

The Daily COVID-19 Literature Surveillance Summary

September 22, 2020



UW Medicine
UW SCHOOL
OF MEDICINE



DISCLAIMER

This free and open source document represents a good faith effort to provide real time, distilled information for guiding best practices during the COVID-19 pandemic. This document is not intended to and cannot replace the original source documents and clinical decision making. These sources are explicitly cited for purposes of reference but do not imply endorsement, approval or validation.

This is not an official product or endorsement from the institutions affiliated with the authors, nor do the ideas and opinions described within this document represent the authors' or their affiliated institutions' values, opinions, ideas or beliefs. This is a good faith effort to share and disseminate accurate summaries of the current literature.

NOW LIVE!

Daily audio summaries of the literature in 10 minutes or less.

<https://www.covid19lst.org/podcast/>



COVID-19 Daily Literature Surveillance

COVID19LST



Bringing you real time, distilled information for guiding best practices during the COVID-19 pandemic

LEVEL OF EVIDENCE

Oxford Centre for Evidence-Based Medicine 2011 Levels of Evidence

Question	Step 1 (Level 1*)	Step 2 (Level 2*)	Step 3 (Level 3*)	Step 4 (Level 4*)	Step 5 (Level 5)
How common is the problem?	Local and current random sample surveys (or censuses)	Systematic review of surveys that allow matching to local circumstances**	Local non-random sample**	Case-series**	n/a
Is this diagnostic or monitoring test accurate? (Diagnosis)	Systematic review of cross sectional studies with consistently applied reference standard and blinding	Individual cross sectional studies with consistently applied reference standard and blinding	Non-consecutive studies, or studies without consistently applied reference standards**	Case-control studies, or "poor or non-independent reference standard**"	Mechanism-based reasoning
What will happen if we do not add a therapy? (Prognosis)	Systematic review of inception cohort studies	Inception cohort studies	Cohort study or control arm of randomized trial*	Case-series or case-control studies, or poor quality prognostic cohort study**	n/a
Does this intervention help? (Treatment Benefits)	Systematic review of randomized trials or n-of-1 trials	Randomized trial or observational study with dramatic effect	Non-randomized controlled cohort/follow-up study**	Case-series, case-control studies, or historically controlled studies**	Mechanism-based reasoning
What are the COMMON harms? (Treatment Harms)	Systematic review of randomized trials, systematic review of nested case-control studies, n-of-1 trial with the patient you are raising the question about, or observational study with dramatic effect	Individual randomized trial or (exceptionally) observational study with dramatic effect	Non-randomized controlled cohort/follow-up study (post-marketing surveillance) provided there are sufficient numbers to rule out a common harm. (For long-term harms the duration of follow-up must be sufficient.)**	Case-series, case-control, or historically controlled studies**	Mechanism-based reasoning
What are the RARE harms? (Treatment Harms)	Systematic review of randomized trials or n-of-1 trial	Randomized trial or (exceptionally) observational study with dramatic effect			
Is this (early detection) test worthwhile? (Screening)	Systematic review of randomized trials	Randomized trial	Non-randomized controlled cohort/follow-up study**	Case-series, case-control, or historically controlled studies**	Mechanism-based reasoning

* Level may be graded down on the basis of study quality, imprecision, indirectness (study PICO does not match questions PICO), because of inconsistency between studies, or because the absolute effect size is very small; Level may be graded up if there is a large or very large effect size.

** As always, a systematic review is generally better than an individual study.

How to cite the Levels of Evidence Table

OCEBM Levels of Evidence Working Group*. "The Oxford 2011 Levels of Evidence".

Oxford Centre for Evidence-Based Medicine. <http://www.cebm.net/index.aspx?o=5653>

* OCEBM Table of Evidence Working Group = Jeremy Howick, Iain Chalmers (James Lind Library), Paul Glasziou, Trish Greenhalgh, Carl Heneghan, Alessandro Liberati, Ivan Moschetti, Bob Phillips, Hazel Thornton, Olive Goddard and Mary Hodgkinson

EXECUTIVE SUMMARY

Climate

- Authors from the Department of Environmental Health at George Washington University and Harvard University highlight the need for governmental interventions regarding [workplace safety](#), specifically through the Occupational Safety and Health Administration (OSHA), to protect workers reentering the workforce during the COVID-19 pandemic. Businesses are beginning to return to a normal work schedule, and they argue there needs to be an infection control protocol—PPE, symptom screening processes, hand sanitizer stations—to prevent further COVID-19 transmission. The authors ultimately advocate for OSHA to implement an Emergency Temporary Standard (ETS) to facilitate the safe reopening of businesses.
- A professional opinion piece by internal medicine physicians from the Medical College of Wisconsin, Milwaukee (U.S.) found that [structural racism, the systems through which inequalities are reinforced, has been an overlooked piece of public health](#) for years and has played a part in higher rates of hospitalization and death among black individuals and other minority groups during the COVID-19 pandemic. The authors hope that this manifestation of inequality will lead to policies, targeted interventions, and actions that decrease structural racism in American society in order to promote public health for affected individuals during the COVID-19 pandemic and beyond.

Understanding the Pathology

- Investigators at David Geffen School of Medicine at University California, Los Angeles performed [serial measurements on the IgG levels of plasma](#) from 34 mildly symptomatic participants with confirmed or suspected COVID-19. Based on these serial measurements (first measurement: mean 37 days after symptom onset; last measurement: mean 86 days after onset), the estimated mean change of anti-SARS-CoV-2 IgG was $-0.0083 \log_{10} \text{ ng/mL}$ per day with an estimated half-life of 36 days (95% CI: 26 to 60 days), suggesting a short lifespan of humoral immunity against SARS-CoV-2 in mild cases.

Transmission & Prevention

- A commentary by a multidisciplinary team of vaccine experts discusses the possibility of a second wave of COVID-19 cases near the end of 2020 and warns against the [potential for co-occurrence with seasonal influenza](#). The authors advocate for public health authorities to prioritize influenza vaccination production and usage this year, especially among vulnerable populations (e.g.—pregnant women, the elderly, patients with multiple co-morbidities) and health care providers. The goal is to prevent severe complications caused by contraction of both COVID-19 and the influenza virus.

Management

- A professional opinion piece by physicians at Holbael University Hospital (Denmark) suggest that cases of COVID-19 with acute respiratory distress syndrome (ARDS) resemble the low compliance seen in neonatal respiratory distress syndrome (NRDS). They discuss that [SARS-CoV-2 replicates in alveolar type II cells, impacting the production and turnover of surfactant](#), and causes alveolar inflammation and collapse. The authors propose that severe COVID-19 cases should be evaluated for surfactant levels (for which a point of care test for babies has been developed), and individuals with low surfactant could be given surfactant treatment to possibly improve patient outcomes.

R&D: Diagnosis & Treatments

- A special report by members of the National Institutes of Health (NIH) briefly describes the [various COVID-19 diagnostic tests currently available and the new NIH Rapid Acceleration of Diagnostics \(RADx\) initiative](#), which is aimed at rapidly increasing COVID-19 diagnostic capabilities in the US. Challenges this program will encounter include: digital connectivity, manufacturing, and distribution. The authors highlight how the RADx initiative will provide diagnostic testing solutions on a larger scale, promote entrepreneurship, and help address inequities in healthcare.

TABLE OF CONTENTS

DISCLAIMER.....	2
NOW LIVE!	2
LEVEL OF EVIDENCE	3
EXECUTIVE SUMMARY	4
TABLE OF CONTENTS.....	5
CLIMATE	6
Occupational Safety and Health Administration (OSHA) and Worker Safety During the COVID-19 Pandemic.....	6
DISPARITIES.....	6
Social Distancing to Mitigate COVID-19 Risks Is Associated With COVID-19 Discriminatory Attitudes Among People Living with HIV6	
Structural Racism, Social Risk Factors, and Covid-19 - A Dangerous Convergence for Black Americans	7
EPIDEMIOLOGY	8
SYMPTOMS AND CLINICAL PRESENTATION	8
<i>Pediatrics.....</i>	<i>8</i>
Rhabdomyolysis and Acute Renal Failure in an Adolescent With Coronavirus Disease 2019	8
UNDERSTANDING THE PATHOLOGY.....	9
Rapid Decay of Anti-SARS-CoV-2 Antibodies in Persons with Mild Covid-19.....	9
TRANSMISSION & PREVENTION.....	10
PREVENTION IN THE COMMUNITY.....	10
Facial masks in children: the position statement of the Italian pediatric society	10
Influenza immunization and COVID-19.....	10
MANAGEMENT	11
ACUTE CARE.....	11
<i>Critical Care.....</i>	<i>11</i>
Assessment of pulmonary surfactant in COVID-19 patients	11
R&D: DIAGNOSIS & TREATMENTS.....	12
DEVELOPMENTS IN DIAGNOSTICS	12
Rapid Scaling Up of Covid-19 Diagnostic Testing in the United States - The NIH RADx Initiative.....	12
MENTAL HEALTH & RESILIENCE NEEDS.....	14
IMPACT ON PUBLIC MENTAL HEALTH.....	14
The COVID-19 pandemic: Psychological and behavioral responses to the shutdown of the beauty industry.....	14
ACKNOWLEDGEMENTS.....	16

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND WORKER SAFETY DURING THE COVID-19 PANDEMIC

Michaels D, Wagner GR. JAMA. 2020 Sep 16. doi: 10.1001/jama.2020.16343. Online ahead of print.

Level of Evidence: Other - Expert Opinion

BLUF

An opinion article by experts from the Department of Environmental Health at George Washington University and Harvard University highlight the need for governmental interventions regarding workplace safety, specifically through the Occupational Safety and Health Administration (OSHA), to protect workers reentering the workforce during the COVID-19 pandemic. Businesses are beginning to return to a normal work schedule, and they argue there needs to be an infection control protocol—PPE, symptom screening processes, hand sanitizer stations—to prevent further COVID-19 transmission. The authors ultimately advocate for OSHA to implement an Emergency Temporary Standard (ETS) to facilitate the safe reopening of businesses.

DISPARITIES

SOCIAL DISTANCING TO MITIGATE COVID-19 RISKS IS ASSOCIATED WITH COVID-19 DISCRIMINATORY ATTITUDES AMONG PEOPLE LIVING WITH HIV

Berman M, Eaton LA, Watson RJ, Andrepont JL, Kalichman S. Ann Behav Med. 2020 Sep 17:kaaa074. doi:

10.1093/abm/kaaa074. Online ahead of print.

Level of Evidence: 3 - Local non-random sample

BLUF

A cross-sectional survey study performed by members of the Institute for Collaboration on Health, Intervention, and Policy, University of Connecticut surveyed n=149 HIV+ young adults in Atlanta from March 30 - April 17, 2020. They found that choosing to socially distance as an HIV+ individual was associated with discriminatory attitudes, concerns of contracting COVID-19, and identifying as transgender (Table 5). The authors felt that these results reflected “othering” in the COVID-19 era similar to how people view those living with HIV as different from themselves, and concluded that more research is needed to understand the negative psychosocial impact of this type of discrimination and how best to mitigate it.

FIGURES

Table 5. Regression models evaluating the relationships between chosen social distancing and imposed social distancing among individuals living with HIV in the Atlanta and surrounding metro area (*N* = 149)

	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE</i>	<i>t</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>B</i>	<i>SE</i>	<i>t</i>
Chosen social distancing									
Transgender	0.594	0.292	2.032*	0.595	0.262	2.27*	0.533	0.261	2.04*
Concern over contracting COVID-19				0.017	0.003	6.07**	0.014	0.003	5.09**
HIV microaggressions							0.226	0.145	1.56
COVID-19 discriminatory attitudes							0.302	0.153	1.97*
COVID-19 xenophobic attitudes							0.030	0.146	0.203
Imposed social distancing									
Transgender	0.412	0.344	1.20	0.413	0.323	1.28	0.286	0.326	0.878
Concern over contracting COVID-19				0.015	0.003	4.55**	0.014	0.003	3.96**
HIV microaggressions							0.138	0.180	0.767
COVID-19 discriminatory attitudes							0.013	0.191	0.067
COVID-19 xenophobic attitudes							0.328	0.182	1.80

SE standard error.

p* ≤ .05, *p* ≤ .01.

STRUCTURAL RACISM, SOCIAL RISK FACTORS, AND COVID-19 - A DANGEROUS CONVERGENCE FOR BLACK AMERICANS

Egede LE, Walker RJ.. N Engl J Med. 2020 Sep 17;383(12):e77. doi: 10.1056/NEJMp2023616. Epub 2020 Jul 22.
Level of Evidence: Other - Expert Opinion

BLUF

A professional opinion piece by internal medicine physicians from the Medical College of Wisconsin, Milwaukee (U.S.) finds that structural racism, the systems through which inequalities are reinforced, has been an overlooked piece of public health for years and has played a part in higher rates of hospitalization and death among black individuals and other minority groups during the COVID-19 pandemic. The authors hope that this manifestation of inequality will lead to policies, targeted interventions, and actions (Table) that decrease structural racism in American society in order to promote public health for affected individuals during the COVID-19 pandemic and beyond.

SUMMARY

Ideas proposed to combat structural racism include:

- 1) changing policies that may support structural racism,
- 2) creating cross-sector partnerships,
- 3) creating new policies that increase economic empowerment,
- 4) creating community programs that build stable and supportive structures,
- 5) ensuring that health systems build trust in vulnerable communities, and
- 6) ensuring that targeted interventions addressing social risk factors are created.

FIGURES

Recommended Action Items for Mitigating Structural Racism.

- Change policies that keep structural racism in place.
- Break down silos and create cross-sector partnerships.
- Institute policies to increase economic empowerment.
- Fund community programs that enhance neighborhood stability.
- Be consistent in efforts by health systems to build trust in vulnerable communities.
- Test and deploy targeted interventions that address social risk factors.

PEDIATRICS

RHABDOMYOLYSIS AND ACUTE RENAL FAILURE IN AN ADOLESCENT WITH CORONAVIRUS DISEASE 2019

Samies NL, Pinninti S, James SH.. J Pediatric Infect Dis Soc. 2020 Sep 17;9(4):507-509. doi: 10.1093/jpids/piaa083.
Level of Evidence: Other - Case Report

BLUF

Pediatric infectious disease specialists affiliated with University of Alabama at Birmingham describe a 16-year-old African American male with COVID-19-associated rhabdomyolysis and acute kidney injury (AKI) without respiratory symptoms or abnormal chest X-ray findings. Based on this unique case (details illustrated below), the authors suggest that physicians should be cautious of rhabdomyolysis and the risk of AKI in pediatric COVID-19 cases, even if the patient does not have respiratory symptoms nor a high viral load.

SUMMARY

The patient's disease course is detailed as follows:

- Presented with 3-day history of intermittent fever, myalgia, dark urine, nonproductive cough
- Labs included: WBC $4.3 \times 10^3/\mu\text{L}$ with 15% lymphocytes, creatinine 1.6 mg/dL, ALT and AST elevated at 107 U/L and 1316 U/L, CK level elevated at 274 664 U/L (Figure 1)
- Became anuric and eventually displayed AKI with rhabdomyolysis
- By day 5 of hospitalization, patient's CK levels started to improve and patient was discharged on day 14 of hospitalization

FIGURES

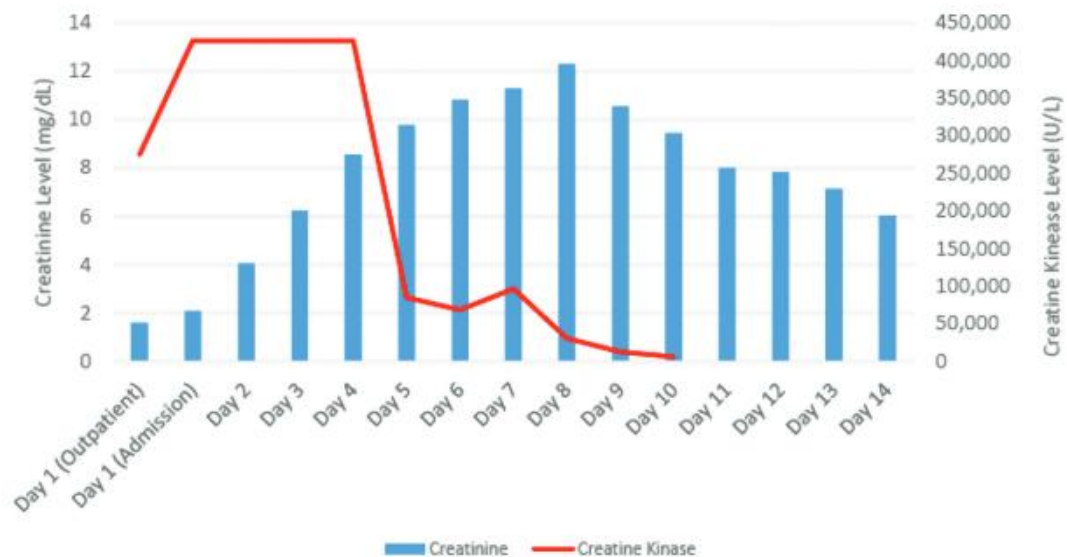


Figure 1. Trend in creatine kinase and creatinine levels during hospitalization. Creatine kinase levels were not obtained after hospital day 10.

Figure 1. Trend in creatine kinase and creatinine levels during hospitalization. Creatine kinase levels were not obtained after hospital day 10.

UNDERSTANDING THE PATHOLOGY

RAPID DECAY OF ANTI-SARS-COV-2 ANTIBODIES IN PERSONS WITH MILD COVID-19

. N Engl J Med. 2020 Sep 10;383(11):e74. doi: 10.1056/NEJMr200017. Epub 2020 Jul 23.
Level of Evidence: 3 - Local non-random sample

BLUF

Investigators at David Geffen School of Medicine at University California, Los Angeles performed serial measurements on the IgG levels of plasma from 34 mildly symptomatic participants with confirmed or suspected COVID-19. Based on these serial measurements (first measurement: mean 37 days after symptom onset; last measurement: mean 86 days after onset), the estimated mean change of anti-SARS-CoV-2 IgG was $-0.0083 \log_{10} \text{ ng/mL}$ per day with an estimated half life of 36 days (95% CI: 26 to 60 days; Figure 1), suggesting a short lifespan of humoral immunity against SARS-CoV-2 in mild cases.

FIGURES

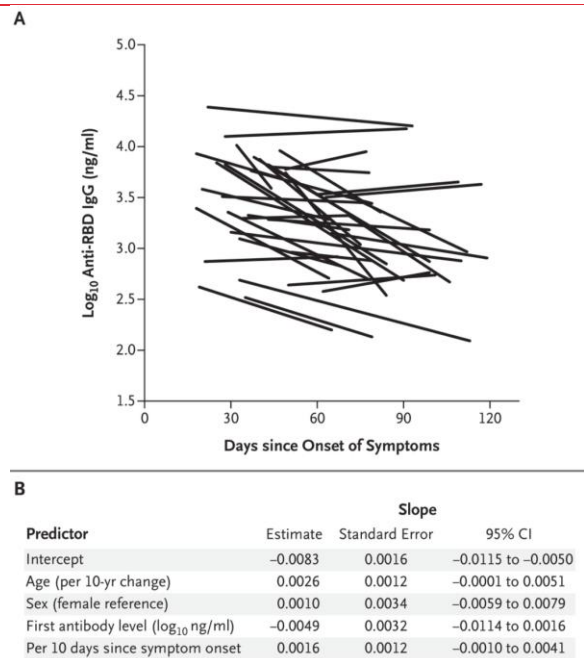


Figure 1. Longitudinal Assessment of Anti-SARS-CoV-2 Receptor-Binding Domain IgG in Persons Who Recovered from Covid-19.

Approximately 80 persons who recovered from Covid-19 referred themselves to our institution to inquire about observational research. Of 68 persons who volunteered to provide initial blood samples, 41 returned to provide repeat samples. Of those persons, 3 were excluded from this analysis because of unclear timing of infection and 4 were excluded because of initial and repeat serum antibody measurements below the limit of reliable quantitative detection. For the 34 participants in our analysis, anti-SARS-CoV-2 receptor-binding domain (RBD) serum IgG concentrations were quantified by enzyme-linked immunosorbent assay as equivalent binding activity to a concentration of a control monoclonal IgG for at least two time points (31 of the 34 participants had two measurements, and the remaining 3 participants had three measurements). Panel A shows log-transformed IgG concentrations plotted against the time since the onset of symptoms in each participant. Panel B shows a linear regression model that was created to estimate the effects of the participants' age and sex, the days from symptom onset to the first measurement, and the first measured \log_{10} antibody level on the slope reflecting the change in anti-RBD antibody levels (in $\log_{10} \text{ ng}$ per milliliters per day). The values for age and antibody level were centered at the mean. The time since symptom onset was centered at day 18 and adjusted per 100 days. Thus, the intercept of the model can be interpreted as the average slope adjusted for age, sex, and time and value of the first measurement. CI denotes confidence interval.

TRANSMISSION & PREVENTION

PREVENTION IN THE COMMUNITY

FACIAL MASKS IN CHILDREN: THE POSITION STATEMENT OF THE ITALIAN PEDIATRIC SOCIETY

Villani A, Bozzola E, Staiano A, Agostiniani R, Del Vecchio A, Zamperini N, Marino F, Vecchio D, Corsello G.. Ital J Pediatr. 2020 Sep 15;46(1):132. doi: 10.1186/s13052-020-00898-1.

Level of Evidence: Other - Expert Opinion

BLUF

A positional statement by experts from the Italian Pediatric Society emphasizes how it is both safe and protective for children to wear facial masks during the COVID-19 pandemic. The authors also provide various scientific articles disproving the following misconceptions associated with facial masks: carbon dioxide intoxication, negative effects on the immune system, lack of peer-reviewed evidence for facial mask effectiveness, and gut dysbiosis. In conclusion, the Italian Pediatric Society firmly advocates for usage of facial masks by children > 3 years old, and by caregivers for children < 3 years old.

ABSTRACT

Facial masks may be one of the most cost-effective strategies to prevent the diffusion of COVID 19 infection. Nevertheless, fake news are spreading, alerting parents on dangerous side effects in children, such as hypercapnia, hypoxia, gut dysbiosis and immune system weakness. Aim of the Italian Pediatric Society statement is to face misconception towards the use of face masks and to spread scientific trustable information.

INFLUENZA IMMUNIZATION AND COVID-19

Maltezou HC, Theodoridou K, Poland G.. Vaccine. 2020 Sep 3;38(39):6078-6079. doi: 10.1016/j.vaccine.2020.07.058. Epub 2020 Jul 29.

Level of Evidence: Other - Expert Opinion

BLUF

A commentary by a multidisciplinary team of vaccine experts discusses the possibility of a second wave of COVID-19 cases near the end of 2020 and warns against the potential for co-occurrence with seasonal influenza. The authors advocate for public health authorities to prioritize influenza vaccination production and usage this year, especially among vulnerable populations (e.g.—pregnant women, the elderly, patients with multiple co-morbidities) and health care providers. The goal is to preventing severe complications caused by contraction of both COVID-19 and the influenza virus.

MANAGEMENT

ACUTE CARE

CRITICAL CARE

ASSESSMENT OF PULMONARY SURFACTANT IN COVID-19 PATIENTS

Schousboe P, Wiese L, Heiring C, Verder H, Poorisrisak P, Verder P, Nielsen HB.. Crit Care. 2020 Sep 7;24(1):552. doi: 10.1186/s13054-020-03268-9.

Level of Evidence: Other - Expert Opinion

BLUF

A professional opinion piece by physicians at Holbael University Hospital (Denmark) suggest that cases of COVID-19 with acute respiratory distress syndrome (ARDS) resemble the low compliance seen in neonatal respiratory distress syndrome (NRDS). They discuss that SARS-CoV-2 replicates in alveolar type II cells, impacting the production and turnover of surfactant, and causes alveolar inflammation and collapse. The authors propose that severe COVID-19 cases should be evaluated for surfactant levels (for which a point of care test for babies has been developed), and individuals with low surfactant could be given surfactant treatment to possibly improve patient outcomes.

R&D: DIAGNOSIS & TREATMENTS

DEVELOPMENTS IN DIAGNOSTICS

RAPID SCALING UP OF COVID-19 DIAGNOSTIC TESTING IN THE UNITED STATES - THE NIH RADx INITIATIVE

Tromberg BJ, Schwetz TA, Pérez-Stable EJ, Hodes RJ, Woychik RP, Bright RA, Fleurence RL, Collins FS. N Engl J Med. 2020 Sep 10;383(11):1071-1077. doi: 10.1056/NEJMs2022263. Epub 2020 Jul 22.

Level of Evidence: Other - Modeling

BLUF

A special report by members of the National Institutes of Health (NIH) briefly describes the various COVID-19 diagnostic tests currently available and the new NIH Rapid Acceleration of Diagnostics (RADx) initiative, which is aimed at rapidly increasing COVID-19 diagnostic capabilities in the US (its 4 components are detailed below) (Figures 1, 2, & 3). Challenges this program will encounter include: digital connectivity, manufacturing, and distribution. The authors highlight how the RADx initiative will provide diagnostic testing solutions on a larger scale*, promote entrepreneurship, and help address inequities in healthcare.

SUMMARY

Current diagnostic tests for the COVID-19 virus utilize: polymerase chain reaction (PCR) testing, antigen testing, and serology testing.

The four components of the RADx program are (briefly):

1. RADx-radical (Rad): support technologies requiring an extended time-frame (>6 mo.), nontraditional testing (e.g.—home-testing), and re-purposing of existing technologies.
2. RADx-Advanced Technologies Platforms (ATP): provide a rapid scaling solution for companies with pre-existing or more advanced-stage technologies.
3. RADx-Technology (Tech): implement development processes (e.g.—assistance with regulations, commercialization) and establish collaborations that streamline the process from development to deployment.
4. RADx-Underserved Populations (UP): examine infection patterns to understand how and why the COVID-19 pandemic has disproportionately impacted different populations, and to develop solutions towards social and ethical guidelines for correcting these inequities.

* The RADx initiative hopes to expand capacity to be able to test up to 2% of the US population (6 million) on a daily basis by December 2020.

FIGURES

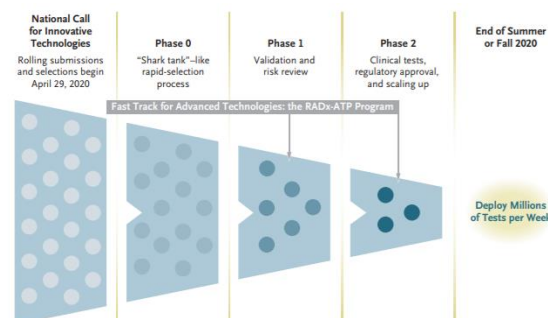


Figure 1. RADx-tech Innovation Funnel to Evaluate Testing Technologies for Covid-19. Applications to the Rapid Acceleration of Diagnostics (RADx)–tech program for the detection of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which causes coronavirus disease 2019 (Covid-19), move rapidly through an “innovation funnel” from phase 0 to phase 1 to

phase 2, with increasing selection pressure at each gate. The RADx-Advanced Technologies Platforms (RADx-ATP) program identifies projects that are more advanced and that can be moved immediately to phase 1 or even phase 2.

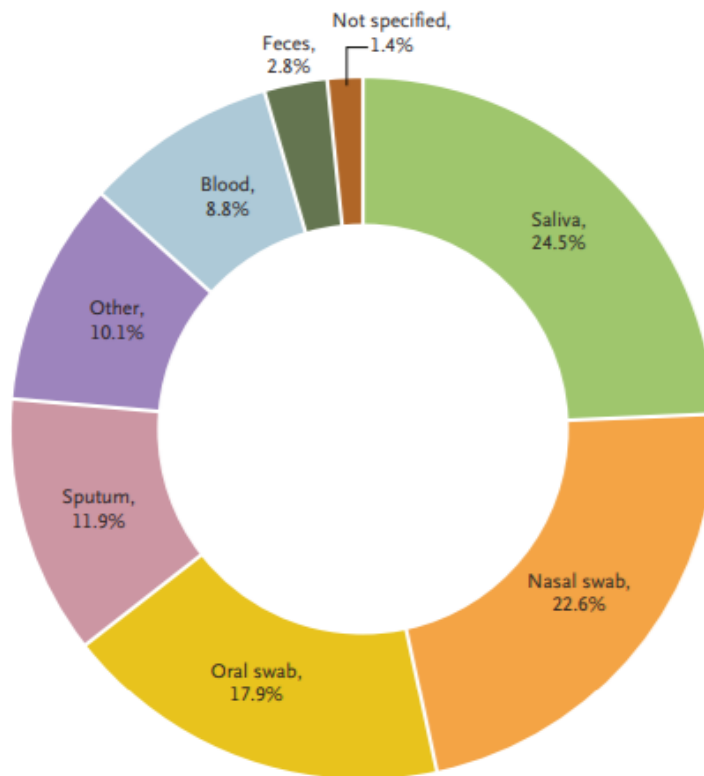


Figure 2. Number of RADx-tech Proposals, According to Organization Type. The majority of applications to the RADx-tech and the RADx-ATP programs have come from small businesses, academic laboratories, and early-stage start-up companies.

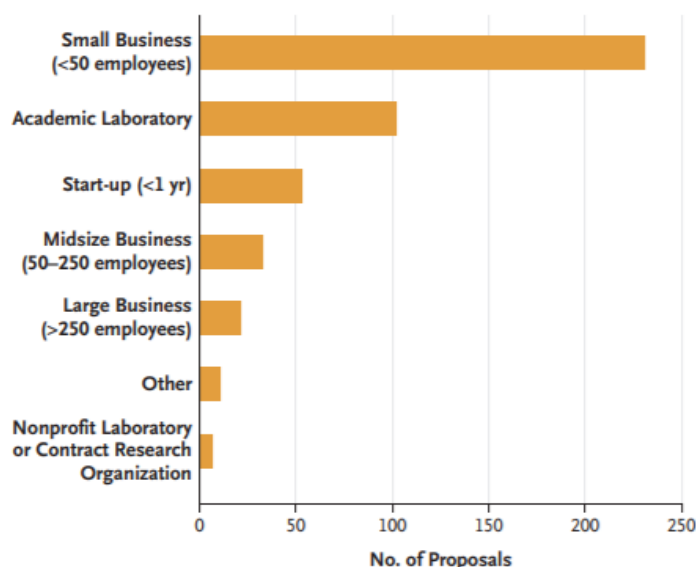


Figure 3. Sample Types in RADx-tech and RADx-ATP Proposals. Applications to RADx-tech and RADx-ATP include multiple alternative sampling strategies for viral testing, not just traditional nasal swabs.

MENTAL HEALTH & RESILIENCE NEEDS

IMPACT ON PUBLIC MENTAL HEALTH

THE COVID-19 PANDEMIC: PSYCHOLOGICAL AND BEHAVIORAL RESPONSES TO THE SHUTDOWN OF THE BEAUTY INDUSTRY

Pikoos TD, Buzwell S, Sharp G, Rossell SL. Int J Eat Disord. 2020 Sep 16. doi: 10.1002/eat.23385. Online ahead of print. Level of Evidence: 3 - Local non-random sample

BLUF

Australian clinical psychologists used the Dysmorphic Concern Questionnaire to conduct a cross-sectional study of 216 individuals from May 24, 2020 to May 31, 2020 in order to evaluate levels of distress regarding the closing of beauty and cosmetic services during the COVID-19 pandemic (Summary). The authors found that individuals with high dysmorphic concern (n=53) experienced consistent appearance-focused behaviors (Figure 1), increased desire for beauty services (Figure 2), and higher distress regarding the closures (Table 3) when compared to those with low dysmorphic concern (n=163). Although limited by its non-random sampling, the study suggests that individuals with high dysmorphic concern may be facing additional stress regarding the closure of beauty services during the pandemic.

SUMMARY

The authors performed a cross-sectional study using the Dysmorphic Concern Questionnaire in an Australian population to create a “high dysmorphic concern” (n = 53) and a “low dysmorphic concern” (n = 163) group. Additionally, the authors also conducted a subsequent survey to evaluate levels of distress regarding the closing of beauty and cosmetic services in the wake of the COVID-19 pandemic. They found that the low dysmorphic concern groups experienced a decrease in appearance-focused behaviors during this period. In contrast, the high dysmorphic concern group (which is characterized by a younger average age, more frequent single marital status, and female identification) experienced consistent appearance-focused behaviors (Figure 1), increased desire for beauty services (Figure 2), and higher distress regarding the closure of beauty services (Table 3) during the pandemic.

ABSTRACT

OBJECTIVE: During the COVID-19 pandemic, Australia implemented widespread closure of beauty and cosmetic services to control the virus spread. The effect of these restrictions is unknown, given that beauty services are widely used for stress relief or to enhance confidence. The current study explored the relationship between engagement in appearance-focused behaviors and distress regarding beauty service closure. Participants with high and low levels of dysmorphic concern were compared to determine whether COVID-19 restrictions may affect these groups differently. **METHOD:** An online survey was completed by 216 participants living in Australia. Questions addressed engagement in appearance-focused behaviors during the COVID-19 pandemic and attitudes toward beauty service closure. The Dysmorphic Concern Questionnaire (DCQ) was used to group participants by low and high dysmorphic concern. **RESULTS:** Appearance-focused behaviors decreased in the low DCQ group (n = 163) during the COVID-19 pandemic, while such behaviors in the high DCQ group (n = 53) remained unchanged. Individuals who were living alone, younger, reported higher dysmorphic concern and greater distress over beauty service closure engaged in more frequent appearance-focused behaviors ($R^2 = .57, p < .001$). The high DCQ group reported greater distress over beauty service closure and increased desire to obtain future beauty treatments. **DISCUSSION:** While COVID-19 restrictions may have provided a break from societal appearance pressure for those with low dysmorphic concern, appearance-focused behaviors persisted in individuals with high dysmorphic concern. A greater understanding of the long-term impacts on appearance-related distress is needed to determine mental health priorities emerging from the COVID-19 pandemic.

FIGURES

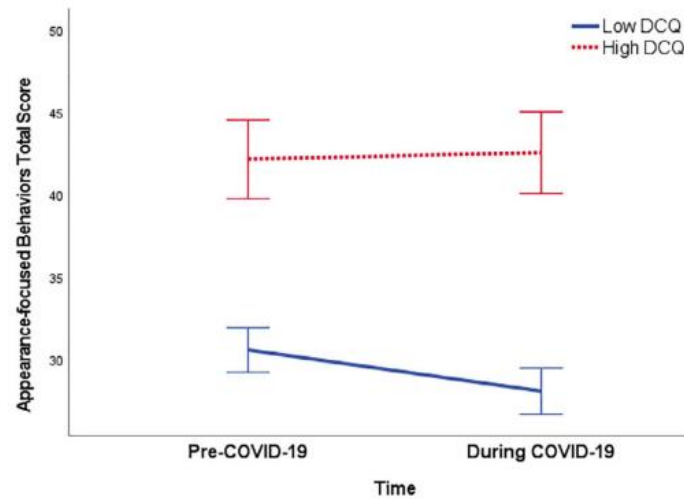


FIGURE 1 Change in appearance-focused behavior total score (range 18–90) in a typical week prior to COVID-19 restrictions compared with the peak of COVID-19 restrictions. DCQ = Dysmorphic Concern Questionnaire. Scores are presented separately for groups scoring highly on the DCQ (≥ 11) versus those scoring below the DCQ cut-off (< 11). Error bars reflect 95% confidence intervals

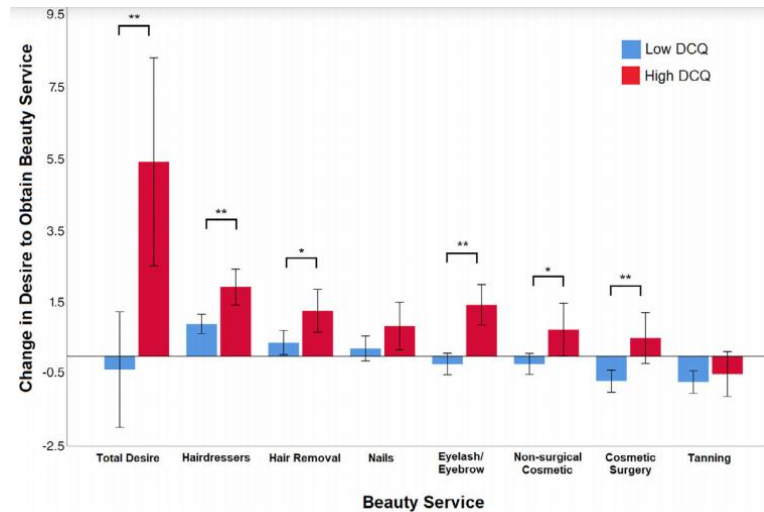


FIGURE 2 Change in the desire to obtain cosmetic treatments since COVID-19 restrictions began across low dysmorphic concern (DCQ) and high DCQ groups. Scores for individual beauty services range from -5 (decreased desire to obtain beauty service) to +5 (increased desire to obtain beauty service). The solid line reflects “no change” in desire. * denotes significant difference between groups based on t tests at $p < .05$, ** denotes significant difference at $p < .001$

	Overall sample	Low DCQ	High DCQ	t	p	Effect size (d)
	n = 213	n = 160	n = 53			
Hairdressers	1.79 (.83)	1.72 (.77)	2.09 (1.00)	-3.02	.003	0.48
Hair removal services	1.52 (.77)	1.43 (.68)	1.77 (.95)	-2.56	.01	0.46
Nail salons	1.42 (.80)	1.33 (.68)	1.75 (1.05)	-2.90	.005	0.58
Eyelash/eyebrow services	1.28 (.71)	1.18 (.56)	1.62 (1.02)	-3.15	.003	0.68
Non-surgical cosmetic services	1.25 (.62)	1.18 (.50)	1.49 (.89)	-2.43	.02	0.51
Cosmetic surgeries	1.08 (.44)	1.04 (.33)	1.25 (.68)	-2.16	.03	0.47
Tanning salons	1.09 (.37)	1.07 (.34)	1.17 (.47)	-1.47	.15	0.27
Total distress	9.47 (3.06)	8.96 (2.39)	11.15 (4.29)	-3.67	<.001	0.78

Note: Distress over the closure of each beauty service was scored on a scale of 1 (not at all distressed) to 5 (extreme and disabling distress). The table reflects group differences based on t tests between high and low DCQ groups. Significant group differences at Bonferroni corrected $p \leq .006$ are bolded.

TABLE 3 Level of distress regarding the closure of beauty services in the overall sample and comparisons between low and high dysmorphic concern (DCQ) groups

ACKNOWLEDGEMENTS

CONTRIBUTORS

Ashley Kern
Brad Mott
Diep Nguyen
Jonathan Baker
Tyler Gallagher

EDITORS

Alvin Rafou
Julie Tran
Maggie Donovan

SENIOR EDITORS

Allison Hansen
Avery Forrow
Sangeetha Thevuthasan

SENIOR EXECUTIVE EDITOR

Thamanna Nishath

CHIEF EDITOR

Brennan Enright

ADVISOR

Will Smith