ECHO Idaho Infectious Disease: COVID-19

Emergency Preparedness and Patient Treatment Q & A

March 24, 2020

The speakers have no relevant financial relationship(s) to disclose.

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COVID-19 Didactic Presenters

Carolyn Bridges, MD FACP

Megan Dunay, MD MPH

March 24, 2020
Carolyn Bridges, MD FACP

- Board-certified internist
- Retired CDC public health physician specializing in influenza epidemiology and vaccine
- Currently working for the Idaho Department of Health and Welfare and serving on Governor Little’s Coronavirus Working Group
- Former WWAMI student, originally from Boise
Overview of COVID-19
Epidemiology in the U.S. and Idaho

Carolyn Bridges, MD FACP
Key Points

• While COVID-19 circulating world-wide, much remains unknown about the virus (SARS-nCoV-2) and its likely course in the United States.

• However, recent modeling data and experiences from other countries show risk of overwhelmed hospital and critical care capacity.

Source: Ferguson NM, et al. Impact of non-pharmaceutical interventions (NPIs) to reduce COVID-19 mortality and healthcare demand. DOI: https://doi.org/10.25561/77482

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Impact on Older Adults

- Adults at higher risk
- Results from Italy:
  - 6.7% no symptoms
  - 17% few or unspecified symptoms
  - 46% mild
  - 25% severe
  - 5% critical
  - Increasing CFR at older ages
- From China:
  - ~80% adult cases mild
  - Similarly found increased risk with increasing age

Source: *JAMA*. Published on-line March 17, 2020. Adapted from COVID-19 Task Force of the Department of Infectious Diseases and the IT Service Instituto Superiore di Sanità.
U.S. Data on COVID-19

Total U.S. deaths/cases as of March 22: 400/33,404

COVID-19 cases in the United States by date of illness onset, January 12, 2020, to March 22, 2020, at 4pm ET (n=4,038)**

[Source: https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html]
U.S. Data on COVID-19

FIGURE 2. Coronavirus disease 2019 (COVID–19) hospitalizations, * intensive care unit (ICU) admissions, † and deaths, § by age group — United States, February 12–March 16, 2020

* Hospitalization status missing or unknown for 1,514 cases.

† ICU status missing or unknown for 2,253 cases.

§ Illness outcome or death missing or unknown for 2,001 cases.
Additional Key Points

– Transmission may occur while asymptomatically infected
– Presenting respiratory symptoms COVID-19 can range from asymptomatic infection to mild upper respiratory infections, to severe pneumonia and respiratory failure, +/- GI symptoms
– Risk of severe illness low among otherwise healthy children
– Adults 60 years and older, and persons with chronic conditions at increased risk of severe illness and death,
  • Especially high among long-term care facility residents
Focus on Long-term Care and Assisted Living Facilities

• Outbreak at LTCF in King County, WA
  – 81/~130 (62%) residents positive, 23/81 (28%) died
  – 34 staff plus 14 visitors positive

• Many lessons learned
  – Early recognition of possible clusters of respiratory illness
  – Need to implement effective infection control while awaiting test results

CDC checklist available to help readiness to respond to cases in long term care at:


Idaho Situation as of 5:00 PM, Monday, March 23

- Idaho has community transmission in Blaine County
  - 50 lab-confirmed cases identified as of 3/23/2020
  - Stay tuned!
- Public Health Departments working with providers to identify persons with COVID-19, isolate cases and quarantine their contacts for 14 days.
- In anticipation of more cases, health care facilities, nursing homes, assisted living facilities and others that care for high risk patients must prepare to:
  - Recognize potential COVID-19-related illnesses
  - Limit spread other patients and healthcare workers


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COVID-19 in Idaho

- Idaho is following WH and CDC guidance to reduce virus spread, including encouraging Idahoans to:
  - Not visit nursing homes, retirement homes, or long-term care facilities unless to provide critical assistance
  - Avoid discretionary travel
  - Avoid social gatherings of more than 10 people
  - Practice good hygiene
  - Work from home whenever possible – UNLESS you work in a critical infrastructure industry, such as healthcare, medicine and food supplies
- Health districts, cities and counties may have additional guidance based on local circumstances

More details and ways to contact your public health department can be found at https://coronavirus.idaho.gov/

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Megan Dunay, MD MPH

- Geriatrician and Family Physician in Boise, Idaho
- Chief of Geriatrics and Palliative Care and Medical Director of the Community Living Center at the Boise VAMC
- Medical Director of Rehab, Extended Care and Geriatrics for VISN 20 (serving the Pacific Northwest region of the VA), where she has engaged in regional responses to the COVID-19 pandemic
- Proud graduate and former Chief Resident of the FMRI
Fundamentals of Pandemic Epidemiology in Clinical Practice: A Case Study in Long Term Care

Megan Dunay, MD, MPH
Chief of Geriatrics & Palliative Care, Boise VAMC
Medical Director, VISN 20 REC Integrated Clinical Community
Disclosures

The views and opinions expressed today are mine alone, and do not represent the position of the VA
Objectives

• Discuss fundamentals of epidemiology relevant to clinical care delivered during a pandemic:
  – Prevention
  – Screening
  – Diagnosis
  – Treatment Planning

• Discuss attributes of Long Term and Post-Acute Care settings relevant to all clinical care delivered during this pandemic

• Discuss mitigation strategies in Long Term and Post-Acute Care settings relevant to all clinical settings
Case

120 bed SNF: 80 LTC, 40 subacute rehab beds; 180 staff

• Feb 18: 90yo F w hx of CVA → PNA, tx to acute care
• Feb 20: 75yo M new PNA, stays in facility
• Feb 26: Facility Mardi Gras Party
• Feb 28:
  – Visitors encouraged to wear masks
  – First responders concerned with growing volume of 911 calls
    • 911 calls 1/1 - 1/31/20 = 7
    • 911 calls 2/1 – 3/5/20 = 33
  – 1st COVID-19 positive case confirmed
• March 1: 1st Death, M in his 70’s with “underlying health conditions”
• March 2: 65yo F with MS, tx to acute care → dies 5 days later, 2nd death
• March 8: Additional death
Epidemiology in a Pandemic: Terminology

As of March 22\textsuperscript{nd}

- 129 people with diagnosed COVID-19, out of 300 exposed: 43\% **Attack Rate**
- 35 deaths, out of 129 ill: 27.13\% **Case Fatality Rate**
- **Secondary Attack Rate**: Unknown at this time
- **Prognostic Selection Bias**: If you’re coughing at LifeCare...
- **Lead Time**: Early February – February 28\textsuperscript{th}
- **Sensitivity**: (People with a Positive test)/(People with Disease)
- **Specificity**: (People with a Negative test)/(People without Disease)
Epidemiology in a Pandemic: Principles

- Prevention
- Screening
- Diagnosis
- Treatment
Epidemiology in a Pandemic: Prevention

Limiting Risk of Exposure: Risk-Stratified Approaches Appropriate

- Risk Factors for COVID-19 in LTC Settings
  - Age
    - 42% of LTC residents ≥ 85yo
    - 68% of LTC residents ≥ 75yo
  - Multimorbidity
    - 20-30% prevalence of Cardiovascular Disease
    - 16-22% prevalence of DM
    - Chronic lung disease estimates vary
  - Cognitive Impairment
  - Close proximity of patients and staff
  - Intersection of resident rights and institutional risk
Epidemiology in a Pandemic: Screening

Detecting Disease in Asymptomatic Individuals: NOT Diagnosis

- **Who do we Screen?**
  - Patients? Active surveillance
  - Staff?
  - Visitors? Children vs. Adults?
- **History as Screening:**
  - Cough?
  - Shortness of Breath?
  - Fevers, shakes, chills?
  - Sore throat
- **Exam as Screening:**
  - Temperature
  - Radiography?
- **Lead Time and “Asymptomatic Carriers”**
Epidemiology in a Pandemic: Diagnosis

Confirming the presence of a communicable disease: Syndrome, Test

- The limits of a diagnostic test
  - Sensitivity
  - Specificity
  - Pre-test Probability
  - False Positives
- Exam as a diagnostic test
  - Temperature; all vital signs
  - Laboratory Values: lymphopenia, procalcitonin, CK, LFTs
  - Radiography?
- Risk Stratification
  - SOFA score
  - PSI
Epidemiology in a Pandemic: Treatment

Reducing Morbidity and Mortality among those infected

- Disposition, level of care: mild, moderate, severe?
  - Home
  - Acute Care
  - ICU
  - Facility or congregate-living environment?
- Isolation
- Supportive Care
- Anti-viral pharmacotherapy
- Vaccination
- Palliative Care

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Case Resolution

Elements of Appropriate Preparedness in LTC/Post-Acute Care
(Dosa et al., JAMDA 2020)

1. Reduce Morbidity and Mortality among those affected
2. Minimize Transmission
3. Ensure Protection of Healthcare Workforce
4. Maintain Health Care System Functioning
5. Maintain Communication with Residents and Family Members
References

• Dosa, D, Jump RLP, LaPLante K and Gravenstein S. Long-Term Care Facilities and the Coronavirus Epidemic: Practical Guidelines for a Population at Highest Risk. JAMDA xxx (2020)1-3. article in press
(Tentative) Future ECHO COVID-19 Sessions

Public Health
- Prevention
- Screening
- Diagnosis
- Treatment

Clinical Care
- Outpatient, Primary Care
- Inpatient
- ICU
- Palliative Care
- Behavioral Health

Facilitated Communication and Response
COVID-19 Clinical Resources

• **Idaho Response:** [www.coronavirus.idaho.gov](http://www.coronavirus.idaho.gov)
  – Case count and tabs for Providers and Long-Term Care

• **Long Term Care:** [www.coronavirus.idaho.gov/ltc](http://www.coronavirus.idaho.gov/ltc)
  – Tracy Schaner, Deputy Chief Administrator, Idaho Division of Veterans Services,
    Tracy.Schaner@veterans.idaho.gov, Phone: (208) 780-1320

• **Idaho State Board of Pharmacy:** [www.bop.idaho.gov](http://www.bop.idaho.gov)
  – FAQ for COVID-19 Declaration of Emergency ([PDF link](http://www.bop.idaho.gov))
  – Temporary rule 704 medication limitations to address stockpiling of chloroquine or hydroxychloroquine
    (enacted 3/19/20) ([PDF link](http://www.bop.idaho.gov))

• **Idaho Board of Medicine:** [www.bom.idaho.gov](http://www.bom.idaho.gov)
  – COVID-19 Proclamation addressing telehealth, exam requirements prior to issuance of a prescription
  – FAQs: Telehealth, Licensing, Supervising PAs

• **Curated literature hub:** central access to relevant articles in PubMed (open source)

• **Assessment of Evidence for COVID-19-Related Treatments**, American Society of Health-System Pharmacists ([PDF link](http://www.bop.idaho.gov))

These and other resources compiled by ECHO Idaho:
[https://www.uidaho.edu/academics/wwami/echo/covid-19](https://www.uidaho.edu/academics/wwami/echo/covid-19)
Participant Feedback Survey

Please complete the Participant Feedback Survey to assess today’s session and inform future COVID-19 ECHO programming.

Link will be in the chat and sent via email.
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More information regarding future sessions coming soon.

To receive announcements about our schedule, please register

www.uidaho.edu/academics/wwami/echo/register