

Primary Care, Prehospital and Emergent Presentations of COVID-19

March 31, 2020

Carolyn Buxton Bridges, MD FACP
Andrea Christopher, MD, MPH Megan
Dunay, MD, MPH

Frank Batcha, MD
Benjamin Cornett, MD
Sheila Giffen, MD

Today's Agenda

Topic	Presenter(s)	Approximate Time
Welcome, Announcements, Introductions	Lachelle Smith, Director, ECHO Idaho	2 minutes
Idaho Epidemiology Curves and Public Health Updates	Carolyn Bridges, MD	3 minutes
Case 1: Outpatient and Pre-Hospital Triage of a Moderately Ill Patient	Andrea Christopher, MD MPH Megan Dunay, MD MPH Frank Batcha, MD Benjamin Cornett, MD Sheila Giffen, MD	20 minutes
Case 2: Presentation of a Severely Ill Patient to the Emergency Department	Andrea Christopher, MD MPH Megan Dunay, MD MPH Frank Batcha, MD Benjamin Cornett, MD Sheila Giffen, MD	20 minutes
Q&A, Highlight pearls	Entire ECHO Community of Practice	10 minutes
Closing, Announcements, Call to Action	Andrea Christopher, MD MPH Megan Dunay, MD MPH Lachelle Smith, Director, ECHO Idaho	5 minutes

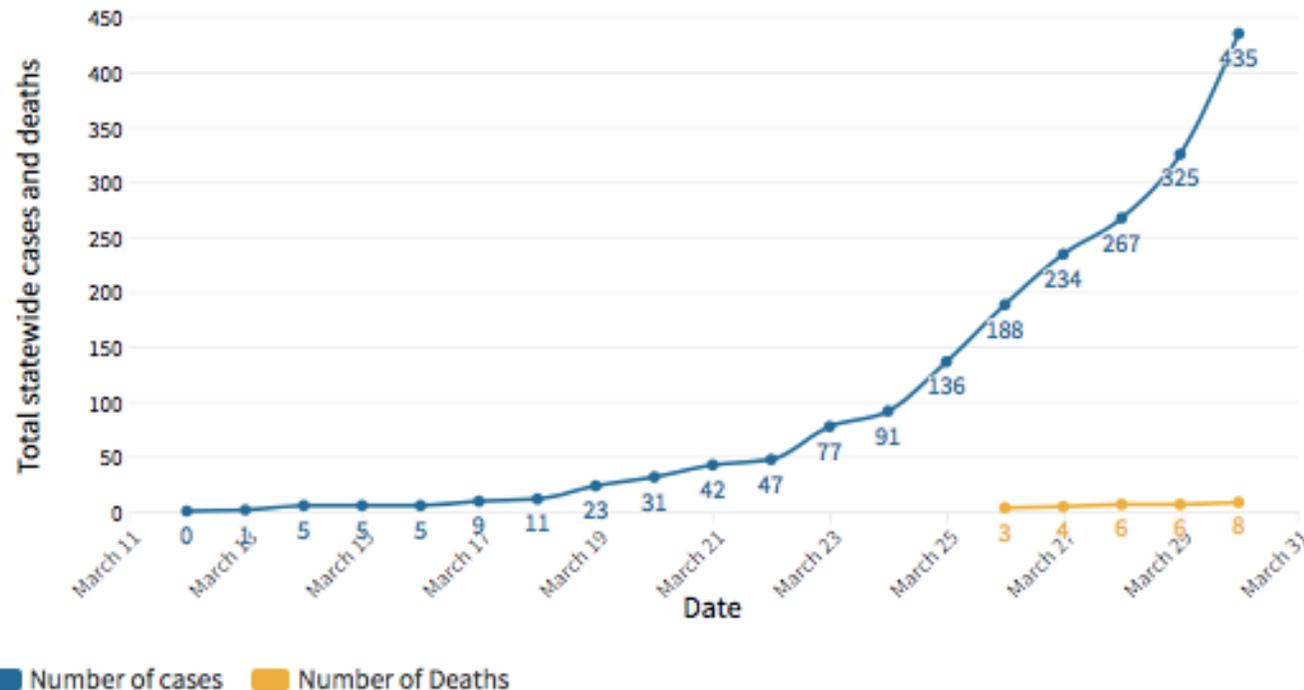
Idaho Epidemiology Curves and Public Health Updates

Carolyn Buxton Bridges, MD FACP

Governor's Coronavirus Working Group, Former CDC Public Health Physician and Researcher

- Increasing cases across ID; at least 7 deaths.
- Counties reporting community transmission thus far: Ada, Blaine, Canyon, Kootenai and Madison

Timeline of COVID-19 cases in Idaho:



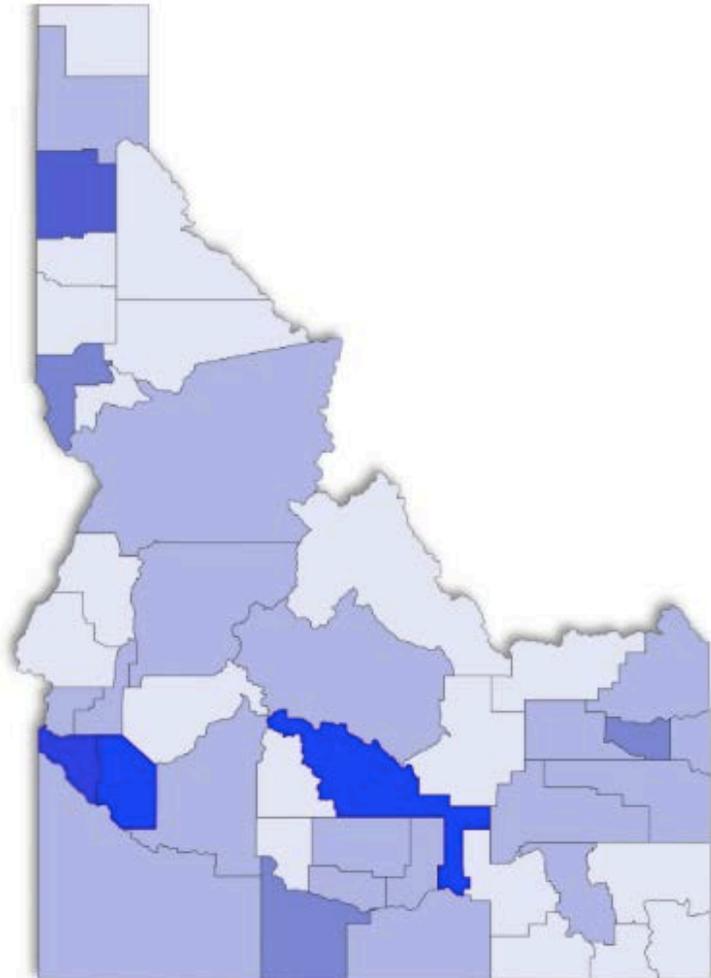
Total Cases	415
<i>Characteristics</i>	
<18 years	3
18-49	210
50+	201
Unknown	1
Female	219
Male	195
Unknown	1
Total Hospitalizations	45
Healthcare Workers	25
Total ICU Admissions	6

Idaho COVID-19 Confirmed Cases

By county

Data source: Idaho health districts and the Idaho Department of Health and Welfare

Cases



Current Idaho Guidance

- State-wide Stay-at-home order started on March 25
- Will stay in effect at least for 21 days and will be re-evaluated before then
- Information on essential services and other details at:
<https://coronavirus.idaho.gov/frequently-asked-questions-on-statewide-stay-home-order/>.

SARS-CoV-2 Testing in Idaho

- Multiple commercial laboratories are now testing in addition to IBL.
- Percentage of tests that are now positive: ~ 6%.
- IBL will accept specimens for testing for SARS-CoV-2 on CDC priority categories with either high or routine priority
- Notify your local public health district within 24 hours of shipment so they can correctly identify high priority specimens for IBL.
- Prioritization may be revised if turnaround time for hospitalized patients cannot be maintained.

Number of people tested through the Idaho Bureau of Laboratories (IBL)*	1,567
Number of people tested through commercial laboratories**	4,145

SARS-CoV-2 Testing in Idaho

- CDC Priority 1: **IBL High Priority Specimen**
 - Hospitalized patients
 - Symptomatic healthcare workers
- CDC Priority 2: **IBL High Priority Specimen**
 - Symptomatic patients in long-term care facilities
- CDC Priority 2: **IBL Routine Priority Specimen**
 - Symptomatic patients ≥ 65 years of age
 - Symptomatic patients w/ high risk condition
 - Symptomatic first responders
- Idaho Public Health/IBL High Priority Specimen
 - Severe respiratory illness of unknown cause
 - Symptomatic staff or inmate in correctional facility in the absence of an identified COVID-19 outbreak in the facility
- CDC Priority 3: Specimens should be sent to commercial laboratories

ECHO IDAHO

Coronavirus COVID-19		PRIORITIES FOR TESTING PATIENTS WITH SUSPECTED COVID-19 INFECTION		
COVID-19 Symptoms: Fever, Cough, and Shortness of Breath				
PRIORITY 1		Ensures optimal care options for all hospitalized patients, lessen the risk of healthcare-associated infections, and maintain the integrity of the U.S. healthcare system		1
<ul style="list-style-type: none">• Hospitalized patients• Healthcare facility workers with symptoms				
2	PRIORITY 2		Ensures those at highest risk of complication of infection are rapidly identified and appropriately triaged	
	<ul style="list-style-type: none">• Patients in long-term care facilities with symptoms• Patients 65 years of age and older with symptoms• Patients with underlying conditions with symptoms• First responders with symptoms			
PRIORITY 3		As resources allow, test individuals in the surrounding community of rapidly increasing hospital cases to decrease community spread, and ensure health of essential workers		3
<ul style="list-style-type: none">• Critical infrastructure workers with symptoms• Individuals who do not meet any of the above categories with symptoms• Healthcare facility workers and first responders• Individuals with mild symptoms in communities experiencing high numbers of COVID-19 hospitalizations				
NON-PRIORITY	NON-PRIORITY		<ul style="list-style-type: none">• Individuals without symptoms	
For more information visit: coronavirus.gov				



PPE

- It is critical that all healthcare facilities conserve PPE as much as possible.
- Guidance for optimizing use of available PPE at: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/index.html>.
- Consider use of UV-C sterilization of N-95s
 - Reference: Lindsley WG, et al. Effects of Ultraviolet Germicidal Irradiation (UVGI) on N95 Respirator Filtration Performance and Structural Integrity. *J Occup Environ Hyg*. 2015 ; 12(8): 509–517. doi:10.1080/15459624.2015.1018518.
- Call your local health district for requests



Case 1:

Outpatient and Pre-Hospital Triage of a Moderately Ill Patient

Andrea Christopher, MD MPH, Internist, Boise VA; Associate Program Director for UW Boise Internal Medicine Residency; Stern Regional Faculty Educator and Clerkship Site Director for UW School of Medicine

Megan Dunay, MD MPH, Geriatrician, Boise VA; Medical Director for Geriatrics and Extended Care for VA Pacific Northwest Network (VISN 20)

Frank Batcha, MD, Family Medicine, St. Luke's Wood River Valley

Benjamin Cornett, MD, MD, Emergency Physician, Boise VA; Medical Director, ISU Paramedic Education Program; Medical Director ACCESS (Ada County Paramedics, Boise Fire, Meridian Fire, Kuna Fire, Eagle Fire, Star Fire)

Sheila Giffen, MD, Executive Medical Director, St. Alphonsus Health Alliance

Mr. Wood River

52yo M with PMHx DM (A1c 8.7), HTN, HLD, allergic rhinitis lives in Hailey with wife; calls PCP office for advice regarding 2 days of scratchy throat, itchy eyes and dry cough.

PCP triage line recommends urgent care visit:

- Respiratory patients/waiting room
- Others
- Tents?
- Screening?
- Flu swab negative

Mr. Wood River

Pt discharged from urgent care with:

- rx for Flonase
- Return to clinic/ED instructions

Pt calls PCP triage line the next day... with fever to 100.6, body aches

- Instructed to return to clinic: COVID swab obtained
- CXR obtained: bilateral lower lobe ground glass opacities
- Discharged to home with return to clinic/ED instructions

Mr. Wood River

2 days later, pt's wife calls EMS: pt woke up around 4am short of breath, sweaty. He is listless. She thinks his lips are a little dusky. He's complaining of mild chest pain. She made him take an Aspirin. EMS dispatched. Upon arrival:

T: 101.1, HR 103, RR 16, BP 136/99, SpO2 88% RA

CV: Rapid, regular, no murmurs. No JVD. Radial pulses equal

Lungs: Crackles at B bases

Abd: +BS, soft, ND

Ext: WWP

EKG: sinus tach, slight strain pattern, no ST seg elevation

SpO2 up to 93% with 2L O2 via NC

Mr. Wood River

- What does EMS do? Transport? Counsel?
 - What if he was 25yo? 85yo?
 - What about a POST form?
- What if his HR was 80? What if his RR was 32?
 - Pneumonia Severity Index
 - SOFA
 - <https://www.mdcalc.com/covid-19>
- What if this wasn't Hailey, but Cottonwood?
- What are best practices for Primary Care and EMS coordination?

Case 2:

Outpatient and Pre-Hospital Triage of a Moderately Ill Patient

Andrea Christopher, MD MPH, Internist, Boise VA; Associate Program Director for UW Boise Internal Medicine Residency; Stern Regional Faculty Educator and Clerkship Site Director for UW School of Medicine

Megan Dunay, MD MPH, Geriatrician, Boise VA; Medical Director for Geriatrics and Extended Care for VA Pacific Northwest Network (VISN 20)

Frank Batcha, MD, Family Medicine, St. Luke's Wood River Valley

Benjamin Cornett, MD, MD, Emergency Physician, Boise VA; Medical Director, ISU Paramedic Education Program; Medical Director ACCESS (Ada County Paramedics, Boise Fire, Meridian Fire, Kuna Fire, Eagle Fire, Star Fire)

Sheila Giffen, MD, Executive Medical Director, St. Alphonsus Health Alliance

Ms. Owyhee

71yo F with hx of COPD, HFrEF (EF ~45%) NYHA II symptoms, HTN, HLD, hypothyroidism presents to West Valley Medical Center in private vehicle; nephew runs into ED and says he has driven her here because she can't breathe.

ED staff runs to the car, see her tachypneic, eyes closed, head slumped... staff start to open the car door...!

Ms. Owyhee



PPE!!!

Ms. Owyhee

Staff dons appropriate PPE... which is?

On exam:

GCS 11

VS: T 99.5, HR 128, RR 28, BP: 88/62, SpO2 83% RA

CV: rapid, regular, +JVD. Thready radial pulses bilaterally

Lungs: Coarse crackles throughout B bases, + wheezes

Abd: +BS, soft, ND, NT

Ext: 2+ pitting edema to B thighs.

Ms. Owhyee

INTUBATE!

- How? Rapid Sequence Intubation!
 - Why?
- When do you intubate in COVID?
 - How is this different than usual practice?
- Who should perform the intubation?
 - Experienced intubaters...
- Initial Vent Settings:
 - 6-8mL/kg tidal volume

Ms. Owyhee

Once in the ED and adequately ventilated:

- EKG: diffuse ST segment depressions throughout precordial leads
- CXR: bilateral ground glass opacities, possible retrocardiac opacification
 - CBC: WBC 3.6, PLT 89k
 - BUN 42, Cr 1.4 (baseline unknown)
 - AST 45, ALT 60
 - Procalcitonin 0.1
 - Lactate 3.1
 - ABG: pH 7.55/PCO₂ 30/PO₂ 63/HCO₃⁻ 22
 - Flu swab negative
 - Blood cultures pending; urine antigens pending
- 500cc LR bolus, gently
- Vancomycin, Zosyn?

Ms. Owyhee

- The same principles apply as usual:
 - Use risk-stratification in severe illness
 - SOFA, PSI
 - Understand the spectrum of sepsis
 - Sepsis
 - Severe Sepsis
 - Septic Shock
 - Understand the spectrum of respiratory failure
 - Hypoxemia
 - ARDS

Q&A

Highlight Pearls

Entire ECHO Community of Practice

More to come...

We will talk all about the inpatient management of patients with COVID-19 on Friday, April 3rd

References

- <https://www.mdcalc.com/covid-19>
- <https://www.mdcalc.com/psi-port-score-pneumonia-severity-index-cap#use-cases>
- <https://www.cdc.gov/coronavirus/2019-nCoV/hcp/clinical-criteria.html>
- <https://onlinelibrary.wiley.com/doi/epdf/10.1111/apha.13470>
- <https://www.ncbi.nlm.nih.gov/research/coronavirus/publication/32209164>
- <https://iecho.unm.edu/sites/uidaho/download.hns?i=452>