

Today's Agenda

Time (MT)	Presentation	Presenter(s)
1:00 – 1:05 pm	Welcome, Announcements, Introductions	Lachelle Smith, Director, ECHO Idaho
1:05 – 1:10 pm	Idaho Epidemiology Curves and Public Health Updates	Carolyn Buxton Bridges, MD FACP
1:10 – 1:15 pm	COVID Pandemic Modeling and Social Distancing Measures	Andrea Christopher, MD MPH
1:10 – 1:45 pm	Outpatient and ED COVID-19 Case Conversations and Q&A	Frank Batcha, MD Benjamin Cornett, MD Cathy Oliphant, PharmD Andrea Christopher, MD MPH Megan Dunay, MD MPH
1:45 – 1:55 pm	Panelist Pearls and Takeaways	Frank Batcha, MD Benjamin Cornett, MD Cathy Oliphant, PharmD Andrea Christopher, MD MPH Megan Dunay, MD MPH
1:55 – 2:00 pm	Closing, Announcements, Call to Action	Megan Dunay, MD MPH Lachelle Smith, Director, ECHO Idaho

COVID-19 Case Conversation: Outpatient/ED

April 17, 2020

Frank Batcha, MD

Benjamin Cornett, MD

Cathy Oliphant, PharmD

Carolyn Buxton Bridges, MD FACP

Andrea Christopher, MD MPH

Megan Dunay, MD MPH

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



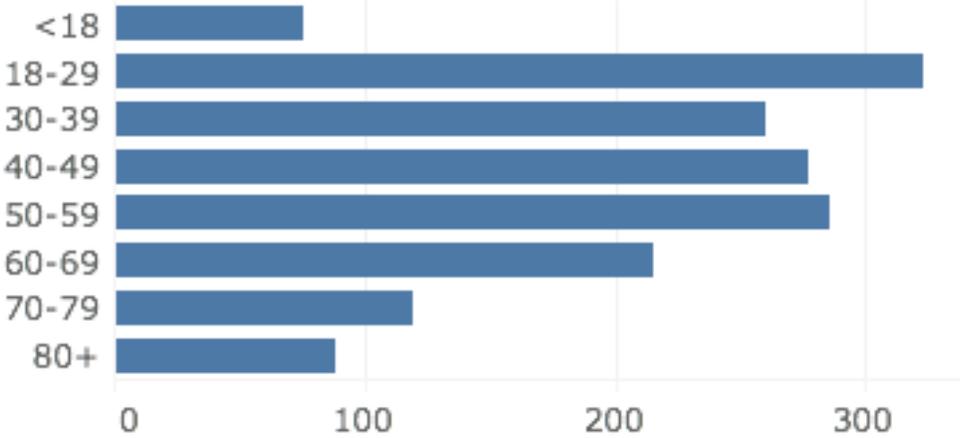
- Total lab-confirmed cases: 1,609
- Deaths: 41 (2.5%)
- At least 148 (9.1%) hospitalized
- At least 51 (3.2%) ICU, ~ 34.4% of hospitalized in ICU
- At least 187 (11.6%) HCP

Cumulative number of people tested through the Idaho Bureau of Laboratories (IBL)*	3/30: 1,567
	4/2: 1,851
	4/6: 2,263
	4/9: 2,571
	4/13: 2,828
4/16: 3,041	
Cumulative number of people tested through commercial laboratories**	3/30: 4,145
	4/2: 6,094
	4/6: 8,983
	4/9: 10,523
	4/13: 12,284
	4/16: 13,142

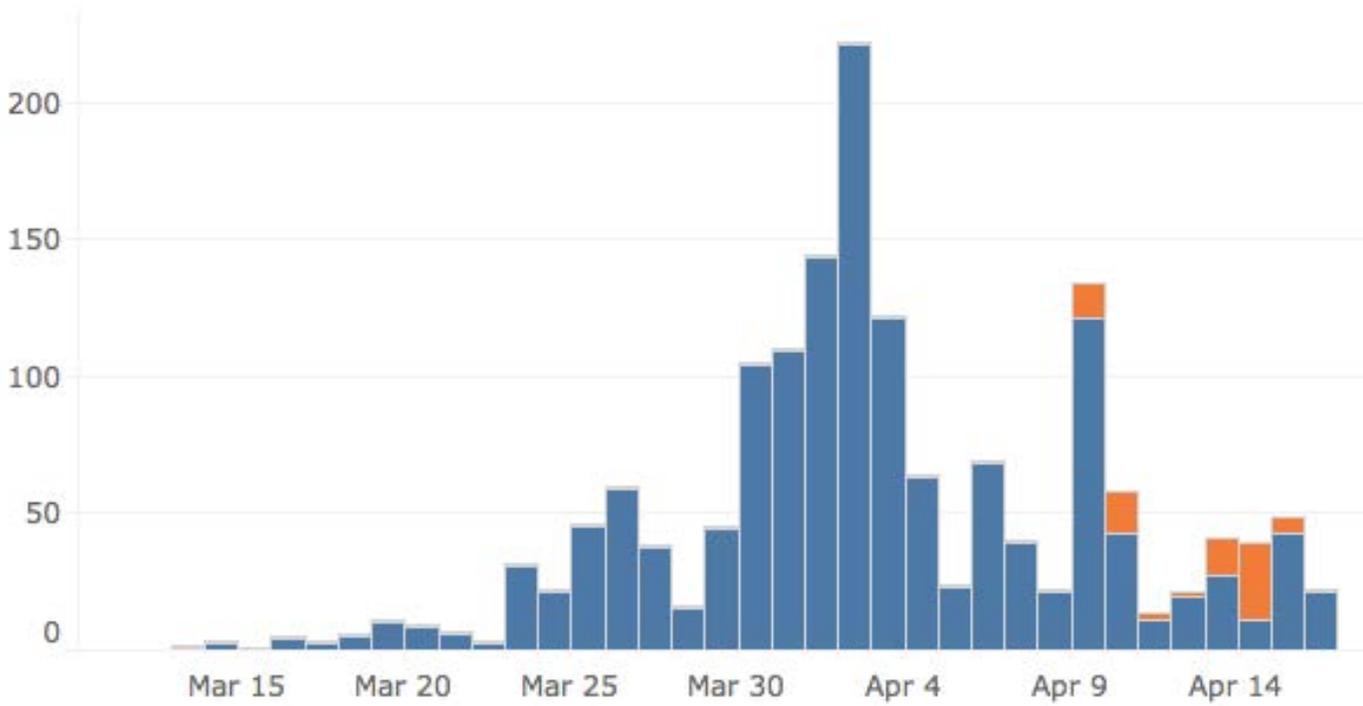
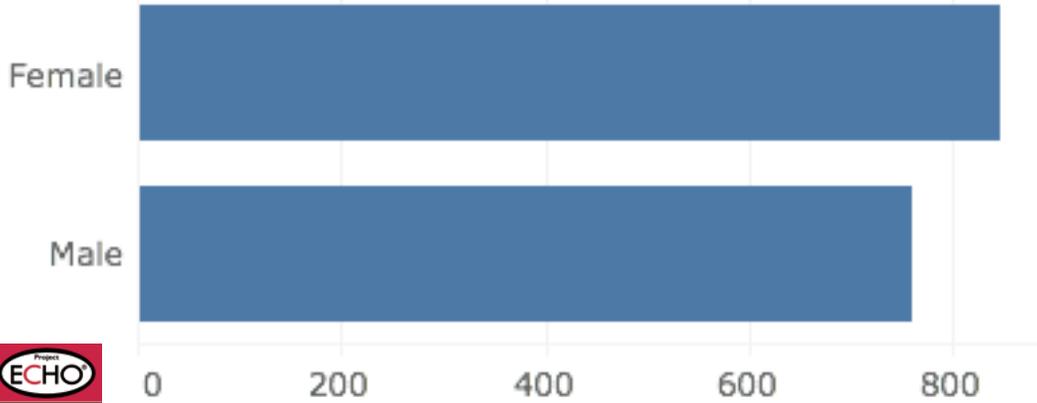
<https://coronavirus.idaho.gov>

Cases in Idaho, and by Date, Age Group and Sex

COVID-19 by Age-Group



COVID-19 by Sex

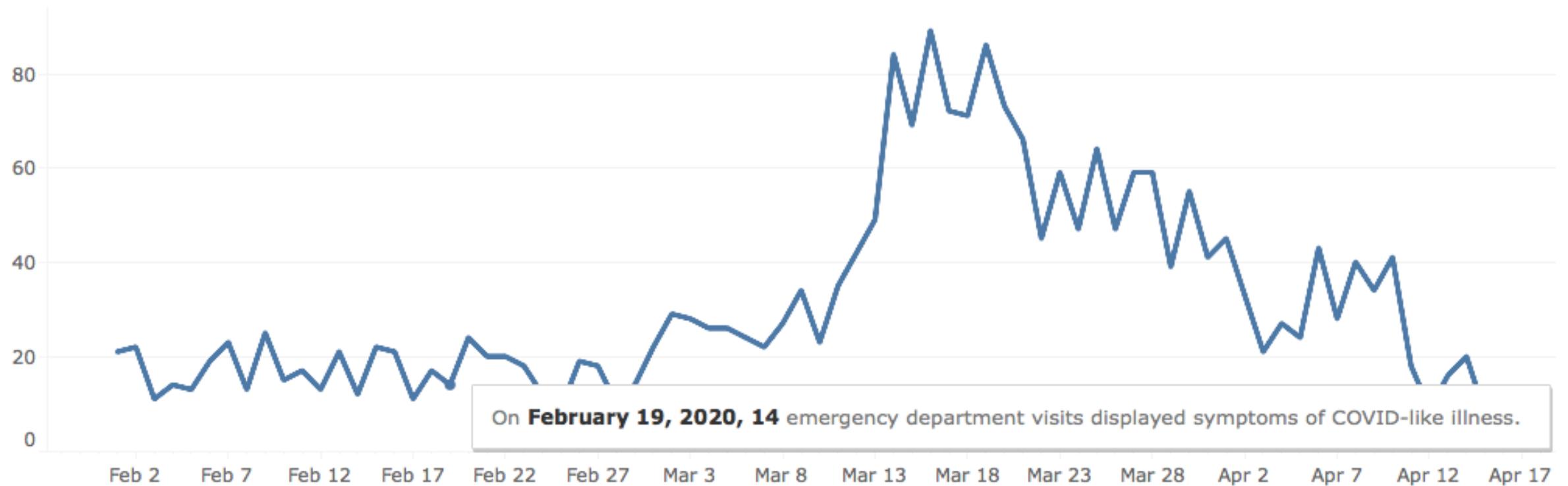


Confirmed: A person with a positive laboratory test result for COVID-19 using a molecular amplification technique (e.g., PCR, NAAT)
Probable: Symptomatic people that have epidemiologic risk factors or evidence of infection detected through a non-molecular amplification tests and deceased people whose death certificate lists COVID-19 or SARS-CoV-2 as contributing to death without laboratory confirmation. (Not included in total lab confirmed cases)

COVID-19 in Idaho - Syndromic Surveillance Emergency Department Data



Number of Emergency Department Visits for COVID-Like Illness



Update on Serology Testing



- Four different tests now with FDA Emergency Use Authorization (EUA)
- CDC has also developed a serology test being used to estimate proportions of specific populations with antibody to SARS-CoV-2
- Both FDA and CDC state:
 - Results should not be used as the sole basis for diagnosis
- CDC/FDA/NIH and others are evaluating commercially manufactured serologic tests with results expected in late April.
- Because infection rates in Idaho, with the exception of Blaine County, are low, the pre-test probability of having antibody is low in the general population.
- Thus, a high % of positive antibody tests are likely false positives. AND serology tests alone should not be used for return to work decisions.
- Critical to understand test characteristics

<https://www.fda.gov/medical-devices/emergency-situations-medical-devices/emergency-use-authorizations#covid19ivd>.

<https://www.cdc.gov/coronavirus/2019-ncov/lab/serology-testing.html>.

Update on Serology Testing



Test Example	sensitivity	specificity	prevalence	PPV	
Test A	0.9375	0.956	0.00069	0.014498555	Reported +PCR per ID pop. - MMWR 4/10/20
			0.00138	0.028601887	2x reported positives
			0.00345	0.068695797	5x reported positives
			0.0069	0.128949081	10x reported positives
			0.0276	0.376853683	40X reported positives
			0.069	0.612272424	100x reported positives
			0.1	0.70303712	10% seroprevalence
			0.69	0.979349447	1000x reported positives
Test B	0.99	0.99	0.00069	0.06398344	
			0.00138	0.120344597	
			0.00345	0.255249981	
			0.0069	0.407528934	
			0.0276	0.737529691	
			0.069	0.880056686	
			0.1	0.916666667	
			0.69	0.995482367	

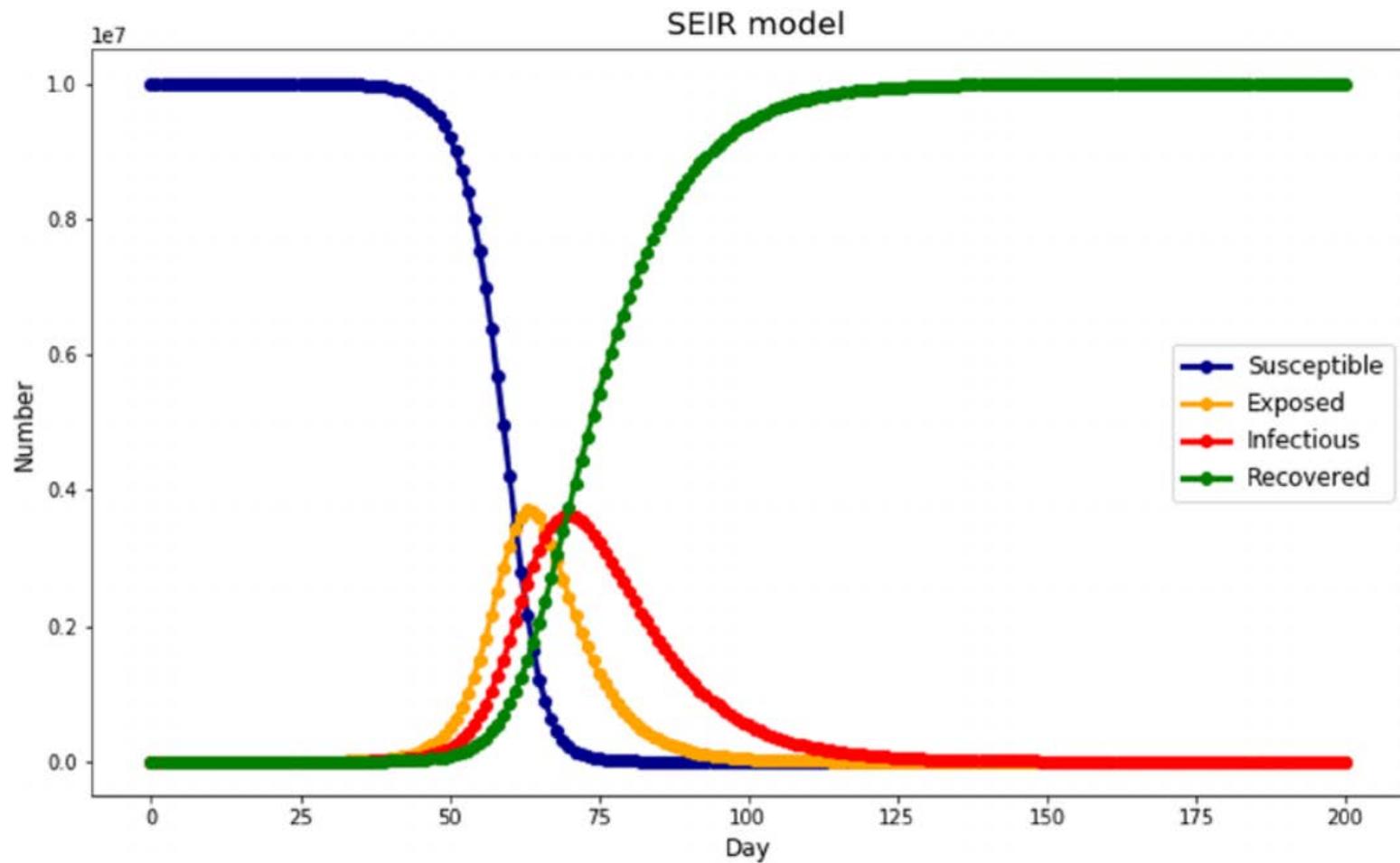
<https://www.fda.gov/medical-devices/emergency-situations-medical-devices/emergency-use-authorizations#covid19ivd>.

<https://www.cdc.gov/coronavirus/2019-ncov/lab/serology-testing.html>.

COVID Pandemic Modeling and Social Distancing Measures

Andrea Christopher, MD MPH

Internist & Associate Program Director for UW Boise Internal Medicine Residency

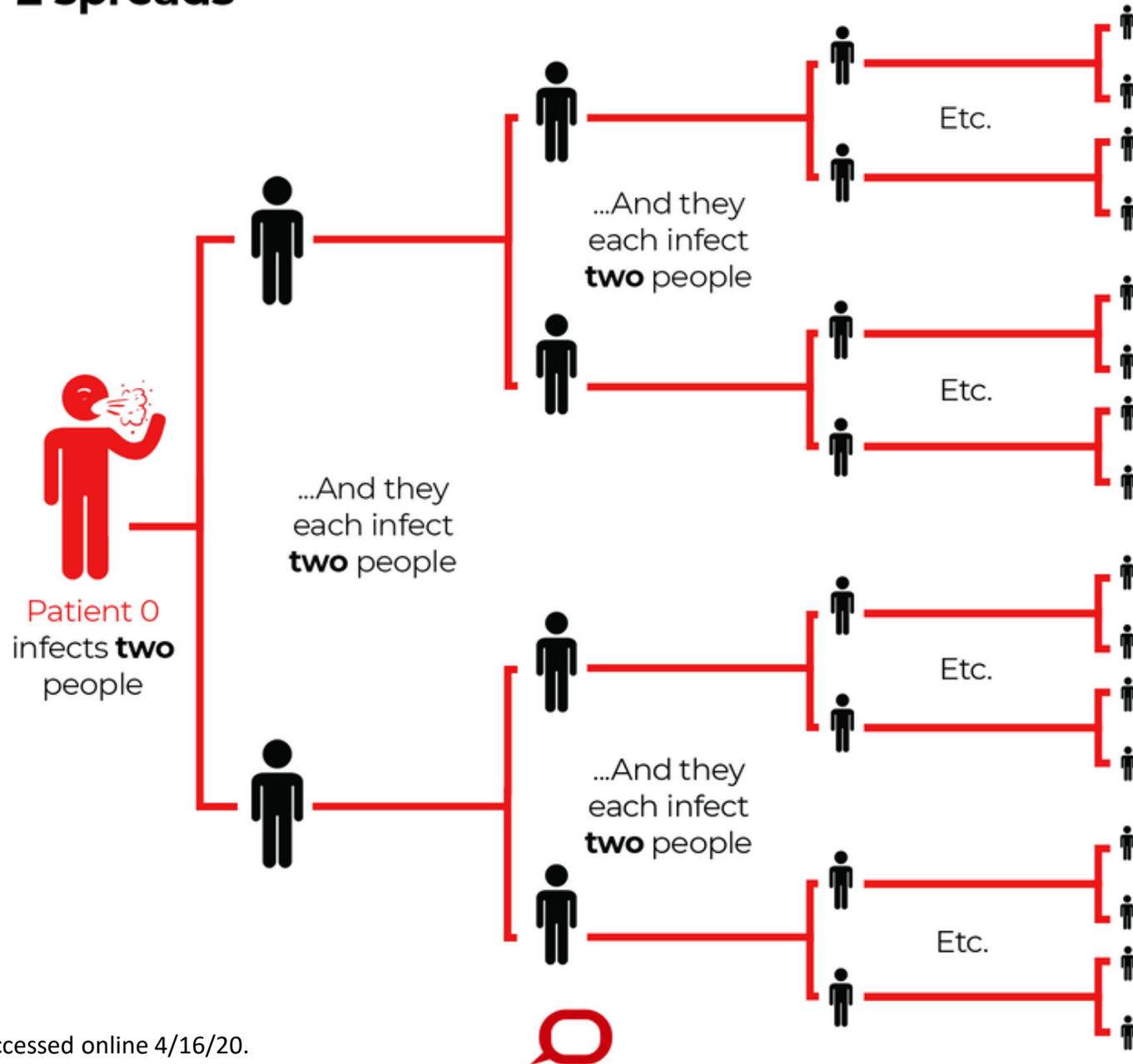


The SIR/SEIR Model for Epidemics

(Susceptible – Infectious – Recovered)

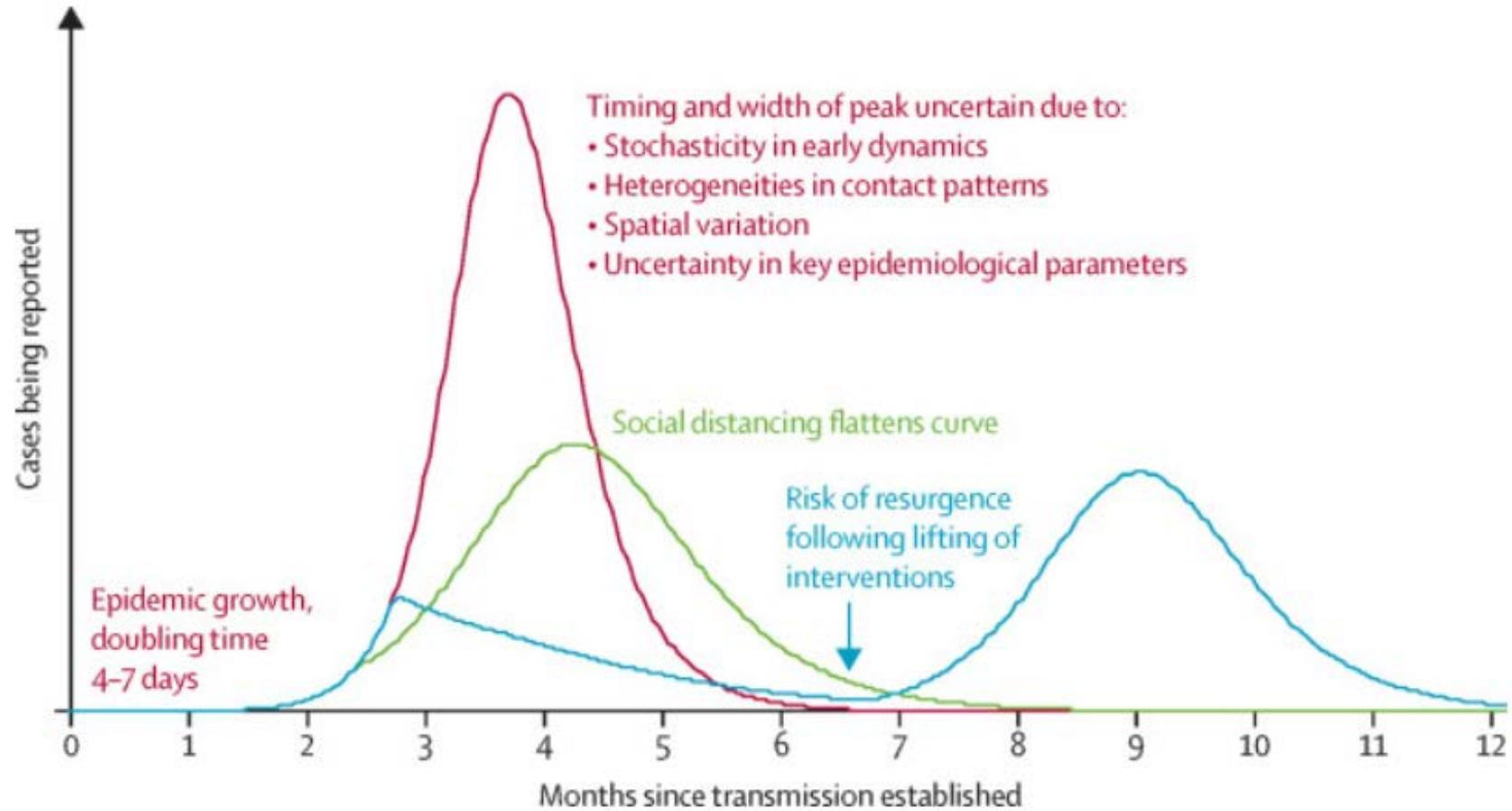


How a virus with a reproduction number (R0) of 2 spreads

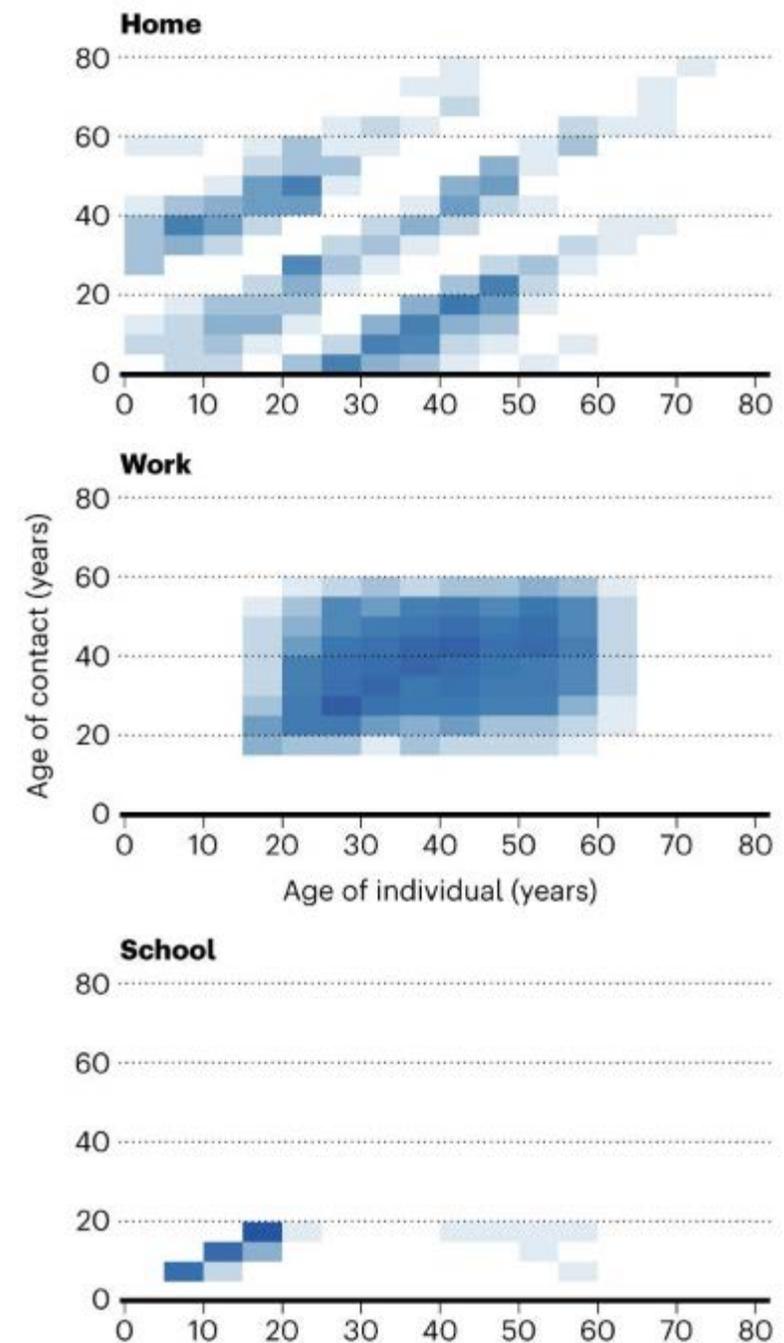
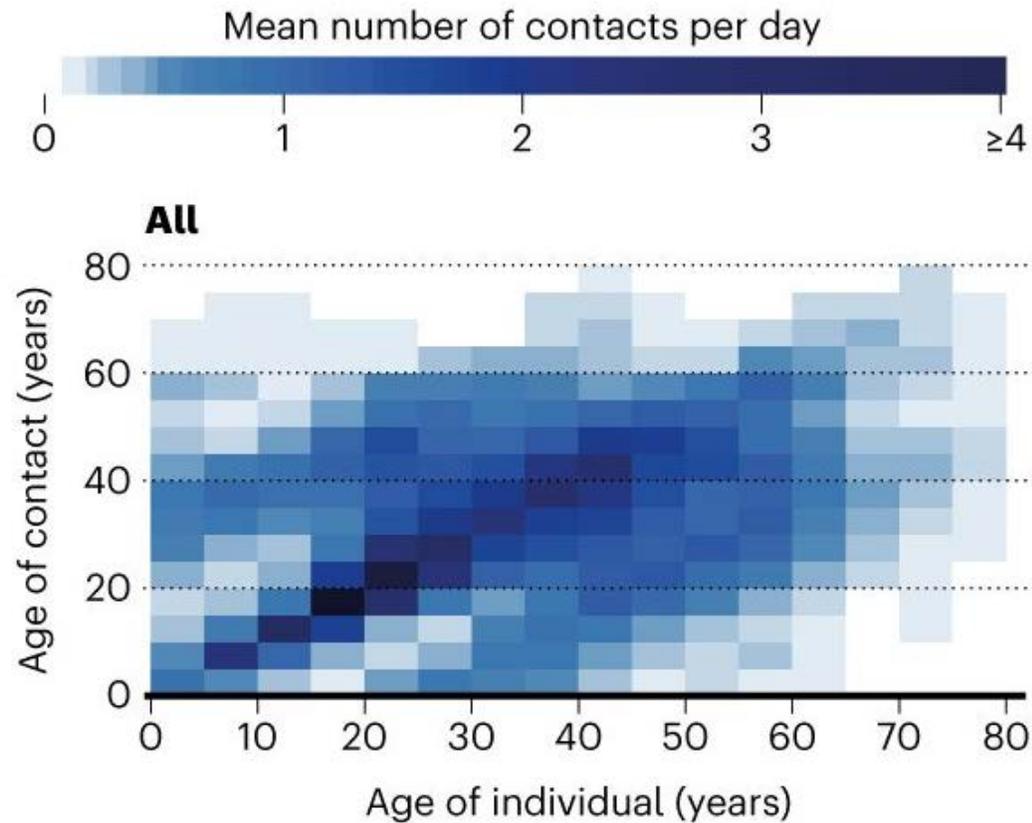


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Flattening the Curve

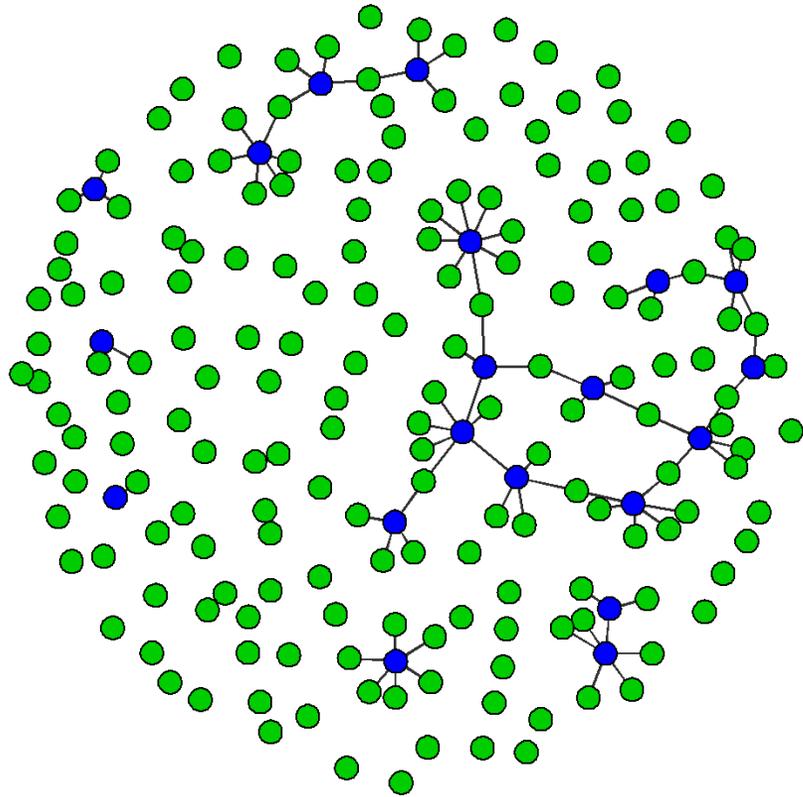


Measuring Social Mixing

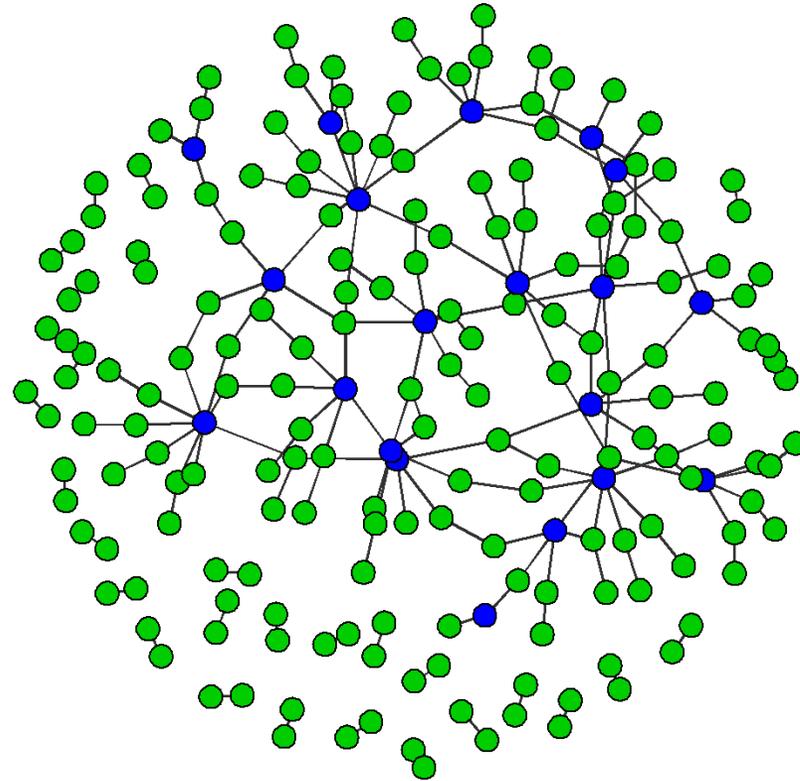


Nature. 2020; 580:316-318.

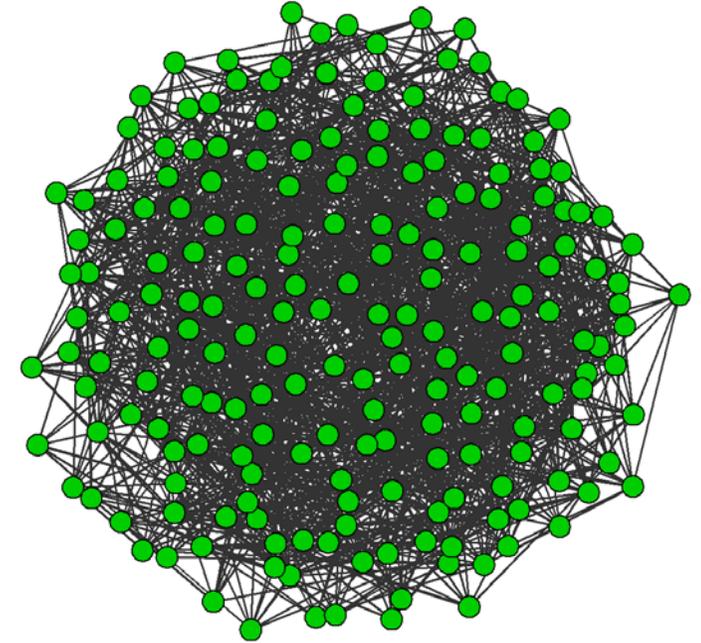
“Can’t I please just visit one friend?”



Essential workers only

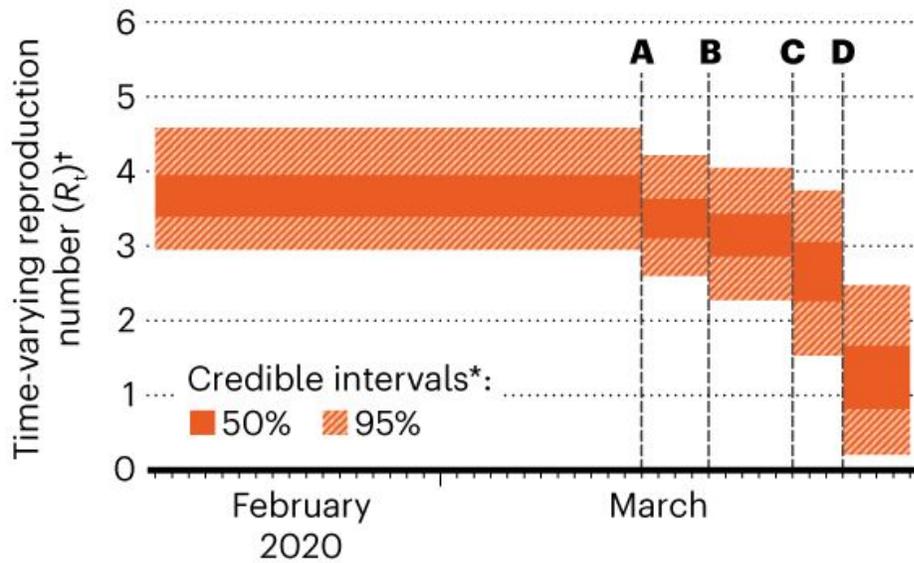


If each household visits 1 friend



No social distancing

A: Self-isolation **B:** Social distancing **C:** School closure
D: Public events banned and complete lockdown

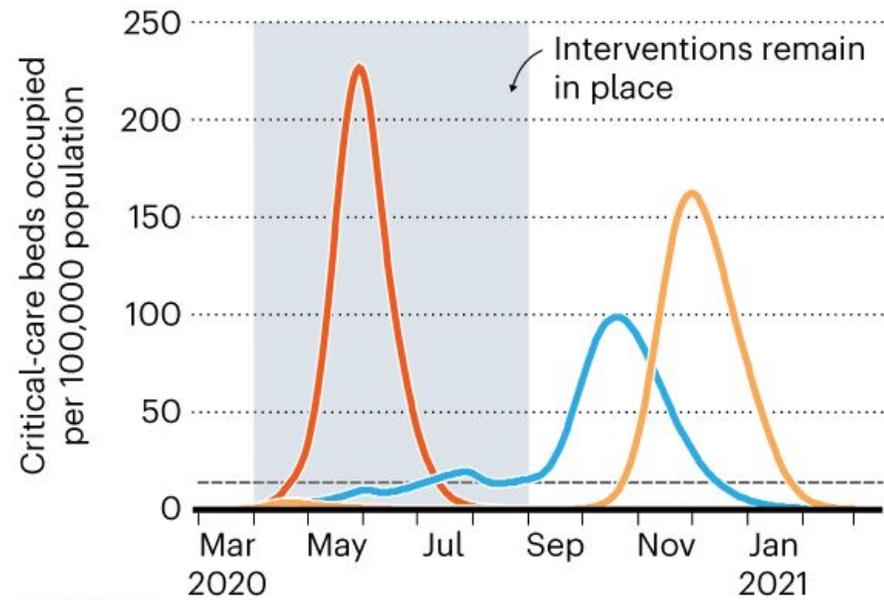


*Bayesian statistics: interval within which unobserved parameter falls, with particular probability.

[†] R_t : average number of infections, at time t , per infected individual over the course of their infection. If R_t is maintained at <1 , new infections decrease, resulting in control of the epidemic.

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- Estimated critical-care bed capacity
- Do nothing
- Case isolation, household quarantine and general social distancing
- School and university closure, case isolation and general social distancing



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Health Consequences of Social Distancing

- Health effects of social isolation:
 - Loneliness associated with higher cortisol, arterial vasoconstriction, immune dysregulation
 - Mental health: depression, anxiety, suicidal thoughts
 - Chronic isolation increases mortality risk by 29%
- Association between poverty and poor health, especially during economic downturns

https://jamanetwork.com/journals/jama/fullarticle/2764824?guestAccessKey=697d1107-bc7a-44f5-a38d-aa3799448137&utm_source=silverchair&utm_medium=email&utm_campaign=article_alert-jama&utm_content=olf&utm_term=041620

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PLoS Med. 2010; 7(7):e1000316.

Social Science and Medicine. 2012;74(6):907-914.

Science. 2011; 331(6014):138-140.



ECHO IDAHO

Questions From the Field

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

Benjamin Cornett, MD, Emergency Medicine, Boise VA,

Medical Director ISU Paramedic Education Program

Cathy Oliphant, PharmD, Infectious Disease, ISU College of Pharmacy

Andrea Christopher, MD MPH, Internist, Boise VA

Megan Dunay, MD MPH, Geriatrician, Boise VA

Can you summarize the medications being used to treat COVID-19?

What is your assessment as to whether any treatments at this point are worth employing.

Can you give an update on the current status of testing in Idaho and time frames for test results?

Is there a titre being developed to test those that may have been exposed before testing was introduced?

What's the recommendation on testing for recovering patients to determine infectious status for end of quarantine and to facilitate return to work?

What is likely best mask option for high risk individuals in the community? (This obviously excludes 'just stay home'.)

In Assisted Living settings, if all new admissions are to be treated as positive and we use PPE for the 14 days of quarantine how can we get more supplies we will burn through them very quickly?

Patient Case #1

- 72 yo F with HTN metastatic lung cancer on palliative chemotherapy develops diarrhea she thought was from chemo, then has fever and chest pain. She has become increasingly weak and calls her primary care clinic.
 - How should clinic telephone line triage this patient?

Patient Case #1 (continued)

- Due to symptoms concerning for COVID (fever, chest pain), she is directed to present to the emergency room.
 - What is appropriate PPE for evaluation of this patient?
- She is found to be hypoxic, with lymphopenia, and too weak to walk. She is presumed to have COVID 19 and testing is sent.
 - If COVID test is negative, how would you proceed?

Patient Case #1 (continued)

- The admitting PA discusses goals of care and code status. She does not have an advanced directive. Her main goal is to keep doing chemo for her cancer.
 - How do you approach goals of care?

83yo MD develops cough and has been napping more than usual. No fever, no shortness of breath...

How can we help patients and families know what to expect and prepare for COVID-19 treatment?



More to come...

Tuesday, April 21, noon - 1 pm MT

COVID-19 Case Conversations: Inpatient & Critical Care

Friday, April 24, 1 - 2 pm MT

COVID-19 Case Conversations: Outpatient & ED

Submit a patient case/questions:

<https://www.uidaho.edu/academics/wwami/echo/covid-19/clinical-question-form>