National Briefing with CDC, Johns Hopkins University, University of California, Davis on COVID-19 and the Chronic Disease Community

April 29, 2020
2 PM EDT

Welcome
Overview

• CDC and practice perspectives

• Answers to selected questions from hundreds of questions received

• Additional answers to questions will be found at: www.chroniccarealliance.org/webinar

• Please connect with us via chat or raise your hand

• Questions coming via the webinar will be added to the questions listed on our website

• A copy of this presentation will be available to download at: www.chroniccarealliance.org/webinar

• The briefing is being recorded and a link will be sent to you

• The Speakers have no disclosures
A network of state and regional health care advocacy organizations advancing public policy that improves the lives of those living with chronic conditions and diseases.

Ben Chandhok
Arthritis Foundation
Washington, DC

Joan Werblun, RN
California Chronic Care Coalition
California

Sharon O’Hara
Sara Froelich
Colorado Chronic Care Collaborative
Colorado

Rolf Benirschke
Legacy Health Strategies
California

Tom McCoy
Nevada Chronic Care Collaborative
Nevada
Co-Host Organizations

Liz Helms
Liz Helms is the President/CEO of the California Chronic Care Coalition (CCCC), an alliance of non-profit, social consumer and provider organizations united to improve the health of Californians with chronic conditions or diseases. In 2017, Liz co-founded the Chronic Care Policy Alliance (CCPA), working across state lines to ensure access to affordable, quality health care, giving states a broader voice and advocates for the enforcement of anti-discrimination laws in the ACA. She serves on many advisory councils including the CDC’s National Hypertension Control Workgroup.

Shilpa Venkatachalam, PhD, MPH
Shilpa Venkatachalam is the Associate Director, Patient-Centered Research, at the Global Healthy Living Foundation (GHLF), CreakyJoints® and Co-Principal Investigator (PI) of ArthritisPower® Patient-Powered Research Network. The Global Healthy Living Foundation is a 501(c)(3) non-profit organization whose mission is to improve the quality of life for people living with chronic illnesses (such as arthritis, osteoporosis, migraine, psoriasis, inflammatory bowel disease, and cardiovascular disease) by advocating for improved access to health care at the community, state, and federal levels, and amplifying education and awareness efforts within its social media framework.

Tonya Winders
Tonya Winders is the President & CEO of Allergy & Asthma Network, the nation’s leading patient education & advocacy organization dedicated to ending needless death & suffering due to asthma, allergies & related conditions since 1985. Tonya is the mother of five young adults living with these conditions & a tireless patient advocate for the past twenty years.
Co-Hosts and Co-Sponsors Representing 68 Organizations
Opening Remarks
- Liz Helms, Chronic Care Policy Alliance
- Dr. William Bommer, MD, FACP, FACC  University of California, Davis

COVID-19 and the Chronic Disease Community National Briefing
- Dr. William Bommer, MD, FACP, FACC  University of California, Davis

CDC Perspective
- Dr. Georgina Peacock, MD, MPH, FAAP  Centers for Disease and Prevention, (CDC)

COVID-19 and Chronic Lung Disease
- Dr. Vickram Tejwani, MD  Johns Hopkins Medicine
Briefing Moderator

Dr. Bommer’s service to the American College of Cardiology includes his current role on the California Executive Committee; as well as former roles as President, Vice-President, Governor, and Member of the Board of Governors. As an accomplished UC Davis Clinical Professor of Medicine, he directs UC Davis Cardiology’s Noninvasive Services; directs the Cardiology Fellowship Training Program and sees patients in the CCU. As the longest-tenured UCD Training Director, he has trained over 200 practicing cardiologists. Dr. Bommer has been the Principal Investigator or Co-Investigator of multiple NIH, NHLBI, and international research trials. He is a member of 50 international, national, state, and university education commissions and committees.

His public service includes consulting with the State of California and directs multiple programs including CA Pilot PCI (offsite) Program, CA Elective PCI (offsite) Program, and CA Cardiac Surgery and Intervention Outcomes Program. He has authored over 250 scientific publications, received over 100 Honors and Awards, presented over 1000 papers at International, National, and Statewide meetings, and coauthored California Legislation including SB 357 and SB 906. A Physics and Chemistry graduate of Cornell University, he received his medical degree from the State University of New York. He is an Honorary Lifetime Member of the British Cardiovascular Society and an accomplished marathon runner.

Dr. William Bommer, MD, FACP, FACC
Chairman, Right Care Initiative Capital Region University of Best Practices; Executive Committee, American College of Cardiology, California Chapter; Professor, Division of Cardiovascular Medicine, University of California, Davis
Our Speakers

Dr. Georgina Peacock MD, MPH, FAAP
Director, Division of Human Development and Disability, National Center on Birth Defects and Developmental Disabilities (NCBDDD), Centers for Disease Control and Prevention (CDC)

Dedicated to the health and development of children and adults across the lifespan, she applies her personal passion and knowledge to a critical leadership position at the Centers for Disease Control and Prevention (CDC).

Dr. Vickram Tejwani, MD
Pulmonary and Critical Care Fellow, Johns Hopkins Pulmonary Critical Care Medicine

Dr. Tejwani is a pulmonary and critical care physician at Johns Hopkins University, where he came after completing residency and Chief Residency at the Cleveland Clinic. He treats patients with chronic lung conditions in clinic and hospitalized patients in the intensive care unit -- including recently serving in a "COVID-19 ICU." He is on a National Institute of Health fellowship award to study COPD and asthma and separately, is working with Allergy & Asthma Network to create a core outcome set for asthma trials.
COVID-19 AND THE CHRONIC DISEASE COMMUNITY NATIONAL BRIEFING
APRIL 29, 2020

CENTER FOR DISEASE CONTROL AND PREVENTION
JOHNS HOPKINS UNIVERSITY
UNIVERSITY OF CALIFORNIA, DAVIS

Dr. Georgina Peacock MD, MPH, FAAP
Dr. Vikram Tejwani, MD
Dr. William Bommer, MD, FACP, FACC
WHAT MAKES AN INDIVIDUAL HIGH-RISK FOR CORONAVIRUS COMPLICATIONS?

Underlying conditions among adults hospitalized with COVID-19

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Total (n=191)</th>
<th>Non-survivor (n=54)</th>
<th>Survivor (n=137)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>56 (29%)</td>
<td>26 (48%)</td>
<td>30 (22%)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Obesity</td>
<td>58 (31%)</td>
<td>26 (48%)</td>
<td>32 (23%)</td>
<td>0.0008</td>
</tr>
<tr>
<td>Chronic lung disease</td>
<td>36 (19%)</td>
<td>17 (31%)</td>
<td>19 (14%)</td>
<td>0.0051</td>
</tr>
<tr>
<td>Diabetes</td>
<td>15 (8%)</td>
<td>13 (24%)</td>
<td>2 (1%)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Cardiovascular disease</td>
<td>6 (3%)</td>
<td>4 (7%)</td>
<td>2 (1%)</td>
<td>0.047</td>
</tr>
<tr>
<td>Comorbidity</td>
<td>91 (48%)</td>
<td>36 (67%)</td>
<td>55 (40%)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Carcinoma</td>
<td>4 (2%)</td>
<td>0 (0%)</td>
<td>2 (1%)</td>
<td>0.37</td>
</tr>
<tr>
<td>Chronic kidney disease</td>
<td>2 (1%)</td>
<td>2 (4%)</td>
<td>0 (0%)</td>
<td>0.024</td>
</tr>
<tr>
<td>Other</td>
<td>22 (12%)</td>
<td>11 (20%)</td>
<td>11 (8%)</td>
<td>0.016</td>
</tr>
</tbody>
</table>

Source: MMWR. 2020 Apr 8:69(early release):1-7
WHAT ARE SOME OF THE THINGS PEOPLE LIVING WITH CHRONIC CONDITIONS CAN DO TO PROTECT THEMSELVES AGAINST THIS VIRUS?

SARS-CoV
SARS from 2002-2003
&
SARS-CoV-2
COVID-19

The spike protein of SARS-CoV-2 is primed by TMPRSS2

SARS-CoV-2 uses the ACE2 receptor for host cell entry

Attachment protein “spike”

TMPRSS2
Angiotensin converting enzyme (ACE2)

Host cell
HOST CELLWALL
HOST CELL
WHAT ARE SOME OF THE TREATMENT OPTIONS FOR PEOPLE LIVING WITH CHRONIC CONDITIONS?

Environmental Protection

- Sensitive to UV
  - 2-3x more sensitive than influenza virus to UV (PubMed 22312361)
  - Estimated 10-fold survival decrease after 2–3h direct sunlight
- Sensitive to temperature
  - 10-fold survival decrease with 6°C
  - Inactivation increase (Chuang 2020)

Treatment Protocols

1. Spike protein (S) binds to ACE2.
2. The transmembrane protease TMPRSS or endosomal cathepsin L cleaves S to activate membrane fusion.
3. Cellular ribosomes translate a nonstructural polyprotein from the positive-strand RNA.
4. Embedded viral proteases process the polyprotein to create the replicase.
5. The replicase produces full-length copies of both strands and subgenomic mRNAs.
6. Ribosomes translate the subgenomic mRNAs to produce structural proteins.
7. Structural proteins package the positive-strand RNA and bud off into exocytic vesicles.
WHAT TO DO AND BE AWARE OF IF A HIGH-RISK INDIVIDUAL CONTRACTS THE VIRUS

- Headache 14%
- Nasal congestion 5%
- Sore throat 14%
- Dry cough 68%
- Productive cough 33%
- Dyspnea 19%
- Nausea/emesis 5%
- Diarrhea 4-14%
- Myalgias 15%

FEVER: Contact your Healthcare Provider
Reopening Strategy: • the ability to monitor and protect communities through testing, tracking positive cases, properly isolate and support individuals who are positive and/or exposed to COVID-19.
• the ability to prevent infection in high-risk groups, including older residents, the homeless and those with underlying health conditions.
• the ability for hospitals and health care systems to handle a potential surge in cases through adequate staffing, hospital beds and supplies including ventilators, masks and other personal protective equipment.
• the ability to develop therapeutics to meet the demand.
• the ability for businesses, schools and child care facilities to support physical distancing guidelines as well as provide supplies and equipment to workforces and customers to keep them safe from illness.
• developing guidelines to determine when to reinstitute certain measures, such as Safer at Home guidelines, if necessary, based on relevant data.

Governor Gavin Newsom
Testing Window and Workflow – **PHASE IV PLAN (April 2020)**

- **Complete Clinical Molecular and Serology Solutions** → 2 people per shift
- **Random Access Testing (no batched testing):** 90 tests/hour for IgM and IgG Serology
- Secondary 6800 for increased throughput and back-up

1,180 tests/day
1,034 tests/day
720 tests/day

Location: UC Davis Health
Coronavirus and At-Risk Groups

Georgina Peacock, MD, MPH, FAAP
Co-Lead, Community and At Risk Task Force

April 29, 2020

For more information: www.cdc.gov/COVID19
Coronavirus (CoV) Background
Coronavirus (CoV) Background

- Large family of viruses that cause respiratory illness
  - Belongs to *Coronaviridae* family
- First isolated in the 1960s
- Named for the crown-like spikes on surface
  - 4 subgroupings (alpha, beta, gamma, delta)
- Some can spread between animals and people (zoonotic)
COVID-19: Emergence

- Identified in Wuhan, China in December 2019
- Caused by the virus SARS-CoV-2
- Early on, many patients were reported to have a link to a large seafood and live animal market
- Later patients did not have exposure to animal markets
  - Indicates person-to-person spread
- Travel-related exportation of cases reported
  - First US case: January 21, 2020
COVID-19: How it spreads

- The virus is thought to spread mainly from person-to-person.
  - Between people who are in close contact with one another (within about 6 feet)
  - Through respiratory droplets produced when an infected person coughs or sneezes

- These droplets can land in the mouths or noses of people who are nearby or possibly be inhaled into the lungs.
COVID-19: Symptoms & Complications

Symptoms may include
- Fever
- Cough
- Shortness of breath or difficulty breathing
- Chills
- Repeated shaking with chills
- Muscle pain
- Headache
- Sore throat
- New loss of taste or smell

Wide range of illness severity has been reported
- Mild to severe illness
- Can result in death

Estimated incubation period
- 2 to 14 days

Complications may include
- Pneumonia
- Respiratory failure
- Multisystem organ failure
Preventing COVID-19

- **Clean your hands often**
  - with soap and water for at least 20 seconds, or
  - with hand sanitizer that contains at least 60% alcohol

- **Avoid close contact** with people who are sick
  - Stay home as much as possible
  - Put at least 6 feet between yourself and other people

- **Cover your mouth and nose with a cloth face cover when around others**
  - Wash face covering routinely

- **Cover coughs and sneezes**

- **Clean and disinfect** frequently touched surfaces daily
What We Do

- Aim to reduce morbidity and mortality for those at risk, by focusing on three areas
  - People at risk for severe illness from COVID-19
  - Populations with different access, functional or communication needs
  - Social-behavioral health and emotional wellbeing
- Community mitigation efforts, by focusing on non-healthcare settings such as homes, schools, child care programs, retirement communities, faith-based organizations, homeless shelters, colleges and universities, parks and recreation, and correctional facilities.
COVID-19: Our Work

**Science:**
Identify community impacts and who is at higher risk

**Technical Assistance:**
Translate findings into guidance and recommendations

**Monitoring and Evaluation:**
Assess community intervention strategies

**Partnerships:**
Share findings, guidance, and tools with partners and understand community concerns

**Communication:**
Develop materials and tools to help people and communities make informed choices
People Who Are at Higher Risk for Severe Illness

- People 65 years and older
- People who live in a nursing home or long-term care facility
- People of all ages with underlying medical conditions, particularly if not well controlled, including:
  - People with chronic lung disease or moderate to severe asthma
  - People who have serious heart conditions
  - People with severe obesity (body mass index [BMI] of 40 or higher)
  - People with diabetes
  - People with chronic kidney disease undergoing dialysis
  - People with liver disease
  - People who are immunocompromised
People Who Are Immunocompromised

- Many conditions can cause a person to be immunocompromised, including:
  - cancer treatment
  - smoking
  - bone marrow or organ transplantation
  - immune deficiencies
  - poorly controlled HIV or AIDS
  - prolonged use of corticosteroids and other immune weakening medications
Hospitalization rate highest among adults 65+

Among 178 adults patients with data on underlying conditions, approximately 90% of those patients had one or more underlying conditions

- The most common were hypertension (49.7%), obesity (48.3%), chronic lung disease (34.6%), diabetes mellitus (28.3%) and cardiovascular disease* (27.8%)

*excludes hypertension

Source: https://www.cdc.gov/mmwr/volumes/69/wr/mm6915e3.htm?s_cid=mm6915e3_w
Hydroxychloroquine (HCQ) and Chloroquine (CQ)

- **Not** FDA approved for COVID-19
  - Approved for malaria, rheumatoid arthritis, discoid and systemic lupus erythematosus
- April 22: NIH COVID-19 Treatment Guidelines Panel
  - Insufficient clinical data to recommend either for or against use of HCQ or CQ
  - Recommends against use of HCQ plus azithromycin, except in a clinical trial
- April 24: FDA cautions against use of HCQ or CQ for COVID-19 outside of the hospital setting or a clinical trial due to risk of heart rhythm problems
  - Problems reported to FDA included QT interval prolongation, ventricular tachycardia and ventricular fibrillation, and in some cases death

[Sources]
http://www.fda.gov/media/137250/download
https://covid19treatmentguidelines.nih.gov/therapeutic-options-under-investigation/antiviral-therapy
Groups at Higher Risk for Severe Illness

- **Continue your medications** and do not change your treatment plan without talking to your doctor.

- **Have at least a 2-week supply** of prescription and non-prescription medications.

- **Talk to your healthcare provider about whether your vaccinations are up-to-date.**

- **Do not delay getting emergency care for your underlying condition** because of COVID-19.

- **Call your healthcare provider if you have any concerns** about your underlying medical conditions or if you get sick and think that you may have COVID-19. If you need emergency help, call 911.
Stay Informed

Latest COVID-19 information available at:
www.cdc.gov/COVID19

People Who Need to Take Extra Precautions

People at Higher Risk for Severe Illness
- Older Adults
- People with Asthma
- People with HIV
- Other Underlying Medical Conditions
- More for People at Higher Risk

Other Populations
- People with Disabilities
- Pregnancy and Breastfeeding
- People Experiencing Homelessness
- Racial and Ethnic Minority Groups

What You Can Do

More Information
Additional Resources

Groups at Higher Risk for Severe Illness:

Communities, Schools, Workplaces, and Events:

What You Can Do:

Communication Resources:
Thank you!

For more information, contact CDC
1-800-CDC-INFO (232-4636)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.
COVID-19 and chronic lung disease

Vickram Tejwani, M.D.
Pulmonary and Critical Care Physician
NIH National Heart, Lung, and Blood Institute Post-Doctoral Fellow (F32 Award)

@VTejwaniMD
Multiple implications for those with chronic lung disease

- Higher risk of more severe disease if affected
- May be immunocompromised from therapy of lung conditions
- Health care resources utilized by COVID-19
Evolving knowledge base

- Asymptomatic cases estimates variable based on setting
- Illustrative example from pregnant patients on right

Sutton, et al. *NEJM* 2020
• 5,700 consecutive hospitalized patients in NY: high blood pressure, obesity and diabetes most common coexisting conditions
  – Median age is 63 years old
  – 9% with asthma, 5.4% with COPD

Richardson, et al. *JAMA* 2020
What it means: Living with uncertainty in near-term

- Continue all CDC recommended precautions
- Absence of symptoms does not equate to being non-infectious
- Ensure plan with providers for continued management of chronic conditions
- Await well-validated studies on diagnostic testing, treatment and vaccines
- Emphasis on psychological well-being
Questions and Answers

Dr. Bommer: Why are COVID patients with hypertension, diabetes, and/or obesity more likely to have cardiac complications, do poorly and die?

Dr. Peacock: How does this affect a child with Juvenile Arthritis taking biologic injections 2x monthly?

Dr. Tejwani: How does Hypertension with Diabetes - Obesity create a higher risk of being put on a ventilator? What is the rate of recovery while on a ventilator?

Dr Tejwani: I have moderate-severe RA treated with Hydroxychloriquine and have 2 rare lung diseases: BORDETELLA BRONCHISEPTICA with treatment and BRONCHIECTASIS without specific treatment. My Hydroxychloriquine RX may cease to be available. What then?

Is there any data on people with chronic conditions and the recovery or morbidity rates?

For those who have recovered from the virus, are they seeing any residual or after affects from either the virus itself or the treatment used to recover?

How should people with autoimmune diseases with active, healthy families manage exposure after the shelter in place order ends?

When will a vaccine be available? Will those with compromised immune systems or chronic conditions be first in line? Should people with chronic conditions stay at home isolated until a vaccine is available?

Will people on Hydroxychloroquine continue to find shortages of the medication? Do you expect shortages of hydroxychloroquine for patients who have long-established prescriptions?
For Dr. Peacock - How do you suggest our communities build the infrastructure to better prepare support for people with disabilities before a disaster hits?

Chronic conditions do not stop for COVID-19; what are recommendations for continuing to receive care including infusions, elective surgeries and more? What are the risks of receiving treatment during this time and what can patients do to protect themselves?

Living alone feels like isolationism. Being told I may need to do this for another 12-18 months is depressing. When or how might I physically visit my family again without having to wait for a warm, sunny day outside to distance for brief moments?

How should I proceed when my state opens up?

Should follow-up care for chronic conditions be triaged by virtual telehealth before being considered for in-person care?

People on the front line: How do we keep safe and keep our families safe?
I am a disaster responder who periodically needs to go out into the community to help after a natural disaster. What can I do to keep safe and to increase my chances of survival if I do contract COVID-19?

Is it necessary to wear a mask when walking, running, or biking outside? How probable is it for a person to contract the virus walking through a space that someone with the virus just walked away from? Like an elevator, hallway or through the stairs? Can the virus cling to clothes? Hair?

What about protection from the virus if someone has already got it? What do we know about antibody protection? Where will antibody testing be available in our communities? Who will pay for it? Coverage?
Why are COVID patients with hypertension, diabetes, and/or obesity more likely to have cardiac complications, do poorly and die?

Putative mechanisms of cardiac injury in COVID-19 patients

- **ACE2-mediated direct damage**
  - Increased affinity to ACE2
  - Reduced ACE2 expression
  - Dysregulated RAS

- **Hypoxia-induced myocardial injury**
  - Oxidative stress
  - Intracellular acidosis
  - Mitochondrial damage

- **Cardiac microvascular damage**
  - Perfusion defect
  - Vessel hyperpermeability
  - Angiospasm

- **Systemic inflammatory response syndrome**
  - Cytokine storm
  - Dysregulated immunocyte
  - Uncontrolled inflammation

- **Acute cardiac injury**

- High IL1-beta, IL-6, IFN gamma
  - IL1-inhibitors
  - IL6-inhibitors
  - JAK-inhibitors
On behalf of the Chronic Care Policy Alliance, Global Healthy Living Foundation, and the Allergy & Asthma Network, we thank you for joining us for today’s webinar.

Follow us online at:
www.chroniccarepolicyalliance.org
www.ghlf.org
www.AllergyAsthmaNetwork.org

Additional answers to questions will be found at
www.chroniccarealliance.org/webinar