COVID Prevention: A Swiss Cheese Model

Jeff Goad, Pharm.D., MPH
Professor and Chair, Department of Pharmacy Practice
Chapman University School of Pharmacy
Swiss Cheese Model: COVID Prevention
Distance

- “Shelter at home”, quarantine, isolation, contact tracing
- 6 feet apart

* 3 ft = 82% protection, 6 ft...better

Environment

- HEPA filters & ↑ air exchanges
- Surface decontamination & electrostatic sprayers

Personal

- Masks (face coverings, level 1-3 surgical masks, N/K95s)
- Face Shields (eye protection)
- Hand washing/hand sanitizer
- Testing (diagnostic vs antibody)
- **Daily COVID screening**

* 67% <surgical mask, 12-16 layer cotton>
* 78% protection Face Shield

Vaccines

- No approved vaccines (EUA or Approved)
- **4 entering/in phase 3 trials**

Meds

- No FDA approved medications for prevention of COVID-19
- 1 new emergency approval for Remdesivir (hospitalized)
- Convalescent serum of recovered patients

*Chu D. Lancet 2020; 395: 1973–87*
Daily COVID Screening

Over the last 24 hours, are any of the following true for you?
1. I am sick with COVID-19 symptoms
2. I have traveled outside the U.S. in the last 14 days
3. I have been notified that I am COVID-19 positive or have come in contact with someone who has or is suspected of having COVID-19
4. I have a temperature of 100.4 degrees F (or 38 C) or greater

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Chapman University Daily COVID Screening
Chapman University <noreply@qemailserver.com>
To: Goad, Jeffery

Jeff Goad is CLEAR as of Monday, July 27th to access any Chapman University campus.
You answered NO to all COVID-19 related questions. You agree that you truthfully answered these questions to the best of your knowledge.
### COVID Symptom Checker

#### Symptoms

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever or feeling feverish</td>
<td>43%</td>
</tr>
<tr>
<td>Mild or moderate difficulty breathing</td>
<td>29%</td>
</tr>
<tr>
<td>Cough</td>
<td>50%</td>
</tr>
<tr>
<td>Muscle aches or Body aches</td>
<td>36%</td>
</tr>
<tr>
<td>Sore throat</td>
<td>20%</td>
</tr>
<tr>
<td>Nausea, Vomiting or diarrhea</td>
<td>12-19%</td>
</tr>
<tr>
<td>New loss of taste or smell</td>
<td>&lt;10% - 65%</td>
</tr>
<tr>
<td>Headache</td>
<td>34%</td>
</tr>
</tbody>
</table>

#### Guidelines
- 10 days
- 24 hrs no

#### Additional Symptoms
- Extreme difficulty breathing (gasp for air or cannot talk without catching your breath)
- Blue-colored lips or face
- Severe pain or pressure in the chest
- Severe, constant dizziness or light-headedness
- Acting confused
- Unconscious or very difficult to wake up
- Slurred speech
- Seizures
- Signs of low blood pressure (too weak to stand, light-headed, feeling cold, pale, clammy skin)

#### Instructions
- If you have any of these symptoms, call 911 or your healthcare provider.
COVID-19 Vaccine Candidates

COVID Vaccine Development Begins

- **Protein-based vax**: Sinovac and Sinopharm. Phase 2/3
- **rViral-based vax**: Oxford/AZ Phase 3
- **Viral-based vax**: Moderna, Pfizer Phase 2/3
- **RNA-based vax**: DNA-based vax
- **Cell-based vax**: Nucleic acid-based vax
- **Nanoparticle vax**:
A Continuum of Prevention

Vaccine efficacy?
Vaccine uptake?

Primary prevention

Secondary prevention

Tertiary prevention