AHNA COVID-19 Update
Tuesday, April 21, 2020

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 intended to provide our members with the most accurate and up to date information on the date of issuance.

**Clinical Updates**

**SCREENING AT HOME**

It is possible that routine home pulse oximetry in high risk individuals will provide early hypoxia detection. This may be a more effective predictor of oncoming severe disease than temperature monitoring alone. This is still theoretical; anecdotal evidence from healthcare workers who detected COVID-19 before becoming severely ill, were able to seek emergent care.

**TRANSMISSION**

To date, Droplet, Fomite, Respiratory Secretions, and Saliva are means of transmission. Aerosols are debated as there has not yet been a well documented case of aerosolized transmission (e.g., through HVAC ventilations or airplanes). Children and intra-familial spread appear to be a growing means of transmission.

**CLINICAL PRESENTATION:** [https://relief.unboundmedicine.com/relief/](https://relief.unboundmedicine.com/relief/)

Headache, Rhinorrhea, and GI symptoms are more widely observed than publicized, in those who tested positive for COVID-19. If you have these symptoms please maintain home isolation for the 14 day recommended period.

**ABSENCE OF SYMPTOMS**

COVID-19 pneumonia initially causes silent hypoxia; insidious, hard-to-detect nature. Patients may have mild symptoms, fever, cough, GI upset, or fatigue, or be completely asymptomatic and deny dyspnea until they are alarmingly hypoxic; as low as 50%. Though hypoxic, they may be in minimal distress, upright using a cellphone until the damage to the lungs is evident. This is why they may arrive to the emergency department in critical condition. This does not occur until up to a week after infection. CXR shows diffuse pneumonia.

**PATHOPHYSIOLOGY**

The coronavirus attacks lung cells that make surfactant, the critical substance keeping alveoli open between breaths. Inflammation causes alveoli to collapse, and oxygen levels fall.

*Yet the lungs initially remain "compliant," not yet stiff or heavy with fluid. This means patients can still expel carbon dioxide - and without a buildup of carbon dioxide, patients do not feel short of breath. Patients compensate through hyperventilation without realizing it causing more inflammation, collapse, and increased lung injury until severe hypoxia. Twenty percent of COVID pneumonia patients then go on to a second and deadlier phase of lung injury; the typical pneumonia with fluid infiltration, stiff movement, and hypercapnia leading to ARDS," Richard Levitan, Emergency MD

**DISEASE PROGRESSION**

Hospitalized patients are approximately 20% of total infections.

50% develop hypoxemia by day 8

- Severe illness and cytokine release syndrome appear to develop avg 5-10 days after symptom onset
- Markers of severe infection include regular high fevers (>39°C), RR > 30, worsening oxygen requirements (4-6L nasal cannula), elevated IL-6 levels (> 40-100), CRP (>10x normal), ferritin (> 1000), d-dimer (>1)

17-30% develop ARDS

Critical Care Management

- Non-invasive ventilation (42%) Mechanical ventilation (47%) High-flow O2 (11%) ECMO (2-5%)
- 67% required vasopressor
- 33% cardiomyopathy

**CLINICAL PATHWAY**

The clinical pathway pictured below is from Mount Sinai hospital; one of the first in New York to receive COVID-19 patients. The clinical chart resources in this issue are presented, free, from Mount Sinai in an on-demand webinar: [COVID-19 in the United States: Insights from Healthcare Systems](https://relief.unboundmedicine.com/relief/)

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Table of Contents

- In This Issue:
  - Clinical Updates
  - Complications
  - Clinical Research Trials
  - Global Situation Report
  - U.S. Report
  - Social Distancing
  - Epidemiology
  - Shortages and Solutions
  - Healthcare Worker Staffing
  - Vulnerable Populations
  - Building Resilience
  - Advocacy
  - Resources

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DIFFERENTIAL DIAGNOSIS
Distinguishing from community acquired pneumonia, influenza is difficult using symptoms alone.
- Elevations in IL-6 (> 40-100), CRP (> 10x normal), ferritin (> 1000) suggested correlating with a cytokine release syndrome-like picture and impending ARDS.
- LFTs elevated more commonly than in typical Community-Acquired Pneumonia cases.

Increased testing ability is needed and in progress.

TESTING

Molecular PCR- Likely < 90% accurate; dependent upon assay used, sample procurement methods and stage of illness.
- Rapid molecular tests now offered (GeneXpert Cepheid < 45 min, ID NOW COVID-19 Abbot < 15 min)
- List of molecular tests approved under emergency use authorization (EUA) by the FDA.

Serological testing- Controversial: Cannot rule out infection except with molecular respiratory tests. Positive results may be due to past or present infection with non-SARS-CoV-2 coronavirus strains, such as coronavirus HKU1, NL63, OC43, or 229E.

Viral Panel- current respiratory multiplex panels will NOT detect COVID-19

Complications
Thrombotic Events
Reports of thrombotic events as cause of death or complication are rising in relation to SARS-CoV-2. It may "predispose patients to thrombotic disease, both in the venous and arterial circulations, due to excessive inflammation, platelet activation, endothelial dysfunction, and stasis. In addition, many patients receiving antithrombotic therapy for thrombotic disease may develop COVID-19, which can have implications for choice, dosing, and laboratory monitoring of anti-thrombotic therapy," Behnood Bikdeli, MD, MS, et al. COVID-19 and Thrombotic or Thromboembolic Disease: Implications for Prevention, Antithrombotic Therapy, and Follow-up Journal of America College of Cardiology. 2020 Apr 17 Hospitals are making continually evolving clinical pathways of care for anti-thrombolytics and anti-coagulant therapy. (This chart from Mount Sinai is presented for introductory guidance only.)

Acute Renal Injury
Acute renal injury and proteinuria were observed in 9 / 26 COVID-19 patients with MODS associated demise. In addition to the direct virulence of SARS-CoV-2, factors contributing to acute kidney injury included systemic hypoxia, abnormal coagulation, and possible drug or hyperventilation-relevant rhabdomyolysis. Upon completion of pathologic examination, recorded findings were:

"diffuse proximal tubule injury with the loss of brush border, non-isometric vacuolar degeneration, and even frank necrosis was observed. Hemosiderin granules and pigmented casts were identified. Prominent erythrocyte aggregates obstructing the lumens of capillaries without platelet or fibrinoid material. Electron microscopic examination showed clusters of coronavirus particles with distinctive spikes in the tubular epithelium and podocytes." https://www.kidney-international.org/article/S0085-2538(20)30869-0/pdf and Xu, Z., Shi, L., Wang, Y. et al. Pathological findings of COVID-19
**Clinical Research Trials**

**Convallescent Plasma or Serum / IVIG**
Convallescent plasma or serum containing neutralizing antibodies against SARS-CoV-2 are being trialed in a large scale study from Mayo Clinic (among others). The Expanded Access Program provides a means of establishing in facilities which may not otherwise have the resources / facilities to provide this experimental therapy. Historical research revealed improvement in patients with MERS, SARS1, and influenza.

- In largest treatment study against SARS, 80 patients in Hong Kong who were treated prior to d14 had a shorter length of stay defined as discharge before d22. Cheng Y, Wong R, Soo YO, et al. Use of convallescent plasma therapy in SARS patients in Hong Kong. European Journal of Clinical Microbiology Infectious Disease. 2005;24(1):44-6
- FDA has authorized an eIND for expanded access for convallescent serum, a licensed physician must request, but FDA does not provide the serum, rather the requestor must procure from a blood bank.

**Mayo Clinic Expanded Access Program for Convallescent Plasma chart, as used by Mount Sinai, is provided as introductory guidance. Hospitals seeking information should consult & pose inquiries: [www.COVID19.Dkmed.com](http://www.COVID19.Dkmed.com)**

**Medication Research Trials: Update from 4/14/2020**

- chloroquine / hydroxychloroquine have shown “low benefit and higher lethality,” causing cardiotoxicity. In one study (unspecified in webinar) lethality was 43/53 test subjects. These concerns led to a recommendation to discontinue HCQ at Johns Hopkins. Dr. Paul Auwaerter, Johns Hopkins Clinical Director Division of Infectious Diseases, on-demand. CE/CME weekly clinical updates: [https://covid19.dkmed.com/](https://covid19.dkmed.com/)
- NEJM study of compassionate-use remdesivir in severe COVID-19 showed clinical improvement in 36 of 53 patients (68%). However, no conclusion about true efficacy could be made from this study. Results from ongoing randomized, placebo-controlled trials will be required. Grein J, Ohmagari N, Shin D, et al. Compassionate Use of Remdesivir for Patients with Severe Covid-19. N Engl J Med. 2020.
- Ribavirin - A systematic review noted high doses of ribavirin used in the SARS trials resulted in hemolytic anemia in more than 60% of patients. Similar safety concerns were seen in the largest MERS observational trial, with approximately 40% of patients taking ribavirin plus interferon requiring blood transfusions. Sanders JM, Monogue ML, Jodlowski TZ, Cutrell JB. Pharmacologic Treatments for Coronavirus Disease 2019 (COVID-19): A Review. JAMA. Published online April 13, 2020. doi:10.1001/jama.2020.6019
- Oselatamivir has not been shown to have efficacy, and corticosteroids are currently not recommended.

- Early reports of lopinavir/ritonavir for the treatment of COVID-19 are mostly case reports and small retrospective, nonrandomized cohort studies, making it difficult to ascertain the direct treatment effect. “Although additional RCTs of lopinavir/ritonavir are ongoing, the current data suggest a limited role for lopinavir/ritonavir in COVID-19 treatment.” [https://jamanetwork.com/journals/jama/fullarticle/2764727?resultClick=24](https://jamanetwork.com/journals/jama/fullarticle/2764727?resultClick=24)
- Use of tocilizumab, an FDA-approved anti-IL6R agent for CAR-T cell cytokine release syndrome. Limited supplies in the United States. Anecdotal reports suggest more efficacy earlier in the disease course (worsening pulmonary status, peri-intubation) than ARDS (many days on the ventilator) with lung and organ injury more advanced. 8mg / kg x 1 dose
- Siltuximab 11mg / kg IV x 1 dose in patients with COVID-19 pneumonia requiring ventilatory support: unpublished preprint. Using an anti-IL6 mab, in 21 patients with advanced COVID-19 pneumonia or ARDS. Following administration, 33% (7/21) improved, 43% (9/21) stabilized without identifiable change, and 24% (5/21) worsened. This uncontrolled study suggests that if such a drug is helpful for cytokine release syndrome from COVID-19, it may be more difficult to improve the sickest. Gritt G, Raimondi F, Ripamonti D, et al. Use of siltuximab in patients with COVID-19 pneumonia requiring ventilator support, [https://www.medrxiv.org/content/10.1101/2020.04.01.20048561v1](https://www.medrxiv.org/content/10.1101/2020.04.01.20048561v1) (accessed 4/5/20)

**POST EXPOSURE PROPHYLAXIS**

- A 6 week open label PROBE design clinical trial of oral medications for COVID-19 prophylaxis is being conducted by Dr Subsai Kongsaengdao, Rajavithi Hospital on 320 participants. Multiple medication combinations are in testing: [https://clinicaltrials.gov/ct2/show/NCT04303299](https://clinicaltrials.gov/ct2/show/NCT04303299)
- Bevacizumab is a recombinant humanized monoclonal antibody, anti VEGF drug, used in anti-tumor treatment. Healthcare workers and others with documented exposure to COVID-19, but a negative test result and free of clinical signs or symptoms may be eligible for a clinical trial for prophylaxis using PUL-042. NCT04313023 [https://clinicaltrials.gov/ct2/show/NCT04313023](https://clinicaltrials.gov/ct2/show/NCT04313023)

**Modifiable Potential Risk Factors for Severe Illness**
**Non-Modifiable Risk Factors**

**Age, Socioeconomic status at onset of COVID-19, and Race:**

Coronavirus Research Center at Johns Hopkins posted a data table showing States which release COVID19 demographics to include race, stating "The rates of chronic medical conditions increase the risk among ethnic minorities for serious complications of the novel coronavirus and resulting higher death rates..." To assume these statistics are based upon genetic components alone would be erroneous. These statistics further highlight inequities in socioeconomic status, living conditions, and access to care in the U.S. The research review goes on to explain,

"Ethnic minority persons in poverty, are experiencing this pandemic in a different way: they may rely on public transit if they cannot afford a car, need to shop more frequently for basic necessities since they cannot afford to stockpile goods, and do not have health insurance or access to regular medical care. Social distancing may not be a convenient or realistic option for many, because they may live in small, multi-family apartments or homes. This vulnerable population is likely to be exposed at work due to their overrepresentation in essential jobs in transportation, government, health care, and food supply services, and in low wage or temporary jobs that may not allow tele-work or provide paid sick leave. Lacking access to high-speed internet and telephone services, places them at greater risk for being uninformed, or technology, for virtual visits."

At this time only 2 states are reporting racial demographics of those tested / access to testing; Illinois and Kansas. It is unclear if these demographics are established by US census (confirmation from individual citizens) or by mortician inquiry (approximately 45% accurate).

**Global Situation Report**

**Johns Hopkins Tracker Report for APRIL 21, 2020 at 0830 CST:** 2,498,355 confirmed global COVID-19 cases and 171,652 deaths

(50,789 in a week- the weekly rate is decreasing!)

- Africa: Eight countries have reported marked increases in the past week: Algeria Burkina Faso, Cameroon, Ivory Coast, Ghana, Nigeria, Senegal, and South Africa. Six of the countries with high case-loads have high case-fatality rates also, ranging from Algeria at 15% to Niger at 2.7%. The first United Nation's "Solidarity Flight" carrying medical supplies, personal protective equipment, thermometers, and ventilators to Africa successfully left last week. Low-income countries have severe resource constraints, for example, a number of countries in Africa reportedly have under 10 ventilators nationwide others have none. Director-General Tedros said the flight is part of a larger effort to get lifesaving medical supplies to 95 countries in six WHO regions.

- India's COVID-19 epidemic appears to be accelerating, despite nationwide "lockdown" measures.

- Pakistan extended lockdown by two weeks as its epidemic grows, with 5 consecutive days of more than 400 new reported cases. According to Pakistan Medical Association over 100 healthcare workers have been infected in the outbreak.

- Russia's COVID-19 epidemic continues to accelerate, doubling approximately every 4-5 days.

- Latin America and the Caribbean have yet to escalate. Carissa Etienne, MD, director of the Pan American Health Organization (PAHO) advised countries to prepare for rapid intensification. Ecuador has reported a recent sharp rise in Guayaquil, overwhelming the city's hospitals and morgues.

- In South America, Brazil, Peru, and Chile are beginning to report uncontrolled acceleration.

- The Associated Press reported Great Britain underestimates COVID-19 deaths; data includes fatalities that occur in hospitals but not nursing homes where two-thirds of the facilities are affected. Office of National Statistics through Apr 3 show COVID-19 deaths 15% higher than the NHS.
• 4/21/2020: As of 0840 CDT confirmed cases in the USA had risen to 801,125 and 42,985 deaths; nearly doubled in 2 weeks.
• The post office #SaveUSPS campaign started last week after the director announced the requested bail-out funding had been denied by President Trump. The USPS exists on funding from users and mass mailings and has received zero federal contribution since 2008. Worried citizens express concern over the difficulty of a mail-in election, adding to the current discussion of postponement of the presidential election. A petition has been started: https://www.change.org/p/save-the-usps
• The President stopped funding to the World Health Organization last week. American Medical Association president Patrice Harris said halting the funding during "the worst public health crisis in a century" is a "dangerous step in the wrong direction that will not make defeating COVID-19 easier. The AMA is deeply concerned by this decision and its wide-ranging ramifications, and we strongly urge the President to reconsider," Harris added.
• The Partnership for Healthy Cities COVID-19 Response Center includes tools and technical resources for urban challenges, ranging from maintaining city services to legal guidance at every stage of the pandemic
• Harvard T.H. Chan School of Public Health has projected future pandemic waves will occur for several years "We used estimates of seasonality, immunity, and cross-immunity for betacoronaviruses OC43 and HKU1 from time series data from the USA to inform a model of SARS-CoV-2 transmission. We projected that recurrent wintertime outbreaks of SARS-CoV-2 will probably occur after the initial, most severe pandemic wave. Absent other interventions, a key metric for the success of social distancing is whether critical care capacities are exceeded. To avoid this, prolonged or intermittent social distancing may be necessary into 2022." -Kissler, S. M., Tedijanto, C., Goldstein, E., Grad, Y. H., & Lipsitch, M. (2020). Projecting the transmission dynamics of SARS-CoV-2 through the post-pandemic period. Science (New York, N.Y.), eabb5793
• Several states saw protesters assembled to call for governors to lift "stay at home" orders, including reopening non-essential businesses and permitting large gatherings. In Denver, CO, some were met by local healthcare workers who stood in intersections wearing hospital scrubs and N95 respirators.

Social Distancing
A rapid systematic review of 29 studies on social distancing sought how effectively quarantine stops COVID-19 spreading and if it prevents death. Analysis included efficacy of combining with other measures, such as closing schools, and associated cost. "The modelling studies all found that simulated quarantine measures reduce the number of people with the disease by 44% to 81%, and the number of deaths by 31% to 63%. Combining quarantine with other measures, such as closing schools or social distancing, is more effective." In two SARS studies they found quarantine was less costly when initiated early. Nussbaumer-Street B, Mayr V, Dobraesku Ai, Chapman A, Persad E, Kleins R, Wagner G, Siebert U, Christof C, Zachariah C, Gartlehner G. Quarantine alone or in combination with other public health measures to control COVID-19: a rapid review. Cochrane Database of Systematic Reviews 2020, Issue 4. Art No. CD013574

Though the President and others are discussing relaxing social distancing measures, this is not being considered among military personnel: Movement of troops have stopped with family reassignments post-poned and ship returns delayed the Navy this week postponed the return of the USS Harry S. Truman, keeping the aircraft carrier at sea to shield its crew from virus exposure at home.

Lt. Gen. Brad Webb, commander of the Air Force's training and education command told the Associated Press, "Unlike talk in the Trump administration of possibly reopening as early as May, military leaders are suggesting that this summer may be the best-case scenario of tiptoeing toward a return to normal activities. We don't know what 'new normal' will look like until we get to the other side."

Stepping forward, governments must triangulate the well-being of their citizens, the freedoms of their population, and economic constraints. The most likely scenario is one of easing social distancing measures when it's possible, then clamping down again when infections climb back up, a "suppress and lift" tactic trialed in Singapore and Hong Kong. It is important to note both these places had tighter restrictions and heavy contact tracing than the United States of America. Singapore states the technique may be ineffective.

"Exactly how the pandemic will end depends in part on medical advances still to come. It will also depend on how individual Americans behave in the interim. If we scrupulously protect ourselves and our loved ones, more of us will live. If we underestimate the virus, it will find us. In this country, hospitals in several cities, including New York, came to the brink of chaos. Officials in both Wuhan and New York had to revise their death counts upward this week when they realized that many people had died at home of COVID-19, strokes, heart attacks or other causes, or because ambulances never came for them" ~New York Times

Experts agree that the more restricted we are, then fewer people will die, however, there will be longer periods between lockdowns. Most models assume states will eventually do widespread temperature checks, rapid testing and contact tracing, as is routine in Asia, but every epidemiological model projects a new hotspot will surface whenever too many hosts emerge, thus driving another lockdown.
Epidemiology

Only when tens of thousands of antibody tests are done will we know how many silent carriers there may be in the United States. Statistical analysis of two separate data sets—clinical and epidemiologic—were used to evaluate pre-symptomatic infectiousness.

“We have estimated that viral shedding of patients with laboratory-confirmed COVID-19 peaked on or before symptom onset, and a substantial proportion of transmission probably occurred before first symptoms in the index case. More inclusive criteria for contact tracing to capture potential transmission events 2 to 3 days before symptom onset should be urgently considered for effective control of the outbreak." He, X., Lau, E.H.Y., Wu, P. et al. Temporal dynamics in viral shedding and transmissibility of COVID-19. Nat Med (2020).

A National Plan for contact tracing has been devised by the Johns Hopkins Center for Health Security, implement a robust and comprehensive system to identify all COVID-19 cases and trace all close contacts of each identified case. It is estimated that each infected person can, on average, infect 2 to 3 others. This means that if 1 person spreads the virus to 3 others, that first positive case can turn into more than 59,000 cases in 10 rounds of infections.”

In order to lessen social distancing (as discussed by the government) a “massive upscaling” of 100,000 newly hired local and state public health workers are needed for a containment of this scale.

The CHS outlines procedures for establishing:

- where and when contact tracing should begin
- the training of individuals to fill the workforce gap
- management of data, technology, and personnel


In addition, the forgotten Title VII of the Defense Production Act grants authority of voluntary agreements allowing the government to develop action plans directly with industry to respond to anticipated needs from the private sector during a crisis. This grant could provide funding for public health worker training by private contracted entities. Federal agencies should also create National Defense Executive Reserve units, which are volunteer groups of private industry experts that can work directly alongside government in times of crisis to supplement or address shortcomings in government expertise.

Shortages and Solutions

The Center for Disease Control Clinician (CDC) Outreach Communication Activity (COCA) provides a free email subscription service for clinicians. This service is how the CDC will rapidly disseminate important information to the healthcare community.

COCA provides subscribers:

- information on current health issues and emerging threats
  https://emergency.cdc.gov/coca/cocadigest/index.asp.
- Clinical support via direct email
- guidance in preparation for pandemic effects at the local level
- data from several health systems who have reached Surge capacity
- Webinar updates are several times weekly at https://emergency.cdc.gov/coca/about.asp.

Healthcare personnel are finding their own PPE

Mission for Masks is an effort of one RN, a CRNA Student. If a facility needs masks, missionformasks@gmail.com is a legitimate place to request them. She asks facilities include the MOST DIRECT point of contact to keep the process simple.

“Protecting our caregivers is essential so that these talented professionals can safely provide compassionate care to our patients. Yet we continue to be stymied by a lack of personal protective equipment (PPE), and the cavalry does not appear to be coming,” Andrew W. Artenstein, M.D.

Artenstein describes in NEJM ‘COVID notes’ https://www.nejm.org/doi/full/10.1056/NEJMc2010025 a vexing story of bartering and bidding for protective equipment, “sometimes even against the federal government.” Only after checking a long list of boxes; locating a large shipment, fit testing uncertain samples, booking travel, and preparing to pay prices 5x above usual, did they finalize the deal. Two FBI agents arrived only just after the supply decreased to ¼ of the deal an hour before departure. Despite having proven identity, “Homeland Security was still considering redirecting our PPE. Only some quick calls leading to intervention by our congressional representative prevented its seizure... This is the unfortunate reality we face in the time of COVID-19.”

“Adopting Contingency Standards & establishing zones for specific PPE cueing reduces waste.

Use of the Zone strategy has brought an increased sense of security to staff.”

Aaron Harris MD, MPH
**TESTING CAPACITY**

SeroLogic antibody tests reveal who was previously infected & spreading infection without knowing it.

Up to a quarter of people with SARS-CoV-2 infection may unwittingly spread the virus because they have mild or no symptoms. These are being used to screen donor blood for antibodies to SARS-CoV-2.

- A National Institutes of Health-funded survey is enrolling 10,000 volunteers across the nation. CDC-funded sero-surveys are being planned.
- WHO is providing countries with early protocol and technical support for sero-epidemiological studies, launching a multi-country antibody testing study called SOLIDARITY2.


Laboratory expansion may be necessary in smaller facilities. The inability to process specimens quickly and provide results in a timely manner contributes to limited bed capacity. Steps in the pandemic response strategy used by Mount Sinai are bulleted.

**VENTILATORS:**

The beginning of the pandemic required quick response resource utilization. The development of ‘pandemic playbooks’ by early COVID-19 facilities can benefit hospitals yet to receive serious cases or those on the brink of Surge capacity.

Mount Sinai upgraded 10 adult units into double occupancy ICU rooms. Using HEPA exhaust fans, typical rooms converted to negative pressure ventilation rooms. Remote patient monitoring was added, reducing admissions and PPE usage.

**Increased Production**

The Department of Health and Human Services released a press release announcing five new contracts for ventilator production rated under the Defense Production Act (DPA), to General Electric, Hill-Rom, Medtronic, ResMed, and Vyaire, as well as two other contracts for ventilator production, to Hamilton and Zoll. Secretary Azar issued the following statement:

“HHS’s use of the DPA at the direction of President Trump is helping get critical materials into the hands of American companies like GE to initiate and scale up ventilator production. The President promised on March 27 that we would have 100,000 more ventilators within 100 days, and we now have contracts to produce more than 117,000 in that time frame, and more than 187,000 total this year. These companies and their incredibly dedicated workers will ensure that our country can provide our hospitals and healthcare providers with the ventilators needed to sustain and save lives during this pandemic. The thousands of ventilators delivered to the Strategic National Stockpile starting this month, continuing through the spring and summer, will mean we have more capacity to respond to the pandemic as it evolves.”

**Anesthesia Medication**

General anesthesia and manipulation of the airway is an aerosol generating procedure, of which the subsequent aerosolization can potentially infect healthcare workers. The demand for anesthetic drugs for use in critical care has reduced the supply of drugs for general anesthesia. Therefore the safe and evidence-based practice of regional anesthesia is increasingly important to maintain reliable anesthetic services and hopefully limit exposure of healthcare workers to COVID-19.


**Healthcare Worker Staffing**

**PRIMARY CARE**

A research review led to proposition of trained nurses such as nurse practitioners, practice nurses, and registered nurses, being able to provide equal or better quality of care compared to primary care doctors. Likely they will achieve equal or better health outcomes for patients as well. Nurses achieved higher levels of patient satisfaction, compared to primary care doctors. Furthermore, consultation length was longer when nurses delivered care and the frequency of attended return visits was slightly higher for nurses, compared to doctors. Utilization outcomes in other areas are anticipated to be similar. The effects of nurse-led care on process of care and the costs of care are uncertain, and we also cannot ascertain what level of nursing education leads to the best outcomes when nurses are substituted for doctors.

We've sent our "soldiers" healthcare personnel into battle without weapons. Let's not have their bravery rewarded by a return to absent leaders, or inapt leaders, Wo...
leadership communication teaches that employees recall best the first and last items heard in a conversation. Considering this fact, in a high stress atmosphere at least one of those two items needs to reflect that they are respected and cared for. Leaders might ask the following to kick off a team huddle or staff meeting:

- What is a high and a low from the day? What is one word that describes how you are feeling today? Share a moment of awe from yesterday, during your shift, etc. A moment of awe is when you experience that feeling like you're a part of something bigger. Share one best thing and one hard thing that happened yesterday and how are you going to cope. Name something funny.

THE CHECK-IN

Frequent meetings—staff meeting or morning huddle—probably focus on the latest information. A check-in is an intentional practice or quick question that teams use at the beginning of a meeting to bring purpose and connection.

THE ART OF CARING COMMUNICATION

Caring communication improves staff interaction with each other as well. When we identify with another person’s vulnerability, we realize we are all human beings bound together on a single planet, and that affects us all. 

• View and download a script for performing the pause here. https://uha.blob.core.windows.net/accelerate/attachments/ck7w5e1ya03aq0no7por3ii5q-the-pause-script.pdf

Team members in some settings have included other rituals such as a small altar for the family to put photos, a singing bowl, prayer, and the use of lavender oil palm massages. This may not seem feasible in times of high stress, but, like self-care that is often the time that we need it most. “While the nature of grief is subjective and wayward, there are helpful things leaders can do to facilitate grieving in the workplace... help them talk about what they are feeling,” Megan Whitlock, LCSW at the Resiliency Center of the University of Utah. Whether it is a quick huddle or something more formal, meeting together helps to ensure everyone is doing okay and has what they need.

THE PAUSE

A tool used to recognize and honor death is “The Pause.”


This is a practice of pausing together as a team after a patient death. The pause takes about one minute and is a chance to honor the patient by holding silence, creating a space for grief between activities, recognizing the person was loved, and acknowledging the efforts given in their care. This practice has shown to help team members acknowledge feelings of grief and distress.

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THE ART OF CARING COMMUNICATION

Communicating is an art. It takes practice to make it smooth and calming especially in the midst of chaos. The methods which leaders use to communicate contribute extensively to the culture of a work environment. Ideally, no matter what the conversation is regarding; light-hearted, personal, or identifying mistakes or deficiencies, all should be reflected on clearly, constructively, and with compassion in an optimistic manner.

Making time for intentional positive communication is an excellent way to build a Culture of Caring. How Leader Intentional Interaction might look:

- “Elbow bump” rounds
- Daily briefings in which staff can interact with senior level leadership
- Twice daily or shift change huddles with local/unit leadership
- Optional Virtual town halls during crisis operation
- Pick up a “floor shift”

When leaders “show up,” especially in the case of meeting staff needs, it generates the message that they are not out of touch with the stressors that nurses are facing. A Medscape study cites 59% of burnout as a result of administrative burden. Often those who experience burnout are not only overworked but forced to work inefficiently. This may be a direct result of leaders who are disconnected with the needs of their healthcare workers. To understand their needs you must be willing to see through their eyes.

“Resilience isn’t necessarily about something you already have. It’s something that you learn, that people who’ve been through challenging times and risen to the occasion, become resilient. They learn how to get through challenging situations in the future. For many of us, this pandemic is an opportunity to learn more about ourselves and how we can grow as human beings... an opportunity to prove that we can respond to an emergency in a way that is thoughtful, in a way that is caring, and in a way that contributes to improving the situation for all of us.”

Dr. Joshua Gordon, Director of the National Institute of Mental Health, NIH.
Employee wellness initiatives set up for front line staff make a large impact on those caring for COVID-19 patients while covering extended shifts and caring for family members or children. When possible, strong consideration should be given to adopting these benefits. “Resilience programs can die at the grassroots level because the person who was passionate about it gets another job or there wasn't sustained funding.” - Ali Miller, M.D., pediatric critical care intensivist at Children’s in Omaha.

Establishing a Resiliency or Code Lavender Team is an organized approach with significant research backing its foundation, but they need to be supported by the organization as a whole. This is why the culture of caring is so important.

Establish a Resiliency Program

The University of Utah initiated a Resiliency Center for employees in response to a number of significant patient crisis. The center facilitates sharing groups, grief support, trauma counseling, and screenings for substance abuse, PTSD, and depression. The organization also has a spiritual care team, and in 2017 added a Crisis Response Team to implement EBP, including holistic modalities.

This is an environment designed to stand against burn-out:

- A Peer Support program utilizes volunteers for employees to seek out for listening and open communication
- A licensed psychologist provides Resiliency consultations.
- Wellness Champions within the health system identify areas of need for employees
- 24/7 access to an Urgent “Crisis Line” and a Non-Urgent “Warm Line”
- Recovery Assistance Program
- Guided exercises in Mindfulness, Communication, and Stress Reduction are available for any staff member experiencing stressful circumstances.

Similar to the Crisis Team at University of Utah, is a program, “Code Lavender” established at the Cleveland Clinic to provide “Emotional Support through Holistic Rapid Response”.

1. The first step in creating an environment where staff feel safe to disclose, is establishing a Culture of Care. When administrations and managers validate and support their healthcare team, this leads to increased self-esteem, self-compassion, and self-worth among all members.

2. A randomized control trial using Resilience Training Interventions had substantial efficacy with nurses showing “a significant decrease in PTSD symptom score (using the PDS) after the intervention(s)” and “improving psychological outcomes such as symptoms of anxiety, depression, burnout syndrome, and PTSD.” Mealer, M., Conrad, D., Evans, J., Jooste, K., Solynifjes, J., Rothbaum, B., & Moss, M. (2014). Feasibility and acceptability of a resilience training program for intensive care unit nurses. American journal of critical care : an official publication, American Association of Critical-Care Nurses, 23(6), e69-e105.


   3. Establish the Proactive Arm: The benefit in educated resourcing is that the staff are familiar with HIPPA, and licensed to recognize the signs of need for de-escalation, or referring to a higher level of care. Non-licensed Peer supporters should undergo training that builds emotional first aid and listening skills, empathy and the ability to recognize when a higher-level of support is needed. The comfort a peer is listening may feel less anxiety provoking then disclosing to a stranger as with an EAP.

4. Offer facilitated calling circles staggered at different shifts each day would allow nurses to call in anonymously to express their grief and struggles.

4. Offer resources that require no interaction at all. Some staff may be extremely resistant to bringing their emotional or mental health needs to the attention of their employer, even under the condition of anonymity. Providing your staff external resources may help those who otherwise will not seek it.

- American Holistic Nurses Association Weekly Resiliency Guides
- AHNA Stress Management
- Clinician Well-Being Hub https://nam.edu/clinicianwellbeing/

Advocacy

Volunteering: How can I help?

1. Donate Blood products or Plasma.

Blood Supply has a ‘shelf life’ and therefore needs to be resupplied regularly. On March 9, 2020, Bloodworks Northwest, headquartered in Seattle, issued a press release warning that their blood supply was at the risk of collapse due to cancellation of blood drives as containment and mitigation strategies increased. Potential donors may also have concern of contracting COVID-19 while at the donation center. https://fas.org/sgp/crs/misc/IN11238.pdf

2. Write to special populations to combat the “Infodemic”


The WHO now faces a more difficult task of performing the same functions with fewer resources (the USA is the biggest financial supporter of the WHO). The most recent Situation Report, WHO announced what is needed to combat the excessive publication of inaccurate information:

- To build and sustain trust, public health agencies and other authorities need to be transparent about developments as they unfold. Health education and health literacy are important to help people receive and act on reliable information. "Resilience to misinformation depends on strong digital and health literacy”
- Health Education is hugely valuable: Accurate information must be adapted to different cultures, languages and literacy capacities, extending to marginalized and vulnerable communities.
- Running information campaigns on how to convey accurate information, similar to promoting personal hygiene.

3. Volunteer to orchestrate or assist in development of a Resiliency Program in a local hospital
Resources

OBTAIN PPE NOW
Mission for Masks missionformasks@gmail.com
Include best point of contact for distribution

SHARE YOUR STORIES

Social Media- #fightthefrontlines

STRESS MANAGEMENT

Headspace - Clinical healthcare professionals are currently receiving complimentary premium memberships.
Meditation Oasis - The Meditation Oasis® Podcast features guided meditations, instructions for meditation, and music for meditation. You can listen to it at iTunes or Google Play or by clicking on the play buttons below. Episodes are listed from the oldest to the most recent. Tap on the green button to view recent podcasts.
Mindfulness Coach - This app leads the user through steps to learn how to practice mindfulness. Mindfulness means grounding yourself in the present moment. It has been shown to be helpful for reducing stress and helping people cope with unpleasant thoughts and emotions.
Holliblu- Application built for nurses by nurses. Self-care resources to use before, during, and after your shift: https://holliblu.com/
Compassion Caravan www.compassioncaravan.com
Listening Circles by AHNA Chapter Leaders - website to get more information

Wellbeing and Resilience for Health Professionals online and self-paced, rolling start dates https://www.csh.umn.edu/community/wellbeing-resilience-health-professionals-online-program Use Code "Wellbeing" to get FREE access

Informal hour of meditation and light movement University of Minnesota's Earl E. Bakken Center for Spirituality & Healing Webinar https://umn-private.zoom.us/webinar/register/WN_ZYePhO9ZTdmqoKLi2-ZqA
A Guided Meditation to Support the Immune System (mp3) https://www.healthjourneys.com/partneraccess/index/display/token/MwMnLt9csEbTBK-Ao0Uk45oXnHwP0b6t0htyQoAcvQD11GHaFBw5sQH6c-📱MUCMv94PW-KjViGWWy3dMfzOE1FxyClvUSiI72Zpq2v6nBUrQ9fPohH18r6ETQEv2BDc8XZ8e6Cc38yWkEh9p
How to Apply Ear-seeds to Reduce Stress, Trauma, and Pain - Acupuncturists Without Borders: https://www.youtube.com/watch?v=Ta3xDu8N9ve

MOVEMENT

Mindful Yoga Therapy- https://www.mindfulyogatherapy.org/tools/- Yoga Nidra Resource. Free download includes a series of short breathing practices that are part of the Mindful Yoga Therapy Program and a Deep Relaxation
Warriors at Ease- http://warriorsatease.org/mind-body-practices/- Explore meditation, breathing techniques, iRest Yoga Nidra and more yoga
NYU Langone Health Chair and Bed Yoga: Chair Yoga - Part 1, Chair Yoga - Part 2

CONTINUING EDUCATION & WEBINARS

Emergency Nurses Association- COVID Free webinar https://www.youtube.com/channel/UCV6LMjCWUM7aVoJ5sV6uPA
Pulmonary Care Webinars- Free from American Association of Critical Care Nurses https://www.aacn.org/education/online-courses/covid-19-pulmonary-ards-and-ventilator-resources?sc_camp=D89A9158E9C34910A638BAF9931DE4F0&_zs=1uTXX&_zl=ewR22

ADVOCACY

Tell your member of Congress to do everything possible to increase PPE prioritization and distribution to nurses and other frontline providers! https://p2a.co/7Xuw9of

PRACTICE

CMS guidelines for Medicare/Medicaid.
- CMS Regulatory Changes to Help U.S. Healthcare System Address COVID-19 Patient Surge - provisions include authorizing hospitals to use PAs and NPs to the fullest extent possible.


LEADERSHIP

Resource for managing fear and anxiety in staff
Not an AHNA member? Learn more.