The American Holistic Nurses Association (AHNA) supports the Center for Disease Control (CDC) and the World Health Organization (WHO) in acknowledging the immediate global public health risk of the COVID-19.

This update is current to time of release. Previous updated information is reduced weekly to keep the report as concise as possible. For a comprehensive appraisal, please review subsequent weekly updates (since Feb 2020) at:

https://www.ahna.org/Home/Resources/Coronavirus-COVID-19

Self-Care Sharing: To sustain nurses in the Holistic Core Value of Self-Care AHNA is providing FREE public access to our Stress Management and Nurse Resilience Series materials!

### Clinical Updates

**TRANSMISSION**

Schools have been a source of questioning when discussing transmission probability. *JAMA Pediatrics*, among additional respected publications, released a research report showing seeding from children is a likely contributor to community transmission.

**CHILDREN:** School closures early in the pandemic thwarted larger-scale investigations of children as a source of community transmission and prevented children and schools as being attributed to super-spread agents. *JAMA Pediatrics* research letter July 30, 2020 reflects the assumption is erroneous. Infected children have at least as much of the coronavirus in their noses and throats as infected adults, *Age-Related Differences in Nasopharyngeal Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Levels in Patients With Mild to Moderate Coronavirus Disease 2019 (COVID-19)*. Initiated by Dr. Heald-Sargent after noticing pediatric tests were revealing low cycle thresholds (C.T.), Sargent deducted that the samples were saturated with viral content: children younger than age 5 may host up to 100 times as much of the virus in the upper respiratory tract as adults. A sample of nasopharyngeal swabs taken from 145 people: 46 children younger than age
5; 51 children aged 5 to 17; and 48 adults aged 18 to 65, were collected from March 23- April 27 across Chicago. The sample included only children and adults who had mild to moderate symptoms, and symptom onset within a week of testing. To forestall criticisms that high viral loads are expected in severe children, the team excluded children requiring oxygen support. The most frequent symptoms were fever or cough. Older children and adults were found to share similar CTs with a median of 11-17. Children younger than age 5 average lower CT; 6.5-12, though the highs of 12 indicate they may be equally as virulent for spreading.

*Findings confirmed by International related research:

- German study in pre-print: Jones, Mahlemann, Veith et al., An analysis of SARS-CoV-2 viral load by patient age (PDF) where 47 pediatric patients between 1 and 11 years were asymptomatic but expressed viral loads at least as high as adults.
- France: asymptomatic and symptomatic children had similar C.T. values.

AIR QUALITY

HVAC units: Aerosolized particles of SARS-CoV-2 are observed in a spectrum of sizes including .025 to .05 um necessitating high efficiency filtration techniques to reduce the transmission potential of pathogens. Mitigation falls into four categories: ventilation, filtration, disinfection with creative solutions tailored around a company's specific HVAC system, and humidity of 43% or greater, renders most viruses powerless. An open access journal of the American Society of Microbiology, reports "HEPA filters are rated to remove at least 99.97% of particles at 0.3 um in size, representing the most penetrating particle size. Most residential and commercial buildings utilize MERV-5 to MERV-11, and in critical health care settings, MERV-13 or higher and HEPA filters are used. MERV-13 filters have the potential to remove microbes and other particles ranging from 0.3 to 10.0 um. Most viruses, including CoVs, range from 0.004 to 1.0 um." Dietz, Horve, Coil, et al. 2019 Novel Coronavirus (COVID-19) Pandemic: Built Environment Considerations To Reduce Transmission. mSystems Apr 2020, 5 (2) e00245-20. The scientists reported increasing fresh air intake and circulation, or "flushing" interior air to outdoors combined with increasing frequently recirculating fresh air through a building, is the superlative strategy. If building fans will support it, updating filtration to trap smaller air particles and droplets is ideal. UV light disinfecting devices within systems are a beneficial upgrade but are often inaccessible due to cost..

AIR TRAVEL: Researchers approximated the probability of SARS-CoV-2 transmission via airborne particles during air travel of 2 hour duration. The white paper results conclude a traveler in coach will contract the virus, when all coach seats are full and when all but middle seats are full. This estimate yields one death per 400,000 passengers to one death per 600,000 (per 2019 travel averages). These death-risk levels are considerably higher than those associated with plane crashes but comparable to those arising from two hours of everyday activities during the pandemic. The study did not predict the influx of local transmission rates after infected passengers exit the plane. Barnett, A. Should the Middle Seat Stay Empty? (MedRxiv)

PRESENTATION

ANOSMIA: The underlying condition causing anosmia in SARS-CoV-2 patients may be extrapolated from study of the cells in the olfactory epithelium and olfactory bulb. The nasal epithelium is divided into a respiratory epithelium (RE) which is continuous and believed to humidify air, and, olfactory epithelium (OE). The OE
contains OSNs with receptors localized on their dendritic cilia. These receptors are responsible for identifying odors. "OSNs are supported by sustentacular cells that structurally support sensory neurons, phagocytose and/or detoxify potentially damaging agents, and maintain local salt and water balance" Vogalis, F., Hegg, C. C., & Lucero, M. T. (2005). Ionic conductances in sustentacular cells of the mouse olfactory epithelium. The Journal of physiology, 562(Pt 3), 785-799. Bulk sequencing confirmed the two key genes involved in viral entry; ACE2 and TMPRSS2, suggesting infection of non-neuronal cell types contributes to anosmia and the related disturbances in odor perception in COVID-19 patients.

"The identification of non-neuronal cell types in the OE and OB susceptible to CoV-2 infection suggests four possible, non-mutually-exclusive mechanisms for the acute loss of smell reported in COVID-19 patients. First, local infection of support and vascular cells in the nose and bulb could cause significant inflammatory responses (including cytokine release) whose downstream effects could block effective odor conduction, or alter the function of OSNs or OB neurons. Second, damage to support cells (which are responsible for local water and ion balance) could indirectly influence signaling from OSNs to the brain. Third, damage to sustentacular cells and Bowman's gland cells in mouse models can lead to OSN death, which in turn could abrogate smell perception. Finally, vascular damage could lead to hypoperfusion and inflammation leading to changes in OB function" Brann, D., Tsukahara, T., Weinreb, C., Non-neuronal expression of SARS-CoV-2 entry genes in the olfactory system suggests mechanisms underlying COVID-19-associated anosmia, Science Advances.31 JUL 2020: EABC5801.

LONG TERM CARE RESIDENTS: The Journal of the American Medical Directors Association, (JAMDA) reported a positive association between SARS-CoV-2 asymptomatic infection and statin intake. Although the effects of statin intake on serious clinical outcome were equally beneficial, the results were not statistically significant. ACEi/ARB and asymptomatic status, and serious clinical outcome were also not statistically associated. Age, sex, functional status, diabetes, and hypertension were applied to Logistic Regression Models. Result: data indicate that statin intake in older or frail adults could be associated with a considerable beneficial effect on COVID-19 clinical symptoms. The role of statins and renin-angiotensin system drugs needs to be further explored in larger observational studies as well as randomized clinical trials, De Spiegeleer, A., Branselaer, A., Teo, J. T., et al. (2020). The Effects of ARBs, ACEIs, and Statins on Clinical Outcomes of COVID-19 Infection Among Nursing Home Residents. JAMDA, 21(7), 909-914.e2

Related: Lee, K., Sew a, D., Phua C., Potential role of statins in COVID-19 International Journal of Infectious Diseases, Volume 96, June 2020, Pages 615-617. Statins cultivate pleiotropic anti-inflammatory, antithrombotic and immunomodulatory effects. They may have a potential role in adjunctive therapy to mitigate endothelial dysfunction and dysregulated inflammation.

HAND SANITIZER POISONING: Cases of hand-sanitizer poisoning led to CDC-issued warnings of associated products. Presenting symptoms of methanol poisoning include headache, blurred vision, nausea / vomiting. Severe cases may exhibit seizures and/or blindness. Untreated methanol poisoning is fatal. Morbidity and Mortality Weekly Report: 15 individuals (AZ & NM) were hospitalized after ingesting hand sanitizer; 4 died, and 3 reported new visual impairment.

Related: list of unsafe products

• ("Flu like" with no fever): Headache, loss of smell, muscle pains, cough, sore throat, chest pain, no fever
• ("Flu like" with fever): Headache, loss of smell, cough, sore throat, hoarseness, fever, loss of appetite
• (Gastrointestinal): Headache, loss of smell, loss of appetite, diarrhea, sore throat, chest pain, no cough
• (Severe level 1, fatigue): Headache, loss of smell, cough, fever, hoarseness, chest pain, fatigue
• (Severe level 2, confusion): Headache, loss of smell, loss of appetite, cough, fever, hoarseness, sore throat, chest pain, fatigue, confusion, muscle pain
• (Severe level 3, abdominal and respiratory): Headache, loss of smell, loss of appetite, cough, fever, hoarseness, sore throat, chest pain, fatigue, confusion, muscle pain, shortness of breath, diarrhea, abdominal pain

SPECIALTY SPECIFIC CARE

ONCOLOGY: Data presented at the American Association of Clinical Research (AACR) COVID-19 and Cancer meeting analyzed over 212,000 health records of people living with cancer across two major health systems in the Midwestern United States. The analysis confirmed speculation that cancer patients diagnosed with COVID-19 are more likely (compared to those without) to have: (1) other health conditions (e.g., kidney failure, obesity and heart disease), (2) increased rates of hospitalization and invasive mechanical ventilation, and (3) a 16-fold increased mortality risk. Higher Risk of Hospitalization and Death Among Oncology / Covid-19 patients

Oncology departments, with the drive to protect the immunocompromised, have become adept in innovative care delivery strategies. It is possible to successfully duplicate and mold these adaptations to fit other specialties. MiKaela Olsen DNP, APRN-CNS, AOCNS, FAAN discussed Pillar COVID Programs in a webinar with Dr. Paul Auwaeter, professor at the John Hopkins University School of Medicine.

Olsen's unit established seven negative pressure rooms in Oncology as "rule out COVID" space for cancer patients who screened positive. Redeployed RNs, fellows, and NP's staffed the new "Biocontainment urgent care" unit. Research RN's were employed for bedside care and as safety and transport officers. The unit implemented a "No Visitation" policy and completed over 80% of regular screenings using bedside tablets, & virtual teaching via Telehealth.

Oncology Curbside clinic: Injections, chemo, blood draws, port flushes, chemotherapy injections, and dressing changes were completed via 15-30 minute appointments. The outcome, as expected, decreased waiting room volumes (and time). OCC has treated over 500 patients treated so far. Olsen reports high satisfaction: "patients love it!"

Safe Handling of Table 1 NIOSH Drugs
Recommendations made per ONS and Hematology/Oncology Pharmacy Association guidelines were resourcefully facilitated:

• Use one poly-coated gown to hang or take down chemotherapy and double chemotherapy-tested gloves. One nurse performs all takedowns of chemotherapy.
• One gown for one patient: between uses hang gown inside out near patient and away from surfaces to prevent contamination- Command hooks worked well for quick unit installation.
• Lower hazardous-risk drugs (e.g., rituximab): Use gloves only and no gown. Masks for patients and staff.
• P3 kit: Shields to cover surgical masks, face shields. Cloth gowns can be made from airbag material. Use a cloth gown for non-HD care but continue
isolation practices for VRE and MRSA.

Oncology Nursing Society Guidelines COVID-19

- Gowns: 
  - ONS Recommended: Disposable poly-coated gown
  - Regular disposable gown (water resistant)
  - Cloth gown (singly laundered) for infection control and nonhazardous drugs
- Masks: 
  - ONS Recommended: Mask with face and eye protection required only if splashing is likely and for spill cleanup
  - Reserved N95 masks for symptomatic or COVID-positive patients, hazardous drug spills and cleanup.
- Eye Protection: 
  - ONS Recommended: Mask with eye protection or goggles if splashing is likely or spill cleanup
    Can also use full face piece air purifying respirators or PAPRs.
- Gloves: 
  - ONS Recommended: Double chemotherapy-tested glove
    Single chemotherapy-tested glove
  - Double standard exam glove
  - Single standard exam glove

- Use Algorithms to guide PPE use in oncology care / Re-evaluate efficacy.

FYI: Breweries can make hand sanitizer.

Hospital wide protocols:
1. COVID drive-through testing.
2. Pre-screening assessments and front door nurse screening.
3. Zoom rounds for inpatient units.

PEDIATRICS: A case series of 50 children and adolescents, screened via PCR and hospitalized with COVID-19 infection at NewYork-Presbyterian Morgan Stanley Children's Hospital (tertiary care children's hospital affiliated with Columbia University Irving Medical Center) identified commonalities of moderate to critical care pediatric patients. 27 (54%) were boys, and 25 (50%), were Hispanic. Median onset of symptoms to admission was 2 days. Obesity was significantly associated with mechanical ventilation in children 2 years or older (P=.03). Elevated markers of inflammation, with significantly higher C-reactive protein (median, 8.978 mg/dL vs 0.64 mg/dL) and procalcitonin levels (median, 0.31 ng/mL vs 0.17 ng/mL) upon admission indicated severe disease progression. Elevated peak interleukin, ferritin, and D-dimer levels occurred during hospitalization. Lymphopenia was commonly observed at admission (72%) but did not differ related to severity. Immunosuppressed did not increase risk of severe disease and infants were less severely affected, Zachariah P Johnson CL, Halabi KC, et al. Epidemiology, Clinical Features, and Disease Severity in Patients With Coronavirus Disease 2019 (COVID-19) in a Children's Hospital in New York City, New York. JAMA Pediatrics, 2020.

Coronavirus Bronchiolitis: Mansbach et al, evaluated the presentation and pathogenesis of SARS-CoV-2 in children with bronchiolitis. Coronavirus Bronchiolitis: Insights From the Pre-COVID-19 Era, Pediatrics, Mansbach et al. reviewed studies examining children hospitalized with bronchiolitis in four endemic coronaviruses to estimate effects of SARS-CoV-2 bronchiolitis. Pre-COVID-19 era studies included children who tested positive for a previously identified coronavirus in isolation or in conjunction with another respiratory virus: 85% were co-infected. Respiratory syncytial virus (RSV) was the most frequent coinfection. A higher viral load at symptom onset was associated with increased disease severity in all cases of coronavirus.

Insights from the research: Checking viral load to predict bronchiolitis patients with COVID-19 likely to have a more severe clinical course. Though the relationship between viral load and disease severity is still being established, several studies have already shown a positive correlation in adults, and, evidence has emerged that viral load correlates with age. As a clinical tool, viral load results may quantify the role of children in community transmission. Mansbach et al findings suggest we maintain a high level of clinical suspicion for COVID-19 as co-infection in any child presenting with bronchiolitis, especially when RSV is detected, given high false-negative PCR rates. Related: Pediatric Critical Care and COVID-19 and Lung Ultrasound in Children With COVID-19

NEWBORNS & OBSTETRICS: Data suggest that perinatal transmission of COVID-19 is unlikely to occur if correct hygiene precautions are undertaken. An observation
cohort study reviewed 1481 deliveries, in three New York Presbyterian Hospitals, to mothers positive for SARS-CoV-2 at delivery: 116 (8%) mothers tested positive for SARS-CoV-2; 120 neonates were identified. Conclusions published in Lancet Child and Adolescent Health, recommend neonates continue to room in with their mothers, to elucidate best practices regarding infection control in mother-newborn dyads, and identify potential risk factors associated with transmission. Direct breastfeeding remains safe if paired with effective parental education of infant protective strategies, Salvatore, C., Han, J., Acker, K., Neonatal Management and Outcomes During the COVID-19 Pandemic, (2020).

CRITICAL CARE MANAGEMENT
Cardiac complications: Cardiac magnetic resonance (CMR) imaging revealed heart involvement in 78 patients and active cardiac inflammation in 60, independent of underlying conditions, disease severity, overall course of illness, and time from diagnosis to CMR. Puntmann VO, Carerj ML, Wieters I, et al. Outcomes of Cardiovascular Magnetic Resonance Imaging in Patients Recently Recovered From Coronavirus Disease 2019 (COVID-19). JAMA Cardiol. Published online July 27, 2020. Biopsy of the heart muscle in patients with serious findings showed ongoing immune-mediated inflammation. Thirty-three of 100 patients required hospitalization. Detectable levels of high-sensitivity troponin were found in 71 COVID-19 patients, while significantly elevated levels were detected in five patients. Recovered COVID-19 patients displayed heart dysfunction as evidenced by lower left ventricular ejection fraction, higher left ventricle volumes, higher left ventricle mass and elevated T1 and T2.

Exacerbation of underlying heart disease was noted particularly in critically ill patients. Direct tissue characterization with mapping measures on CMR is the most sensitive and clinically relevant way to detect early heart disease. CMR revealed several abnormalities types, each tied to underlying dysfunction resulting in more severe outcomes. "While left and right ventricular ejection fraction were significantly reduced, there was a large overlap between patients recently recovered from COVID-19 and both control groups, demonstrating that volumes and function are inferior markers of disease detection" Puntmann VO, Carerj ML, Wieters I, et al. Autopsies of 39 COVID-19 patients conducted from Apr 8 to 18 were reviewed by pathologists from the Legal Medicine at the University Medical Center Hamburg Eppendorf. The reviewers identified evidence of SARS-CoV-2 virus, but not clinically relevant inflammation of the heart muscle- in 24 cadavers, 16 (41.0%) of which had high loads of viral RNA. Of these, cytokine response panel showed expression of six pro-inflammatory genes corresponded with high viral loads. There were no signs of a massive influx of inflammatory cells into the heart muscle or tissue death in either group, Lindner D, Fitzek A, Bräuninger H, et al. Association of Cardiac Infection With SARS-CoV-2 in Confirmed COVID-19 Autopsy Cases. JAMA Cardiol. Published online July 27, 2020. In 35 cases (89.7%) cause of death was listed as pneumonia; the other four (10.2%) died of necrotizing fasciitis, cardiac decompensation with previous heart failure, bacterial bronchitis, or unknown causes. Coronary Artery Disease was the most common underlying condition at 82.0% occurrence followed by hypertension, and diabetes. Median patient age was 85 years, and 23 of 39 patients (59%) were women. Research of the long term cardiac complications will be necessary as greater numbers of COVID-19 patients recover.

Antibodies: Rapid decay of anti-SARS-CoV-2 IgG in early infection has been described in several publications. An evaluation of 34 Covid-19 recovered participants, (30 confirmed PCR) analyzed blood via enzyme-linked immunosorbent assay (ELISA) to detect anti-SARS-CoV-2 spike receptor-binding domain IgG. 31 of the 34 participants had two serial measurements of IgG levels, and the remaining 3 participants had three serial measurements. Initial testing was conducted at 37 days after symptom onset, followed by 86 days mean (44-119). Results confirmed alarm of limited humoral immunity in those with mild illness- the largest population of SARS-CoV-2 infections. Antibody based “immunity passports,” herd immunity, and likely vaccine durability, should be approached with caution as new findings continue to

RESEARCH

ANTIBODIES: A randomized clinical trial will evaluate if monoclonal antibodies reduce recovery time from COVID-19. Eligible volunteer patients must have mild to moderate disease not requiring hospitalization. Divided into groups, study participants will receive an experimental therapy or placebo. ACTIV-2 was established as part of NIHs Accelerating COVID-19 Therapeutic Interventions and Vaccines (ACTIV), a public-private partnership program instituted to speed development of the most promising treatments. A similar study in South Korea by the biopharma company Celltrion began phase 1 with 32 patients in July. Another set of Celltrion phase 1 trials are scheduled in Europe, followed by global phase 2 and 3 trials with mild and moderate COVID-19 patients. Preliminary results are anticipated by 2021.

DIPYRIDAMOLE: Hypercoagulability and elevated concentrations of D-dimers associated with disease severity have been noted in multiple studies of COVID-19 patients. By virtual screening of a U.S. FDA approved drug library, the anticoagulation agent dipyridamole (DIP) in silico, suppressed SARS-CoV-2 replication in vitro. This conclusion was drawn utilizing the profiled library for drug repurposing, encompassing approximately 12,000 clinical-stage or FDA-approved small molecules. Scientists identified "100 molecules that inhibit viral replication; including 21 known drugs that exhibit dose response relationships. Thirteen were found to harbor effective concentrations likely commensurate with achievable therapeutic doses in patients, including the PIKfyve kinase inhibitor apilimod2-4, and the cysteine protease inhibitors MDL-28170, Z LVG CHN2, VBY-825, and ONO 5334," Discovery of SARS-CoV-2 Antiviral Drugs Through Large-scale Compound Repurposing, Nature (2020). Many of the identified repurposed drugs will undergo study through the NIH in randomized, and heavily controlled, clinical trials.

VACCINOLOGY: The basic idea is to introduce a harmless entity into the body, and trigger and maintain the immune response against the pathogen preventing future infection. Vaccines historically are classified in 3 delivery methods:

- Traditional whole-pathogen vaccines introduce a dead or weakened pathogen to elicit life-long immunity.
- Subunit vaccines consist of only component(s) (or antigens) of the pathogen and include adjuvants, or substances to boost the required immunity response of a vaccine; these are the items subject to debate with respect to their safety.
- Nucleic acid vaccines introduce genetic material which encodes the antigen for which immunity is desired.

The newest science, Reverse vaccinology, uses antigen discovery enabled by the genome information of the pathogen. This is similar to the first principles of Physics; it starts by gaining information about the epidemiology of vaccine candidates, then modelling the host-pathogen interactions. This effectively reduces the list of candidate vaccines. This is made possible through Omnis, or the disciplines in biology such as genomics, proteomics, metabolomics, and glycomics that collectively characterize and quantify pools of biological molecules that translate into the structure, function, and dynamics of an organism or organisms.

- Vaccine Tracker reports the stages of development for COVID19 vaccine research.

COMPLEMENTARY / INTEGRATIVE CARE

Qigong: The available biological and psychological evidence suggest Qigong may be potentially useful for the prevention and rehabilitation of respiratory infections including COVID-19- the immune system may benefit from the practice to the extent it should
be considered as an *adjunctive* therapy for those with mild or moderate illness. The ease of the practice make this an ideal alternative therapy for elders. “Potential mechanisms of action include stress reduction, emotion regulation, strengthening of respiratory muscles, reduction of inflammation, and enhanced immune function.” Feng, Tuchman, Denninger, *et al.* Qigong for the Prevention, Treatment, and Rehabilitation of COVID-19 Infection in Older Adults. *The Amer Jour. of Geriatric Psychiatry* Vol.28 Iss.8

How Qigong Can Treat Respiratory Infective Disease Utilizing TCM Theories: Qigong features regulation of breath rhythm and pattern, body movement and posture, and meditation, these stimulate immunity. Respiratory infectious diseases belong to the category of external pathogens diseases in TCM; in Qigong, 'Wei' is used to define protection. "Wei Qi" travels on our skin, surrounding our physical body like a protective shield, and flows into the body. It is our **first defense** against pathogens, toxins, and harmful conditions. Weakened Wei Qi provides entry for pathogens to the body. This produces tension and imbalance between good (the immune system) and evil (the pathogen). When exogenous pathogens invade the human body, defensive Wei Qi fights against them. The body must then fight to restore homeostasis and stimulates the immune system to fight disease.

"The relationship between Wei Qi and exogenous pathogens determines whether the disease will develop and the prognosis of the disease. If Wei Qi is strong enough to defend against the exogenous pathogen, the disease would not occur, or would be easier to heal, and the prognosis would be good. Generally speaking, by practicing any Tai Chi or Qigong our Wei Qi expands, thickens, and becomes stronger which gives us better protection [increasing immunity]", tcmworld.org

Qigong practices can focus on specific areas of the body. Wei qi and the lungs are inter-related; to strengthen one is to support the other.

**Global Situation Report**

Johns Hopkins Coronavirus Interactive Map as of August 11, 2020 at 0900 CDT

**CASES:** 20,124,437  
**FATALITIES:** 737,224

The WHO published a Scientific Brief to outline challenges and recommendations for estimating COVID-19 mortality in real time.

**Noteworthy Changes:**

**Norway:** Hurtigruten cruise line resumed operations, then suspended all of its cruises after 40 aboard ship tested positive for SARS-CoV-2. Affected persons were traced to shore excursions and ports resulting in exposures in "dozens of towns and villages along Norway's western coast" asymptomatic or pre-symptomatic guests and crew. The cruise line emphasizes that it operates in compliance with all guidance from the Norwegian Institute of Public Health.

*The outbreak highlights the risk of rapid transmission in congregate settings even with enhanced social distancing and sanitization standards in place.*

**Melbourne,** Australia (locked down over a month ago) is implementing stricter measures for six weeks; residents will be under curfew from 8 p.m. to 5 a.m., with exemptions for work or giving and receiving care.

**Manila,** Philippines and its suburbs **re-enter lockdown for two weeks** after 5,032 new cases.
Nicaragua scientists have called for an emergency plan and advised the government to scale up testing and contact tracing. 34 medical associations urged citizens to implement voluntary self-quarantine. Nicaragua's 347 COVID-19 deaths per million people is the highest in Central America.

Chihuahua, Mexico Health Minister Dr. Jesus Grajeda, died after two weeks of hospitalization for COVID-19.

Yemen The heaviest rains are expected in August is likely to amplify both cholera cases and COVID-19 fatalities.

European countries—including Spain, France, and Germany, which were severely affected early in the pandemic—are reporting increasing COVID-19 incidence.

United States of America

Updated via 1point3acres.com

0900 CDT August 11, 2020:

5,208,304 Cases
165,620 Fatalities

Epidemiological Curves of new cases vs. Fatalities throughout the pandemic

Considerable Rises: Over 1,000 new deaths for 8 of 10 consecutive days in August. The last two weeks in July a study noted over 97,000 children in the United States tested positive for SARS-CoV-2 with 70 percent of the infections in the South and Western US. An outbreak at an overnight summer camp in Georgia yielded 260 confirmed infections of 597 campers and staff; consistent with the 44% transmission rate at super-spread events. 73.5% were asymptomatic. The outbreak illustrates SARS-CoV-2 "spreads efficiently in a youth-centric overnight setting" and that children do pose a significant concern for transmission. A consortium of pediatric intensive care units in the U.S. and Canada pooled their data for COVID-19 admissions between March and July revealed nearly 600 children between infancy and 20, were treated in Critical Care for COVID-19 related illness.

An outbreak at an overnight summer camp in Georgia yielded 260 confirmed infections of 597 campers and staff; consistent with the 44% transmission rate at super-spread events. 73.5% were asymptomatic. The outbreak illustrates SARS-CoV-2 "spreads efficiently in a youth-centric overnight setting" and that children do pose a significant concern for transmission.

Anticipated Rises: Hurricane season onset last week with a Tropical Storm Isaias. North Carolina ordered evacuations in several areas and advised residents to include masks, hand sanitizer, and cleaning products in emergency bags with a recommendation to stay with friends or family to reduce the
population at emergency shelters. Shelters implemented symptom screening, mandatory mask use, and serving meals in sealed containers, as well as reducing capacity to promote physical distancing, though there has not been an increase in shelter locations to compensate.

Fatalities: In terms of per capita deaths, the US has reported near 500 deaths per million population, #10 globally. The case fatality rating (deaths in perspective of positive cases) is est. 3-4%.

Related Resources: Tracker for U.S. metro areas, Stat-News Tracker, Has Your State Flattened the Curve?, Restrictions across 50 States & IHME Projections

Public Health

GENOMICS: To better understand the evolution, transmission patterns, and disease progression of SARS-CoV-2 "genome sequence data should be integrated with patient clinical data and epidemiological data," National Academies of Sciences, Engineering, and Medicine. An NASEM publication, 7/31/2020, recommended HHS collect demographically representative, high-quality full genome sequences of SARS-CoV-2, as it appears throughout the country.

"When genomic, clinical, and epidemiological data analyses are integrated, they can provide a more nuanced, real-time picture of an outbreak. Linking virus sequence data with clinical data on patient demographics, hospitalization, coinfections, and other factors would facilitate identification of strains and mutations associated with changes in disease severity; response to certain medical interventions, such as convalescent plasma; and specific complications, such as neurologic or gastrointestinal effects."

Development of a national data infrastructure for ongoing genomic surveillance should be a high priority.

- Genomic Epidemiology Data Infrastructure Needs for SARS-CoV-2: Modernizing Pandemic Response Strategies

COLLEGES: The new academic year is early underway; 6,300 cases have been noted in over 270 colleges since the onset of the pandemic, New York Times survey. Researchers confirmed via an analytic modeling study of 5000 college students that screening of all students every 48 hours with a low-sensitivity, high-specificity test might be required to control outbreaks with manageable isolation dormitory utilization at a justifiable cost. The study published in JAMA, Paltiel AD, Zheng A, Walensky RP. Assessment of SARS-CoV-2 Screening Strategies to Permit the Safe Reopening of College Campuses in the United States. JAMA Netw Open.2020, utilized 4990 college-age students without SARS-CoV-2 infection, and 10 students with undetected asymptomatic cases of SARS-CoV-2 infection to prove symptom-based screening was insufficient to contain an outbreak. "The safe reopening of campuses may require screening every 2 days, uncompromising vigilance, and continuous attention to good prevention practices."

RESEARCH UNIVERSITIES: The COVID-19 pandemic is posing new challenges for research universities, and exacerbating old ones. How should universities respond to these problems, and what innovative solutions might help? "Researchers who have long navigated narrowing career paths are now at a standstill: "With COVID, they see progress entirely halted in their professional trajectories, because they can't even get into their labs," National Academy of Sciences President, Marcia McNutt, examined COVID-19 effects to research universities. Though challenging, "we have an opportunity, not only to reimagine and strengthen our research universities but also to help our nation and [the] world be better positioned to respond to inevitable future crises."

Frances Ligler of North Carolina State University proposed that schools encourage faculty to take leaves of absence to work temporarily in industry, government, and nonprofits, citing benefits of enriched experiences and encouraging diversity and flexibility in students. In the era of online education and Zoom meetings, a professor noted additional effort to build trust (between faculty and student researchers) is necessary. Students must have self-confidence to undertake independent research studies; the belief they are supported without bias cannot be underemphasized.

Recognizing COVID-19 is unlikely the 'last pandemic' the workshop participants agreed improvements in laboratory design structure are imperative for students and faculty safety. **Highlights** from the National Academies workshop conducted by McNutt.


Demographic, tax, housing, and socioeconomic data from the US Census Bureau's American Community Survey was abstracted in research review of COVID-19 obstetric patients in NYC. Variables of population density, building over-crowding, persons per household, poverty and unemployment rates, and neighborhood data were utilized as predictors of infection probability. The study was exempted from informed consent and approved by the Columbia University institutional review board.

The highest rates of infection (23.9%) were among women residing in neighborhoods with high population density, followed by neighborhoods of significant unemployment, and large households of crowding. Odds of infection were lower where social distancing was possible, in areas of higher property values, and in neighborhoods with higher median incomes


Findings reiterated by survey recorded in the *Annals of Internal Medicine*, stating approximately 81 million persons in the United States live in units unsuitable for isolation or quarantine. The survey included almost 30% of 88.2 million units with more than 1 occupant, reflecting the lack of **Feasibility of Separate Rooms for Home Isolation and Quarantine in the United States**. Isolation or quarantine was impossible in 25.29 million dwellings (95% CI, 25.04 million to 25.48 million dwellings),
accounting for 20.8% of all U.S. residential units lacking sufficient bedrooms, bathrooms, or both.

**Pre-existing conditions & population location:**
A report from 2018 indicating the median county prevalence of any of five underlying medical conditions that increase the risk for severe COVID-19-associated illness was 47.2%, and higher prevalence in counties in rural and the southeastern United States. These areas are primarily locations with lower socioeconomic opportunity. The estimates, in conjunction with data on hospitalizations, ICU admissions, and ventilator use among COVID-19 patients can aide in planning mitigation efforts, resource investment, hospital beds, staffing, ventilators, and medical supplies for high-risk populations. Estimated prevalence of Pre-existing conditions and Increased Risk for Severe COVID-19 by county. Wang, Lu, Marshall et al.

**Related Webinar:**
August 20, 2020 | 2:00 to 3:30 p.m. EDT

**Shortages and Solutions**

**MASKS:** FDA issued policy to expand the availability of general use face masks for the public and particulate filtering face-piece respirators (including N95 respirators) for healthcare personnel (HCP) for the duration of the COVID-19 public health emergency.

**SURVEILLANCE:** BMC Infectious Diseases published results of a pilot study which identified volatile organic compounds produced during respiratory infections leave specific scent imprints. These scents were detected by trained dogs with a high rate of precision. During the presentation of 1012 randomized samples, the dogs achieved an overall average detection rate of 94% (±3.4%) with 157 correct indications of positive, 792 correct rejections of negative, 33 incorrect indications of negative or incorrect rejections of 30 positive sample presentations, Scent Dog Identification of Samples from COVID-19 Patients

**REMDESVIR:** Thirty-one Attorney Generals (AG) sent an open letter to US health agencies requesting Gildead Sciences exclusive rights to production of remdesivir be temporarily suspended to increase availability. The letter was sent to HHS, NIH, and the FDA voicing concern for the company’s inability to produce the drug at reasonable prices and volume. The AGs argue that Gilead's projection of 2 million treatment courses by the end of 2020, is insufficient to the investment provided by the US government for development, testing, and production of the drug. Gilead states it is investing in production capacity to meet US needs by October, and, united with manufacturers in India and Pakistan to improve global access. Remdesivir is $340 USD per vial; the generic manufactured in India is 60 USD; allowing inner generic manufacturing will incidentally also alleviate pricing barriers.

**Vulnerable Populations**

**CHILD WELFARE:** A national survey evaluated the emotional wellbeing of parents and children in response to pandemic mitigation efforts between March to June. Twenty-seven percent of parents reported worsening mental health for themselves, and 14% reported worsening behavioral health for their children, Well-being of Children & Parents, National Survey (Pediatrics). This is concerning, child welfare workers who continue to work primarily from home as calls to child abuse hotlines have plummeted.

Children cut off from routine interactions with those required by law to report signs of abuse or neglect has lead to inaction in child abuse cases. Children deemed "high" or "very high" for risk for renewed abuse, have not been visited for months. For
example, the caseworkers (deemed essential workers) for the child welfare agency for Los Angeles County, remain without PPE preventing them to safely check in personally. "Vulnerable children are out of sight, in crowded apartments, cared for by parents reeling from job loss and all the other stresses brought on by a pandemic with no discernible end," Tricia Gonzalez (CPS Fresno County, CA).

Nationwide, records and interviews reflect scores of investigations into allegations of abuse or neglect have been delayed or sharply curtailed. At the onset of the US pandemic, the Trump administration issued guidance to child welfare agencies relaxing rules requiring face to face visits for abused or neglected children. Despite this child welfare workers were exempt from stay-at-home orders due to emergency custody legalities and foster care placements. This has been challenging with government office closures: the child welfare agency for Los Angeles County, the largest in the nation, cut off public access to agency headquarters and 19 field offices. One in seven children in California is reported to a child abuse hotline by age 5. Due to State response (or lack of) child welfare administrators struggle to keep caseworkers employed- the mandatory visitation policy was only recently reinstated in some areas.

**TELEHEALTH:** As COVID-19 drives many patients away from in-person care and toward virtual visits, experts warn that the nation's most vulnerable members may be unable to access telehealth: [How Telehealth can Reach the Unreachable](#)

**Work-Life Balance**

The founding principles of holistic nursing focus on self-care- an extension of work-life balance. Work-life integrators; those who blend emails and making dinner in exchange for mid-day yoga, are adept and may enjoy the change in fluidity and pace brought by COVID-19 working conditions. However, the digital existence founded in social distancing creates tension for nurses whom are unaccustomed to juggling the multi-tasking of working from home. Those individuals, "work-life segmentors," need a conclusion to their work day prior to moving on to 'real life'. The new reality is that this may not be as possible as in pre-COVID-19 living. Identifying if you are an integrator or segmentor can facilitate strategies to transition to inner harmony.

**Work-life Integrators**

- Transition fluidly between work & personal life throughout the day
- Dress for home when working from home
- Like to "talk shop" at the dinner table
- Don't mind answering emails and chats after hours (within reason) because they popped out for that CrossFit class in the middle of the afternoon

**Work-life Segmentors**

- Have well-defined times when they are working-once they're done for the day, they're done
- Wear office-appropriate attire (at least waist up) when working from home
- Tend to personal needs like errands & fitness outside of working hours
- In extreme cases do not keep photos of their family/friends in their workspace

The words *work-life balance* seek to achieve an ideal state where work and life coexist but thrive separately; work-life integration is about work, and life, co-existing together. Professionals practicing work-life integration care less about the distinction between "work time" and "personal time," instead focusing on identifying the best time to accomplish a project or enjoy a moment. This could mean working later in the day to promote self-care in the morning, or checking email after hours. Work-life integration sees every activity in your day as a part of a whole, and is less
focused on compartmentalizing. In this sense, integration facilitates the holistic skill of "presence".

"Work-life integration creates a mindset that allows an individual to look at the big picture and synergistic interaction of all these components...There is not a sense of competing elements of work and life that must be evenly distributed," Michelle Marquez, Associate Dean of Human Resources and Administration UC Berkeley Haas School of Business.

Necessary qualities for work-life integration are flexibility and self-assurance. Nurses working from home but functioning best from the 'segmentor' side, a 'shut down' ritual may smooth the transition. Set aside time between your 'work end' and 'home beginning' to refocus cognition and direct energy toward the next aspect of life. This may be as simple as shutting down the computer, or a longer thirty minutes of meditation in a 'no work zone'.

Strategies for segmentors promoting their calm inner shift:

**INTENTION AND IDENTITY SETTING:** Close your laptop, and finish these two sentences: "Now that my workday is done, I'm freed up to be the best ____ I can be... and I want to make sure that ________.

**MEDITATE:** Set a 'no work' space within your home- or bonus points- an outdoor space for nature bathing or grounding. When you enter this 'zone' repeat a favorite mantra several times or perform cleansing breaths before settling in to meditate. AHNA has free Guided Imagery series exactly for this!

**COMPLETE A CHORE:** For those who find satisfaction in check-list completion, fold a load of laundry, vacuum, or sweep the patio. Certain cultures believe the act of 'sweeping' a broom eliminates evil energies, and relieves the home of negativity or spiritual turmoil.

**TAKE A WALK / EXERCISE:** This might be particularly helpful for those whose workspace is also the kitchen or a community living area. Unplug to recharge. Removing yourself from the 'same space' of a workday (or stressful environment) is a signal to the brain it is time to reset. Walking and exercise boost endorphin release and decrease levels of the stress hormone, cortisol.

**LISTEN:** The sound of a favorite music, or a humorous podcast and subsequent laughter, distract from recent stressful interactions and thoughts; both prompt dopamine release also.

**ENJOY A SHOWER / BATH:** Humidity, when combined with temperature, can provide relief from discomfort. heat alleviates tension and cold results in vasoconstriction, alleviating painful headaches or inflammation. Solitude, or the peacefulness of the rhythmic sound of running water, can promote relaxation.

Coincidentally, these are pragmatic actions for Nurses transitioning post-shift from external stressful environments.

**Advocacy**

Bedside nurses, among other healthcare workers continue bravely and compassionately serving despite immense personal impact. Experiencing the anguish of caring for countless patients and colleagues who continue falling victim to the COVID-19 pandemic is detrimental to their mental health. Tell Congress to provide Mental Health Services to essential health care providers in continuing exposure and stress to themselves and their loved ones!

900 HCW have died of COVID-19 according to the interactive database, Lost on the Frontline, a partnership between two newsrooms that aims to count, verify and
memorialize every U.S. health care worker who dies during the pandemic. It is the most comprehensive accounting of U.S. health care workers' deaths in the country.