory droplets is the intent of those who wish to wear a mask, the same outcome might be achieved by the placement of plexiglass barriers at points of cashier-customer interaction in the grocery store and in other essential businesses where 6 feet of distance can't be maintained. <https://abc3340.com/news/coronavirus/grocery-stores-protecting-workers-and-customers-from-covid-19>

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April 27, 2020