Plaintiff's Exhibit 333

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MASKS

20-25 minutes

One of the biggest controversies of the coronavirus pandemic is about face masks. Should we use them, or not; do they work, or not? People's attitudes towards masks have become an intense political question, that in some instances have even led to violence.

My own opinion regarding masks is that certain face masks, properly used, may be of benefit to medical professionals and their patients in controlled environments, such as hospital wards. However, to have the general public adopt universal mask wearing is of no benefit, and can lead to various harms. Up until April of 2020, this was also the position of the medical establishment--the World Health Organization (WHO), the Centers for Disease Control (CDC), etc. Then, starting in April, there was a sudden shift, as the medical establishment changed their tune.

In the rest of this article, I will investigate the reasons for the original opinion of doctors and scientists regarding public mask wearing, and possible reasons for the shift we have seen. Let's start with some history:

1918-1920: "Something was plainly wrong with our hypothesis."

During the great influenza pandemic of 1918, face masks were widely used. They were typically made of several layers of medical gauze cloth. In 1920, a report upon the uses and limitations of those masks was published in The American Journal of Public Health by W.H. Kellogg, M.D., who was the Secretary and Executive Officer of the California State Board of Health. Here is an excerpt:

> If we grant that influenza is a droplet-borne infection, it would appear that the wearing of masks was a procedure based on sound reasoning and that results should be expected from their application.
>
> Studies made in the Department of Morbidity Statistics of the California State Board of Health did not show any influence of the mask on the spread of influenza in those cities where it was compulsorily applied, and the Board was, therefore, compelled to adopt a policy of mask encouragement, but not of mask compulsion. Masks were made compulsory only under circumstances of known contact with the disease and it was left to

> individual communities to decide whether or not the masks should be universally worn.
>
> The reason for this apparent failure of the mask was a subject for speculation among epidemiologists, for it had long been the belief of many of us that droplet-borne infections should be easily controlled in this manner. The failure of the mask was a source of disappointment, for the first experiment in San Francisco was watched with interest with the expectation that if it proved feasible to enforce the regulation, the desired result would be achieved. The reverse proved true. The masks, contrary to expectation, were worn cheerfully and universally, and also, contrary to expectation of what should follow under such circumstances, no effect on the epidemic curve was to be seen. Something was plainly wrong with our hypotheses.

Dr. Kellogg followed up this strikingly honest admission of failure with a detailed description of his subsequent investigations into the properties of masks, using instruments of his own invention. He made a serious attempt to find out if the cloth masks of the time could stop disease transmission. His conclusions:

> 1. Gauze masks exercise a certain amount of restraining influence on the number of bacteria-laden droplets possible of inhalation.
>
> 2. This influence is modified by the number of layers and fineness of mesh of the gauze.
>
> 3. When a sufficient degree of density in the mask is used to exercise a useful filtering influence, breathing is difficult and leakage takes place around the edge of the mask.
>
> 4. This leakage around the edges of the mask and the forcible aspiration of droplet laden air through the mask is sufficient to make the possible reduction in dosage of infection not more than 50 percent effective.
>
> 5. It remains for future controlled experiments in contagious disease hospitals to determine whether the wearing of masks of such texture as to be reasonably comfortable are effective in diminishing the incidence of infection.
>
> 6. Masks have not been demonstrated to have a degree of efficiency that would warrant their compulsory application for the checking of epidemics.

The original article: https://ajph.aphapublications.org/doi/pdfplus/10.2105/AJPH.10.1.34

I find it notable that Dr. Kellogg observes the results of various experiments and adjusts his recommendations accordingly. You may think it odd that I would find this remarkable. However, as we shall see later, to accept real world evidence and adjust policy in light of those facts is not so common these days.

1946 - 2018: the CDC weighs in

Dr. Kellogg was, of course, succeeded by other doctors and scientists over the years who continued to investigate the possible usefulness of face masks in combatting disease

transmission. An overview of that work was published by the CDC, in the journal Emerging Infectious Diseases, in May, 2020. Under the typically clunky title, **Non-pharmaceutical Measures for Pandemic Influenza in Non-healthcare Settings—Personal Protective and Environmental Measures**, the authors examined studies published from 1946 to 2018.

Some excerpts regarding medical masks:

> Disposable medical masks (also known as surgical masks) are loose-fitting devices that were designed to be worn by medical personnel to protect accidental contamination of patient wounds, and to protect the wearer against splashes or sprays of bodily fluids (36). There is limited evidence for their effectiveness in preventing influenza virus transmission either when worn by the infected person for source control or when worn by uninfected persons to reduce exposure....In our systematic review, we identified 10 RCTs [Randomized Controlled Trials] that reported estimates of the effectiveness of face masks in reducing laboratory-confirmed influenza virus infections in the community from literature published during 1946–July 27, 2018. In pooled analysis, we found no significant reduction in influenza transmission with the use of face masks (RR 0.78, 95% CI 0.51–1.20; I2 = 30%, p = 0.25) (Figure 2).

The original paper can be found here:
https://wwwnc.cdc.gov/eid/article/26/5/19-0994_article

I will note two significant aspects of the studies examined by the CDC: first, they were randomized controlled trials, which are considered the gold standard of this kind of study. The way such a trial works, you might have a ward full of people sick with influenza, tended by some nurses who wear medical masks, and some nurses who do not wear medical masks. You then see which nurses get sick and which do not, and you run this experiment over a long enough time with enough nurses that you can see what patterns develop. Second, your standard of “getting sick” is a lab diagnosis of influenza in those nurses who get sick. And if you compare virus cultures from the sick nurses with those of the patients they have been tending, you can see if they were in fact infected by the same strain of influenza as those particular patients.

That is how you do a proper study of whether masks prevent transmission of viruses. It is not easy to marshal the resources to do such a study, which is why they tend to be done only in response to serious disease outbreaks. And it should be obvious that an awful lot of the stuff that you see on the internet about masks does not even begin to come up to this level of rigor. But if you want to seriously answer the question, do masks prevent virus transmission, studies like these are the best answer we have.

Cloth masks versus regular medical masks (2015):

For health care workers, medical masks are usually disposable surgical masks, or N95 type respirators. The latter, to be used effectively, must be fit tested, to ensure that they are worn with no gaps that could allow pathogens to enter. Nurses are trained how to fit test a respirator--you, most likely, are not. Most of the public, when required to use masks, will either use the disposable surgical type, or cloth face coverings of various kinds, ranging from rather fancy affairs to simple improvised scarves and the like.

Are cloth masks as effective as standard surgical masks? A study conducted in 14 hospitals in Hanoi, Vietnam, was published in the BMJ Open journal in 2015. It found the cloth masks used by the nurses wanting:

> This study is the first RCT of cloth masks, and the results caution against the use of cloth masks. This is an important finding to inform occupational health and safety. **Moisture retention, reuse of cloth masks and poor filtration may result in increased risk of infection.** Further research is needed to inform the widespread use of cloth masks globally. However, as a precautionary measure, cloth masks should not be recommended for HCWs [Health Care Workers], particularly in high-risk situations, and guidelines need to be updated.

(My emphasis added.)

The original article: https://bmjopen.bmj.com/content/5/4/e006577.long

There are many other questions about mask use, and there are various sites on the internet that link to articles that can answer these questions. Some of the most useful that I have found:

Masks are neither effective nor safe: A summary of the science--Colleen Huber, NMD, July 6, 2020
Link: https://www.primarydoctor.org/masks-not-effect

While the title shows the bias of the author, this is still a good source for finding medical papers evaluating mask use, as she links to no less than 42 of them.

COMMENTARY: Masks-for-all for COVID-19 not based on sound data--Lisa M. Brosseau, ScD, and Margaret Sitesema, PHD - April 1, 2020

These two authors are highly qualified experts at the University of Illinois at Chicago. They give a thorough overview of mask use, the differences between types of masks, how to evaluate effectiveness, etc. Reading just this particular article will give you a good knowledge base about the issues involved. A short quote:

> Following a recommendation that cloth masks be explored for use in healthcare settings during the next influenza pandemic, The National Institute for Occupational Safety and Health (NIOSH) conducted a study of the filter performance on clothing materials and

> articles, including commercial cloth masks marketed for air pollution and allergens, sweatshirts, t-shirts, and scarfs.
>
> Filter efficiency was measured across a wide range of small particle sizes....All of the cloth masks and materials had near zero efficiency at 0.3 μm, a particle size that easily penetrates into the lungs.

Link: https://www.cidrap.umn.edu/news-perspective/2020/04/commentary-masks-all...

Which brings us to the events of 2020:

The Great Flip-flop

In March of 2020, the World Health Organization, the CDC, and such luminaries as Dr. Anthony Fauci (head of the National Institute of Allergy and Infectious Diseases (NIAID) since 1984) were all in agreement; the general public did not need to walk around with masks on their faces. Dr. Fauci was very clear about this in an appearance on "60 Minutes":

https://www.realclearpolitics.com/video/2020/05/12/flashback_march_2020_...

Here is a transcript from the above video:

> Dr. Jon LaPook: There's a lot of confusion among people and misinformation surrounding face masks, can you discuss that?
>
> Dr. Anthony Fauci: The masks are important for someone who's infected to prevent them from infecting someone else. Now, when you see people and look at the films in China and South Korea whatever, everybody's wearing a mask. Right now in the United States people should not be walking around with masks.
>
> LaPook: You're sure of it? Because people are listening really closely to this.
>
> Fauci: Right now, people should not be worried. There's no reason to be walking around with a mask. When you're in the middle of an outbreak, wearing a mask might make people feel a little bit better and it might even block a droplet but it's not providing the perfect protection that people think that it is. And often there are unintended consequences. People keep fiddling with the mask and they keep touching their face.
>
> LaPook: And can you get some schmutz sort of staying inside there?
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> Fauci: Of course, but when you think mask you should think of health care providers needing them and people who are ill. The people who when you look at the films of foreign countries and you see 85% of the people wearing masks that's fine, that's fine. I'm not against it if you want to do it that's fine.
>
> LaPook: But it can lead to a shortage of masks?

> Fauci: Exactly. That's the point. It could lead to a shortage of masks for the people who really need it.

This was the story on March 8th, 2020. But it was not long before the story changed completely. Here is Dr. Robert Redfield, head of the CDC, testifying before Congress on September 16, 2020

https://www.c-span.org/video/?c4907075/user-clip-dr-redfield-masks

Waving a disposable surgical mask in his hand, Redfield testified:

> And I will continue to appeal for all americans...to embrace these face coverings....If we did it for six, eight, ten, twelve weeks, we would bring this pandemic under control. These actually, we have clear scientific evidence they work. They are our best defense. I might even go so far as to say that this face mask is more guaranteed to protect me than the vaccine because the immunogenicity might only be 70 percent and if I don't get an immune response, the vaccine is not going to protect me. This mask will."

Dr. Redfield's testimony is strikingly at odds with the position of the medical establishment mere months ago. What new information was he relying on to make such a statement? One possibility was a review paper by the WHO, published in The Lancet, on June 1, 2020:

Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: a systematic review and meta-analysis

Link: https://www.thelancet.com/action/showPdf?pii=S0140-6736%2820%2931142-9

According to the study's summary of findings:

> Our search identified 172 observational studies across 16 countries and six continents, with no randomised controlled trials and 44 relevant comparative studies in health-care and non-health-care settings (n=25 697 patients).... Face mask use could result in a large reduction in risk of infection (n=2647; aOR 0·15, 95% CI 0·07 to 0·34, RD −14·3%, −15·9 to −10·7; low certainty), with stronger associations with N95 or similar respirators compared with disposable surgical masks or similar (eg, reusable 12–16-layer cotton masks; pinteraction=0·090; posterior probability >95%, low certainty).

Note that after each set of figures we see two words: "low certainty". What does that mean? Further down in the text we find this statement:

> Although direct evidence is limited, the optimum use of face masks, in particular N95 or similar respirators in health-care settings and 12–16-layer cotton or surgical masks in the community, could depend on contextual factors; action is needed at all levels to address the paucity of better evidence.

Now we know what they meant; the authors don't have enough evidence from the particular studies they examined to be certain of much of anything. Further, none of those studies is a randomized controlled trial. All of them are observational studies--that is, there are no control groups, and there may be other sources of bias. As I noted earlier, the CDC was able to find at least 10 RCT studies on face masks and their effectiveness, but this review ignores all of them.

If you really want to get down into the weeds of this rather remarkable document, published by The Lancet (one of the world's leading medical journals), on behalf of the WHO (the top international health body), you could do worse than to check out an article from the Swiss Policy Research web site:

WHO Mask Study Seriously Flawed

Link: https://swprs.org/who-mask-study-seriously-flawed/

A couple of excerpts:

> The WHO-commissioned meta-study on the effectiveness of face masks, published in the medical journal The Lancet in June 2020, has been instrumental in shifting global face mask policies during the Covid-19 pandemic. However, the meta-study, which claimed a risk reduction of 80% with face masks, is seriously flawed on several levels and should be retracted....
>
> ...The Lancet meta-study is used to guide global face mask policy for the general population. However, of the 29 studies considered by the meta-study, only three are classified as relating to a non-health-care (i.e. community) setting. Of these three studies, one is misclassified (ref. 50, relating to masks in a hospital environment), one showed no benefit of face masks (ref. 69), and one is a poorly designed retrospective study about SARS-1 in Beijing based on telephone interviews (ref. 74). None of these studies refer to SARS-CoV-2.

It is safe to say that, at the top scientific level, there is no new evidence to change the previous consensus, that medical masks are of little or no value to the general public when it comes to preventing virus transmission. That we have a top government health official claiming that face mask use will end the pandemic is a sorry state of affairs. That we have a study of dubious value about masks, making it through peer review to be published in a prestigious medical journal, is equally lamentable.

Personal observations

I find Dr. Kellogg's conclusions back in 1920 to continue to be relevant. We cannot tolerate wearing a mask unless we can breathe through it. If so, the mask's ability to block pathogens will be limited--Dr. Kellogg says, by about 50 percent--that is, at least half the

pathogens will get through.

Further we have a pretty good idea by now of how Covid19 is transmitted. It is not so much by large droplets, such as those emitted when one sneezes or coughs, which tend to fall to the ground after traveling a short distance. You can't inhale something like that unless it hits you right in the face. Instead, the virus is carried into the air by much smaller aerosols, which can remain airborne for some time. The stuff that you can use to fog your glasses, or that you see drifting away from your mouth in cold weather--your breath made visible--that is what can build up in a room indoors, leading to the infection of someone else present. While a surgical or cloth mask may be able to block larger droplets, they are helpless against smaller aerosols, which leak in or out the edges of any mask that is not tightly fitted, and right through the porous material of typical cloth masks.

This fact of aerosol transmission of the virus is also why Covid19 is largely transmitted indoors. Outdoors, with the vast volume of air which is constantly in motion, the virus is dispersed and diluted within seconds at any reasonable distance. You have to be in the middle of a packed crowd for some time to be infected outdoors. People walking down the street are in virtually no danger of infection by passers by. And if the sun is out, the ultra-violet light does a fine job of killing the virus. Outdoors is one of the safest places you can be, which is why it is so illogical that the authorities have taken to closing parks and beaches and trying to shut people up in their homes. Mandates for everyone to wear masks outdoors are sheer idiocy, not supported by any science. (Again, this was noted by Dr. Kellogg in 1920.)

Why are they doing this?

The chart below shows the course of recorded infections during the pandemic in France. There is the sudden large peak of infections in March, followed by a slightly less precipitous decline in April. By mid-May, the pandemic is largely over, as infections settle to a low weekly rate, right up to mid-July. And it is right at that point that the authorities decide, "everyone should wear masks when indoors!" And not long after, up spiral the infections again (though not the deaths, which remained low). Something was plainly wrong with their hypothesis.

[Note: I'm having trouble getting these charts to show up. Click on the link below the chart position to see it.]

France Covid19 cases

https://swprs.org/covid19-facts/#jp-carousel-35210

So, we need to look at this chart, and the many others like it and ask, “why are they doing this?” Why did New York City introduce a mask mandate about the same time, when cases, hospitalizations and deaths from Covid19 were all at low levels?

NYC-Florida Covid deaths

https://swprs.org/covid19-facts/#jp-carousel-33031

In the middle of July, with the pandemic on the wane, why did the authorities decide, “we must have masks NOW”? And why do they continue to push their use, even though they don’t appear to do a thing? “No effect on the epidemic curve was seen.” (W.H. Kellogg, of course.) Have we really become so much stupider than we were in 1920? No, of course not. The insistence on masks cannot have anything to do with disease prevention. This is all about social control.

What is to be done?

We all have friends and family who are not ready to hear the kind of information I have given in this article. They are, understandably, scared and probably need hand holding and reassurance more than anything.

I can’t tell anyone else what they, personally, should do. I don’t blame anyone for putting on a mask because it will be trouble, even of a minor kind, if you don’t. But the fact is, we are being lied to by authorities who should behave so as to deserve our trust. That is a very unpleasant thing to face up to.