Testimony to NH

Environmental & Agriculture Committee

Special Committee on COVID Response Efficacy

Chair: Rep. Barbara Comtois

Concepts of Industrial Hygiene

Exposure / Exposure Control / PPE / Masks / 6' Rule / Why Masks Do Not and Can Not Work / What Actually Works &

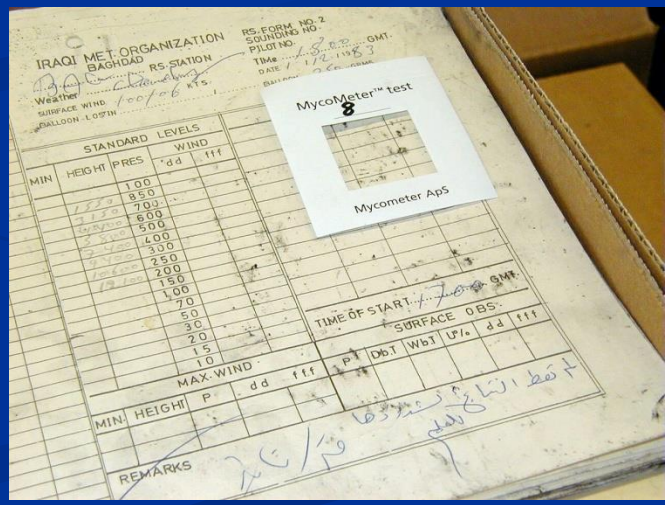
Damage to Children / Adults

Stephen E. Petty, P.E., C.I.H., C.S.P. - EES Group, Inc.

March 15, 2024

PETTY QUALIFICATIONS

- Education: B.S. Ch. E., M.S. Ch. E. (honors at both levels) and M.B.A. (1st in Class).
- Sr. Research Scientist – Battelle.
- Sr. Research Engineer/Section Manager - R&D – Columbia Gas.
- President, EES Group – Engineering EHS Company, Columbus, OH. – 100s of projects.
- CIH (National Certification), C.S.P. & Professional Engineer (OH, FL, PA, WV, KY, and TX).
- National Exposure/PPE Expert (e.g., Monsanto Roundup, DuPont C-8); ~400 Cases.
- Selected to determine general causation outside of litigation on dozens of projects (e.g., Iraqi Docs – Allegany Ballistics Lab – Columbus Blue Jackets; Prof. Hockey locker room – Columbus College of Art & Design, CMH Airport RA).
- Adjunct Professor – Franklin University (Teach Environmental and Earth Sciences).
- Nine U.S. Patents – mostly with regard to Heat Pumps.



DEFINITION OF INDUSTRIAL HYGIENE (AIHA)

"That science and art devoted to the *anticipation, recognition, evaluation, and control* of those environmental factors or stressors arising in or from the workplace, which may cause sickness, impaired health and well-being, or significant discomfort among workers or among the citizens of the community."

Key Tenents of the Field of Industrial Hygiene (to stop or limit exposures):

1. **Anticipation**
2. **Recognition**
3. **Evaluation**
4. **Control.**

INDUSTRIAL HYGIENE (IH)

- **Field Associated with Exposure, PPE, and Warnings (see https://www.osha.gov/sites/default/files/training library_industrial_hygiene.pdf for paper on the definition and field of industrial hygiene).**

- **IH Field ot Recognized Much by the Public, Media, & Governmental Officials – *Thus Media often rely on M.D.s and not Industrial Hygienists for Information on Controlling Exposures*.**

- **In my ~400 cases as an Exposure/Exposure Control/PPE expert, M.D.'s have not been used in my role – they are causation experts.**

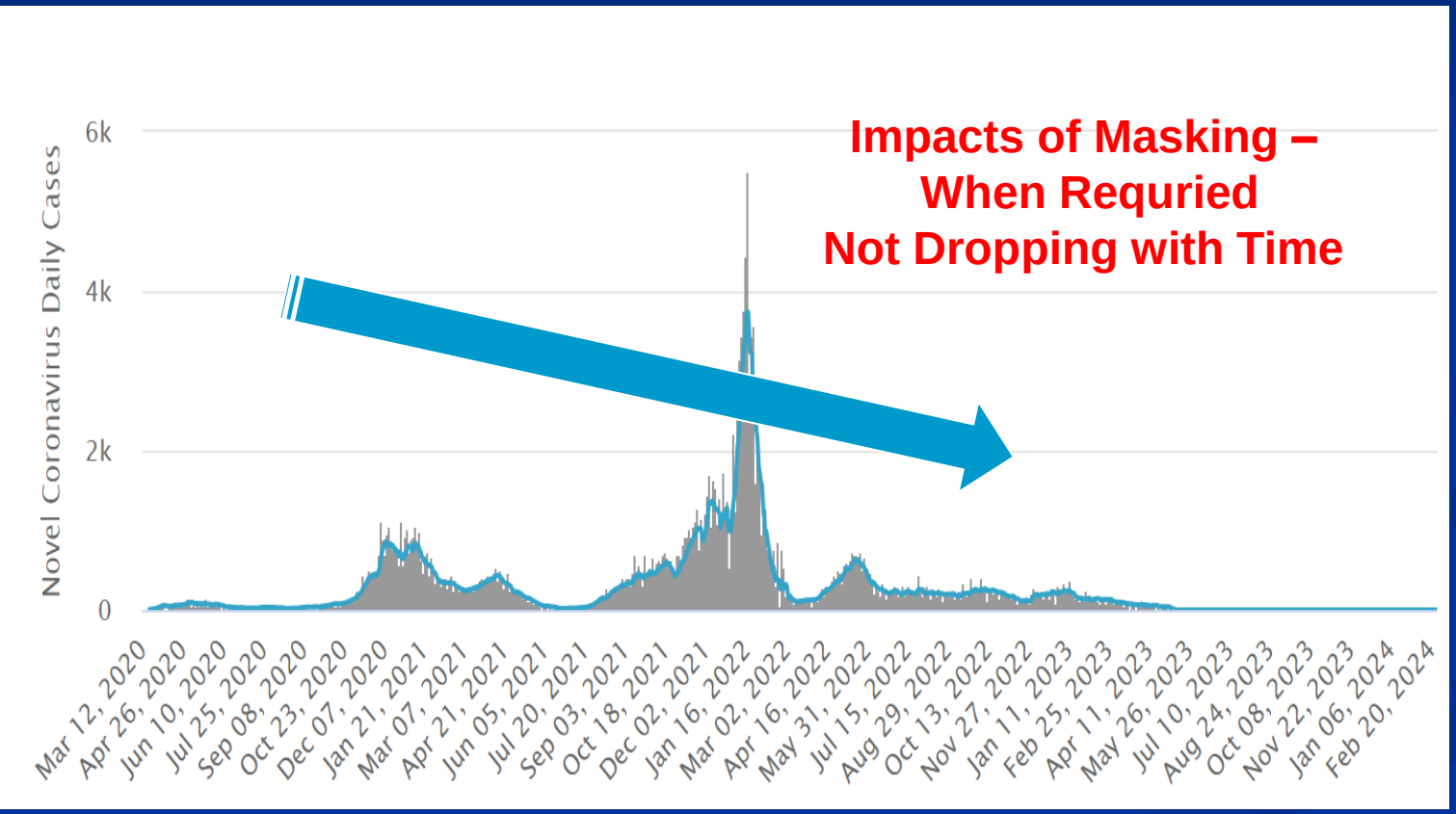
MASKING – DOES IT WORK OR NOT? - NO!

Can be evaluated at two levels:

- **Macro – Epidemiology (i.e, 10,000')**
- **Micro – Industrial Hygiene (IH). (i.e., <1') – often ignored in lieu of epidemiology – both apply.**

MACRO VIEW REGARDING MASKS

New Hampshire – Cases (can be done for any state!)



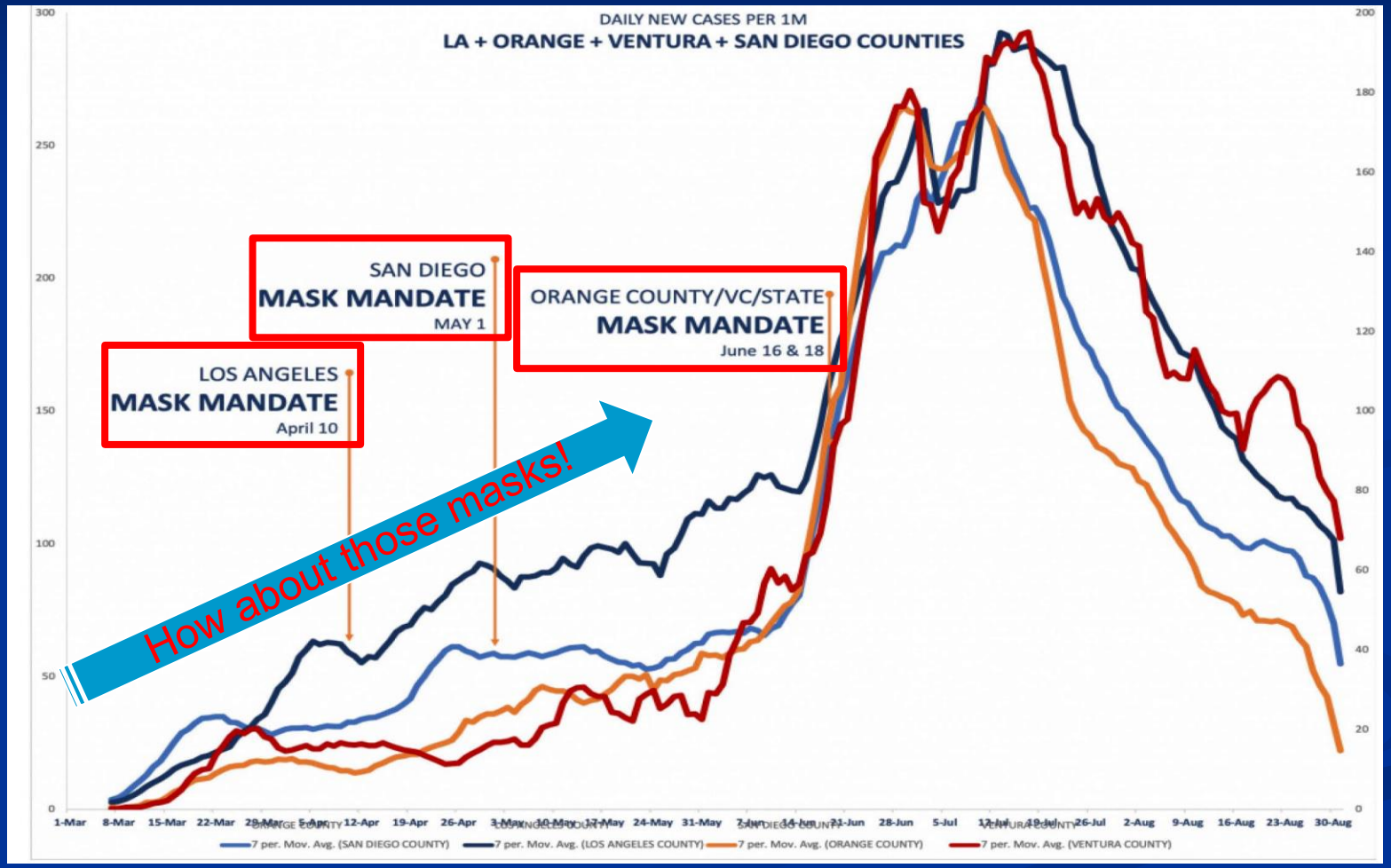
If Masks Worked One Would Expect Curve to Drop with Time!

Looks More Like Winter (More Time Indoors & More Get Sick – Dr. William Farr's curve - 1837?)

From: https://www.worldometers.info/coronavirus/usa/new-hampshire/
Downloaded February 27, 2024
Go to: https://www.worldometers.info/coronavirus/country/us/ for any state's data

MACRO VIEW REGARDING MASKS

After Mask Mandates, Cases Rise Dramatically!



From: https://rationalground.com/mask-charts/
Downloaded: January 2, 2022

EPIDEMIOLOGICAL (EPI) DATA

COCHRANE (JEFFERSON et. al. – META RCT MASK & N-95 STUDY - RESULTS

Cochrane Library

Trusted evidence.
Informed decisions.
Better health.

Title Abstract

Cochrane Reviews | Trials | Clinical Answers | About | Help

Cochrane Database of Systematic Reviews | Review - Intervention

Physical interventions to interrupt or reduce the spread of respiratory viruses

Tom Jefferson, Liz Dooley, Eliana Ferroni, Lubna A Al-Ansary, Mieke L van Driel, Ghada A Bawazeer, Mark A Jones, Tammy C Hoffmann, Justin Clark, Elaine M Beller, Paul P Glasziou, John M Conly Authors' declarations of interest

Version published: 30 January 2023 Version history

https://doi.org/10.1002/14651858.CD006207.pub6

Meta (Study of Many) RCT (Randomized Control Trials) – Best Type of Studies – Evaluations:

- **Medical/Surgical Masks vs No Masks:**
- **N95/P2 Respirators vs Medical/Surgical Masks:**

https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD006207.pub6/full

COCHRANE (JEFFERSON et. al. – META RCT MASK & N-95 STUDY - BASIS

Results:

- **Medical/Surgical Masks vs No Masks: "*Wearing masks in the community probably makes little or no difference to the outcome of laboratory-confirmed influenza/ SARS-CoV-2 compared to not wearing masks*."**

- **N95/P2 Respirators vs Medical/Surgical Masks: "*The use of a N95/P2 respirators compared to medical/ surgical masks probably makes little or no difference*..."**

See also lead author Jefferson Interview where he made these statements explicitly!

https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD006207.pub6/epdf/full &
https://maryannedemasi.substack.com/p/exclusive-lead-author-of-new-cochrane

BUNDGAARD – DENMARK MASK STUDY

Annals of Internal Medicine

Original Research | 18 November 2020

Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers FREE

A Randomized Controlled Trial

Henning Bundgaard, DMSc, Johan Skov Bundgaard, BSc,

Results:

A total of 3030 participants were randomly assigned to the recommendation to wear masks, and 2994 were assigned to control; 4862 completed the study. Infection with SARS-CoV-2 occurred in 42 participants recommended masks (1.8%) and 53 control participants (2.1%). The between-group difference was ☒.3 percentage point (95% CI, ☒.2 to 0.4 percentage point; *P*= 0.38) (odds ratio, 0.82 [CI, 0.54 to 1.23]; *P*= 0.33). Multiple imputation accounting for loss to follow-up yielded similar results. Although the difference observed was not statistically significant, the 95% CIs are compatible with a 46% reduction to a 23% increase in infection.

Bundgaard et al. Study – Denmark – March 2021 Published – Work from 2020.

~6,000 participants; split ~3,000 w/ and 3,000 w/o surgical masks – measured how many got COVID.

Large RCT Study – Masking Did Not Reduce Disease Rates

https://www.acpjournals.org/doi/10.7326/m20-6817

BENY SPIRA – EUROPEAN COUNTRIES

Beny Spira – Europe – April 19, 2022.

Correlation Between Mask Compliance and COVID-19 Outcomes in Europe

Beny Spira [1]

1. Microbiology, Universidade de São Paulo, São Paulo, BRA

Corresponding author: Beny Spira, benys@usp.br

Abstract

Masking was the single most common non-pharmaceutical intervention in the course of the coronavirus disease 2019 (COVID-19) pandemic. Most countries have implemented recommendations or mandates regarding the use of masks in public spaces. The aim of this short study was to analyse the correlation between mask usage against morbidity and mortality rates in the 2020-2021 winter in Europe. Data from 35 European countries on morbidity, mortality, and mask usage during a six-month period were analysed and crossed. Mask usage was more homogeneous in Eastern Europe than in Western European countries. Spearman's correlation coefficients between mask usage and COVID-19 outcomes were either null or positive, depending on the subgroup of countries and type of outcome (cases or deaths). Positive correlations were stronger in Western than in Eastern European countries. These findings indicate that countries with high levels of mask compliance did not perform better than those with low mask usage.

Data from 35 European countries on morbidity, mortality, and mask usage during a 6-month (2020-2021 winter) period were analyzed

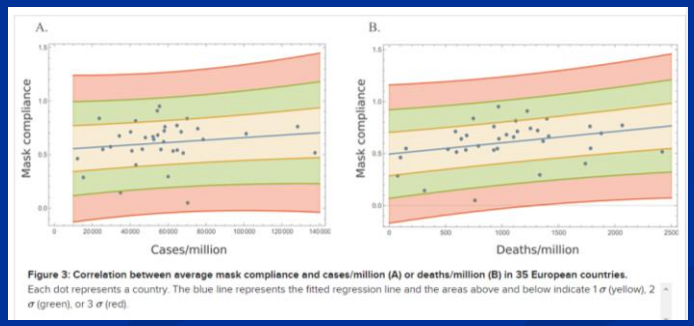


Figure 3: Correlation between average mask compliance and cases/million (A) or deaths/million (B) in 35 European countries.
Each dot represents a country. The blue line represents the fitted regression line and the areas above and below indicate 1 σ (yellow), 2 σ (green), or 3 σ (red).

"The findings presented in this short communication suggest that countries with high levels of mask compliance did not perform better than those with low mask usage in the six-month period that encompassed the second European wave of COVID-19" & "***the widespread use of masks at a time when an effective intervention was most needed, i.e., during the strong 2020-2021 autumn-winter peak, was not able to reduce COVID-19 transmission***."

[i.e., Countries with high mask wearing had higher COVID-19 Death Rates! – Not surprising as contaminants amplify (grow exponentially) on mask surfaces]

https://www.cureus.com/articles/93826-correlation-between-mask-compliance-and-covid-19-outcomes-in-europe

ZACHARIAS FOGAN – KANSAS COUNTIES

Paper – Feb. 18, 2022 - Masks Required vs Not Required by Kansas County.

The Foegen effect

A mechanism by which facemasks contribute to the COVID-19 case fatality rate

Zacharias Fögen, MD*

Abstract

Extensive evidence in the literature supports the mandatory use of facemasks to reduce the infection rate of severe acute respiratory syndrome coronavirus 2, which causes the coronavirus disease (COVID-19). However, the effect of mask use on the disease course remains controversial. This study aimed to determine whether mandatory mask use influenced the case fatality rate in Kansas, USA between August 1st and October 15th 2020.

This study applied secondary data on case updates, mask mandates, and demographic status related to Kansas State, USA. A parallelization analysis based on county-level data was conducted on these data. Results were controlled by performing multiple sensitivity analyses and a negative control.

A parallelization analysis based on county-level data showed that in Kansas, counties with mask mandate had significantly higher case fatality rates than counties without mask mandate, with a risk ratio of 1.85 (95% confidence interval [95% CI]: 1.51–2.10) for COVID-19-related deaths. Even after adjusting for the number of "protected persons," that is, the number of persons who were not infected in the mask-mandated group compared to the no-mask group, the risk ratio remained significantly high at 1.52 (95% CI: 1.24–1.72). By analyzing the excess mortality in Kansas, this study determines that over 95% of this effect can solely be attributed to COVID-19.

These findings suggest that mask use might pose a yet unknown threat to the user instead of protecting them, making mask mandates a debatable epidemiologic intervention.

The cause of this trend is explained herein using the "Foegen effect" theory; that is, deep re-inhalation of hypercondensed droplets or pure virions caught in facemasks as droplets can worsen prognosis and might be linked to long-term effects of COVID-19 infection. While the "Foegen effect" is proven in vivo in an animal model, further research is needed to fully understand it.

Abbreviations: CDR = crude death rate, CFR = case fatality rate, COVID-19 = coronavirus disease 2019, crDR = covid-related death rate, MMC = counties with mask mandate, noMMC = counties without mask mandate, RR = risk ratio, SARS-CoV-2 = severe acute respiratory syndrome coronavirus 2.

Keywords: case fatality rate, coronavirus disease 2019, facemasks, Foegen effect, Kansas, mask mandates, severe acute respiratory syndrome coronavirus 2

Counties with mask mandates had significantly higher case fatality rates than counties without mask mandates, with a risk ratio of **1.85** (95% confidence interval [**95% CI**]: **1.51–2.10**) for COVID-19-related deaths. Even after adjusting for the number of "protected persons," that is, the number of persons who were not infected in the mask-mandated group compared to the no-mask group, the risk ratio remained significantly high at 1.52 (95% CI: 1.24–1.72).

["This study revealed that wearing facemasks might impose a great risk on individuals, which would not be mitigated by a reduction in the infection rate"]

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9282120/pdf/medi-101-e28924.pdf

NO SURPRISE – MASKS ACTUALLY CAUSE HIGHER RATE OF COVID

December 2023 Paper by Elgersma et al., - Those wearing masks had rates of COVID ~33% to ~40% greater than those not wearing masks!

SUMMARY

We examined the association between face masks and risk of infection with SARS-CoV-2 using cross-sectional data from 3,209 participants in a randomized trial of using glasses to reduce the risk of infection with SARS-CoV-2. Face mask use was based on participants' response to the end-of-follow-up survey. We found that the incidence of self-reported COVID-19 was 33% (aRR 1.33; 95% CI 1.03 - 1.72) higher in those wearing face masks often or sometimes, and 40% (aRR 1.40; 95% CI 1.08 - 1.82) higher in those wearing face masks almost always or always, compared to participants who reported wearing face masks never or almost never. We believe the observed increased incidence of infection associated with wearing a face mask is likely due to unobservable and hence nonadjustable differences between those wearing and not wearing a mask. Observational studies reporting on the relationship between face mask use and risk of respiratory infections should be interpreted cautiously, and more randomized trials are needed.

This is an Accepted Manuscript for Epidemiology & Infection. Subject to change during the editing and production process.
DOI: 10.1017/S0950268823001826

Association between Face mask use and Risk of SARS-CoV-2 Infection – Cross-sectional study

Ingeborg Hess Elgersma[1], MA

Atle Fretheim[1,2], Prof. *

Petter Elstrøm[1], PhD

Preben Aavitsland[3,4], Prof.

Masks provide ideal environment (T, RH) for amplification (grow 10x to 1,000x input) of mold, bacteria and viruses – rebreathe this material.

https://doi.org/10.1017/S0950268823001826 Published online by Cambridge University Press

Masking in Schools – Do They Work?

Oster, E., R. Jack, C. Halloran, J. School, and D. McLeod, COVID-19 Mitigation Practices and COVID-19 Rates in Schools: Report on Data from Florida, New York, and Massachusetts, COVID-19 School Response Dashboard - https://www.medrxiv.org/content/10.1101/2021.05.19.21257467v1

Conclusion With Regard To Florida Schools – Masks vs No Masks:

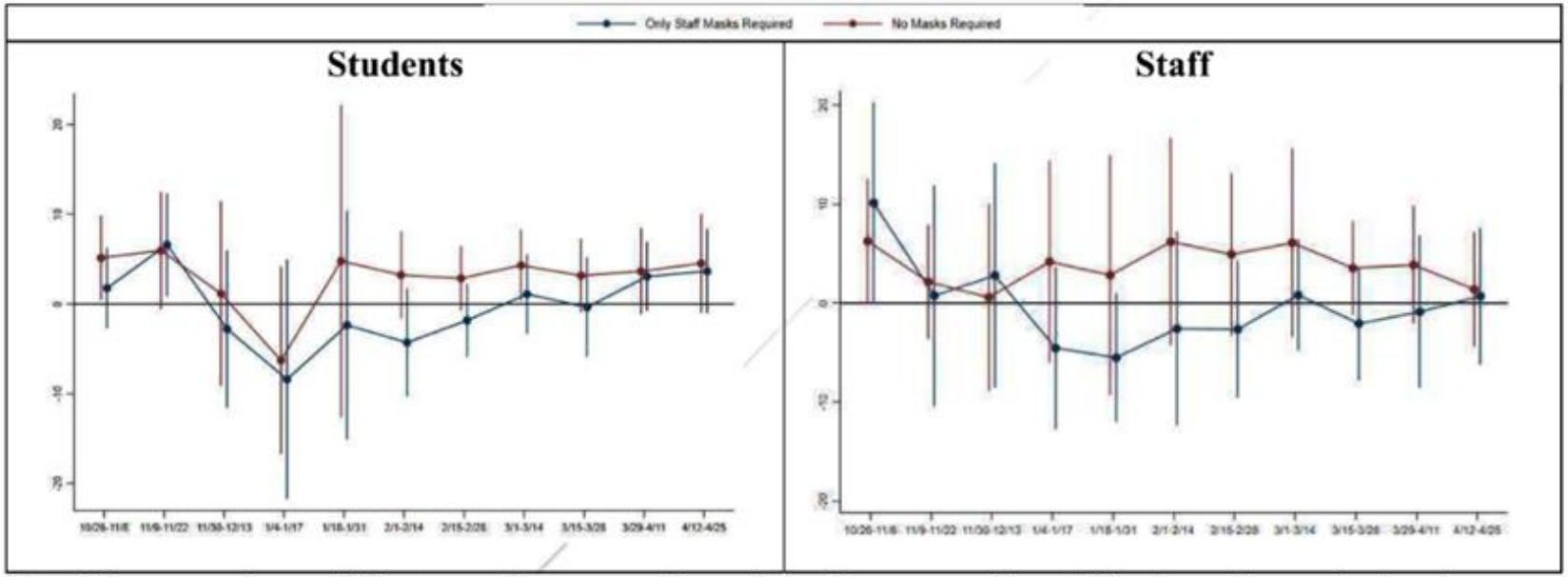
"We do not find any correlations with mask mandate"! (RE: Infection rate and mask wearing)

https://www.medrxiv.org/content/10.1101/2021.05.19.21257467v1.full.pdf

Masking in Schools – Do They Work?

Data on Wearing of Masks vs No Masks – cont.:

Figure 4b. Regression Coefficients of Student and Staff Case Rates on Masking Requirements in Florida



Note. The regression coefficients are from regressions of masking groups (i.e. staff-only masks required and no masks required) interacted with each biweekly wave group on student and staff case rates. The comparison is masks required for both students and staff. Regressions control for community case rates, time fixed effects, racial demographics, density groups, ventilation upgrades, and school level. Regressions are weighted by total student enrollment and standard errors are clustered by school districts.

Data adjusted for community case rates and demographics!

Essentially no differences between wearing/not wearing masks & disease.

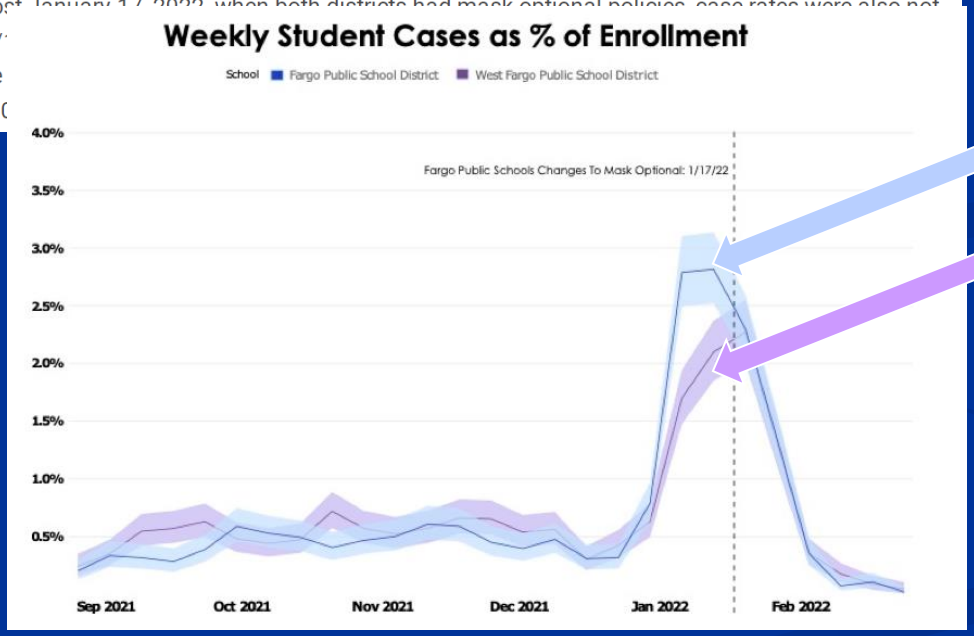
https://www.medrxiv.org/content/10.1101/2021.05.19.21257467v1.full.pdf

SOOD, HEICK, STEVENSON & HOEG – N.D.

Two K-12 School Districts – Fargo (Mask Mandate) vs West Fargo (No Mask Mandate) – Data on COVID-19 Incidents from 8-26-21 to 1-17-2022.

Results

Table 1 shows school characteristics, total number of positive student tests and the COVID-19 risk mitigation measures implemented by each district. Both school districts had similar COVID-19 mitigation policies, although FPS had more stringent rules for quarantining close contacts. WF also had higher percentages of low-income and minority students. Figure 1 shows that overall trends in COVID-19 incidence among students were similar in the two districts. From August 26, 2021, to January 17, 2022, cumulative incidence in the mask compulsory school district was almost identical to cumulative incidence in the mask-optional district (WF: 1596/12,254 [13.0%; 95% CI: 12.4, 13.6]); FPS: 1475/11,419 [12.9% 95% CI: 12.3, 13.6%]). IRR 0.99; 95% CI: 0.92, 1.07). Post January 17, 2022, when both districts had mask optional policies, case rates were also not significantly different (WF: 622/
0.92, 1.16). The IRRs across the
incidence rate of 13%, we had 8



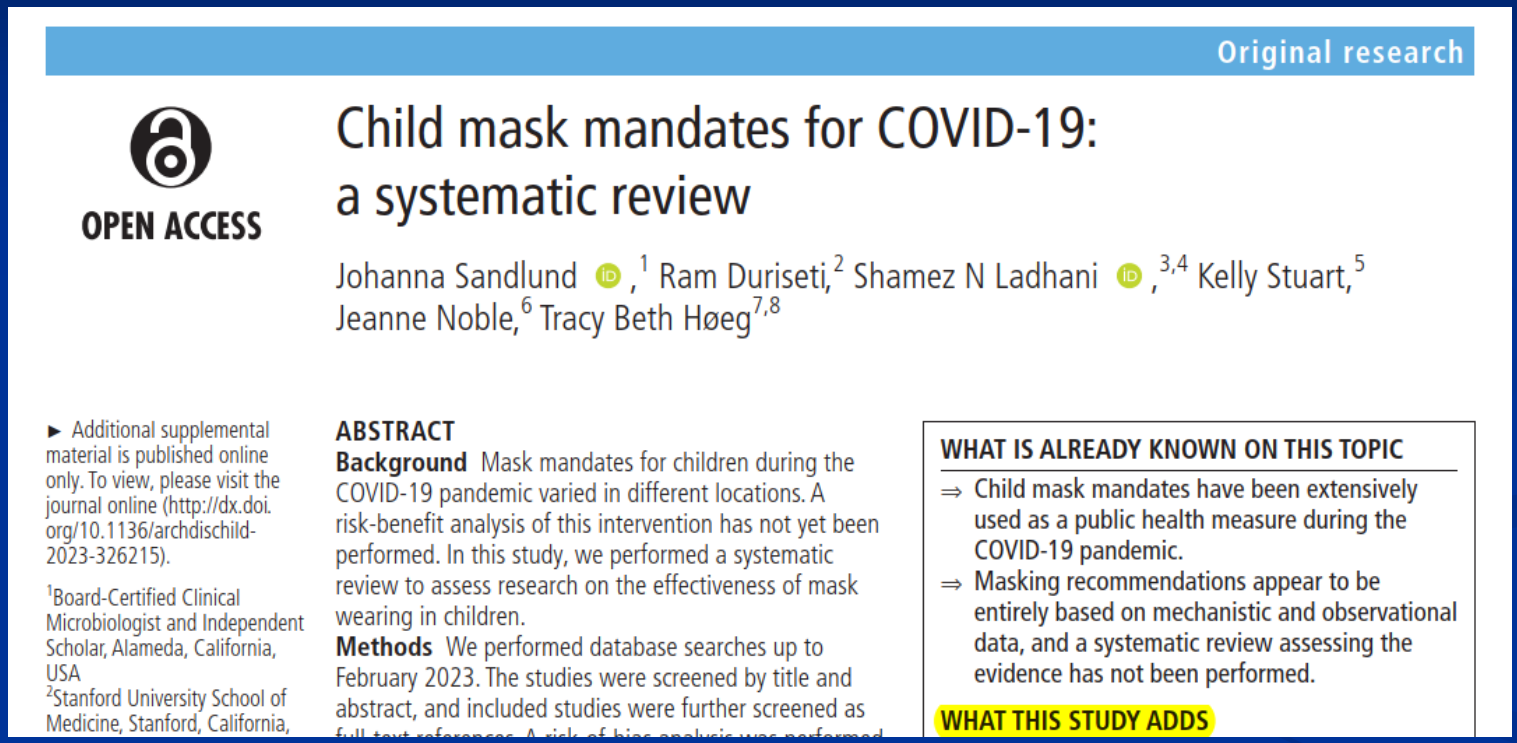
Mask Mandate vs

No Mask Mandate

[i.e., No statistical differences in COVID-19 Disease Rates between School Districts with & without mask mandates]

https://assets.researchsquare.com/files/rs-1773983/v1/e13a2526-72ff-459b-a988-37ef6eb6eadf.pdf?c=1656708065

Sandlund et al., Dec. 2023 - Child Mask Mandates for COVID-19: A Systematic Review



Original research

OPEN ACCESS

Child mask mandates for COVID-19: a systematic review

Johanna Sandlund ,[1] Ram Duriseti,[2] Shamez N Ladhani ,[3,4] Kelly Stuart,[5] Jeanne Noble,[6] Tracy Beth Høeg[7,8]

► Additional supplemental material is published online only. To view, please visit the journal online (http://dx.doi.org/10.1136/archdischild-2023-326215).

[1]Board-Certified Clinical Microbiologist and Independent Scholar, Alameda, California, USA
[2]Stanford University School of Medicine, Stanford, California,

ABSTRACT

Background Mask mandates for children during the COVID-19 pandemic varied in different locations. A risk-benefit analysis of this intervention has not yet been performed. In this study, we performed a systematic review to assess research on the effectiveness of mask wearing in children.

Methods We performed database searches up to February 2023. The studies were screened by title and abstract, and included studies were further screened as

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Child mask mandates have been extensively used as a public health measure during the COVID-19 pandemic.

⇒ Masking recommendations appear to be entirely based on mechanistic and observational data, and a systematic review assessing the evidence has not been performed.

WHAT THIS STUDY ADDS

[This study screened 597 studies; 22 included in the final analysis]

https://adc.bmj.com/content/archdischild/early/2023/12/02/archdischild-2023-326215.full.pdf

Sandlund et al., Nov. 2023 - Child Mask Mandates for COVID-19: A Systematic Review

WHAT THIS STUDY ADDS

⇒ In this systematic review, 16 studies found no effect of mask wearing on infection or trasmission, while six studies reporting a protective assocation had critical or serious risk of bias.

⇒ Because benefits of masking for COVID-19 have not been identified, it should be recognised that mask recommendations for children are not supported by scientific evidence.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ COVID-19-related policy recommendations should be informed by high-quality evidence and consider the possibility of harm, especially for children, who are vulnerable and an ethically protected group.

⇒ Healthcare providers and adults working with children should be educated about the absence of high-quality data supporting masking to lower SARS-CoV-2 infection and transmission risks.

⇒ Because absence of harm is not established, recommending child masking does not meet the accepted practice of promulgating only medical interventions where benefits clearly outweigh harms.

RESULTS:

Science does not support the use of masks for COVID-19 for children!

Masks cause great harms to childen!

https://adc.bmj.com/content/archdischild/early/2023/12/02/archdischild-2023-326215.full.pdf

FLAWS WITH MOST CDC CITED MASK STUDIES

Almost all studies cited by CDC are flawed because they:

1. **Are not Randomized Control Trial studies (RCT).**
2. **Have no control group (group not wearing masks to compare to with group wearing masks).**
3. **Confounding factors in a single study (include masks along with other factors (distancing, quarantine, HVAC changes) and conclude masks had an impact).**

MICRO-LEVEL ARGUMENT

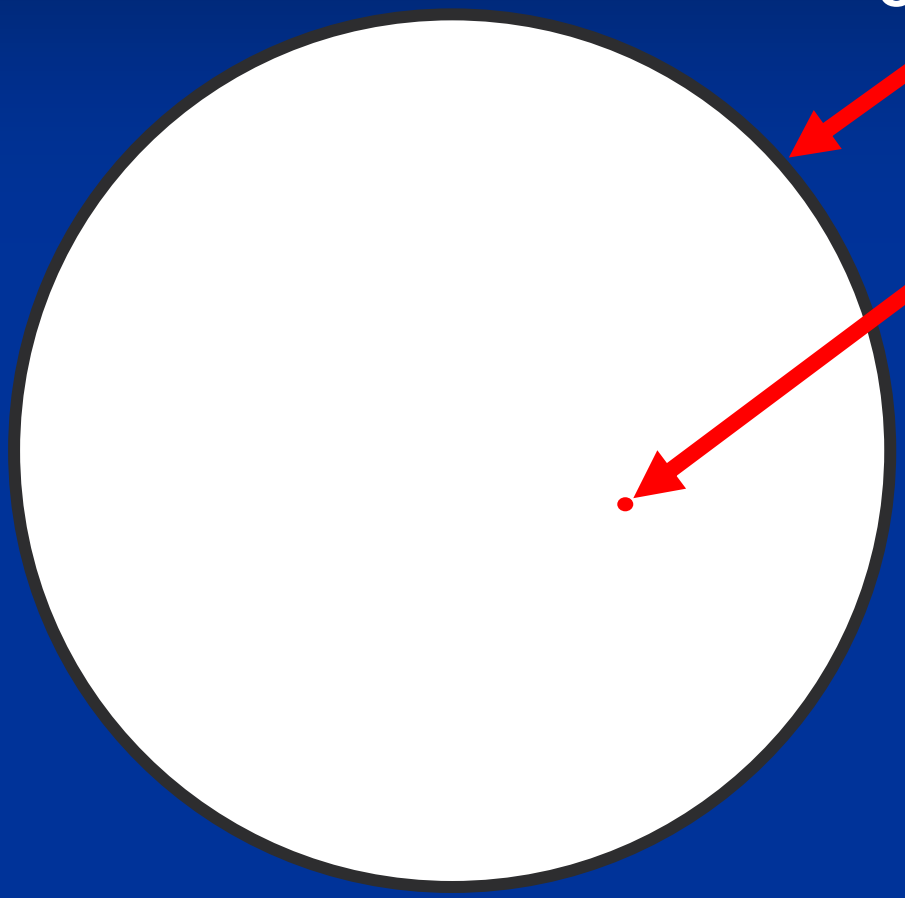
RECALL SEEING DUST IN THE AIR

Visible Dust in Sunlight: >50 µm;

~500 times larger than COVID-19

Recall How Small a Micron is vs. a Human Hair

Black Ring is Cross Section of Human Hair



1 Micron – Small Red Dot
COVID – <u>1/10</u> Micron

~40,000 times smaller in area

& ~1,000 times smaller in diameter

than the cross-section of human hair.

<u>Can you get a human hair past the side of your mask?</u>

Edwards et al. – Data Simplified

>99.9% Particles were Aerosols (small guys)

	Aerosols	Droplets	% Aerosols
Day After Infection	~≤5 µm	~10 µm	% Small
-1	10,898	1.5	**99.99%**
1	10,900	9	**99.92%**
3	22,847	7	**99.97%**
7	20,847	3	**99.99%**
14	10,870	6	**99.94%**

COVID-19 is about aerosols, not droplets – CDC misleads here.

SMALL PARTICLES TAKE A LONG TIME TO FALL FIVE FEET IN STILL AIR

Droplets fall fast – 0.1 to 10 *minutes*

Particle Size (µm)	Time to Fall 5' (minutes)
10	9.6
25	1.5
100	0.1

Stokes' Law - assumes still air; in moving air times would be even longer.

SMALL PARTICLES TAKE A LONG TIME TO FALL FIVE FEET IN STILL AIR

Aerosols Fall Slowly: 0.03 to 59 days

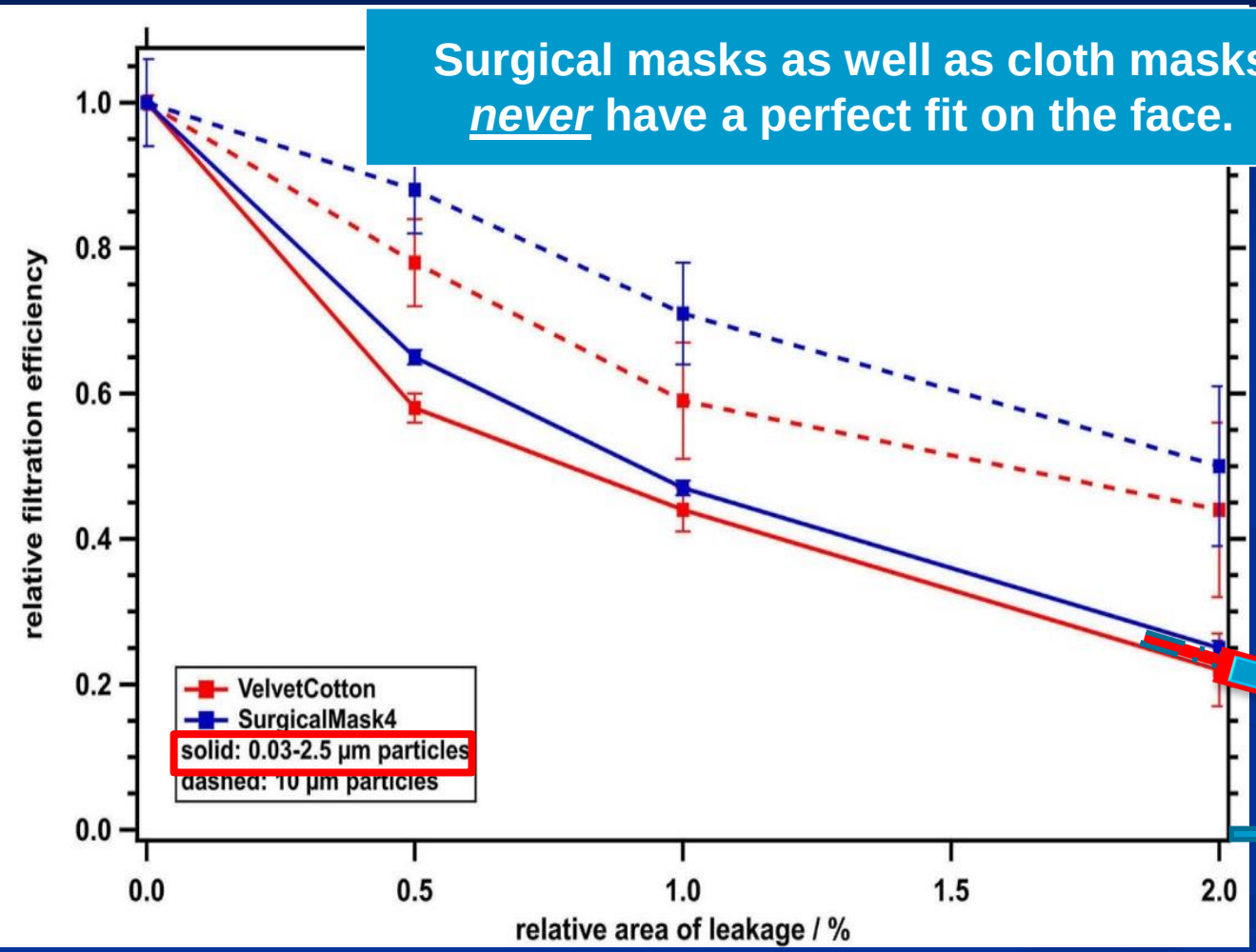
Particle Size (μm)	Time to Fall 5' (days)	Type of Particle
0.09	58.9	COVID Aerosol
0.12	46.4	
0.2	16.7	
1	0.67	
5	0.027	

COVID-19 Fall Very Slowly: Up to 46.4 to 58.9 days

Stokes' Law - assumes still air; in moving air times would be even longer.

What About Gaps Around Masks? – Real World Results in Zero Mask Effectiveness.

Surgical masks as well as cloth masks *never* have a perfect fit on the face.



Based on this work, at ~3% Open Area, Cloth Mask Effectiveness Goes to Zero!

2.5 3.0

From Drewnick, 2021 (https://www.tandfonline.com/doi/pdf/10.1080/02786826.2020.1817846?needAccess=true)

BIOLOGICAL PARTICLES – VIRUSES THE SMALLEST
(ASHRAE FUNDAMENTALS HB – 2001 CHAPTER 12)

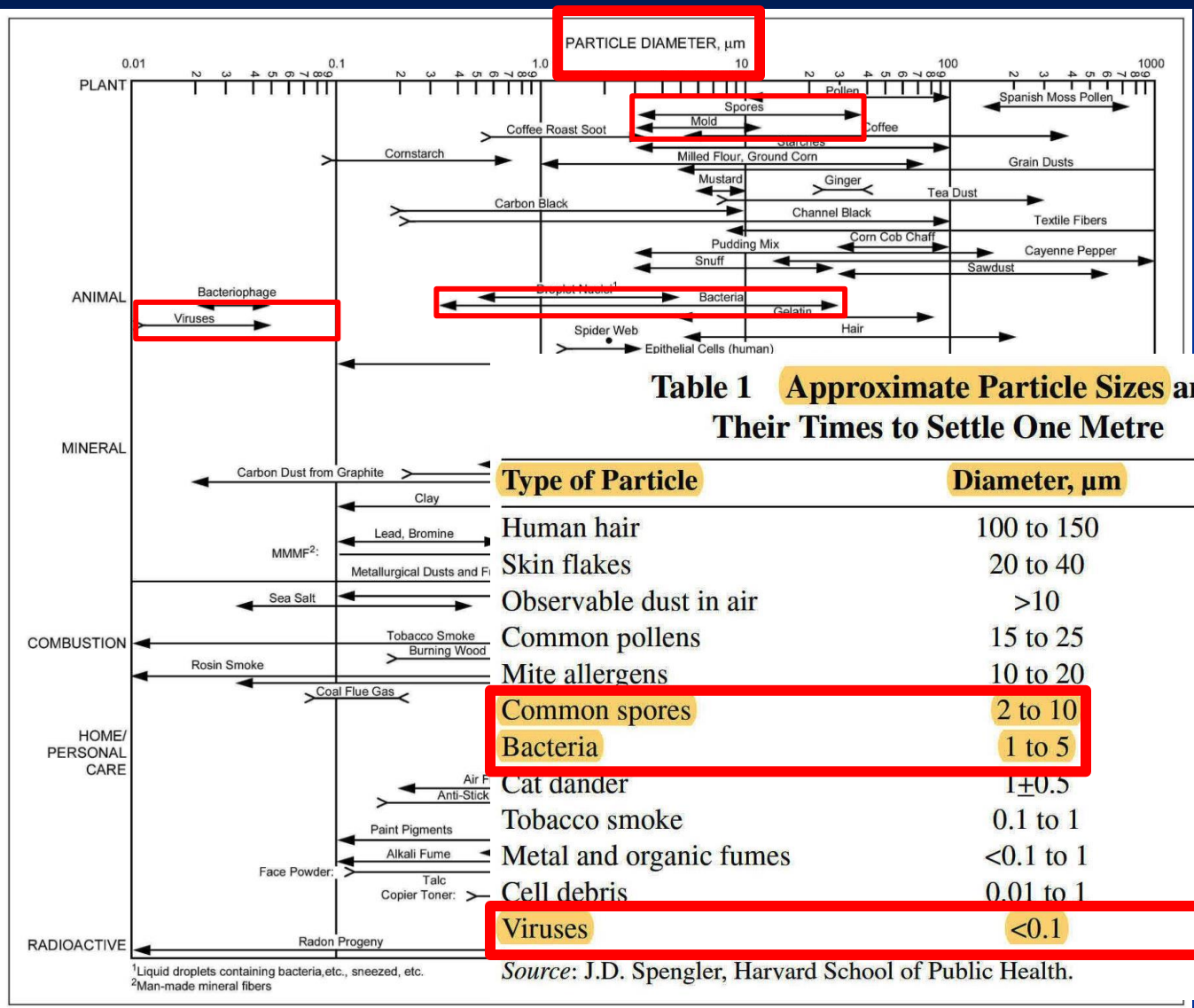


Table 1 Approximate Particle Sizes and Their Times to Settle One Metre

Type of Particle	Diameter, µm	Settling Time
Human hair	100 to 150	5 s
Skin flakes	20 to 40	
Observable dust in air	>10	
Common pollens	15 to 25	
Mite allergens	10 to 20	5 min
Common spores	2 to 10	
Bacteria	1 to 5	
Cat dander	1±0.5	10 h
Tobacco smoke	0.1 to 1	
Metal and organic fumes	<0.1 to 1	
Cell debris	0.01 to 1	
Viruses	<0.1	10 days

Source: J.D. Spengler, Harvard School of Public Health.

Fig. 3 Sizes of Indoor Particles
(Owen et al. 1992)

Viruses are the smallest of biological particles & toughest to filter out & 10x to 100x smaller than others!

WHAT DOES THIS MEAN?

Issue has always been about the little guys (aerosols), not the big guys (droplets)!

Why:

1. **Vast majority of particles are the little guys (aerosols).**
2. **Little guys stay in the air for hours to days.**
3. **Little guys reach the deep lung and are associated with disease.**

Real Misinformation: CDC – masks stops droplets – but aerosols are the issue, not droplets.

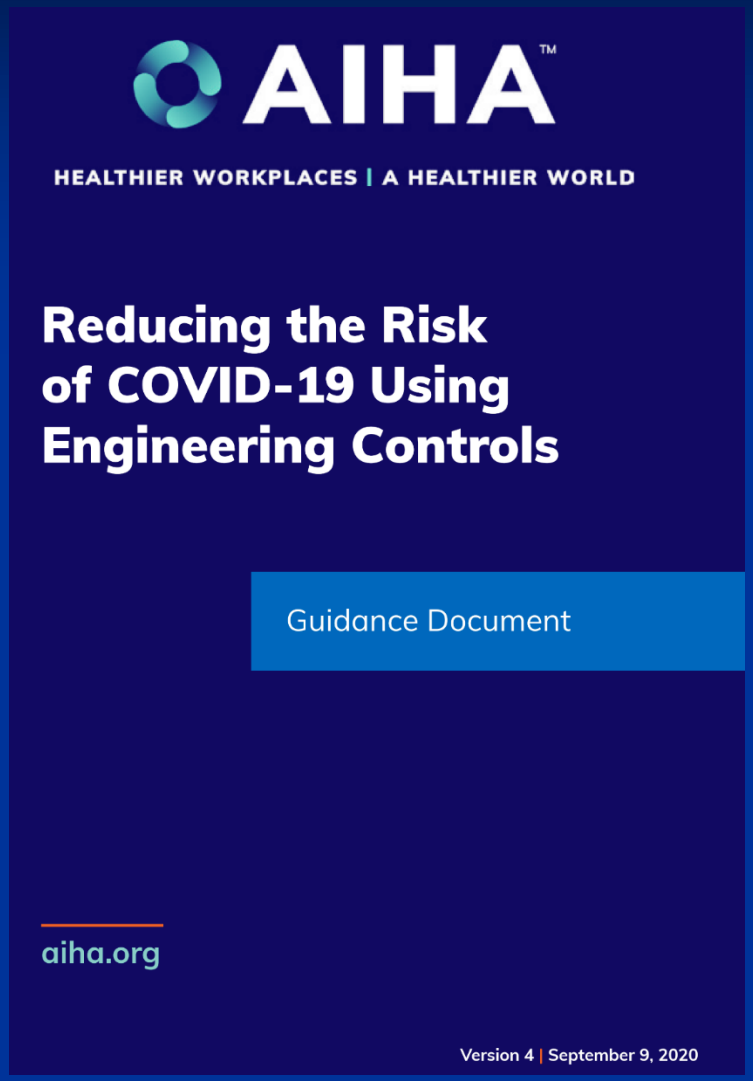
NEED TO PROVIDE SOLUTIONS WITH 90% RELATIVE RISK

In IH, our solutions must greatly minimize the risk, not help just a little bit.

(e.g., would we IH's provide solutions to asbestos workers that only resulted in relative risk of getting asbestos by 10% to 15%? – No! Asbestos is 50x larger than covid!)

AIHA GUIDANCE DOCUMENT

American Industrial Hygiene Association (AIHA)



September 9, 2020 Guidance on COVID-19 from AIHA

https://aiha-assets.sfo2.digitaloceanspaces.com/AIHA/resources/Guidance-Documents/Reducing-the-Risk-of-COVID-19-using-Engineering-Controls-Guidance-Document.pdf

AIHA – Relative Risk Reductions - ≥90%

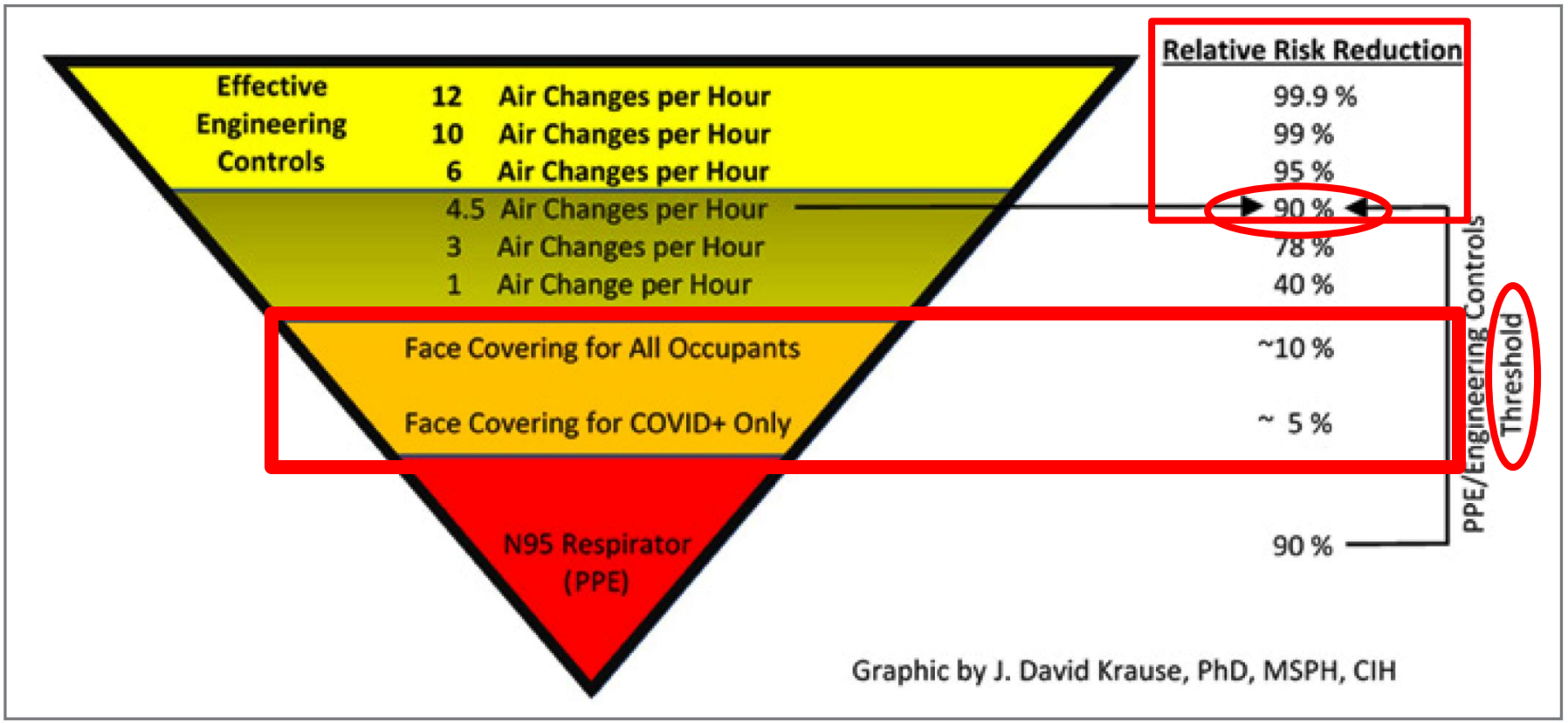


Figure 2*

**To learn how the relative risk reduction estimates were derived for Figure 2, download the SUPPLEMENT for Reducing the Risk of COVID-19 using Engineering Controls.*

https://aiha-assets.sfo2.digitaloceanspaces.com/AIHA/resources/Guidance-Documents/Reducing-the-Risk-of-COVID-19-using-Engineering-Controls-Guidance-Document.pdf

Shah et al., 2021 – Masks & N95s Do Not Appear to Work in the Real World

(Filtration Efficiencies with no Edge Gaps & 1µm particles (COVID ~0.1 µm)

- ***High-efficiency masks***
  - ***R95 (60.2%)***
  - ***KN95 (46.3%)***
  - ***KN95 w gap (3.4%).***
- ***Cloth Masks (9.8%).***
- ***Surgical masks (12.4%).***

From ASTM F3502-21 – Mask Standard

With Perfectly Sealed Mask!

Even FDA and CDC Now Saying Masks DO NOT Work

Masks – Do they Work? - No!

On January 2, 2022, Scott Gottlieb, former FDA Commissioner, on CBS's "Face the Nation," spilled the beans regarding the Government's knowledge on masks:

Menu

The Paradise

NEWS

Dr. Scott Gottlieb Gives Unbelievable Confession: 'A Cloth Mask is Not Going to Protect You' from an Airborne Virus

by **Admin**
January 2, 2022, 10:45 pm

Dr. Scott Gottlieb, the former FDA chief who quickly transitioned after leaving office to become a Pfizer board member, has made an admission about cloth masks that should make Americans question the "science" they have been told was unquestionable all along.

Gottlieb appeared on CBS's "Face the Nation" with host Margaret Brennan and punctured the widespread belief that cloth masks provide any significant protection from airborne respiratory viruses, such as Covid-19.

Masks – Do they Work? – Gottlieb – NO!

Gottlieb replied:

"*Cloth masks aren't going to provide a lot of protection, that's the bottom line*," he said. "This is an airborne illness. We now understand that. *And a cloth mask is not going to protect you from a virus that spreads through airborne transmission. It could protect better through droplet transmission, something like the flu, but not this coronavirus.*"


Dr. Scott Gottlieb Gives Unbelievable Confession: 'A Cloth Mask is Not Going to Protect You' from an Airborne Virus

Masks – Do they Work? - No!

Now another WH official (Dr. Ashish Jha) said on December 24, 2022 "*there is no study in the world that show masks work*": https://rumble.com/v227kuo-top-white-house-covid-advisor-admits-no-study-in-the-world-show-masks-work.html

Not a surprise – known since 1919 – Kellogg paper:

CDC's Eric Stone Reported Masks/N95s DO NOT Work

Evidence Review

Erin Stone, MPH, MS, MA
Public Health Analyst
Office of Guidelines and Evidence Review
Division of Healthcare Quality Promotion
Centers for Disease Control and Prevention

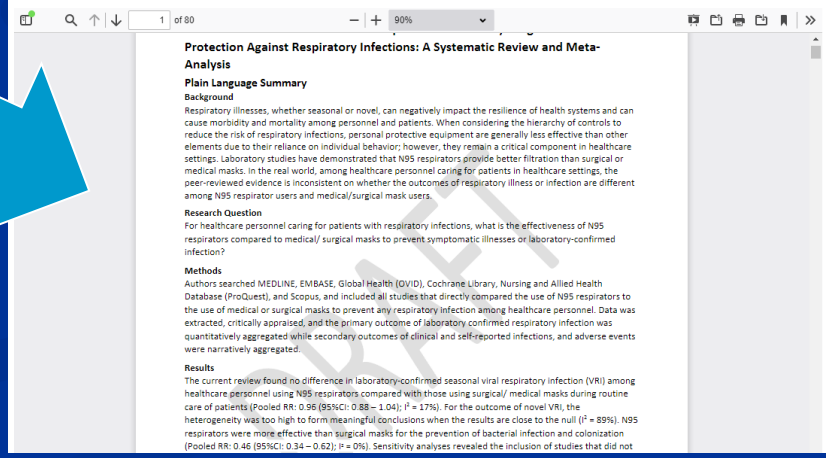
For all laboratory-confirmed VRIs, 13 studies were retrieved from the literature, and the quantitative results for the outcomes of importance were meta-analyzed, and stratified by pandemic and seasonal outcomes. For the outcome of all VRI, the meta-analysis suggests no difference among HCP wearing N95 respirators and those wearing surgical masks. There were strong concerns with the strength of this evidence. There is serious confounding, among all studies. Confounding means that there are factors that could offer alternate explanations for the results we see, and for these studies confounding factors can include patient masking, eye protection use, co-worker and community exposures, and the context of the task in which the HCP wore the mask. Further, over half of these studies were retrospective in nature, which raised the concern of recall bias, or memory, affecting the results. Many of these studies did not report on compliance or did not report compliance that was measured objectively with either mask type, further, mask and respirator fit was not assessed in a majority of the pandemic

CDC Not happy with findings; real science conflicts with their messaging!

DRAFT Healthcare Personnel Use of N95 Respirators or Medical/ Surgical Masks for Protection Against Respiratory Infections: A Systematic Review and MetaAnalysis

Nov. 2, 2023

By Healthcare Infection Control Practices Advisory Committee (U.S.). Infection Control in Healthcare Personnel Workgroup.



Protection Against Respiratory Infections: A Systematic Review and Meta-Analysis

Plain Language Summary

Background

Respiratory illnesses, whether seasonal or novel, can negatively impact the resilience of health systems and can cause morbidity and mortality among personnel and patients. When considering the hierarchy of controls to reduce the risk of respiratory infections, personal protective equipment are generally less effective than other elements due to their reliance on individual behavior; however, they remain a critical component in healthcare settings. Laboratory studies have demonstrated that N95 respirators provide better filtration than surgical or medical masks. In the real world, among healthcare personnel caring for patients in healthcare settings, the peer-reviewed evidence is inconsistent on whether the outcomes of respiratory illness or infection are different among N95 respirator users and medical/surgical mask users.

Research Question

For healthcare personnel caring for patients with respiratory infections, what is the effectiveness of N95 respirators compared to medical/ surgical masks to prevent symptomatic illnesses or laboratory-confirmed infection?

Methods

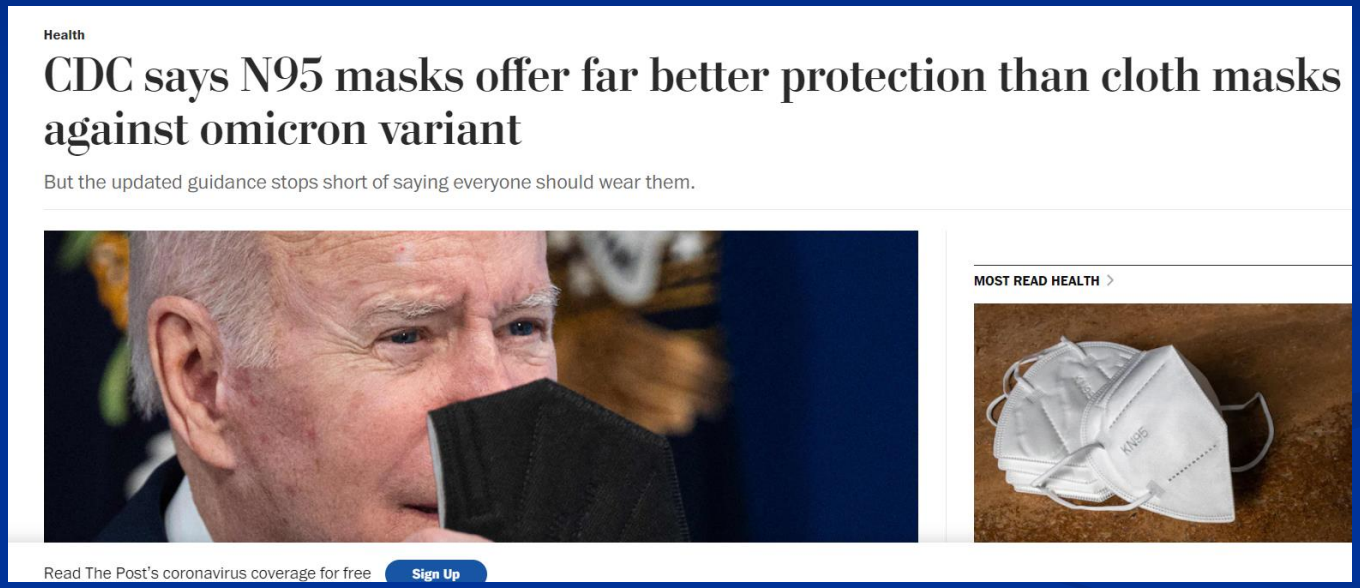
Authors searched MEDLINE, EMBASE, Global Health (OVID), Cochrane Library, Nursing and Allied Health Database (ProQuest), and Scopus, and included all studies that directly compared the use of N95 respirators to the use of medical or surgical masks to prevent any respiratory infection among healthcare personnel. Data was extracted, critically appraised, and the primary outcome of laboratory confirmed respiratory infection was quantitatively aggregated while secondary outcomes of clinical and self-reported infections, and adverse events were narratively aggregated.

Results

The current review found no difference in laboratory-confirmed seasonal viral respiratory infection (VRI) among healthcare personnel using N95 respirators compared with those using surgical/ medical masks during routine care of patients (Pooled RR: 0.96 (95%CI: 0.88 – 1.04); I^2 = 17%). For the outcome of novel VRI, the heterogeneity was too high to form meaningful conclusions when the results are close to the null (I^2 = 89%). N95 respirators were more effective than surgical masks for the prevention of bacterial infection and colonization (Pooled RR: 0.46 (95%CI: 0.34 – 0.62); I^2 = 0%). Sensitivity analyses revealed the inclusion of studies that did not

https://stacks.cdc.gov/view/cdc/134944, https://disinformationchronicle.substack.com/p/investigation-cdc-upset-their-own & https://disinformationchronicle.substack.com/p/cdc-warns-cdcs-own-scientists-that

Now Even CDC Effectively Saying Masks DO NOT Work



Health

CDC says N95 masks offer far better protection than cloth masks against omicron variant

But the updated guidance stops short of saying everyone should wear them.

MOST READ HEALTH

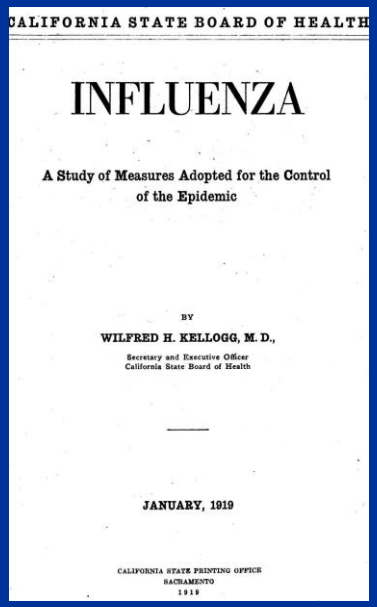
Read The Post's coronavirus coverage for free Sign Up

January 14, 2022 – New CDC Mask Guidance

Masking Known Not to Work for 100+ Years – 1919 - Kellogg

Wilfred H. Kellogg's report (Influenza, A Study of Measures Adapted for the Control of the Epidemic in 1919 (January) - https://books.google.com/books/about/Influenza_a_Study_of_Measures_Adopted_fo.html?id=R_o1AQAAMAAJ and Petty Reliance Materials, see pg. 29)

***clearly demonstrated that masking, while initially recommended for the Spanish Flu pandemic, was found not to be effective in public usage*.**


CALIFORNIA STATE BOARD OF HEALTH

INFLUENZA

A Study of Measures Adopted for the Control of the Epidemic

BY

WILFRED H. KELLOGG, M. D.,

Secretary and Executive Officer
California State Board of Health

JANUARY, 1919

CALIFORNIA STATE PRINTING OFFICE
SACRAMENTO
1919

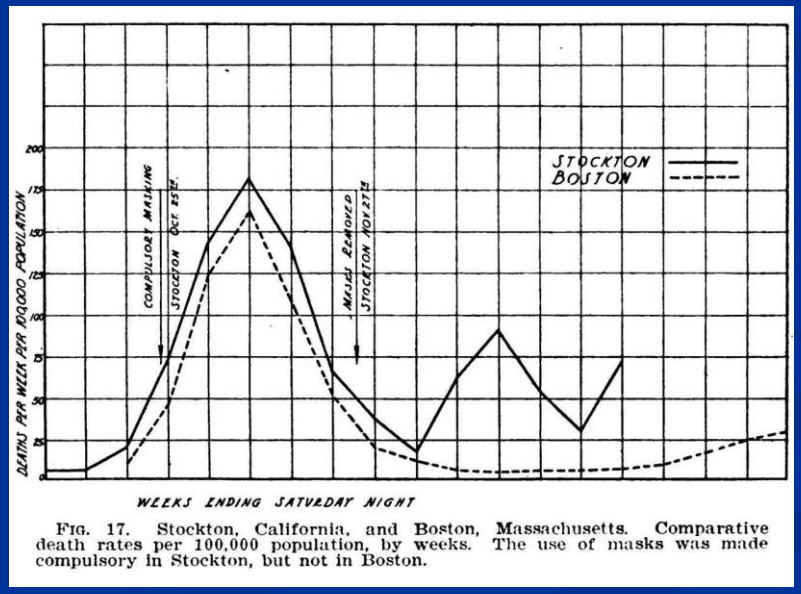


FIG. 17. Stockton, California, and Boston, Massachusetts. Comparative death rates per 100,000 population, by weeks. The use of masks was made compulsory in Stockton, but not in Boston.

Note that Kellogg was working as the Secretary and Executive Officer, California State Board of Health at the time.

TOLD TO FOLLOW CDC GUIDANCE

CDC Guidance with time:

- **No-masks needed – early 2020 (Fauci).**
- **Masks needed – mid-2020.**
- **Masks not needed – summer 2021.**
- **Masks needed – fall and school year of 2021 – help prodding from WH and Teacher's Union.**
- **January 14, 2022 - now masks not so good – need to move on to respirators (not just N-95s).**

WHAT CDC GUIDANCE DO WE FOLLOW?

None of the Above – Follow Engineering Controls.

OSHA 29 CFR 1910.134 – Respiratory Protection Standard (RPS)

OSHA 1910.134 RPS Parameters	Mask	Respirator
Medical Clearance to Wear	No	Yes
Ability to Wear Facial Hair – Beard	Yes	No
Initial Fit Test Requirement	No	Yes
Annual Requirement to Fit Test	No	Yes
Change-out Criteria for Filter/Cartridge	No	Yes
Training on Use of Mask/Respirator	No	Yes
Training on Storage of Mask/Resp.	No	Yes
Audit of Effectiveness of Program	No	Yes

CONCLUSIONS: Masks do not meet key OSHA RPS Requirements!

Movement to the N95 means one has to follow RPS!

WHAT ELSE DOES 3M WARN ABOUT USE OF N95s?

Use Limitations

1. This respirator does not supply oxygen. Do not use in atmospheres containing less than 19.5% oxygen.
2. Do not use when concentrations of contaminants are immediately dangerous to life or health, are unknown or when concentrations exceed 10 times the permissible exposure limit (PEL) or according to specific OSHA standards or applicable government regulations, whichever is lower.
3. Do not alter, wash, abuse or misuse this respirator.
4. Do not use with beards or other facial hair or other conditions that prevent a good seal between the face and the sealing surface of the respirator.
5. Respirators can help protect your lungs against certain airborne contaminants. They will not prevent entry through other routes such as the skin, which would require additional personal protective equipment (PPE).
6. This respirator is designed for occupational/professional use by adults who are properly trained in their use and limitations. This respirator is not designed to be used by children.
7. Individuals with a compromised respiratory system, such as asthma or emphysema, should consult a physician and must complete a medical evaluation prior to use.

Use Limitations:

- ***"Not designed to be used by children!"***
- **Only designed for adults in occupational settings and trained – Code: follow 29 CFR 1910.134.**
- **Adults must be medically cleared to use 3M's N95 respirator.**

WHAT ELSE DOES 3M WARN ABOUT USE OF N95s?

IMPORTANT

Before use, wearer must read and understand these *User Instructions*. Keep these instructions for reference.

Use Instructions

1. Failure to follow all instructions and limitations on the use of this respirator and/or failure to wear this respirator during all times of exposure can reduce respirator effectiveness and **may result in sickness or death.**
2. In the U.S., before occupational use of this respirator, a written respiratory protection program must be implemented meeting all the requirements of OSHA 29 CFR 1910.134 such as training, fit testing, medical evaluation, and applicable OSHA substance specific standards. In Canada, CSA standard Z94.4 requirements must be met and/or requirements of the applicable jurisdiction, as appropriate. Follow all applicable local regulations.

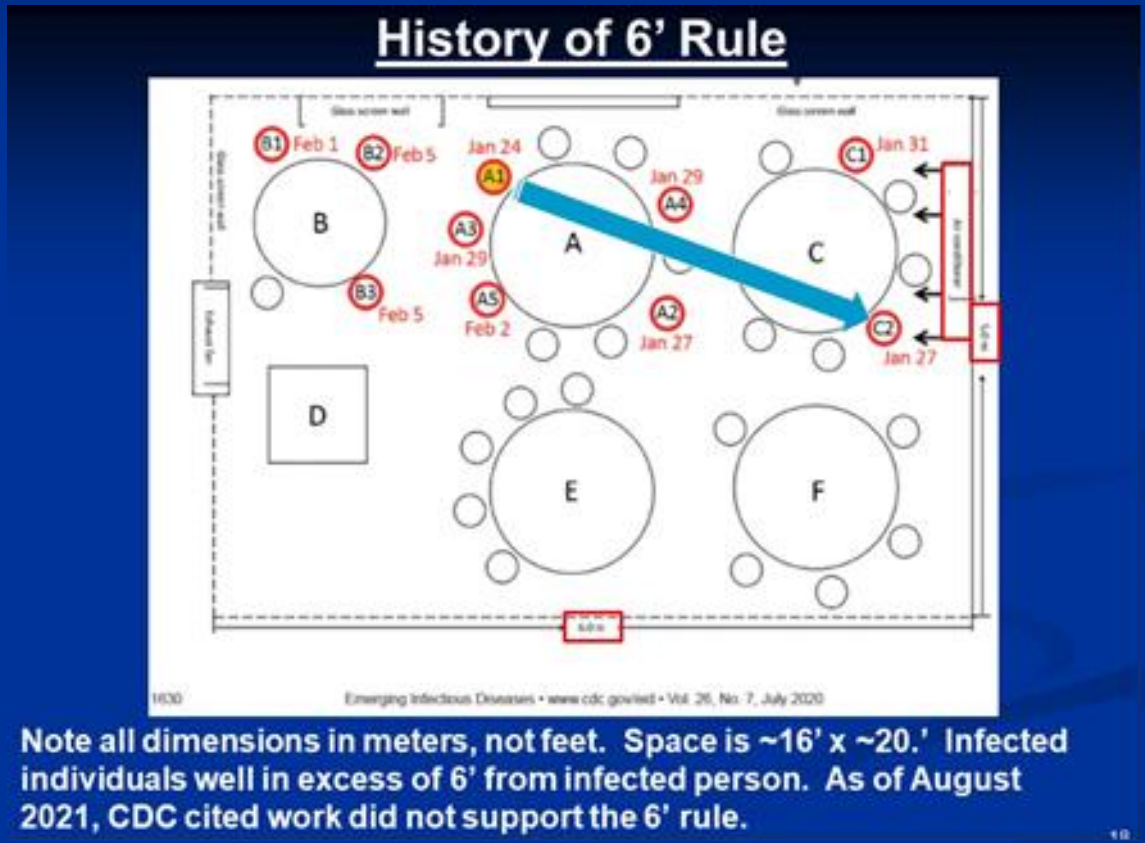
7. Conduct a user seal check before use as specified in the Fitting Instructions section. **If you cannot achieve a proper seal, do not use the respirator.**

Use Instructions:

- **Failure to follow instructions may result in sickness or death.**
- **Must follow OSHA 29 CFR 1910.134 – Respiratory Protection Standard – to use in occupational setting.**
- **Must be able to be sealed or do not use.**

SOCIAL DISTANCING – 6’ RULE – No Basis in Science

In over 2 years, *I could not find a scientific basis for the 6’ rule*. The single study cited by CDC in 2021 was in metric and never included distances related to 6’ (see Petty Reliance Material - Lu, Jianyun Lu et al., 2021 - 2020 https://doi.org/10.3201/eid2607.200764):



In fact, the study did not have a goal of setting the 6’ social distancing value often cited:

6’ RULE – No Basis in Science – Cont.

The 6’ has been debunked as simply made up (“***no-body knows where it came from***”) by Scott Gottlieb (former FDA Chief) in his September 19, 2021 CBS Face the Nation interview https://www.cbsnews.com/video/open-this-is-face-the-nation-september-19/#x):

What About the 6’ Rule – Dummy Dots?

Well, on September 19, 2021, Scott Gottlieb, former FDA chief, on CBS’s “Face the Nation,” spilled the beans on this issue:

Now – Jan. 2024 – Dr. Fauci:

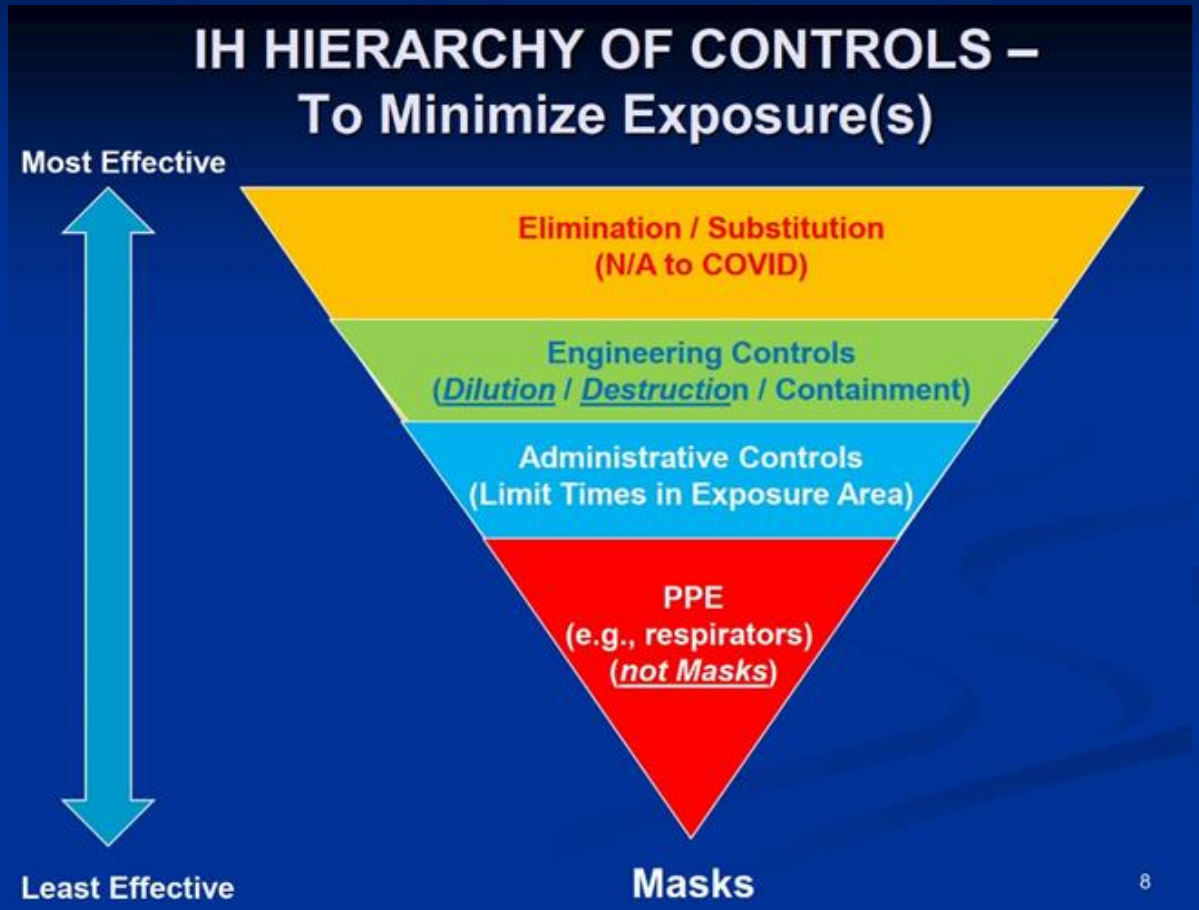
What About the 6’ Rule – the Dummy Dots?

“***Nobody knows where it came from***. Most people assume that the six feet of distance, the recommendation for keeping six feet apart, comes out of some old studies related to flu, where droplets don't travel more than six feet,” Gottlieb told Brennan.

The six-foot rule was “probably the single costliest recommendation that [the] CDC made,” Gottlieb said, because “*the whole thing feels arbitrary and not science based*,” which lowers public confidence.

15

SOLUTIONS – Hierarchy of Controls (Given to IH's by the National Safety Council in 1950)



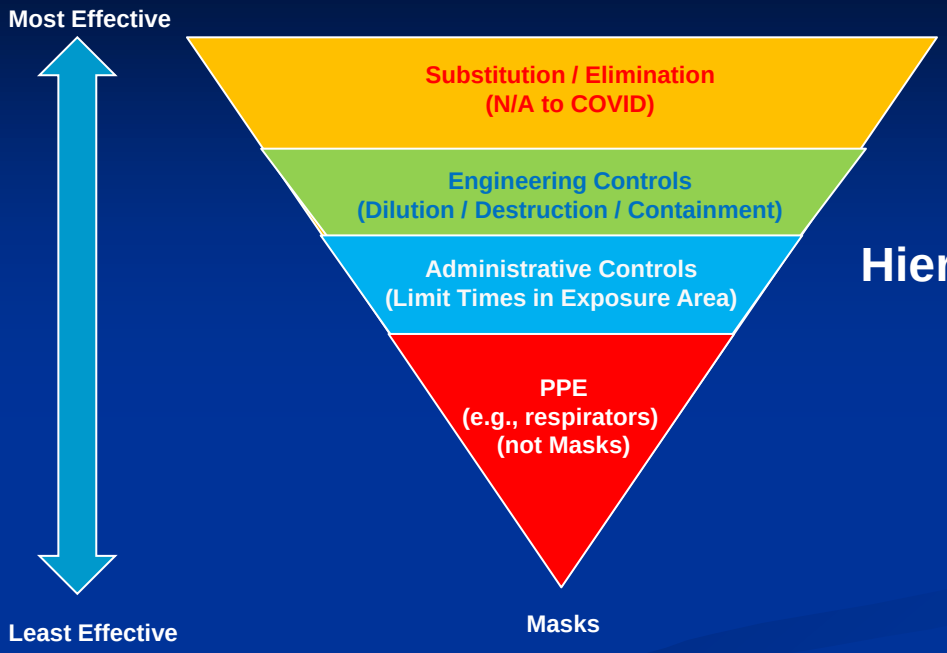
Gojdics, Rich, 2019. A Deeper Look at the Hierarchy of Controls: A Brief History, June 30th, https://enesproppe.com/blogs/electrical-safety-stories/a-deeper-look-at-the-hierarchy-of-controls-a-brief-history.

Riordan, Thomas, 2021. How to Apply the Hierarchy of Controls in a Pandemic, June 30th, https://www.assp.org/news-and-articles/how-to-apply-the-hierarchy-of-controls-in-a-pandemic.

NIOSH, 1973. The Industrial Environment – its Evaluation and Control (White Book), U.S. Department of Health and Human Services – Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health (see Chapter 1), Doc. # 74-117 https://www.cdc.gov/niosh/docs/74-117/default.html.

Ferguson, Alan, 2022. The Hierarchy of Controls, Safety and Health Magazine, pp. 32-34, October.

CDC vs IH Approach to Control Exposure



Hierarchy of Controls (NSC – 1950+)

CDC Approach

2020-2021 – Masks

2022/2023 – Masks/N95s

vs

Petty IH Approach

2020-2022+ – Engineering Controls

DAMAGE AND HARM TO CHILDREN

(and adults)

NO SURPRISE – MASKS ACTUALLY CAUSE HIGHER RATE OF COVID

December 2023 Paper by Elgersma et al., - Those wearing masks had rates of COVID ~33% to ~40% greater than those not wearing masks!

SUMMARY

We examined the association between face masks and risk of infection with SARS-CoV-2 using cross-sectional data from 3,209 participants in a randomized trial of using glasses to reduce the risk of infection with SARS-CoV-2. Face mask use was based on participants' response to the end-of-follow-up survey. We found that the incidence of self-reported COVID-19 was 33% (aRR 1.33; 95% CI 1.03 - 1.72) higher in those wearing face masks often or sometimes, and 40% (aRR 1.40; 95% CI 1.08 - 1.82) higher in those wearing face masks almost always or always, compared to participants who reported wearing face masks never or almost never. We believe the observed increased incidence of infection associated with wearing a face mask is likely due to unobservable and hence nonadjustable differences between those wearing and not wearing a mask. Observational studies reporting on the relationship between face mask use and risk of respiratory infections should be interpreted cautiously, and more randomized trials are needed.

This is an Accepted Manuscript for Epidemiology & Infection. Subject to change during the editing and production process.
DOI: 10.1017/S0950268823001826

Association between Face mask use and Risk of SARS-CoV-2 Infection – Cross-sectional study

Ingeborg Hess Elgersma[1], MA

Atle Fretheim[1,2], Prof. *

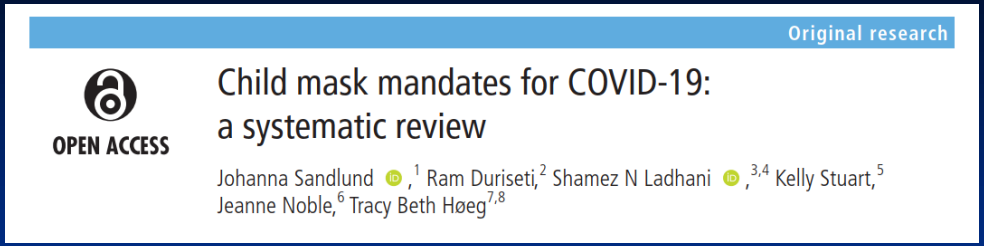
Petter Elstrøm[1], PhD

Preben Aavitsland[3,4], Prof.

Masks provide ideal environment (T, RH) for amplification (grow 10x to 1,000x input) of mold, bacteria and viruses – rebreathe this material.

https://doi.org/10.1017/S0950268823001826 Published online by Cambridge University Press

Recall Sandlund et al., 12/2023 - Child Harms


Original research

OPEN ACCESS

Child mask mandates for COVID-19: a systematic review

Johanna Sandlund ,[1] Ram Duriseti,[2] Shamez N Ladhani ,[3,4] Kelly Stuart,[5] Jeanne Noble,[6] Tracy Beth Høeg[7,8]

"*<u>An extensive body of research has found harms associated with mask wearing or mask requirements in children. These associated harms include:</u>*"

- **Negative impacts on speech, language and learning. Mask wearing causes reduced word identification and impedes the ability to teach and evaluate speech.**
- **There is a link between observation of the mouth and language processing, and people of all ages continue to focus on the mouth when listening to non-native speech. The sensitive period for language development is through age 4, and development of connected speech is ongoing beyond age**
- **Negative impact on mental health and social-emotional well-being by limiting the ability to accurately interpret emotions, particularly in younger children.**
- **There is also evidence that masks hinder social-emotional learning and language/literacy development in young children."**

https://adc.bmj.com/content/archdischild/early/2023/12/02/archdischild-2023-326215.full.pdf

Recall Sandlund et al., Dec. 2023 - Child Mask Mandates for COVID-19: A Systematic Review

Harms cont.:

- **"Children with special-education needs and autism may be disproportionately impacted by mask requirements as they rely heavily on facial expressions to pick up social cues.**
- **Misinterpretation of facial expressions increases anxiety and depression in individuals.**
- **School environments with mask mandates were also found to have increased anxiety levels compared to those without mandates."**

https://adc.bmj.com/content/archdischild/early/2023/12/02/archdischild-2023-326215.full.pdf

Recall Sandlund et al., Dec. 2023 - Child Mask Mandates for COVID-19: A Systematic Review

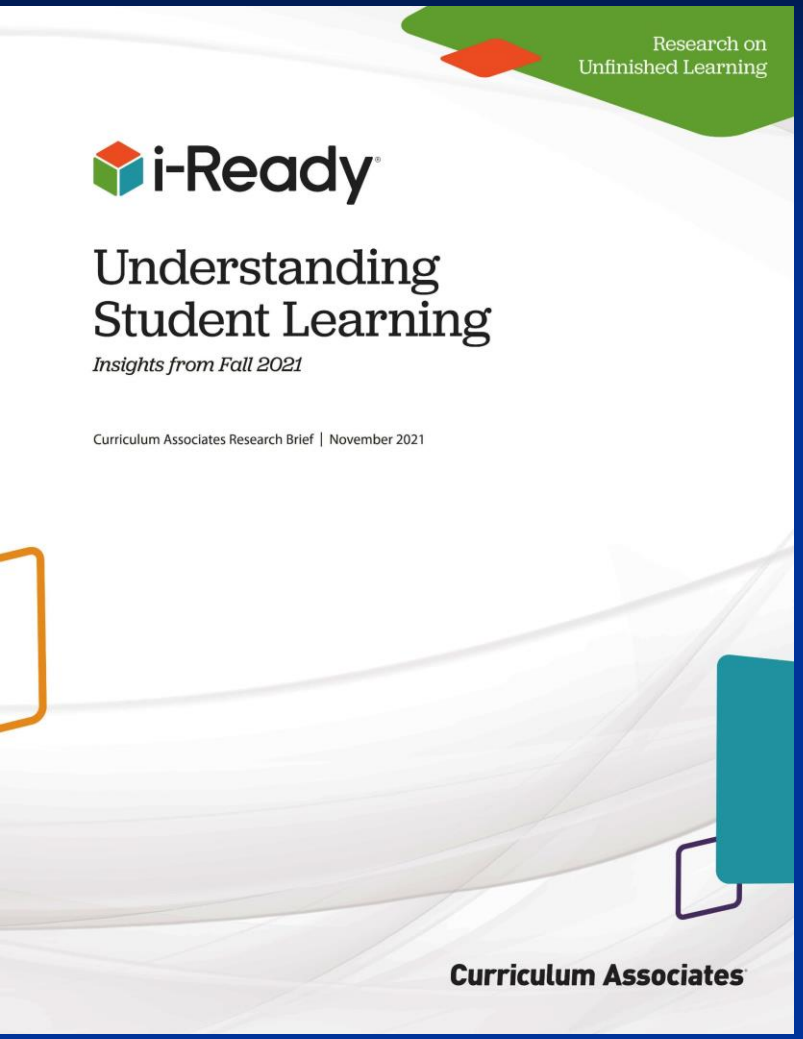
Harms cont.:

- **In addition, mask wearing has been associated with physiological harm, many of which are more frequently reported in children than in adults — which may have multiple negative downstream effects, including reduced time and intensity of exercise, additional sick days, reduced learning capacity, and increased anxiety.**

- **Masking has also been found to lead to rapid increase in CO_2 content in inhaled air—higher in children than in adults—and to levels above acceptable safety standards for healthy adult workers, which may rise further with physical exertion.**

https://adc.bmj.com/content/archdischild/early/2023/12/02/archdischild-2023-326215.full.pdf

CURRICULUM ASSOCIATES – NOV. 2021*



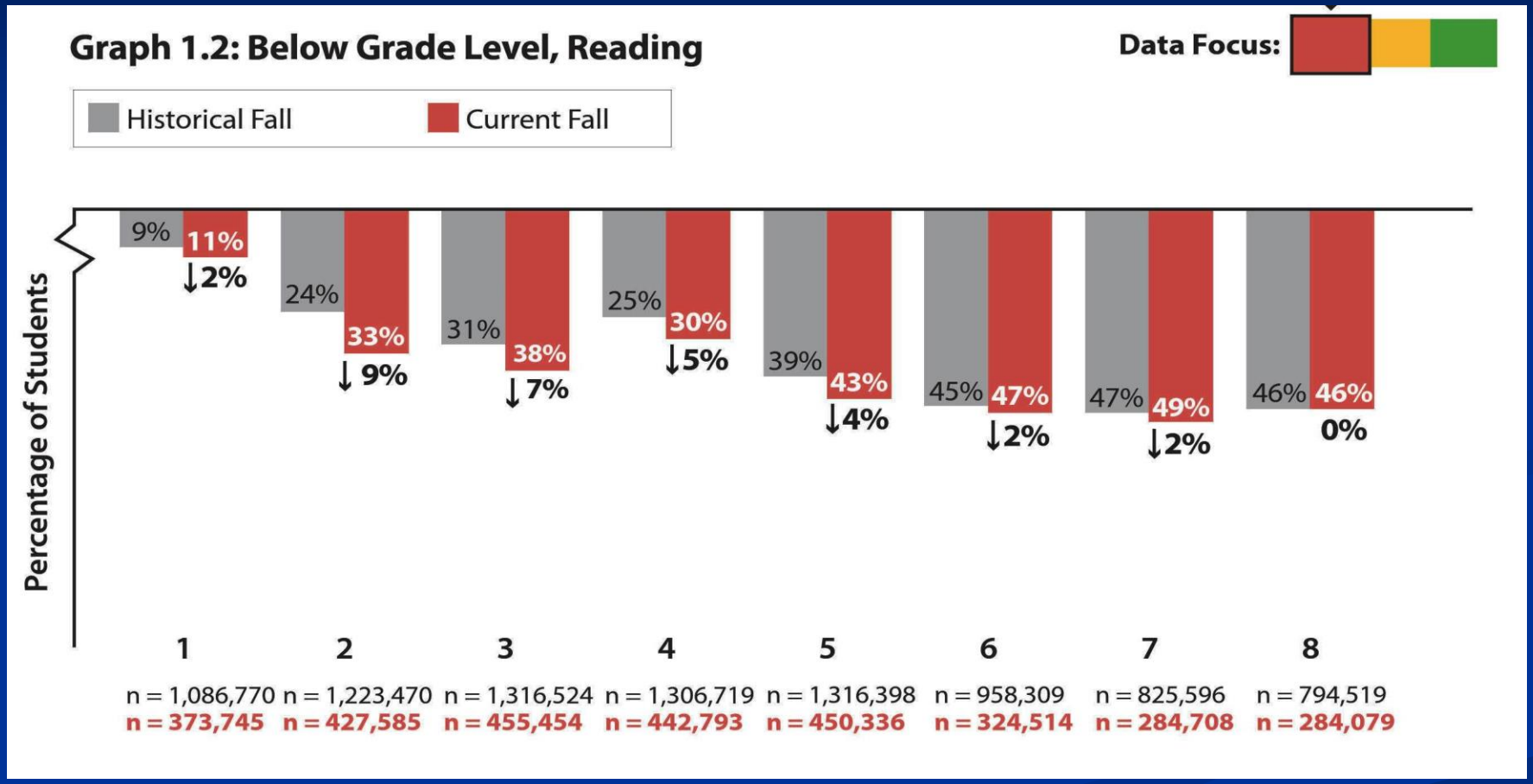
Key Findings

- ***In reading, the percentage of students who are on grade level in the upper-elementary and middle school grades is close to pre-pandemic levels, whereas in the early grades the percentage of students who are on grade level is lower than before the pandemic.***
- ***In mathematics, the percentage of students who are on grade level is lower in nearly all grades than what we saw prior to the pandemic.***
- **Fewer students attending schools serving mostly Black and Latino students are on grade level this fall than students attending schools serving mostly White students, and these inequities pre-date the pandemic.**

***https://www.curriculumassociates.com/-/media/mainsite/files/i-ready/iready-understanding-student-learning-paper-fall-results-2021.pdf; see also: https://www.curriculumassociates.com/about/press-releases/2021/11/fall-results-2021**

CURRICULUM ASSOCIATES – NOV. 2021*

Reading Results – Grades 1 to 8

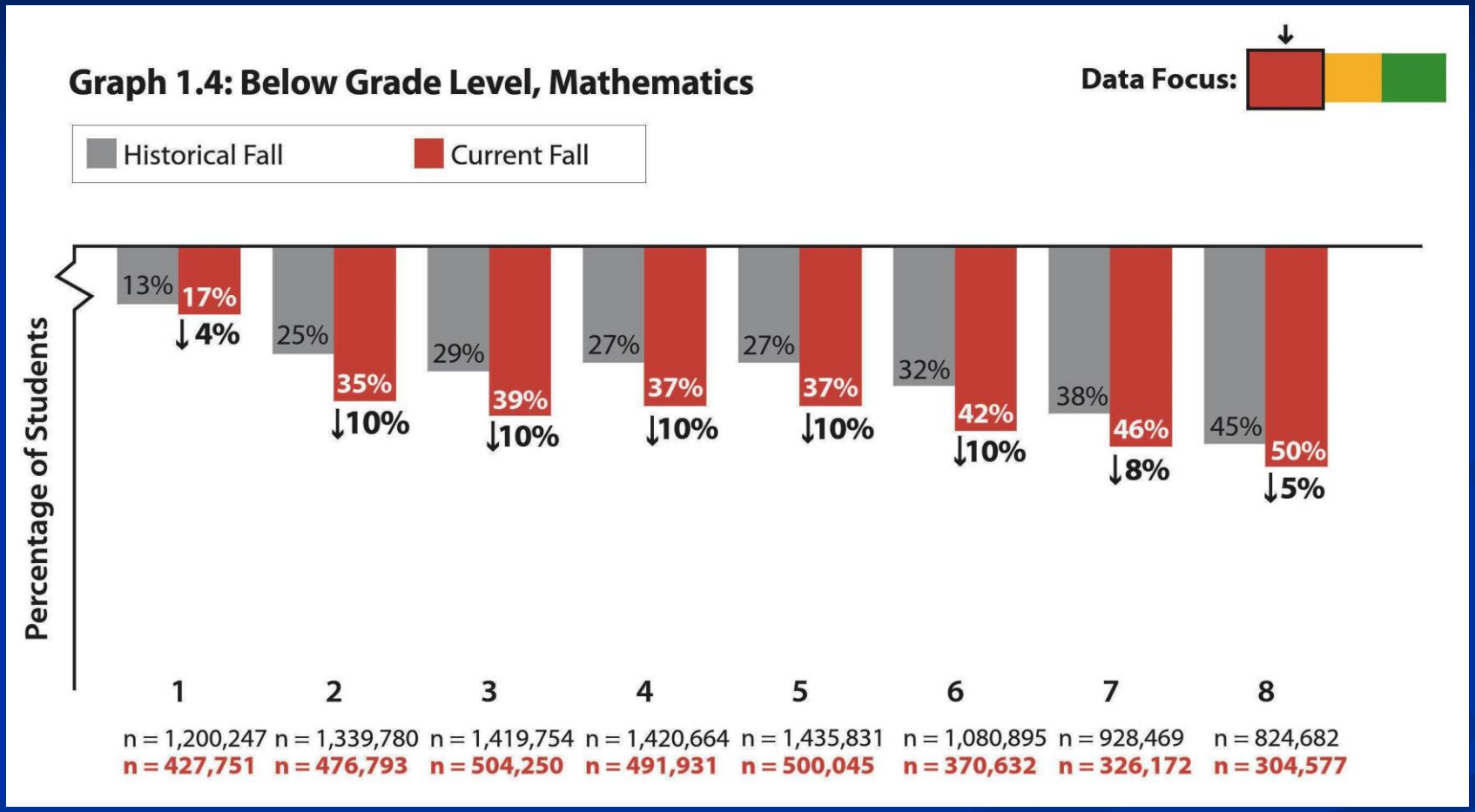


Survey – On Average Students 0% to 9% Below Historic Avg.

*https://www.curriculumassociates.com/-/media/mainsite/files/i-ready/iready-understanding-student-learning-paper-fall-results-2021.pdf; see also: https://www.curriculumassociates.com/about/press-releases/2021/11/fall-results-2021

CURRICULUM ASSOCIATES – NOV. 2021*

Math Results – Grades 1 to 8

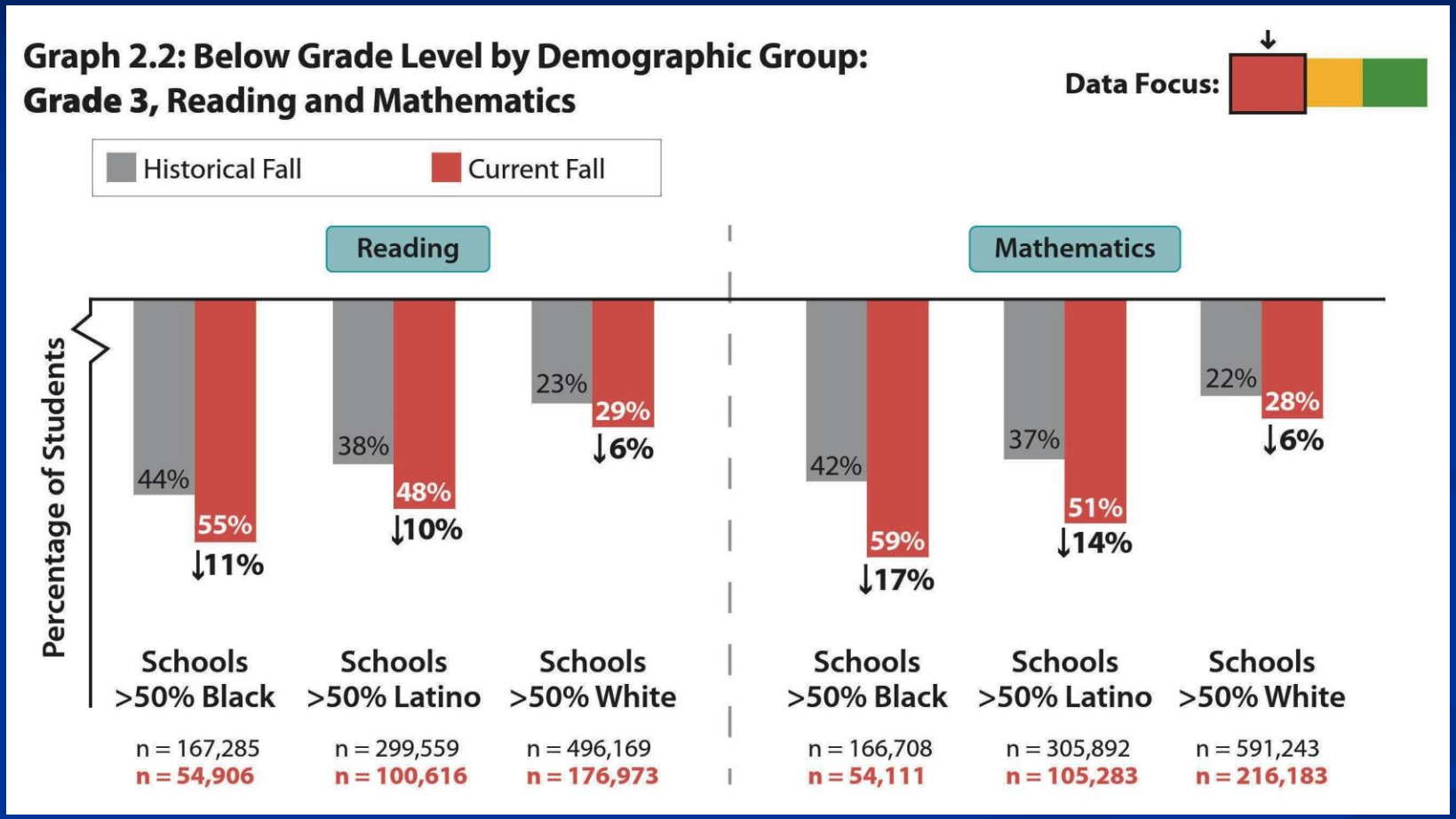


Survey – On Average Students 4% to 10% Below Historic Avg.

*https://www.curriculumassociates.com/-/media/mainsite/files/i-ready/iready-understanding-student-learning-paper-fall-results-2021.pdf; see also: https://www.curriculumassociates.com/about/press-releases/2021/11/fall-results-2021

CURRICULUM ASSOCIATES – NOV. 2021*

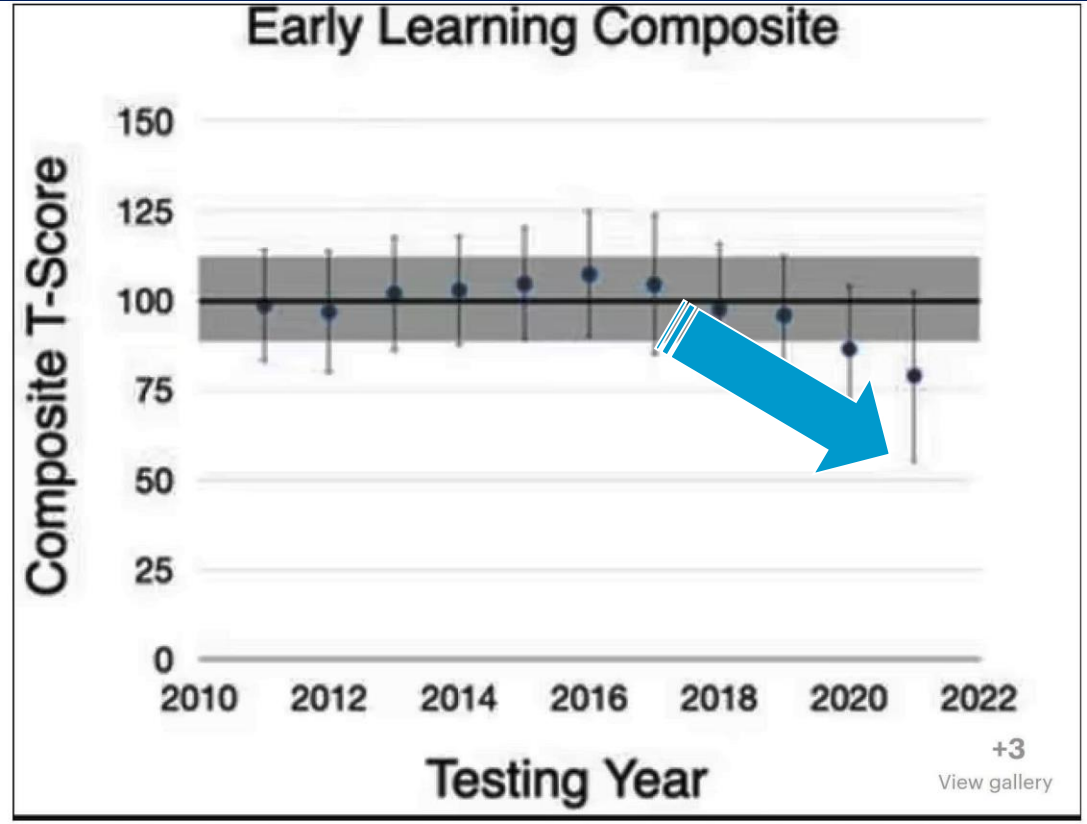
Impact on Minorities – Grades 1 to 8



Survey – Minorities Affected Even More

*https://www.curriculumassociates.com/-/media/mainsite/files/i-ready/iready-understanding-student-learning-paper-fall-results-2021.pdf; see also: https://www.curriculumassociates.com/about/press-releases/2021/11/fall-results-2021

BROWN UNIVERSITY STUDY*



The report found that there was a 23 per cent drop in scores measuring kids' intelligence quotients since the start of the pandemic. Results showed the early learning composite mean result dropped by a whopping 23 per cent, from a high of just under 100 in 2019, to 77 in 2021

So What Does CDC Do?

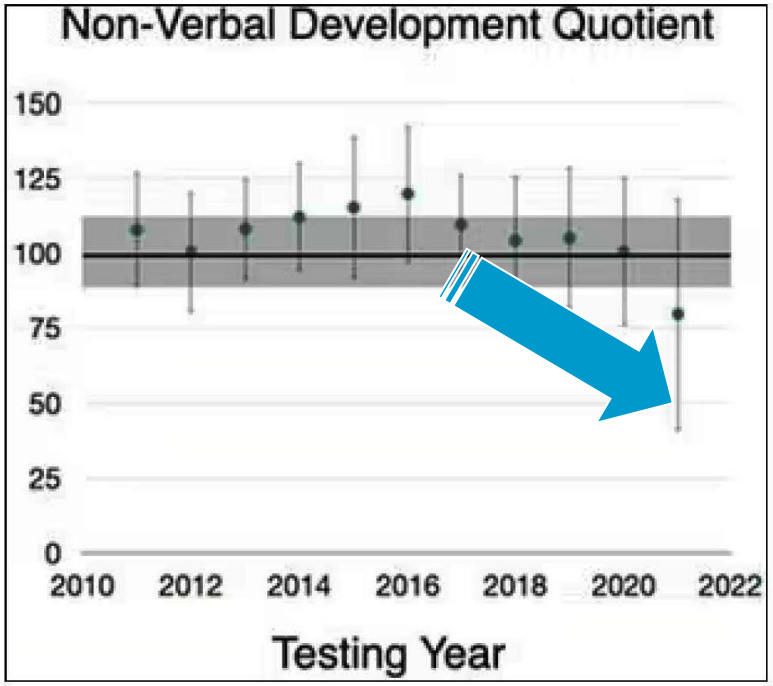
On/About February 8, 2022, Increase Ages for Development Ages –

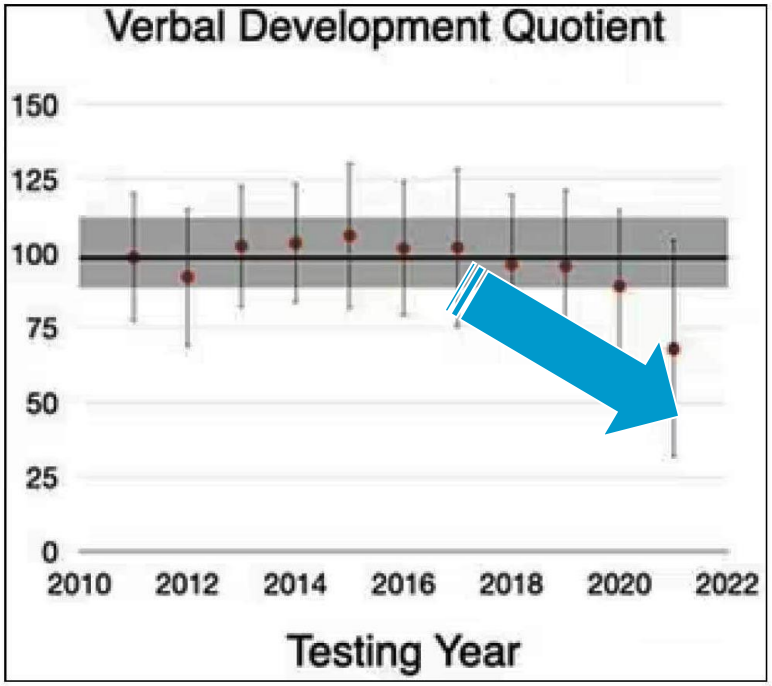
Moved the Goal-Posts Forwards!

Survey – Learning Composite Has Dropped 23%

*https://www.medrxiv.org/content/10.1101/2021.08.10.21261846v1.full.pdf & https://www.dailymail.co.uk/news/article-10247315/Face-masks-harm-childrens-development-Study-blames-significantly-reduced-development.html

BROWN UNIVERSITY STUDY*





Two tests determining kids' development quotients were conducted as well, illustrating marked drops since the start of the pandemic concerning how well children are maturing in their language skills and other skills as compared with a sample of youngsters their own age

Survey – Verbal and Non-Verbal Development Falling

*https://www.medrxiv.org/content/10.1101/2021.08.10.21261846v1.full.pdf & https://www.dailymail.co.uk/news/article-10247315/Face-masks-harm-childrens-development-Study-blames-significantly-reduced-development.html

January 2022 England Dept. of Education Study

Department for Education

Evidence Summary

Coronavirus (COVID-19) and the use of face coverings in education settings

January 2022

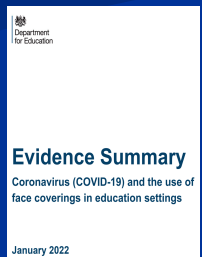
123 schools in England used masks and compared that to others that did not use masks during the Delta wave of Covid.

January 2022 England Dept. of Education Study – Masks Negatively Affected Learning

The review acknowledged the use of face coverings are harmful:

"A survey conducted by the Department for Education in April 2021 found that almost all secondary leaders and teachers (94%) thought that wearing face coverings has made communication between teachers and students more difficult, with 59% saying it has made it a lot more difficult"

"Wearing face coverings may have physical side effects and impair face identification, verbal and non-verbal communication between teacher and learner."


Department for Education

Evidence Summary

Coronavirus (COVID-19) and the use of face coverings in education settings

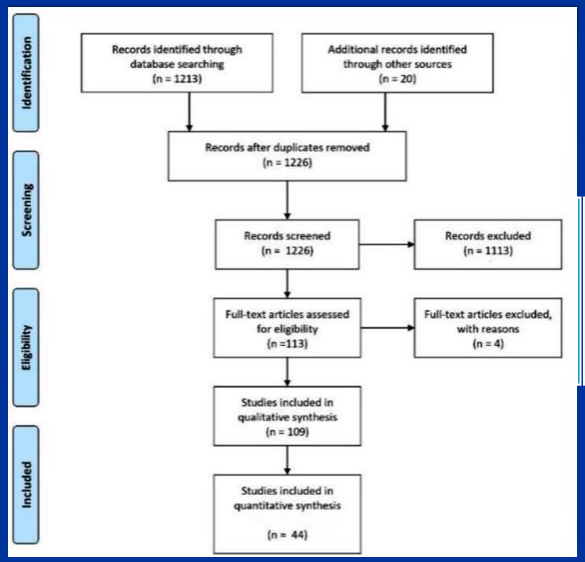
January 2022

OTHER NEGATIVE EFFECTS OF WEARING MASKS

Review

Is a Mask That Covers the Mouth and Nose Free from Undesirable Side Effects in Everyday Use and Free of Potential Hazards?

Kai Kisielinski [1], Paul Giboni [2], Andreas Prescher [3], Bernd Klosterhalfen [4], David Graessel [5], Stefan Funken [6], Oliver Kempski [7] and Oliver Hirsch [8,*]



Meta Study: 1,226 Papers Considered

Distilled to 109 Qualitative & 44 Quantitative Papers

Int. J. Environ. Res. Public Health 2021, 18, 4344. https://doi.org/10.3390/ijerph18084344

OTHER NEGATIVE EFFECTS OF WEARING MASKS

Increased risk of adverse effects when using masks:

Internal diseases
COPD
Sleep Apnea Syndrome
advanced renal Failure
Obesity
Cardiopulmonary Dysfunction
Asthma

Psychiatric illness
Claustrophobia
Panic Disorder
Personality Disorders
Dementia
Schizophrenia
helpless Patients
fixed and sedated Patients

Neurological Diseases
Migraines and Headache Sufferers
Patients with intracranial Masses
Epilepsy

Pediatric Diseases
Asthma
Respiratory diseases
Cardiopulmonary Diseases
Neuromuscular Diseases
Epilepsy

ENT Diseases
Vocal Cord Disorders
Rhinitis and obstructive Diseases

Dermatological Diseases
Acne
Atopic

Occupational Health Restrictions
moderate / heavy physical Work

Gynecological restrictions
Pregnant Women

27 Adverse Effects Quantitated for Wearing Masks – 5 Specifically for Children

WE ARE CONCERNED ABOUT LACK OF REAL SCIENCE USED BY CDC

Petty, et. al., 2022 Letter to CDC/Fauci/WH – Don't Ruin Public's View of Science!

February 22, 2022

Rochelle P. Walensky, MD, MPH
Director, Centers for Disease Control and Prevention
1600 Clifton Road, NE
Atlanta, GA 30329

Anthony S. Fauci, MD
Director, National Institute of Allergy and Infectious Diseases
National Institutes of Health
31 Center Dr # 7A03
Bethesda, MD 20892

Honorable Senator Ronald H. Johnson
328 Hart Senate Office Building
Washington DC 20510

Douglas L. Parker,
Assistant Secretary of Labor for Occupational Safety and Health
Occupational Safety & Health Administration
200 Constitution Ave NW
Washington, DC 20210

Mr. Jeffrey Zients
Coordinator and Counselor to the President
COVID-19 Pandemic Response
The White House
1600 Pennsylvania Ave. NW
Washington, DC 20500

Sent via US Mail Certified Return Receipt and e-mail

Re: Request for Immediate Corrections to the CDC Guidance on M Respirators

Dear Dr. Walensky, Dr. Fauci, Senator Johnson, Mr. Parker, and Mr. Zien

We the undersigned, professional experts in the field of industrial hygiene, experience of nearly 150 years, are highly concerned with the inaccurate a guidance being promoted by the CDC on its website regarding efficacy prevent COVID-19 and now similar guidance regarding respirators ar immediate correction to said guidance. The guidance is overly broad, i

Conclusion:

The CDC has built a series of recommendations for masking that are inconsistent with the technical and medical literature. The policy and procedural recommendations exaggerate the benefits, while ignoring the limitations and harms, especially for children and the general population. In addition, the CDC has taken a policy position of "it might work" and "it can't hurt" and use selective and weak observational data in the place of actual controlled scientific study to justify inappropriate recommendations for masks and face coverings.

Recently, the CDC has deployed a respiratory protection policy (i.e., masks to N95s) that dismisses the key principles in any Safety and Health program regarding the use of respirators – namely the Respiratory Protection Program. There is no mention of potential risks if the respirator is not properly used or fitted correctly. Moreover, it is clear that respirators are not intended for use with children. In our profession, if PPE and respiratory protection guidance was to ever be delivered without risk identification, fit testing, and training, we would be liable for putting personnel in a high-risk scenario, which is what the CDC is doing with their policy.

We would ask the CDC to accept these basic industrial hygiene facts that we have presented, update their public guidance accordingly regarding the issue of droplets vs. aerosols, stop confusing the public regarding the effectiveness of masks, and stop implying respirators are acceptable for children, and to be given generally to the public. In addition, it is clear the CDC knows, or should know, that gaps between the face and mask are a major problem for real mask effectiveness and could never have met our industry's requirement of 90% relative risk reduction.

The CDC is doing enormous damage to science and scientists by allowing politics to dictate public health policy rather than actual science. Increasingly, and for good reason as we have illustrated, the public does not trust the CDC and its science; this must change.

We recognize that it is easy to judge from afar and know that you and your team are under tremendous stress during this period. Our desire is to see the CDC and our country succeed in these efforts. As such, instead of just being critical, we want to offer our time to your organization to find solutions together. We would be willing to collaborate in the creation of a competent plan that will be based on the Hierarchy of Controls and will be tailored to various work and living environments. We will also help develop data points we can use to monitor and measure this program to enable proper adjustments as needed.

We look forward to your responses to our concerns as we continue to work to protect the public.

Sincerely:

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AIHA CONCERNED ABOUT LACK OF REAL SCIENCE USED BY CDC

AIHA July 2023 Letter to CDC – need to follow Hierarchy of Controls:

AIHA®

HEALTHIER WORKPLACES | A HEALTHIER WORLD

July 19, 2023

Mandy Cohen, MD
Director
Centers for Disease Control and Prevention

Updates to CDC's "2007 CDC Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings" Must be Based on the Full Body of Scientific Evidence and Protect Healthcare Workers from SARS CoV-2 and Other Infectious Pathogens

Dear Director Cohen:

AIHA, the association for scientists and professionals committed to preserving and ensuring occupational and environmental health and safety (OEHS) is requesting that the CDC intervene to ensure that the Healthcare Infection Control Practices Advisory Committee (HICPAC) base its recommendations for updating the "2007 CDC Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings" on the full body of scientific evidence, especially on the topics of aerosol transmission of infectious pathogens and respiratory protection of healthcare personnel.

We support the efforts of HICPAC to update the 2007 CDC Guidelines, however, it is critical that the guidelines reflect the lessons learned from the COVID-19 pandemic and the knowledge gained about the transmission of respiratory pathogens. The most recent HICPAC meeting of June 8-9, 2023 included a presentation of draft recommendations that conflict with CDC's internal and extramural research, scientific briefings[i] [ii] [iii] [iv], and publicly available guidance documents. A commentary supported by 239 scientists was published In November of 2020, "It Is Time to Address Airborne Transmission of Coronavirus Disease

administered by an experienced industrial hygienist, including a provision for adequate training in the use and misuse of the respirator and respirator limitations.

The draft recommendations for protection against pathogens transmitted through the air are grossly deficient and will not protect healthcare workers from aerosol transmission and inhalation of respiratory pathogens. They will put healthcare workers and patients at risk of contracting COVID-19 and other more serious respiratory diseases, particularly those individuals at high risk of developing serious illness due to age and co-morbidities. A novel pathogen, with no vaccine available, will more likely become established throughout a population when healthcare facilities fail to properly prevent the spread from patients to workers and among other patients and workers. Preventing, as feasible, the spread of novel pathogens where the mode of transmission is unknown should require the use of an OSHA compliant fit tested respirator until aerosol transmission can be ruled out. Allowing a novel pathogen to spread throughout the population will increase the likelihood of antigenic mutation and drift, which can result in greater virulence and transmissibility.

Studies regarding aerosol transmission of H1N1, seasonal influenza, SARS and SARS-CoV-2 have revealed the importance of aerosol transmission of respiratory pathogens. HICPAC's proposed recommendations fail to include core control measures for airborne/aerosol pathogens such as ventilation, UV disinfection, and HEPA filtration.

We urgently ask CDC and HICPAC to open the process for the development of these new guidelines to include other experts with critical knowledge on modes of transmission and control measures and other interested parties and to review the full body of scientific evidence available in order to develop updated guidelines that protect healthcare workers and patients from exposure to infectious pathogens.

We are very concerned that the Committee's process will result in flawed and dangerous guidelines for infection control in healthcare settings.

REAL SOLUTIONS – KNOWN FOR 80+ YEARS – ENGINEERING CONTROLS

I HAVE APPLIED THEM TO REAL SCHOOLS BEGINNING IN THE FALL OF 2020.

ENGINEERING CONTROLS

From an IH Perspective, Engineering Controls:

- **Fresh Air**
- **Filtration**
- **Destruction.**

Have and Always Will be our Best Solutions.

In the Meantime – Quit Harming Our Children with <u>Ineffective</u> and <u>Harmful</u> Masks and Respirators.

EXPOSURE CONTROL – DILUTION BY VENTILATION OR MAXIMUM FRESH AIR

Dilution of Virus by Dilution and/or Ventilation – More Fresh Air!

- ***Spend More Time or Meet Outdoors*** **– condition of maximum fresh air and dilution of virus – avoid indoors.**
- **Ventilation – Residential and Commercial – Crack open windows or doors – especially with company.**

EXPOSURE CONTROL – DILUTION BY VENTILATION OR MAXIMUM FRESH AIR

Dilution of Virus by Dilution and/or Ventilation – More Fresh Air!

- **Ventilation – Commercial and Industrial – Increase fresh air – set fresh air dampers to maximum openings on HVAC systems to maximize fresh air intake – over-ride energy controls – will increase energy costs.**

EXPOSURE CONTROL – DESTRUCTION

- ***Needle Point Ionization Technology*** (e.g., Nu-Calgon I-Wave & REM HALO-LED™ Whole Home In-Duct Air Purifier)

Burkett - ASHRAE J., 9/2021

- **Unit magnetized and sticks to indoor unit fan.**
- **Nu-Calgon will treat up to 6-RT area or ~6,000 ft².**
- **Efficiency reported to 64.3%, 89.1%, and 96.4% for times of 15, 30, and 45 minutes respectively.**
- **Nu-Calgon Cost: ~$400 plus installation ($800; HALO: ~$1,180 installed. – Tube replacement at ~4.5 yrs.**

Bipolar ionization has received a lot of attention since the start of the current pandemic. Ionization is typically classified as either needlepoint ionizers or corona discharge ionizers (dielectric barrier). Ionizers produce positively charged ions, negatively charged ions, or both. A study by Hyun, et al., looked at the effect of corona discharge-generated air ions on aerosolized bacteriophage MS2.[13] The test separated the antiviral efficiency of the ozone produced in the ion creation process (30 ppb at 4.52%). The results showed that the antiviral efficiency for bipolar ions was greater than either positive or negative ions individually, and the antiviral efficiency of the bipolar air ions at 10^7 ions/cm^3 concentration was 64.3%, 89.1% and 96.4% with exposure times of 15, 30 and 45 minutes.[13]

EXPOSURE CONTROL – DESTRUCTION

- ***Ionized Hydrogen Peroxide Systems*** **(e.g., RGF's Reme Halo in-duct air purifier - https://www.rgf.com/products/air/reme-halo/#undefined).**
  - **REME® Cell technology with UV-C light to create low level, airborne hydrogen peroxide throughout the air-conditioned space reducing airborne and surface bacteria, viruses, odors, and mold.**
  - **Cost: $450 to $650 for residential unit; $780 installed. Cell replacement ~every 2 years**
  - **Must control H_2O_2 concentration.**
  - **Reduces virus concentrations on surfaces by 4-log or a factor of 10,000.**

Other products being considered are hypochlorite, peroxymonosulfate, alcohols, and quaternary ammonium compounds

Burkett - ASHRAE J., 9/2021

Chemical disinfectants like hypochlorite, peroxymonosulfate, alcohols, quaternary ammonium compounds and hydrogen peroxide are typical for surface disinfection of viruses.[31] Vaporized hydrogen peroxide (VHP) has also been used in engineered disinfection systems for control of viruses.[31] A study by Goyal, et al., has showed a 4-log reduction or greater for viruses dried on surfaces.[32] VHP requires spaces to be sealed to prevent the vapor from escaping. Also, the space must be unoccupied since high concentrations of VHP can be hazardous.[1]

EXPOSURE CONTROL – DESTRUCTION

- ***Novaerus Air Purifier Technology***

  - **3 sizes; treat 120 ft^2, 900 ft^2 and 3,000 ft^2.**
  - **"NanoStrike patented technology destroys viruses, microorganisms, and bacteria at the DNA level:**
    - **Plasma coils create energy field that kills ALL germs and pathogens in sub-second time.**
    - **99.9+% effective at eliminating Influenza pathogens, SARS-Cov-2 (Covid-19), and MRSA.**
    - **Kills ALL airborne microorganisms at the DNA level as small as 1 nanometer!"**

Monthly Filter Replacement

Hays Consolidated Independent School District in Texas considering spending ~$4 million on technology

(https://bellmedical.com/novaerus-portable-air-purifier).

EXPOSURE CONTROL – DESTRUCTION

- ***Ultraviolet-C (UVC):***

  - **1.2 mJ/cm² to 2 mJ/cm² inactivated 95% to 99.9% of virus.**
  - **At reg. limit of 23 mJ/cm² 90%, 95%, and 99% of virus destroyed in 8, 11, and 25 minutes respectively.**
  - **Dangerous to eyes.**
  - **Maint. - must ensure bulbs not burned out.**

Burkett - ASHRAE J., 9/2021

Far-UV-C refers to devices that operate in the 207 nm to 222 nm wavelength range.[24] UV-C light in this range is strongly absorbed by biological materials and doesn't penetrate through the outer dead-cell layers (stratum corneum) on the surface of human skin or the outer tear layer of the eye.[24] Since far-UV-C can only penetrate a few micrometers, it cannot reach living human cells in the skin or eyes.[25] However, this light can still inactivate bacteria and viruses with efficiencies comparable to UV-C in the 254 nm wavelength due to the virus's smaller cell size.[24] Buonanno, et al., found that low doses (1.2 mJ/cm² to 1.7 mJ/cm²) of 222 nm light inactivated 99.9% of the airborne human coronavirus tested.[25] Welch, et al., also found that 2 mJ/cm² of 222 nm light could inactivate 95% or more of aerosolized H1N1 influenza virus.[24] The threshold limit value (TLV) for 222 nm light to which the public can be exposed is 23 mJ/cm² per eight-hour exposure.[25] Based on far-UV-C exposure set at the regulatory limit, continuous exposure could result in 90% viral inactivation of airborne viruses in about eight minutes, 95% in 11 minutes, 99% in 16 minutes and 99.9% in 25 minutes.[25]

EXPOSURE CONTROL – REMOVAL

Destruction or Removal:

- **Very High Efficiency Filters (at least MERV-13 to 17 filters depending on particle size)** (https://www.ashrae.org/file%20library/technical%20resources/covid-19/guidance-for-the-re-opening-of-schools.pdf).

Burkett - ASHRAE J., 9/2021

TABLE 3 Minimum efficiency reporting value (MERV) performance.[20]

MERV	COMPOSITE AVERAGE PARTICLE SIZE EFFICIENCY, % IN SIZE RANGE		
	Range 1 (0.3 µm to 1.0 µm)	Range 2 (1.0 µm to 3.0 µm)	Range 3 (3.0 µm to 10.0 µm)
8	N/A	$20 \le E_2$	$70 \le E_3$
9	N/A	$35 \le E_2$	$75 \le E_3$
10	N/A	$50 \le E_2$	$80 \le E_3$
11	$20 \le E_1$	$65 \le E_2$	$85 \le E_3$
12	$35 \le E_1$	$80 \le E_2$	$90 \le E_3$
13	$50 \le E_1$	$85 \le E_2$	$90 \le E_3$
14	$75 \le E_1$	$90 \le E_2$	$95 \le E_3$
15	$85 \le E_1$	$90 \le E_2$	$95 \le E_3$
16	$95 \le E_1$	$95 \le E_2$	$95 \le E_3$

Note: Data taken from ASHRAE Standard 52.2-2017 Table 12-1.

MERV (Minimum Efficiency Reporting Value)

Filter MERV of 16+ for 0.1 µm particles

EXPOSURE CONTROL – OZONE – NO

Ozone (O_3) Generators Alone:

- Health Effects on Respiratory Tract.
- Control of Levels in Space Difficult – produce fixed amount of ozone over time & spaces will have different volumes and ventilation rates – Will not know concentration.

Burkett - ASHRAE J., 9/2021

Ozone, even at low levels, can produce respiratory issues in humans and actually cause other health risks through the formation of formaldehydes and aldehydes.[20] ASHRAE states that based on current science there is "no consensus on the safe level of ozone."[20] ASHRAE Standard 62.1–2019, Table D-1[26] lists the eight-hour limit at 0.07 ppm, and the EPA and other agencies suggest avoiding the use of air cleaners that use ozone.[20,40]

EXPOSURE CONTROL – DESTRUCTION

➢ *Photocatalytic Oxidation (PCO)*

- **Uses UV light to activate a catalyst such as TiO_2).**
- **90% to 99.8% of virus inactivated after 30 minutes. ~80% reduction from PCO alone and essentially all eliminated accounting for the UV.**
- **Potential to create formaldehyde.**
- **Catalyst performance drops with time.**
- **Developing technology.**

Burkett - ASHRAE J., 9/2021

Photocatalytic oxidation (PCO) uses a UV light to enable chemical change (oxidation or reduction) by photon activated catalysis.[19] The most common catalyst is titanium dioxide (TiO_2), but others are also used.[20] A study by Guillard, et al., showed that photocatalysis provided an 80% reduction in the avian influenza virus (A/H5N2), not counting the UV light.[21] When the UV light was added, the virus was completely eliminated in a single pass.[21]

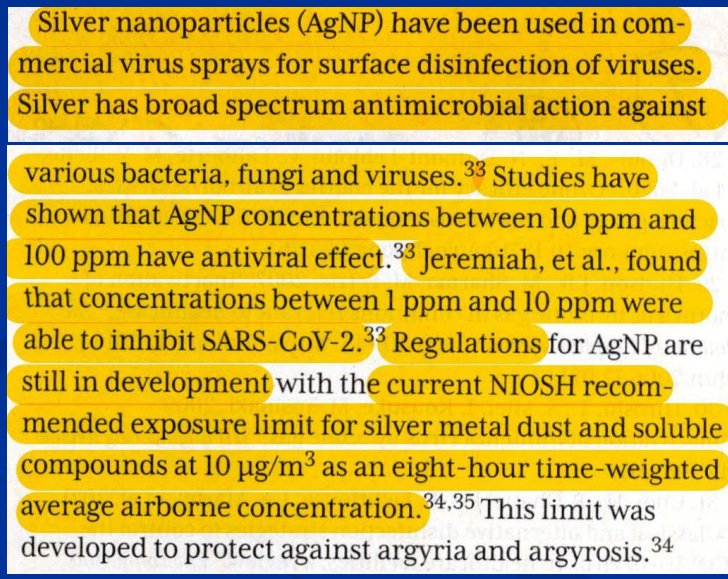
Studies have shown inactivation of viruses by photocatalysis is initiated by their adsorption onto the catalyst's nanoparticles followed by an attack on the protein capsid.[22] Other studies suggest the inactivation is due to free hydroxyl radicals.[22] Another study by Kozlova, et al., found that the vaccinia virus and influenza A virus (H3N2) were inactivated 90% to 99.8% after 30 minutes of exposure.[23] However, despite the promising results, PCO has the potential for production of by-products like formaldehyde due to incomplete oxidization.[19,20] Also, there is a potential reduction in catalyst efficiency over time.[19,20] These limitations should be evaluated when implementing this technology.

EXPOSURE CONTROL – DESTRUCTION

➢ ***Silver Nano Particles:***

- **Small silver particles, and silver in general, is a biocide.**
- **Use of 1 to 10 ppm concentrations were found to inhibit COVID-19; degree unknown.**
- **NIOSH REL for metal dust is 10 ug/m^3; regs. under development.**
- **Developing technology.**

Burkett - ASHRAE J., 9/2021



Silver nanoparticles (AgNP) have been used in commercial virus sprays for surface disinfection of viruses. Silver has broad spectrum antimicrobial action against various bacteria, fungi and viruses.[33] Studies have shown that AgNP concentrations between 10 ppm and 100 ppm have antiviral effect.[33] Jeremiah, et al., found that concentrations between 1 ppm and 10 ppm were able to inhibit SARS-CoV-2.[33] Regulations for AgNP are still in development with the current NIOSH recommended exposure limit for silver metal dust and soluble compounds at 10 µg/m^3 as an eight-hour time-weighted average airborne concentration.[34,35] This limit was developed to protect against argyria and argyrosis.[34]

CLOSING REMARKS

Some key points regarding the actual science in this presentation and three supporting documents

- **CDC cannot be trusted with the science – (masking – no masks, masks, no masks, masks – no science changes its position 180 degrees twice in two years. The 6-foot distancing rule has no basis in science; Dr. Fauci recently admitted this.**

- **Face coverings (masks) cannot and do not protect individuals from respiratory diseases - >100 year old science beginning at least in 1919.**

CLOSING REMARKS – Cont.

Face coverings and respirators in your proposed language have been conflated. Respirators are PPE, face coverings are not – see either CDC or OSHA.

- **Masks by definition cannot be sealed; masks that can seal are called respirators.**
- **Masks cause real harms – increased disease rates and damage to learning for children.**
- **Doctors wear surgical masks to stop large droplets, not protect from infectious diseases, which are smaller aerosols – this is established science.**

CLOSING REMARKS – Cont.

Face coverings and respirators in your proposed language have been conflated. Respirators are PPE, face coverings are not – see either CDC or OSHA.

- **The big lie – masks stop some droplets but that is not the issue – the small guys - respirable aerosols are the issue. While masks can stop some droplets, they do not protect from aerosols. >99.9% of virus particles are aerosols (<5 microns – small guys) and not droplets (>5 to 10 microns – big guys).**

- **In the field of Industrial Hygiene (IH), we must protect the vast majority of the public with our solutions (90% relative risk reduction), not a very low percentage. "Doing a little good is doing no good."**

- **N95 respirators are the bottom of the barrel respirators and are not legal for use with asbestos workers – asbestos particles, on average are 50x larger than viruses!**

CLOSING REMARKS – Cont.

If implemented, this proposal will be impossible to implement by the public due to incorrect and vague language, will provide no effective mitigation from infectious diseases, and will actually cause great harms to the public based on non-science justifications.

The greatest harms will be to our children.

Closing – Masks and 6’ Rule Not Based on Long-Known Science & Cause Harms; No net $ Benefits – Reject This Proposal

THANK YOU!

Questions Please

spetty@eesgroup.us

THE ONLY THING NECESSARY FOR THE TRIUMPH OF EVIL IS FOR GOOD MEN TO DO NOTHING
EDMUND BURKE