Comal County Commissioners Court

May 28, 2020
08:30 AM

EPIDEMIOLOGY UPDATE

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Director of Public Health

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Infectious Disease and Public Health Epidemiologist

COMAL COUNTY HEALTH DEPARTMENT
AGENDA

1. Goals
2. Basic information on COVID-19
3. Protocols
4. Data and interpretation
5. Comal County COVID-19 Economic and Health Transition Team
6. Questions?
Goal: To increase knowledge of epidemiology terminology, interpretation of data and latest numbers on COVID-19

Learning objectives: Participants attending Commissioners Court will be able to:

- Explain basic facts about COVID-19.
- Compare and contrast fatality, mortality and positivity rates.
• Information on COVID-19 is rapidly changing, sometimes daily.
What is SARS-CoV-2?

SARS-CoV-2 is the virus that causes coronavirus disease 2019 (COVID-19)

- SARS = severe acute respiratory distress syndrome
- Spreads easily person-to-person
- Little if any immunity in humans

Detailed information:
COVID-19 is spread from person to person mainly through coughing, sneezing, and possibly talking and breathing.

- **Droplet** - respiratory secretions from coughing or sneezing landing on mucosal surfaces (nose, mouth, and eyes)
- **Aerosol** - a solid particle or liquid droplet suspended in air
- **Contact** - Touching something with SARS-2 virus on it and then touching mouth, nose or eyes
- **Other possible routes**: Through fecal matter
COVID-19 UPDATE

Signs and Symptoms

• Fever or chills
• Cough
• **Shortness of breath or difficulty breathing**
• Fatigue
• Muscle or body aches
• Headache
• New loss of taste or smell
• Sore throat
• Congestion or runny nose
• Nausea or vomiting
• Diarrhea

Incubation period

EXPOSURE

Symptoms typically begin 4–9 days after exposure, though incubation may last for up to 21 days.

INCUBATION

DAYS 1–3
In the first few days of illness, patients have flu-like symptoms and profound weakness.

DAYS 4–7
Around days 4-7, patients may also have vomiting, diarrhea, nausea, low blood pressure, headaches and anemia.

DAYS 7–10
Toward the end of the illness, there is confusion and bleeding, both internal and visible. All of this progresses toward coma, shock and death.

COURSE OF ILLNESS

Usually lasts between 6–10 days.

DEATH

Source: Dr. Nahid Bhadelia M.D., M.A., Associate Hospital Epidemiologist, Boston Medical Center Director of Infection Control, National Emerging Infectious Disease Laboratories, Boston University

THE HUFFINGTON POST
COVID-19 UPDATE

CASE AND CONTACT TRACING AND MONITORING PROTOCOLS —— V1 05/15/2020

TEST RESULTS FROM LABORATORY
PUBLIC HEALTH STRATIFIES TEST RESULTS BY COUNTY

EPIDEMIOLOGY TEAM
CONDUCTS CASE INVESTIGATION
MONITORS CASE (FREQUENCY DAY 1, DAY 5 AND DAY 10)

EPIDEMIOLOGY TEAM
CONTACT TRACING AND MONITORING
HIGH RISK (DAY 1, 3, 14): LOW RISK (DAY 1 AND 14)

CONTACT CONVERTS TO CASE
BACK TO CONNIE + TEAM

END OF QUARENTINE OR ISOLATION

FINAL LETTERS
CASE / CONTACT RECOVERY
R-Naught or $R_0$ Value

The number of people that one sick person will infect (on average) is called $R_0$. Here are the maximum $R_0$ values for a few viruses.
COVID-19 UPDATE

R-Naught or $R_0$ Value

COVID-19 GROWS EXPONENTIALLY

Colorado likely started with a reproduction (R0) value between 3 & 4. Social distancing and other measures have lowered it to close to 1 but it could ramp up again to between 3 & 4.
COVID-19 UPDATE

The Math Behind Social Distancing

**NOW**
- 1 PERSON
- Infects
- 2.5 PEOPLE INFECTED
- 406 PEOPLE INFECTED

**50% LESS EXPOSURE**
- 1 PERSON
- Infects
- 1.25 PEOPLE INFECTED
- 15 PEOPLE INFECTED

**75% LESS EXPOSURE**
- 1 PERSON
- Infects
- 0.625 PEOPLE INFECTED
- 2.5 PEOPLE INFECTED

Credit: Robert A.J. Signer Ph.D., Assistant professor of Medicine at the University of California, San Diego
Gary Warnax, Art Director

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COVID-19 UPDATE

CONTACTS

8 CASES → 61 CONTACTS
COVID-19 UPDATE

Numbers as at May 27, 2020

- 2,956 tests conducted
- 87 positive tests
- 2,749 negative tests
- 200 results still pending
- Doubling Time (Cases) 6 days to 47 days
- Doubling Time (Tests) 77 days to 11 days
COVID-19 UPDATE

TESTING RATE

Prevalence of COVID-19 Cases in Comal County, TX
March 15, 2020-May 27, 2020
Incidence and Prevalence

Incident Cases of COVID-19 in Comal County, TX
March 15, 2020- May 27, 2020
Incidence and Prevalence of COVID-19 Cases in Comal County, Texas as at May, 27\textsuperscript{th} 2020
COVID-19 UPDATE

POSITIVITY RATE

POSITIVITY RATES FOR COMAL COUNTY AND THE STATE OF TEXAS FOR MAY 27, 2020

TIME

% POSITIVE

COMAL  TEXAS
COVID-19 UPDATE

FATALITY RATE

FATALITY RATES FOR COMAL, TEXAS AND US FOR MAY 21ST 2020
COVID-19 UPDATE

MORTALITY RATE

MORTALITY RATES FOR COMAL COUNTY, TEXAS AND US AS AT MAY 27, 2020

TIME

MORTALITY RATE

COMAL  TEXAS  US
How long does SARS-CoV-2 survive outside of the body?

- It is not clear yet how long the coronavirus can live on surfaces, but it seems to behave like other coronaviruses.
- Virus may persist on surfaces for a few hours or up to several days, depending on conditions and the type of surface.
- It is likely that it can be killed with a simple disinfectant on the EPA registered list below.

https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2
## COVID-19 UPDATE

### STANDARDIZED CASE RATE AS AT May 27, 2020

<table>
<thead>
<tr>
<th>COUNTY</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRAVIS</td>
<td>2933</td>
</tr>
<tr>
<td>HAYS</td>
<td>270</td>
</tr>
<tr>
<td>KENDELL</td>
<td>24</td>
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<tr>
<td>COMAL</td>
<td>82</td>
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<td>BLANCO</td>
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<tr>
<td>BEXAR</td>
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**AS AT May 27, 2020**

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1. Why?
   - Assist Comal County Transition From Shut-down to Re-Opening

2. Indicators
   - Progress
   - Warning

3. Who?
   - Schools,
   - Business,
   - Retail and Restaurants
   - Transport
   - Mass Gatherings
   - Outdoor Spaces
   - Entertainment,
   - Healthcare,
COVID-19 UPDATE

For more information
Epidemiology Team

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