

Today's Agenda



University of Idaho
WWAMI Medical Education



Time (MT)	Presentation	Presenter(s)
Noon – 12:05 pm	Welcome, Announcements, Introductions	Lachelle Smith, Director, ECHO Idaho
12:05 – 12:10 pm	Idaho Epidemiology Curves and Public Health Updates	Carolyn Buxton Bridges, MD, FACP
12:10 – 12:15 pm	Treatment Updates	Cathy Oliphant, PharmD
12:15 – 12:35 pm	Operations Management of COVID-19	Carolyn Buxton Bridges, MD, FACP
12:35 – 12:55 pm	Patient Case and Q&A	ECHO Panel
12:55 – 1 pm	Closing Pearls, Announcements, Call to Action	Megan Dunay, MD, MPH Lachelle Smith, Director, ECHO Idaho



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ECHO IDAHO: COVID-19

Operations Management of COVID-19

July 7, 2020

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Idaho Epidemiology Curves and Public Health Updates

Carolyn Buxton Bridges, MD, FACP

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

CASE COUNTS AND SARS-COV-2 PCR TESTING IN IDAHO



	5/19/2020	6/1/2020	6/15/2020	7/6/2020
Total lab-confirmed and probable	2,455	2,906 (Δ451)	3,462 (Δ556)	8,052 (Δ4,590, %Δ133)
Deaths	74	83	88	94 (Δ6, %Δ6.8)
Hospitalizations	213	247	270	387 (Δ117, %Δ43)
ICU admissions	89	98	100	130 (Δ30, %Δ30)
Healthcare personnel	295	309 (Δ14)	366 (Δ57)	596 (Δ230, %Δ63)
Total tests	37,847	47,870 (Δ10,023)	65,306 (Δ17,436)	107,925 (Δ42,619, %Δ65)

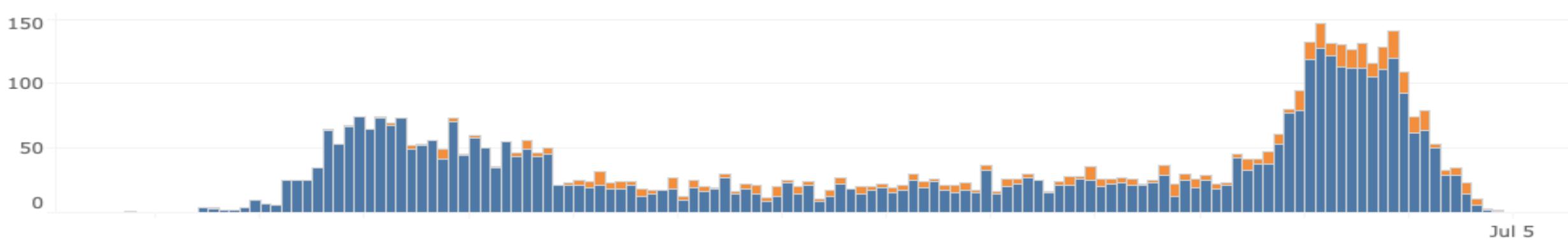
<https://coronavirus.idaho.gov>

https://public.tableau.com/profile/idaho.division.of.public.health#!/vizhome/DPHIdahoCOVID-19Dashboard_V2/Story1

Cases by Date State Notified



COVID-19 by Date of Onset



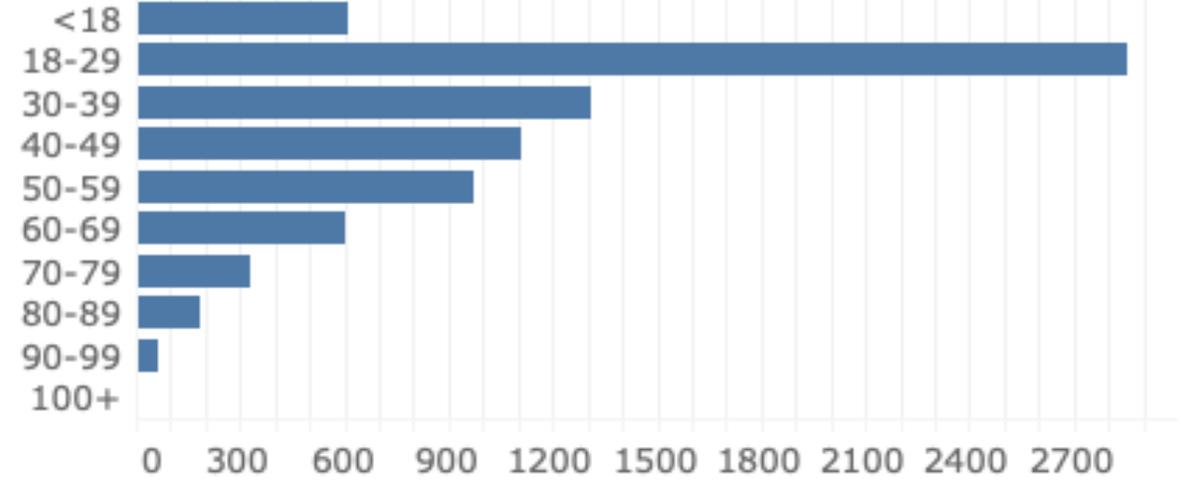
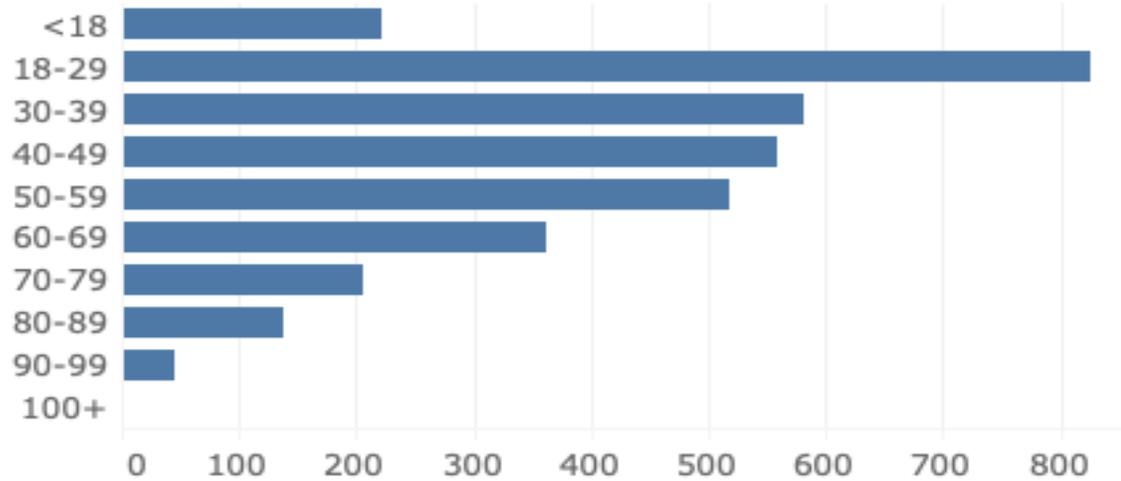
Weekly PCR Laboratory Tests Completed and Percent Positivity by Specimen Collection Date¹



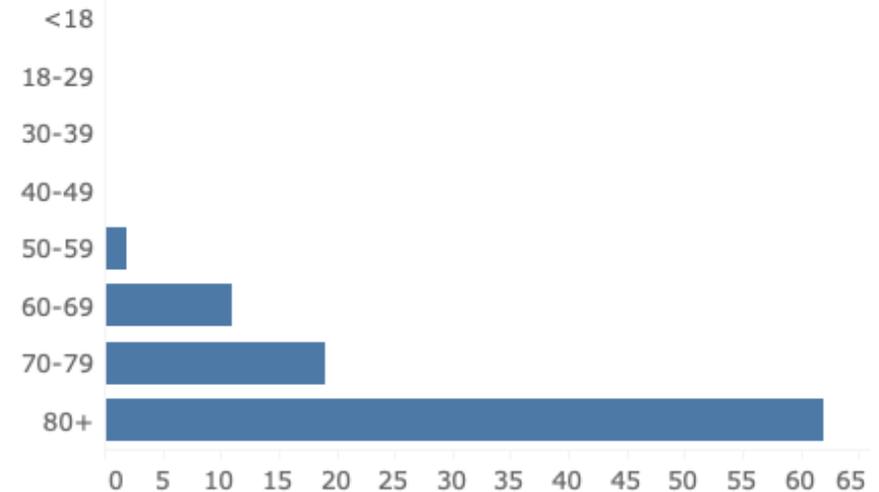
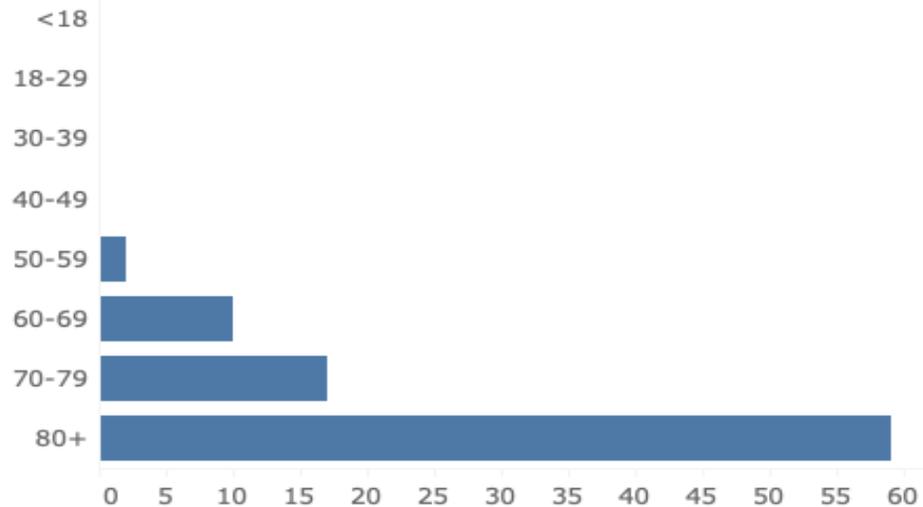
IDAHO COVID-19 CASES AND DEATHS BY AGE-GROUP,

JUNE 16, 2020 VS JULY 6, 2020

Cases by Age-Group

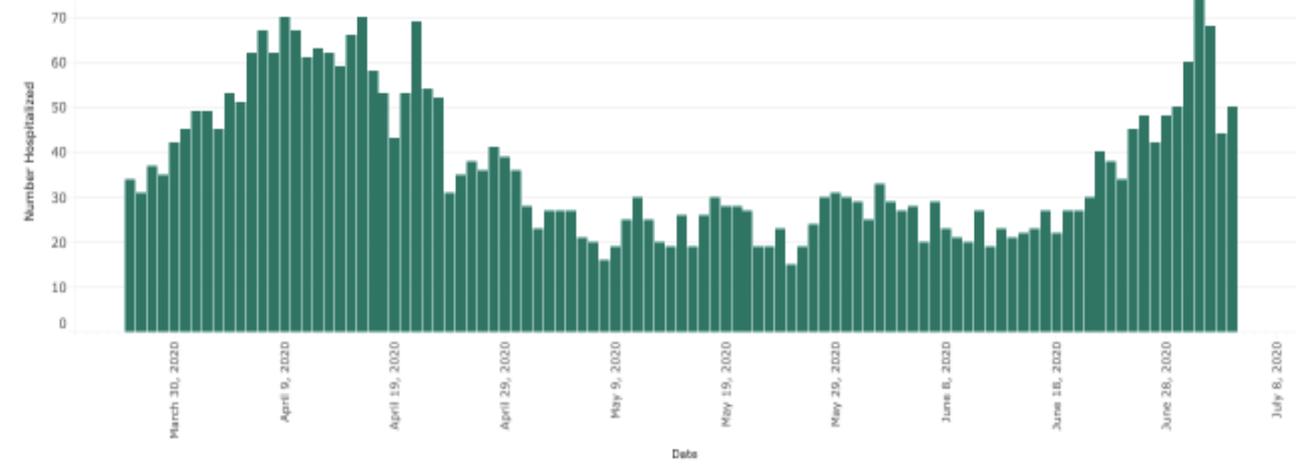


Deaths by Age-Group

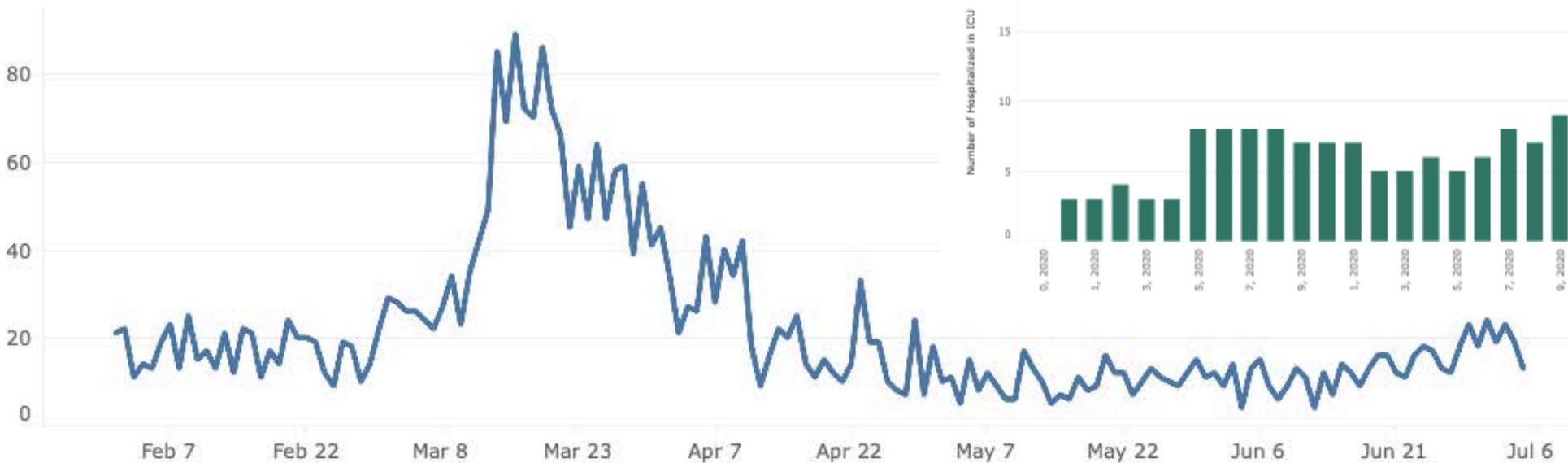


Trends in Healthcare System Utilization

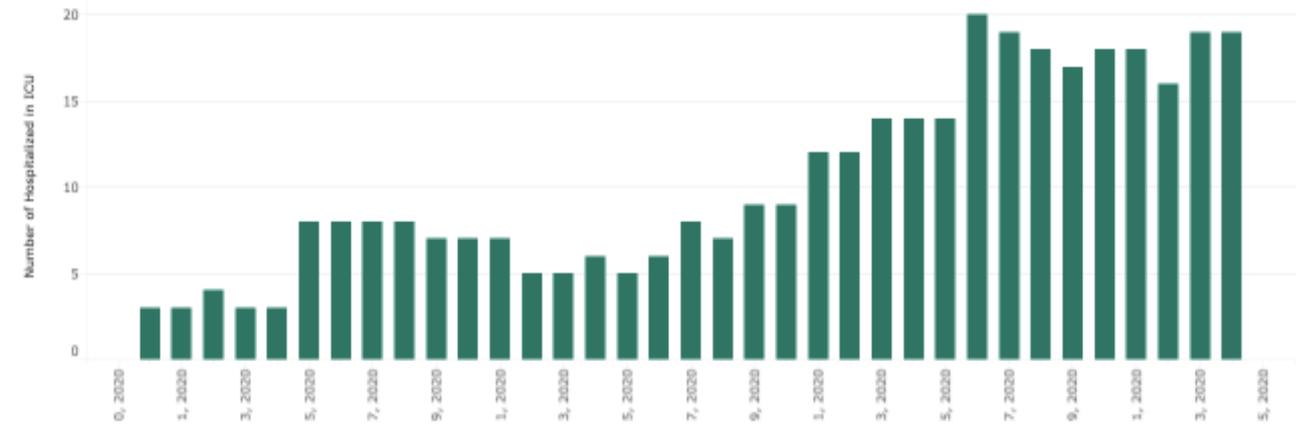
Patients currently hospitalized in an inpatient bed who have suspected or confirmed COVID-19



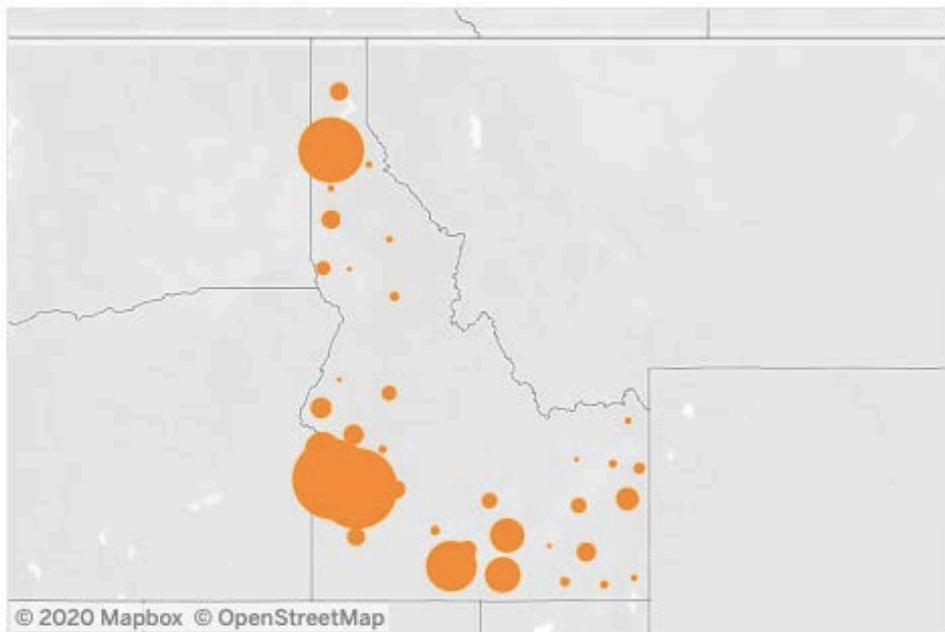
Number of Emergency Department Visits for COVID-Like Illness



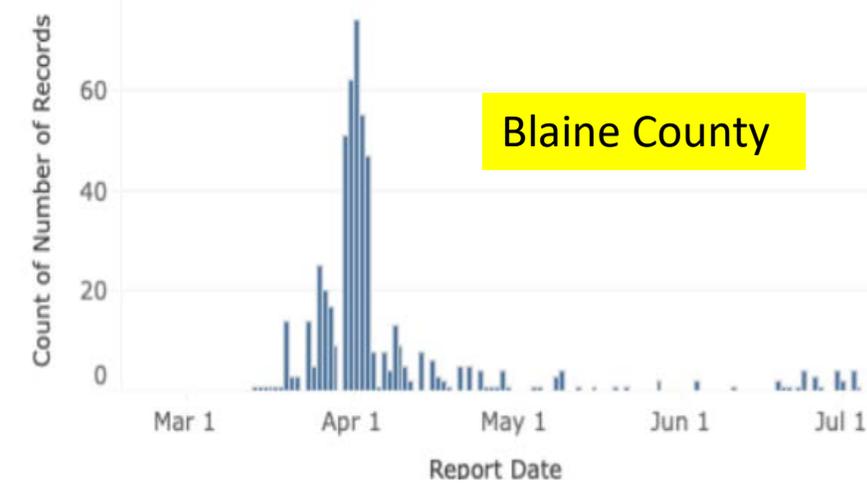
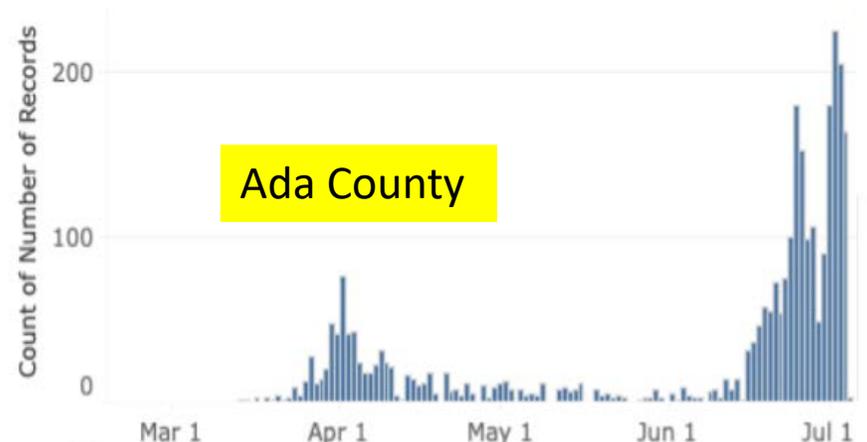
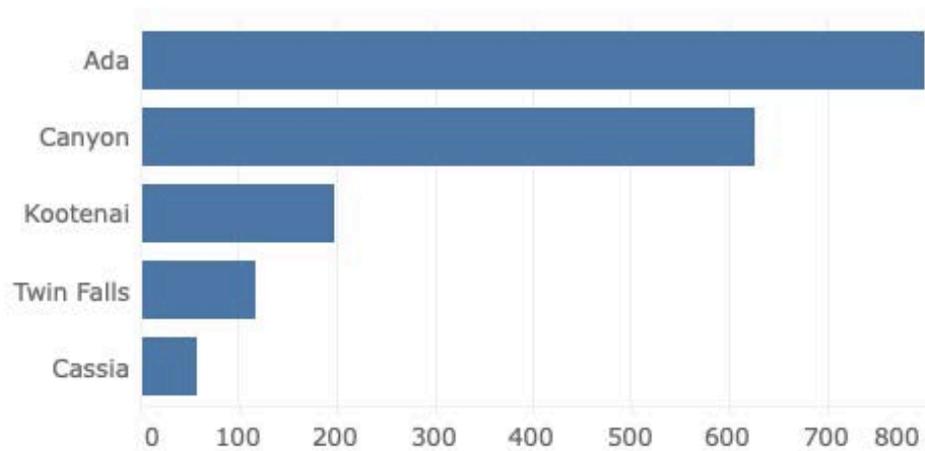
Patients currently hospitalized in the Intensive Care Unit (ICU) with confirmed COVID-19



7/04/2020



Counties With the Highest Number of Cases for Week Selected¹



Treatment Updates

Cathy Oliphant, PharmD

Infectious Disease, Professor and Interim Chair, ISU College of Pharmacy



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COVID TREATMENT UPDATES

- Hydroxychloroquine/chloroquine
- Remdesivir
- Dexamethasone
- Famotidine

HYDROXYCHLOROQUINE/CHLOROQUINE

- Emergency use authorization revoked by FDA on 6/5/2020
- Earlier observations of decreased viral shedding with HCQ or CQ treatment have not been consistently replicated and recent data from a randomized controlled trial assessing probability of negative conversion showed no difference between HCQ and standard of care alone.
- Current U.S. treatment guidelines do not recommend the use of CQ or HCQ in hospitalized patients with COVID-19 outside of a clinical trial, and the National Institutes of Health guidelines now recommend against such use outside of a clinical trial. The FDA's [FAQ on the revocation of the EUA](#) states that clinical trials are underway to determine if these drugs can benefit patients with COVID-19 or prevent infection after an exposure.
- Recent data from a large randomized controlled trial showed no evidence of benefit for mortality or other outcomes such as hospital length of stay or need for mechanical ventilation of HCQ treatment in hospitalized patients with COVID-19.

REMDESIVIR – EMERGENCY USE AUTHORIZATION

- FDA issued emergency use authorization (EUA) on May 1, 2020

“It is reasonable to believe that remdesivir may be effective in treating COVID-19, and that, given there are no adequate, approved, or available alternative treatments, the known and potential benefits to treat this virus currently outweigh the known and potential risks of the drug’s use”

- Emergency use authorization is for the treatment of suspected or laboratory confirmed COVID-19 in hospitalized adults and children with severe disease
- Based on a clinical trial where it was shown to reduce the time to recovery in some patients
- This allows for distribution and emergency use of remdesivir only for the treatment of COVID-19; it remains an investigational drug and is not FDA approved



REMDESIVIR: SUMMARY OF DATA

Compassionate Use Trials

- No control group
- Potential patient selection bias

Severe COVID Clinical Trial in China

(Lancet)

- 263 patients (target 453)
- 158 received remdesivir
- Median days w/ s/s = 10 days
- Received steroids 38%
- Time to improvement
 - All 21 d remdesivir vs 23 d
 - Early (<10d) 18 d vs 23 d
- 28 day mortality
 - 14% vs 13%



REMDESIVIR: SUMMARY OF DATA

ACTT-1

(Beigel, NEJM 2020)

- 1063 patients (541 remdesivir)
- Median days w/ s/s = 9 d
- ~85% on oxygen
- Time to recovery
 - Significant reduction (most prominent in low-flow O₂ group)
 - 11 d remdesivir vs 15 d
- Mortality
 - 7.1% remdesivir vs 11.9%

SIMPLE-1 Severe 5 vs 10 Days

(Goldman, NEJM 2020)

- 397 patients
 - 5 day = 200 patients
 - 10 day = 197 patients
- ~80% on oxygen
- No significant difference of time to recovery between 5 vs 10 days
- More severe at onset pts who received 10 days had lower mortality



REMDESIVIR: SUMMARY OF DATA

SIMPLE Moderate

(www.gilead.com)

- Open-label evaluating 5 vs 10 day course of therapy in hospitalized patients with pneumonia without reduced oxygen levels
- 5 day group were 65% more likely to have clinical improvement at day 11 as compared to standard of care group (p=0.017)
- 10 day group favorable as well (p=0.18)

Supply

- Donated supplies low/exhausted
- HHS will manage allocation through September
- Pricing for 5 day course:
 - \$2,340 for US government
 - \$3,120 for commercial insurers



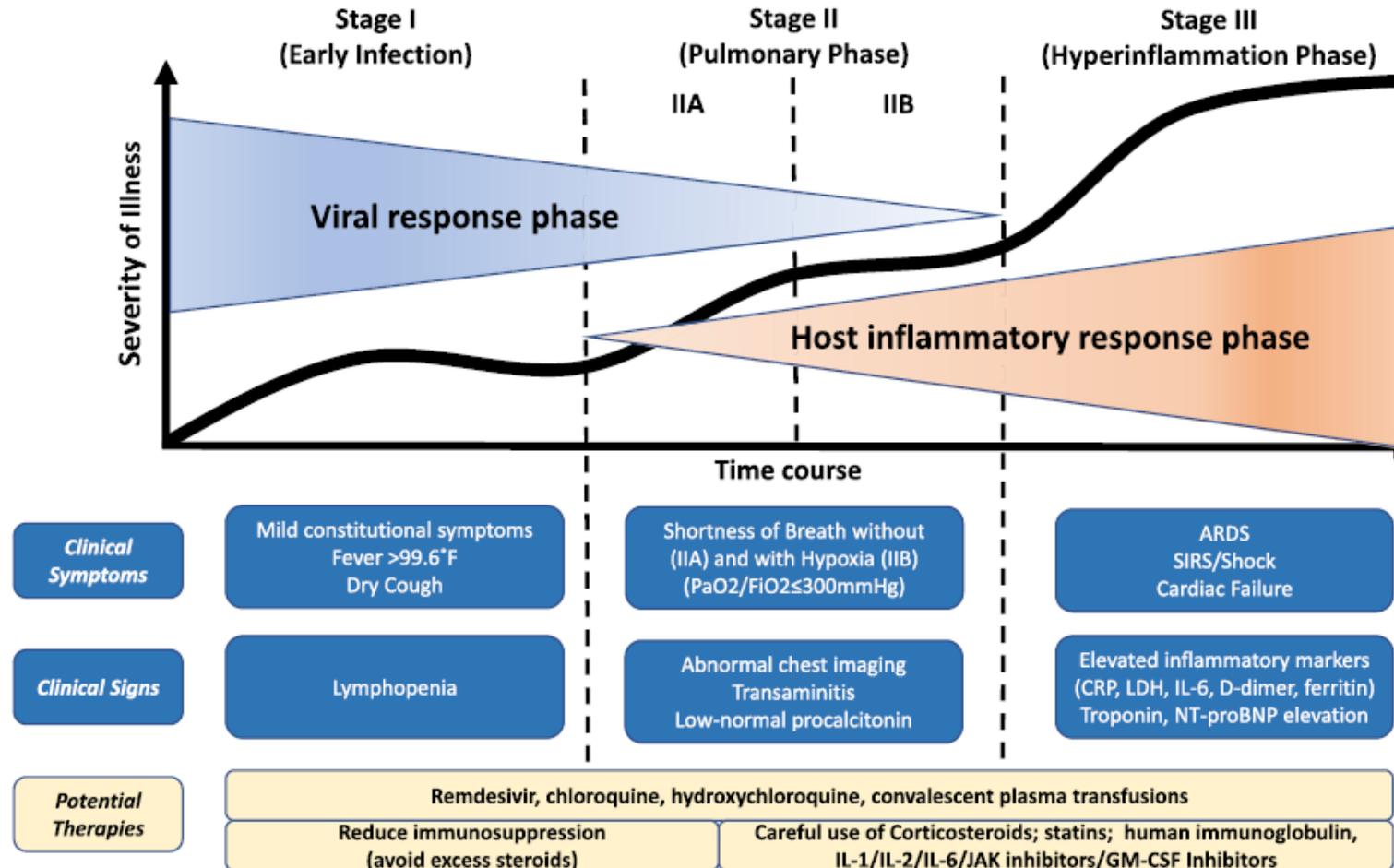
REMDESIVIR TRIALS

- Remdesivir in moderate COVID
- Remdesivir plus:
 - Tocilizumab (Actemra)
 - Interleukin-6 receptor antagonist
 - Baricitinib (Olumiant)
 - Janus associated kinase inhibitor



DEXAMETHASONE

- Anti-inflammatory
- May prevent cytokine storm, a hyperinflammatory response that contributes to COVID mortality
- Data is limited in COVID-19
- Do not use in non-critical patients or early in disease course
 - The RECOVERY Trial did not demonstrate a benefit in patients not requiring supplemental oxygen
 - The RECOVERY Trial subgroup analysis showed no benefit in patients initiated on steroids prior to 7 days from first symptom onset





DEXAMETHASONE: RECOVERY TRIAL –

PRELIMINARY DATA

- Open-label, randomized, controlled trial
- 11,320 patients in 176 hospitals in the UK
- Dexamethasone treatment arm
 - 2,104 received IV/PO dexamethasone
 - 4,321 received standard care
- Dexamethasone use was associated with a reduction in overall 28 day mortality
 - 21.6% vs 24.6%
 - 35% reduction in mechanically ventilated vs 20% in those receiving supplemental oxygen (no mechanical ventilation)
- Reduction in 28 day mortality greatest in those with s/s > 7 d vs those with recent onset
- Also associated with reduced duration of hospitalization and increased probability of D/C within 28 days



DEXAMETHASONE

- IDSA and NIH Guidelines recommend dexamethasone 6 mg daily (IV or PO) for up to 10 days in patients receiving mechanical ventilation or supplemental oxygen
- 10 days or until hospital discharge (which occurs first)
- Do not use in patients not requiring supplemental oxygen
- IDSA Guidelines say that another corticosteroid (at an equivalent dose) may be substituted if dexamethasone not available
 - 32 mg methylprednisolone
 - 40 mg prednisone

Operations Management of COVID-19

Carolyn Buxton Bridges, MD, FACP

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



CDC GUIDANCE HEALTHCARE PERSONNEL (HCP) EXPOSED OR INFECTED WITH COVID-19 AND CRISIS STANDARDS OF CARE

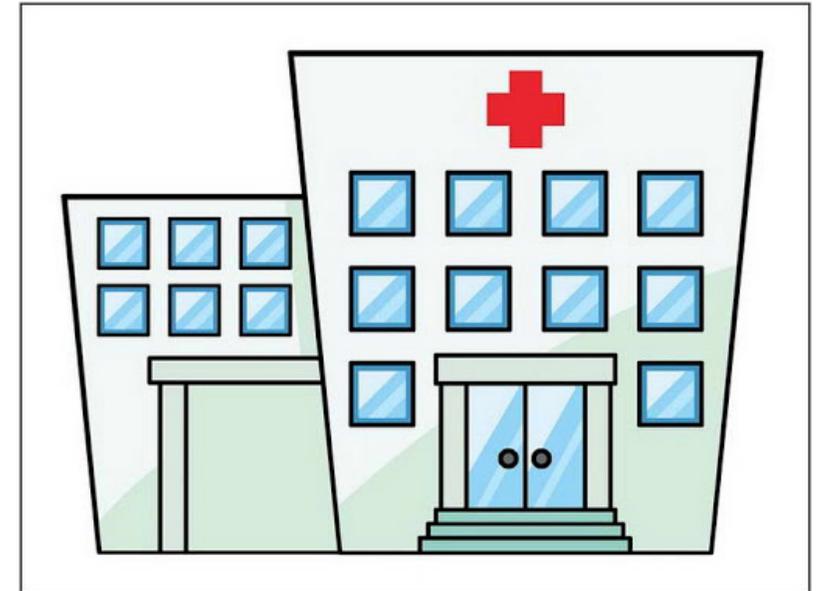
- Implementing Safety Practices for HCP Who May Have Had Exposure to a Person with Suspected or Confirmed COVID-19
 - Initially published 4/8/2020, updated on 4/30/2020
 - In crisis standard of care due to staffing shortage...may continue to work after exposure BUT ...
 - Wear facemask (aka surgical mask) at all times (not cloth facial covering)
 - Screen for illness and fever daily before work
 - Frequently clean surfaces
 - Social distancing as permitted
 - Increase air exchange in building
 - Don't congregate during breaks





CDC GUIDANCE HEALTHCARE PERSONNEL (HCP) CRITERIA FOR RETURN TO WORK IF SUSPECTED OR CONFIRMED COVID-19

- Symptomatic HCP
 - Symptom-based exclusion
 - At least 3 days since recovery (no fever, improved cough and other symptoms)
 - At least 10 days since symptoms first appeared
 - Test-based
 - At least 10 days since symptoms first appeared
 - Two PCR negative tests >24 hours apart
- Asymptomatic lab-confirmed HCP
 - Time-based
 - 10 days passed since first positive test
 - Test-based
 - Two PCR negative tests >24 hours part





IANNONE P, ET AL. THE NEED OF HEALTH POLICY PERSPECTIVE TO PROTECT HEALTHCARE WORKERS DURING COVID-19 PANDEMIC. A GRADE RAPID REVIEW ON THE N95 RESPIRATORS EFFECTIVENESS. PLOS ONE. 2020 JUN 3;15(6):E0234025. DOI: 10.1371/JOURNAL.PONE.0234025.

Outcomes*	No of participants* (studies) Follow up	Certainty of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects**	
				Risk with surgical masks Adjusted	Risk difference with N95 respirators
Clinical respiratory illness	1420 (2 RCTs)	⊕⊕ <u>LOW</u> abc	RR 0.43 (0.29 to 0.64)	128 per 1.000	73 fewer per 1.000 (91 fewer to 46 fewer)
Influenza like illness	3937 (4 RCTs)	⊕ <u>VERY LOW</u> b,c,d	RR 0.72 (0.38 to 1.37)	42 per 1.000	12 fewer per 1.000 (26 fewer to 16 more)
Laboratory-confirmed respiratory viral infections	1866 (3 RCTs)	⊕ <u>VERY LOW</u> b,c,d	RR 0.84 (0.52 to 1.34)	46 per 1.000	7 fewer per 1.000 (22 fewer to 16 more)
Laboratory-confirmed bacterial colonization	1420 (2 RCTs)	⊕ <u>VERY LOW</u> b,c,d	RR 0.41 (0.28 to 0.61)	145 per 1.000	86 fewer per 1.000 (104 fewer to 57 fewer)
Laboratory-confirmed respiratory infection	2792 (2 RCTs)	⊕ <u>VERY LOW</u> b,c,d	RR 0.73 (0.40 to 1.33)	142 per 1.000	38 fewer per 1.000 (85 fewer to 47 more)
Laboratory-confirmed influenza	3937 (4 RCTs)	⊕ <u>VERY LOW</u> b,c,d	RR 1.07 (0.83 to 1.39)	69 per 1.000	5 more per 1.000 (12 fewer to 27 more)

Bottom line – benefit of N95 > mask found only for clinical respiratory illness and lab-confirmed bacterial colonization. No RCTs of N95 vs mask for COVID-19.



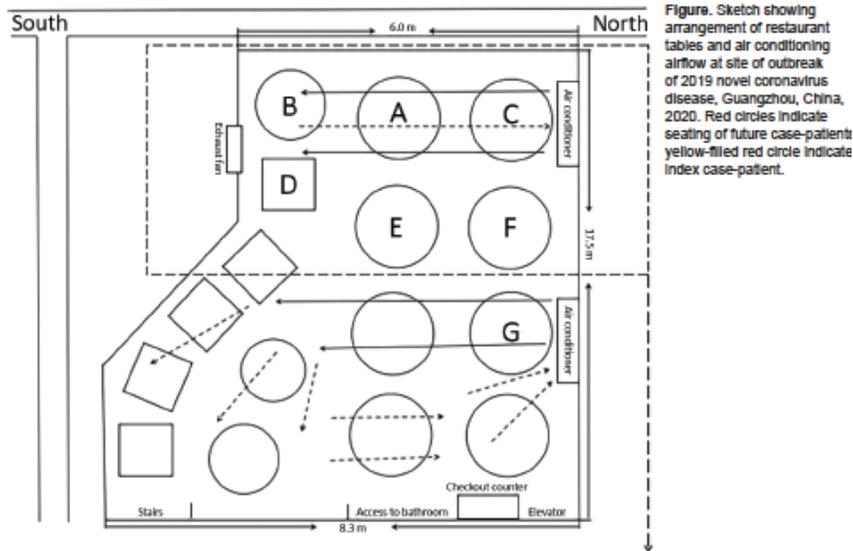
EXAMPLES OF TRANSMISSION IN HEALTHCARE SETTINGS

- Bays, et al. Two cases of community acquired COVID in CA
 - Admitted February & March 2020 – initially not suspected of COVID
 - Among 421 health care workers exposed in total, 8 secondary infections in health care workers.
 - All 8 cases had close contact without sufficient PPE during AGPs
 - Despite multiple aerosol generating procedures, no evidence of airborne transmission, e.g. no other patients even on oncology ward infected
- Wang, et al. J Hosp Infect 2020
 - 0 of 278 HC using N95 got COVID 19 vs 10 of 215 during early days of Wuhan outbreak

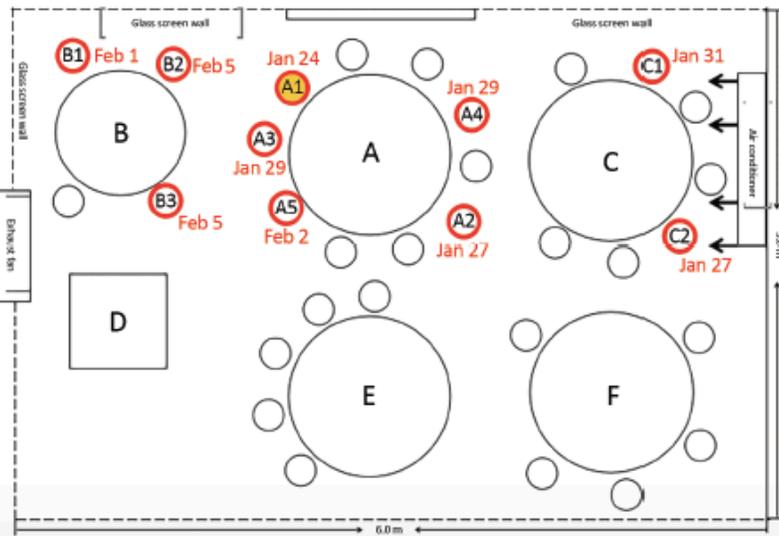
EXAMPLES OF TRANSMISSION IN HEALTHCARE SETTINGS

- Swiss Med Wkly. 2020 Apr 25:150:w20257. doi: 10.4414/smw.2020.20257.
 - 21 HCP without PPE exposed to COVID patient – none infected based on PCR testing
 - Spouse of patient COVID + 2 days after exposure
- Wong SCY, et al. J Hosp Infect 2020
 - 10 patients exposed on open ward and 7 staff with close contact COVID+ patient
 - All patients and staff PCR negative.
 - Most staff wore N95, one wore surgical mask. Some patients wore surgical masks, only 3 wearing mask consistently
- Guo ZD, et al. Emerg Infect Dis July 2020
 - Found PCR positive samples in air, air outlet duct, all over floor, rails, door knobs
 - Virus was not cultured (viability?)
 - No HCP have gotten infected – no unprotected exposures

EXAMPLES OF TRANSMISSION IN NON-HEALTHCARE SETTINGS



- Lu, et al. COVID outbreak in restaurant, EIDJ July 2020.
- Index case (A!) came from Wuhan. Ate lunch with family. Symptoms started that night.
- Infected families at two adjacent tables
 - 53 and 73 minutes overlapping with family A
- Proposed is possible role of air conditioning.



Patient Case Presentation

Megan Dunay, MD, MPH

Geriatrician, Boise VA and Medical Director for Geriatrics and Extended Care for VA Pacific Northwest Region



CASE: CLINIC OPERATIONS

- 75-employee primary care clinic in Canyon County.
- 150 patient-visits per day at baseline; now about 80-95 visits per day, +25-30 telehealth visits.
- “Respiratory/sick” and “well” care protocols in place.
- Masking, social distancing policies in place for all employees and patients in the clinic.
- Employee health has been good: approximately 90% of workforce intact until last week...



CASE: CLINIC OPERATIONS

- 2 Medical Assistants attended a birthday party on Saturday (6/27)
- Both presented to work Monday and Tuesday (6/29,30) and were asymptomatic. They both wore masks *most* of the time... but they had lunch with 6 other employees in the break room and nobody wore masks. *And* one MA saw a family friend in clinic (as a patient) and took her mask off in the patient-room during that encounter.
- Both fell ill with fever and cough on Wednesday, 7/1. They both stayed home thereafter. COVID tests returned positive for both on 7/3/20.
- Multiple sick call-outs so far this week. Only able to support about 50-60 patient visits on Monday 7/6/20 due to staffing shortages.



DISCUSSION QUESTIONS

- Who should be tested for COVID in this practice?
- How can this practice get help with contact tracing?
 - How/to whom should this practice report these cases?
- Who should pay for testing?
 - For employees?
 - For patients who were exposed?
- Should the practice close? What does that look like?
- Should exposed employees who remain asymptomatic work?
- Should this practice demand certain behavior of its employees?
 - Masking? At work, in public?
 - Congregating?



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ONGOING RESOURCE LIST

RESOURCES FROM TODAY'S SESSION AND PAST SESSIONS CAN BE FOUND IN OUR ONGOING RESOURCE LIST.

<https://iecho.unm.edu/sites/uidaho/download.hns?i=440>