

WCASD resident and Region 1 school board candidate Ada Nestor has publicly claimed to have a long list of scientific studies showing that masks are ineffective for stopping the spread of viral infections such as covid-19. That list is now available on her campaign web site blog. I have carefully reviewed that list, and what I found is an unpersuasive stew of misunderstanding, misinterpretation, and misrepresentation. In my estimation, there is NO convincing evidence that masks are ineffective against covid-19 anywhere in this list. I have attached an annotated copy of her list that provides details of my assessment of her “evidence”.

Ms. Nestor claims to have 47 studies that present evidence of the ineffectiveness of masks for virus/infection control. Twelve of these items, or more than one quarter of her list, can be dismissed out of hand – six because the same studies are listed twice, one because it’s an analysis that was subsequently updated in another article on her list, and five that are not scientific studies at all (an article in a trade/business magazine, a blog post, an opinion column essentially identical to the blog post, a news story, and a non-scientific commentary on another of the articles on her list).

Most of the remaining items fall into broad classes of misinterpretation.

- Some studies look at the filtration properties of masks. Upon reading that masks pass some particles smaller than X, the claim is made, “The SARS-CoV-2 virus particle is smaller than X, so masks are ineffective against the virus.” The virus is not transmitted as an individual virus particle, however. It is transmitted in larger droplets and aerosols, so comparisons of the virus size to the filtration properties of masks is irrelevant.
- Several studies look at comparisons of one mask to another – N95 masks to surgical masks, for example. However, even in those studies that find mask A is inferior to mask B, that is not evidence that mask A is ineffective. The only way to make a claim that a mask is ineffective is to show that it offers no benefit relative to no mask.
- Several studies look at the effect of masks versus no masks on transmission of respiratory viral infections (usually influenza; there are almost no covid-19-specific studies on this list). The measured outcomes are typically infection of the masked/unmasked participants. That is important, but it is only part of the story; masks could be beneficial by preventing the spread of disease to others rather than (or in addition to) protecting the mask wearer. Claims that some of these studies show masks are ineffective often misstate or go beyond what the authors claim. Even when consistent with the authors’ conclusions, however, the studies show ineffectiveness with respect to only one aspect of controlling community transmission.

- Two of the studies on this list are described explicitly on the CDC web site as being “improperly characterized by some sources as showing that surgical or cloth masks offer no benefit.”

In addition to the misinterpretation of study results, there are examples in this list of outright misrepresentation of study results. There are also examples showing substantial misunderstanding of the science and editorial comments on results that have nothing to do with what the studies say, improperly implying that these comments are based upon findings in the studies.

Compare this to the list of studies found on the CDC web site. There are references on masks for prevention of transmission to others, masks for protection of the wearer, a long list of human studies (all covid-19-specific) on the effects of masks and mask mandates in controlling community transmission, and a summary of studies showing minimal adverse health effects of wearing masks. Note that Ms. Nestor’s blogclaims, without evidence, that “the majority of [studies showing the efficacy of masks] are mechanistic models, anecdotal stories, and manipulated data.”

One final point: This list may be the best possible argument against letting parents make these decisions on their own. Very few parents will have both the time and the knowledge to evaluate all this evidence and make good decisions. Ms. Nestor clearly has the time and the interest, but it seems clear to me she does not have the knowledge to properly evaluate the evidence. There is a reason we should leave the evaluation and interpretation of public health studies to experts in public health.

Please let me know if you have any questions about my analysis. Feel free to use any of this information to support any decisions you have to make regarding masks in school, and I would be happy to help you defend those decisions if that would be useful.

Regards,
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P.S. You may be wondering if I know what I’m talking about. I have a PhD in chemical engineering, and the last 20+ years of my career were spent working with and for the pharmaceutical industry. I have decades of experience reading, interpreting, and publishing scientific articles, and I have a good understanding of how clinical trials should be conducted.