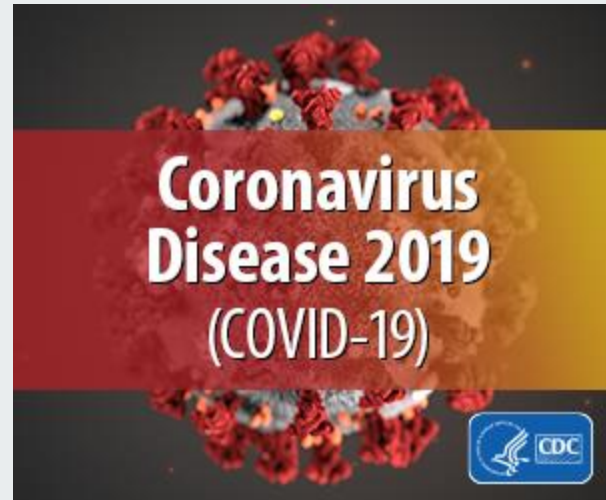




Coronavirus Update

Impact Planning for Tanner Clinic



Definitions

SARS-COV-2 (The Virus)

COVID-19 (The disease)

- 80-85% of cases are MILD
- 15-20% severe cases

Data on the **progression of disease** is available from a limited number of reported hospitalized cases (Figure 5). Based on available information, the median time from symptom onset to laboratory confirmation nationally decreased from 12 days (range 8-18 days) in early January to 3 days (1-7) by early February 2020, and in Wuhan from 15 days (10-21) to 5 days (3-9), respectively. This has allowed for earlier case and contact identification, isolation and treatment.

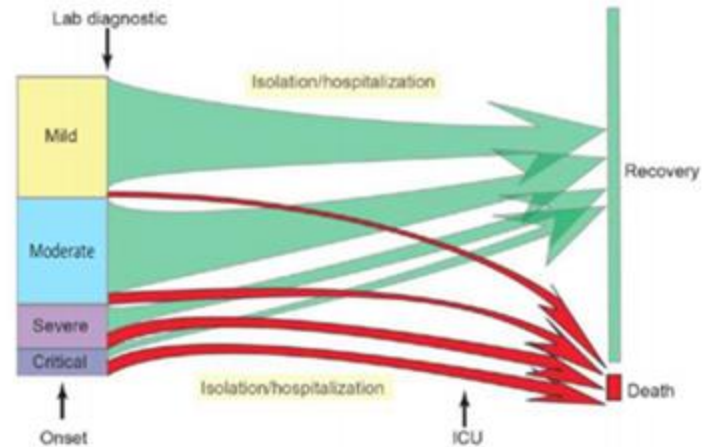


Figure 5. Pattern of disease progression for COVID-19 in China

Note: the relative size of the boxes for disease severity and outcome reflect the proportion of cases reported as of 20 February 2020. The size of the arrows indicates the proportion of cases who recovered or died. Disease definitions are described above. Moderate cases have a mild form of pneumonia.

Table 1. Baseline Characteristics of Patients Infected With 2019-nCoV

	No. (%)			P Value ^a
	Total (N = 138)	ICU (n = 36)	Non-ICU (n = 102)	
Signs and symptoms				
Fever	136 (98.6)	36 (100)	100 (98.0)	>.99
Fatigue	96 (69.6)	29 (80.6)	67 (65.7)	.10
Dry cough	82 (59.4)	21 (58.3)	61 (59.8)	.88
Anorexia	55 (39.9)	24 (66.7)	31 (30.4)	<.001
Myalgia	48 (34.8)	12 (33.3)	36 (35.3)	.83
Dyspnea	43 (31.2)	23 (63.9)	20 (19.6)	<.001
Expectoration	37 (26.8)	8 (22.2)	29 (28.4)	.35
Pharyngalgia	24 (17.4)	12 (33.3)	12 (11.8)	.003
Diarrhea	14 (10.1)	6 (16.7)	8 (7.8)	.20
Nausea	14 (10.1)	4 (11.1)	10 (9.8)	>.99
Dizziness	13 (9.4)	8 (22.2)	5 (4.9)	.007
Headache	9 (6.5)	3 (8.3)	6 (5.9)	.70
Vomiting	5 (3.6)	3 (8.3)	2 (2.0)	.13
Abdominal pain	3 (2.2)	3 (8.3)	0 (0)	.02
Onset of symptom to, median (IQR), d				
Hospital admission	7.0 (4.0-8.0)	8.0 (4.5-10.0)	6.0 (3.0-7.0)	.009
Dyspnea	5.0 (1.0-10.0)	6.5 (3.0-10.8)	2.5 (0.0-7.3)	.02
ARDS	8.0 (6.0-12.0)	8.0 (6.0-12.0)	8.0 (6.3-11.3)	.97

WHO collaborative:

fever (87.9%) early on (43%)
 dry cough (67.7%)
 fatigue (38.1%)
 sputum production (33.4%)
 shortness of breath (18.6%)
 sore throat (13.9%)
 headache (13.6%)
 myalgia or arthralgia (14.8%)
 chills (11.4%)
 nausea or vomiting (5.0%)
 nasal congestion (4.8%)
 diarrhea (3.7%)
 hemoptysis (0.9%)
 conjunctival congestion (0.8%).

LABS: WBC normal, mild lymphopenia, mild thrombocytopenia, mild elevation of LDH, elevated AST/ALT, normal procalcitonin

TIMELINES to CONSIDER

CHINA

- Mean incubation: 3-6 DAYS
- Official RANGE for incubation: 1-14 days, outliers up to 27 days (likely a double exposure)
- Mild Disease ONSET to RECOVERY: 2 weeks
- Severe or Critical Disease ONSET to RECOVERY: 3-8 weeks
- TIME of onset of symptoms to severe hypoxia: 1 week

ITALY

25-30% have needed ICU

“The last days are showing a younger population involved as if the elderly and weaker part of the population crashed early and now younger patients, having exhausted their physiological reserves, come to overcrowded, overwhelmed hospitals with little resources left.”

RISK FACTORS

AGE	DEATH RATE confirmed cases	DEATH RATE all cases
80+ years old	21.9%	14.8%
70-79 years old		8.0%
60-69 years old		3.6%
50-59 years old		1.3%
40-49 years old		0.4%
30-39 years old		0.2%
20-29 years old		0.2%
10-19 years old		0.2%
0-9 years old		no fatalities

PRE-EXISTING CONDITION	DEATH RATE confirmed cases	DEATH RATE all cases
Cardiovascular disease	13.2%	10.5%
Diabetes	9.2%	7.3%
Chronic respiratory disease	8.0%	6.3%
Hypertension	8.4%	6.0%
Cancer	7.6%	5.6%
<i>no pre-existing conditions</i>		0.9%

*Death Rate = (number of deaths / number of cases) = probability of dying if infected by the virus (%). The percentages **do not have to add up to 100%**, as they do **NOT** represent share of deaths by condition.

- 25-50% of symptomatic patients will have an underlying comorbidity



Do children get COVID-19?

- Anthony Fauci “they have to be getting infected,” but there is some immune protectivity in children
- Data from China is around 2% of cases were under age 15
- No death under age 10
- Symptoms are more mild: fever, cough, congestion, and rhinorrhea
- Case report of 13 month old in China with severe ARDS and septic shock with COVID-19

World CASES by country

TOTAL CASES: 111,705

TOTAL DEATHS: 3886

LEVEL 2-3 TRAVEL BAN: CHINA,
KOREA, ITALY, IRAN, JAPAN

Country, Other	Total Cases	New Cases	Total Deaths	New Deaths	Total Recovered	Active Cases	Serious, Critical	Tot Cases/ 1M pop
China	80,739	+44	3,120	+23	58,740	18,879	5,111	56.1
S. Korea	7,478	+165	53	+3	166	7,259	36	145.9
Italy	7,375		366		622	6,387	650	122.0
Iran	7,161	+595	237	+43	2,394	4,530		85.3
France	1,209		21	+2	12	1,176	45	18.5
Germany	1,151	+111			18	1,133	9	13.7
Spain	1,050	+376	26	+9	32	992	11	22.5
<i>Diamond Princess</i>	696		7		245	444	32	
USA	566	+25	22		15	529	8	1.7
Japan	502		7		76	419	30	4.0
Switzerland	374	+42	2		3	369		43.2
Netherlands	321	+56	3			318	1	18.7
UK	319	+41	3		18	298		4.7
Sweden	248	+45			1	247		24.6
Belgium	239	+39			1	238	1	20.6
Norway	183	+7			1	182		33.8
Singapore	160	+10			93	67	10	27.3
Malaysia	117	+18			24	93	2	3.6
Hong Kong	115		3		59	53	6	15.3
Austria	112	+8			2	110	1	12.4

HOW to STOP or DECREASE the SPREAD



LEVEL 1- CONTAINMENT: Don't let any new cases in (Travel Bans, etc)

LEVEL 2- MITIGATION OF SPREAD: Social distancing to prevent further infection
-no crowds, close schools, close large gatherings, teleworking, no plane travel

LEVEL 3- QUARANTINE- suspected cases kept in closed areas through incubation

LEVEL 4- ISOLATION- confirmed cases without contact unless medically necessary and in PPE (In CHINA all of these happened under medical care, US is planning for home care)

HOW TO EVALUATE PATIENTS BY SYMPTOMS



HIGHEST RISK: FEVER or COUGH or
DYSPNEA or other compatible symptoms

PLUS: ANY PERSON INCLUDING HEALTH
CARE WORKERS WITH A CONTACT of a lab
confirmed case in 14 days

OR

History of TRAVEL TO A GEOGRAPHICALLY
AFFECTED AREA in 14 days

INFECTION CONTROL:

Placed in a face mask to stop droplet
spread

-no shared waiting rooms

HEALTH CARE WORKERS:

AIRBORNE/DROPLET: N95, eyeshield,
gown, gloves (double glove)

CALL UTAH COVID HOTLINE 1-800-456-7707

HOW TO EVALUATE PATIENTS BY SYMPTOMS

MODERATE RISK: FEVER or COUGH or
DYSPNEA or other compatible symptoms

AND

TRAVEL to a moderately AFFECTED AREA in
14 days, or an evolving area

OR

CONSIDER residential group facilities such as
nursing homes

INFECTION CONTROL:

Placed in a face mask to stop droplet
spread

-no shared waiting rooms

HEALTH CARE WORKERS:

CONTACT/DROPLET: facemask,
eyeshield, gown, gloves



OPTIONS FOR VISITS WITHIN CLINIC

EXTENSIVE PHONE TRIAGE: MILD SYMPTOMS without high or moderate risk AT THIS TIME WILL NOT BE TESTED and home supportive care and quarantine is recommended

SEPARATION OF SICK VISITS and WELL VISIT/PROCEDURES:

- ?No walk-ins, have to be phone triaged first
- ? Dedicated site or time for sick visits, still would need to address waiting rooms
- ? Triage that is car based
- ?Flu testing/Respiratory panel that is drive through

TESTING



OPTION 1: UTAH STATE LAB:

We don't have a courier set up with the state lab

They are very limited in test numbers

They are only running two times per day

Not available on weekends

OPTION 2: LABCORP

We have a courier set up

They request that the high risk or moderate risk definitions are met

They have the CDC based test

Turn around time may be 3-4 days

They will get high volume

OPTION 3: IN HOUSE

It is a RT-PCR, an easy test

Machines are relatively inexpensive, around 20K

We already operate a BSL 2 area in the lab

We would need staffing

We would need to have PPE

PPE is LIMITED Worldwide and at Tanner

ALL POTENTIAL SYMPTOMATIC PATIENTS
WILL NEED A FACEMASK



AIRBORNE/DROPLET: N95, eyeshield,
gown, gloves (double glove)

CONTACT/DROPLET: facemask,
eyeshield, gown, gloves