Elisa Tong, MD, MA

Associate Professor of Medicine, UC Davis Health; Project Director, CA Quits

Elisa Tong, MD, MA is an Associate Professor of Internal Medicine at University of California, Davis Health. Dr. Tong's research and clinical interests are in tobacco control policy and cessation. She founded “UC Quits”, which has electronically connected the 5 UC medical centers to the California Smokers' Helpline (operated by UC San Diego) with over 10,000 eReferrals. She was also the Statewide Outreach Principal Investigator for the Medi-Cal Incentives to Quit Smoking project, led by California Department of Health Care Services (DHCS). She is currently the Principal Investigator of a California Tobacco-Related Disease Research Program Implementation Research Award with Los Angeles Department of Health Services for expanding their eConsult referral system with the Helpline. Dr. Tong is also the founding Project Director for “CA Quits”, a $6 million project funded by the California Tobacco Control Program, which facilitates tobacco treatment systems change across California providers, plans, and public health partners and also hosts the DHCS PRIME tobacco learning collaborative.
Smoking Cessation and COVID

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April 28, 2020
Right Care Initiative, Bay Area-Silicon Valley

Funded by the California Tobacco Control Program: #17-10594 and Tobacco-Related Disease Research Program 28-CP0039
OBJECTIVES

- Smoking and COVID - Risks
- Patient and Provider Impact – Cessation
- Population Health – California Smokers’ Helpline
Doctors like me...are working to treat sick patients for the COVID-19 virus. The best ways for you to help are to stay home, wash your hands, and not smoke or vape.

- Dr. Tong

Hookah and COVID-19: How Hookah puts you at risk

Despite its sweet or fruity chemical smell, secondhand aerosol is not harmless water vapor.

Secondhand Dangers
Find out what your city is doing to protect you and your family.
#1: Smoking doubles the risk of infection

Smoking, Alcohol Consumption, and Susceptibility to the Common Cold

391 healthy volunteers (18-54 yo) had 1 of 5 respiratory viruses, including a coronavirus, dropped in a liquid into their noses.

- Subjects and investigators blinded to assessment and the purpose of the study; subjects quarantined
- Clinician examined subjects daily for 6 days after challenge, then at 28 days

The volunteers who smoked were twice as likely as those who did not smoke to develop an infection.

- 104 smokers, no diff 1-15 or >15 cpd
- Cotinine >15 ng/ml = smoker

WHAT YOU SHOULD KNOW ABOUT SMOKING AND LUNG HEALTH

Toxins in tobacco smoke harm the body from the moment they enter through the mouth and nose. They damage tissue and cells all the way to the lungs. When cigarette smoke is inhaled, chemicals from the smoke are absorbed in the lungs. As a result, smoking:

- causes lung diseases, including the majority of cases of chronic obstructive pulmonary disease (COPD);
- makes chronic lung diseases more severe; and
- increases the risk for respiratory infections.

Genetic factors make some people more susceptible to lung disease from smoking.

Although the lung has ways to protect itself from injury by inhaled agents, these defenses are overwhelmed when cigarette smoke is inhaled repeatedly over time. After years of exposure to cigarette smoke, lung tissue becomes scarred, loses its elasticity, and can no longer exchange air efficiently.

SMOKING AND THE IMMUNE SYSTEM

Smoking harms the immune system and can make the body less successful at fighting disease. The immune system is the body’s way of protecting itself from infection and disease; it works to fight everything from cold and flu viruses to serious conditions such as cancer.

Additionally, smoking is known to compromise the equilibrium, or balance, of the immune system. This increases the risk for several immune and autoimmune disorders (conditions caused when the immune system mistakenly attacks the body’s healthy cells and tissues). New evidence finds that smoking is a cause of rheumatoid arthritis, an autoimmune disease in which the immune system attacks the joints and causes swelling and pain.
#2: Smoking doubles the risk of getting sicker with COVID

We identified five studies that reported data on the smoking status of patients infected with COVID-19. Notably, in the largest study that assessed severity, there were higher percentages of current and former smokers among patients that needed ICU support, mechanical ventilation or who had died, and a higher percentage of smokers among the severe cases. However, from their published data we can calculate that the smokers were 1.4 times more likely (RR=1.4, 95% CI: 0.98–2.00) to have severe symptoms of COVID-19 and approximately 2.4 times more likely to be admitted to an ICU, need mechanical ventilation or die compared to non-smokers (RR=2.4, 95% CI: 1.43–4.04).

In conclusion, although further research is warranted as the weight of the evidence increases, with the limited available data, and although the above results are unadjusted for other factors that may impact disease progression, smoking is most likely associated with the negative progression and adverse outcomes of COVID-19.
The percents in the black box are across the category of “smoking history”. (Columns)

The percents for the outcomes calculated from the red boxes are within the category of never, former, or current smokers. (Rows)
### TABLE 1. Reported outcomes among COVID-19 patients of all ages, by hospitalization status, underlying health condition, and risk factor for severe outcome from respiratory infection — United States, February 12–March 28, 2020

<table>
<thead>
<tr>
<th>Underlying health condition/Risk factor for severe outcomes from respiratory infection (no., % with condition)</th>
<th>Not hospitalized</th>
<th>Hospitalized, non-ICU</th>
<th>ICU admission</th>
<th>Hospitalization status unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total with case report form (N = 74,439)</td>
<td>12,217</td>
<td>5,285</td>
<td>1,069</td>
<td>55,868</td>
</tr>
<tr>
<td>Missing or unknown status for all conditions (67,277)</td>
<td>7,074</td>
<td>4,248</td>
<td>612</td>
<td>55,343</td>
</tr>
<tr>
<td>Total with completed information (7,162)</td>
<td>5,143</td>
<td>1,037</td>
<td>457</td>
<td>525</td>
</tr>
<tr>
<td>One or more conditions (2,692, 37.6%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes mellitus (784, 10.9%)</td>
<td>1,388 (27)</td>
<td>732 (21)</td>
<td>358 (78)</td>
<td>214 (41)</td>
</tr>
<tr>
<td>Chronic lung disease* (656, 9.2%)</td>
<td>331 (6)</td>
<td>251 (24)</td>
<td>148 (32)</td>
<td>54 (10)</td>
</tr>
<tr>
<td>Cardiovascular disease (647, 9.0%)</td>
<td>363 (7)</td>
<td>152 (15)</td>
<td>94 (21)</td>
<td>47 (9)</td>
</tr>
<tr>
<td>Immunocompromised condition (264, 3.7%)</td>
<td>239 (5)</td>
<td>242 (23)</td>
<td>132 (29)</td>
<td>34 (6)</td>
</tr>
<tr>
<td>Chronic renal disease (213, 3.0%)</td>
<td>141 (3)</td>
<td>63 (6)</td>
<td>41 (9)</td>
<td>19 (4)</td>
</tr>
<tr>
<td>Pregnancy (143, 2.0%)</td>
<td>72 (1)</td>
<td>31 (3)</td>
<td>4 (1)</td>
<td>36 (7)</td>
</tr>
<tr>
<td>Neurologic disorder, neurodevelopmental, intellectual disability (52, 0.7%)†</td>
<td>17 (0.3)</td>
<td>25 (2)</td>
<td>7 (2)</td>
<td>3 (1)</td>
</tr>
<tr>
<td>Chronic liver disease (41, 0.6%)</td>
<td>24 (1)</td>
<td>9 (1)</td>
<td>7 (2)</td>
<td>1 (0.2)</td>
</tr>
<tr>
<td>Other chronic disease (1,182, 16.5%)§</td>
<td>583 (11)</td>
<td>359 (35)</td>
<td>120 (22)</td>
<td>70 (13)</td>
</tr>
<tr>
<td>Former smoker (165, 2.3%)</td>
<td>80 (2)</td>
<td>45 (4)</td>
<td>33 (7)</td>
<td>7 (1)</td>
</tr>
<tr>
<td>Current smoker (96, 1.3%)</td>
<td>61 (1)</td>
<td>22 (2)</td>
<td>5 (1)</td>
<td>8 (2)</td>
</tr>
<tr>
<td>None of the above conditions† (4,470, 62.4%)</td>
<td>3,755 (73)</td>
<td>305 (29)</td>
<td>99 (22)</td>
<td>311 (59)</td>
</tr>
</tbody>
</table>
Smoking protects? Look again at the data.

French study: Smoking may offer some protection against COVID-19

By Mike Moffitt, SFGATE   Published 2:05 pm PDT, Thursday, April 23, 2020

A Paris hospital network study suggests that regular smokers may be safer from COVID-19 infection than the general public, according to reports by Radio France Internationale and the Guardian.

Researchers from multiple institutions found that of the roughly 11,000 patients hospitalized in the city’s public hospitals for the coronavirus at the start of April, only 8.5 percent were smokers, compared to 25.4 percent of the general public.

The study took a closer look at 482 patients at the Pitié-Salpêtrière hospital who tested positive for the coronavirus. Of those, 343 were hospitalized with the remainder, whose symptoms were less serious, being sent home.

The smoking rate of the hospitalized patients, whose median age was 65, was 4.4%. Of those treated at home, whose median age was 44, 5.3% smoked.

“Our cross-sectional study strongly suggests that those who smoke every day are much less likely to develop a symptomatic or severe infection with Sars-CoV-2 compared with the general population,” the Pitié-Salpêtrière report authors wrote.

ISSUES

• Study in Qeios “Open Science” platform
• Do people still smoke when they feel sick?
• How do doctors ask and document about smoking?
• How to examine data?
#3: Vaping can also harm lung health
EVALI: E-cigarette, Vaping Associated Lung Injury
2807 hospitalized, median age = 24 yrs, 82% THC & 57% nicotine
EVALI signs and symptoms

**Spectrum of Clinical and Pathologic Diagnoses**

- Acute lung injury and adult respiratory distress syndrome (ARDS)
- Diffuse alveolar damage
- Lipoid pneumonia
- Acute necrotizing pneumonitis
- Organizing pneumonia with lipid-laden macrophages
- Non-specific inflammation
- Hypersensitivity pneumonitis
- Eosinophilic pneumonia

**Do You Have Any of These Symptoms?**

- Cough, shortness of breath, or chest pain
- Nausea, vomiting, or diarrhea
- Fatigue, fever, or abdominal pain

**Do you use e-cigarettes or vaping products?**

If you answered YES to either of these questions, be sure to tell your doctor that you use e-cigarettes, or vaping products, and to check for lung injury!

CDC; Christy D’Ambrosio (CBS Sacramento); bit.ly/vapinghealthrisks
CORONAVIRUS

COVID-19: Smoking and vaping risks

- COVID-19 affects the lungs. People who smoke, vape or use hookah may be especially at risk. This includes tobacco or marijuana.
- Tobacco smoke and aerosols from vaping harms the cells of the lung and weakens the ability to respond to infection.
- It’s a good time to stop smoking or vaping. We can help.

Smoking/Vaping & Coronavirus (COVID-19)

Give your lungs a fighting chance

Additional Resources

- More info: CA Tobacco Control Branch
- www.cdph.ca.gov/Programs/CCDPHP/DCDIC/CTCB/Pages/Coronavirus.aspx
OBJECTIVES

- Smoking and COVID - Risks

- **Patient and Provider Impact – Cessation**
  - Patients: Smokers & nonsmokers
  - Providers: 5 A’s and Ask Advise Refer

- Population Health – California Smokers’ Helpline
Tobacco Dependence: 2-part Problem

Physiological
- The addiction to nicotine
  - Treatment
  - Medications for cessation

Behavioral
- The habit of using tobacco
  - Treatment
  - Behavior change program

If at first you don’t succeed...
QUIT, QUIT AGAIN.

Adapted from rxforchange.ucsf.edu
Nicotine Withdrawal Effects

- Irritability/frustration/anger
- Anxiety
- Difficulty concentrating
- Restlessness/impatience
- Depressed mood/depression
- Insomnia
- Impaired performance
- Increased appetite/weight gain
- Cravings

New Nicotine Salts

According to the manufacturer, a single JUUL pod contains as much nicotine as a pack of 20 regular cigarettes.
Patients at Home: Smokers

Risks for smoking or vaping
• Stress
• Anxiety
• Depression
• Weight concerns
• Self-harm
• Bored
• Isolated
• Experimenting

www.cdc.gov/tobacco/data_statistics/sgr/50th-anniversary/index.htm
Patients at Home: Nonsmokers

Reasons for exposure to smoke

• Household members may smoke inside the house

• Thirdhand smoke: residual nicotine and chemicals on clothing and surfaces

• Shared ventilation with neighbors
The 5 A’s → Ask Advise Refer

ASK

about tobacco USE and EXPOSURE

ADVISE

tobacco users to QUIT

REFER
to quitline or other resource

ASSESS

READINESS to make a quit attempt

ASSIST

with the QUIT ATTEMPT

ARRANGE

FOLLOW-UP care

Adapted from rxforchange.ucsf.edu
ASK: “Have you used tobacco products in the past month, including vapes (e-hookah, pens, JUUL)?”

If vaping: “Do you use nicotine, marijuana, or both?”
CA Vaping & Marijuana Rising

MARIJUANA USE IN ADULTS (2016-2018)

Overall (18-64 yrs)
• 9% → 11% → 15%

Young Adults (21-29 yrs)
• 12% → 17% → 27%

CO-USE TOBACCO

Overall (18-64 yrs)
• 4% → 4% → 7%

Young Adults (21-29 yrs)
• 6% → 9% → 12%

Vaping (21-29 yrs)
11% in 2017
13% in 2018

ADVISE: “The best thing for your health is to be smoke and tobacco-free.”

- No safe tobacco product
- No risk-free level of smoke exposure for nonsmokers (“passive” smokers)

CDC; Surgeon General report 2006; tobaccofreeca.com
What’s in the aerosol? NOT water “vapor”

The e-cigarette aerosol that users breathe from the device and exhale can contain harmful and potentially harmful substances:

- **Volatile Organic Compounds**
- **Cancer-Causing Chemicals**
- **Ultrafine Particles**
- **Heavy Metals such as Nickel, Tin, and Lead**
- **Flavoring such as Diacetyl, a chemical linked to a serious lung disease**

It is difficult for consumers to know what e-cigarette products contain. For example, some e-cigarettes marketed as containing zero percent nicotine have been found to contain nicotine.

**ASSIST: 7 FDA-approved Meds Double the Chances of Quitting**

Nicotine Replacement Therapy (5)
- Patch, Lozenge, Gum (OTC)
  - Combination: long and short-acting (patch & lozenge)
- Inhaler (not into lungs), Nasal spray

Pills (2)
- Varenicline, Bupropion

"Inadequate evidence on the benefit of [Electronic Nicotine Devices] to achieve tobacco cessation in adults or improve perinatal outcomes in infants…balance of benefits and harms cannot be determined"
**REFER**: California Smokers’ Helpline

Free telephone counseling to develop a quit plan for smoking or **vaping**
- Operated at UC San Diego
- Doubles chances of long-term quitting *(Zhu et al. NEJM 2002)*

**Services:**
- Self-help materials, local resources, text & app
- 1:1 counseling, up to 4 follow-up sessions
- Some free nicotine patch offers (First 5, Asian)
- Text 66819: QUIT NOW or QUIT VAPING
- Alexa Skills Coach, NoButts app

1-844-8-NO-VAPE
1-800-NO-BUTTS
www.nobutts.org
What Happens When You Call?

1. Client calls 1-800-NO-BUTTS for Initial Intake

2. Is the Client Ready to Quit?
   - NO: Educational Quitting Materials are sent to help the Client move toward quitting.
   - YES:

3. Does the Client Request Counseling?
   - NO: Quitting Materials are sent.
   - YES:

4. Counseling is Given* and Quitting Materials are sent to Client.

* Initial counseling is approximately 40 minutes long with a focus on preparation to quit. Follow-up calls are delivered at relapse-sensitive times and last 10-15 minutes. Follow-up calls are focused on relapse prevention.
Scripting for providers and staff

**ASK, ADVISE, REFER**
Tobacco Cessation Intervention

**ASK**
Ask about tobacco use at every visit
- “Have you used a tobacco product in the past month, including vapes (such as e-cigarettes, pens, or JUULs)?”
  - If YES to vapes: “Do you use nicotine, marijuana, or both?”
  - If NO: “Do you live with someone who smokes or vapes?”

**ADVISE**
Advise to stop tobacco use or exposure
- “ Quitting is one of the best things you can do for your health.”
- “Smoke or aerosol can inflame your heart and lungs. Make a smoke-free home.”

**REFER**
Refer to support that doubles the chances of quitting
- “The California Smokers’ Helpline can help you with a free plan to quit smoking or vaping. They can also talk about medications to help you quit. Can they call you?”
  - If YES to referral order: “The Helpline will call you in a couple of days.”
  - If NO: “The Helpline has a text program. Text QUIT NOW or QUIT VAPING to 68879.”

For more information, visit www.nobuts.org
OBJECTIVES

- Smoking and COVID - Risks
- Patient and Provider Impact – Cessation
- Population Health – California Smokers’ Helpline
  - UCD & LADHS patient outreach
  - Free nicotine patches with the Helpline
  - CA Quits
UCD Comprehensive Cancer Center
Stop Tobacco Program (SToP)

Support for Quitting Tobacco Products

Tobacco Harms Your Cancer Treatment

Nicotine addiction is very tempting. Guilt and shame are a big part of the struggle when someone has repeatedly tried to quit and failed. The allure chips away at a person’s confidence and the addiction becomes overwhelming and utterly compulsive. Our program can support patients on this journey, guiding them through the challenges of this addiction.

Benefits of quitting

- Improved healing
- Reduced treatment side effects
- Improved survival rates

We have an expert Stop Tobacco Program (SToP) team to help you. Your care team will automatically send in a referral for you.

Funded by National Cancer Institute Cancer Center Cessation Initiative & UC Davis Health
"Smoking doubles the risk of developing respiratory infections.

"Smoking can worsen outcomes for COVID-19 with greater likelihoods of needing ICU care, a ventilator, and death.

"Vaping can cause lung injury, especially in young people, which can make a COVID-19 infection worse."
LA County Department of Health Services: Implementation research with the Helpline

California Smokers’ Helpline as a specialty provider in LADHS eConsult

Aim 1: **Patient Outreach**
- Unassisted smokers
- Improving contact rates of referrals

Aim 2: **Provider Workflow**

Aim 3: **Integration of Medication**

Funding: Tobacco-Related Disease Research Program 28CP-0039 (2018-2021)
Free Nicotine Patches mailed home:
(Not just LA County but to all Californians at home)

Limited time offer funded by Tobacco-Related Disease Research Program 28CP-0039

Other offers: Alameda and San Francisco county residents, Live with a child ≤ 5 yo (First 5), Asian language line (CDC)
Medi-Cal Incentives to Quit Smoking
(March 2012 - July 2015)

Total Medi-Cal Calls: 92,900
- 70% increase from prior years
  - Doubled reach among Medi-Cal smokers
- Completed Counseling
  - 62,234 (67.0%)

Incentives: 51,335
- Asked for $20 Incentive
  - 11,523 (12.4%)
- Sent nicotine patch
  - 39,812 (73.4% when available)

Tong EK et al. The Medi-Cal Incentives to Quit Smoking Project: Impact of Statewide Outreach through Health Channels. AJPM Dec 2018
https://doi.org/10.1016/j.amepre.2018.07.031
Medi-Cal monthly calls increased with All-Household Mailing free nicotine patch offer

Tong EK et al. The Medi-Cal Incentives to Quit Smoking Project: Impact of Statewide Outreach through Health Channels. *AJPM* Dec 2018
https://doi.org/10.1016/j.amepre.2018.07.031
Learn more about MIQS

- RCT of incentives and patches on long-term cessation
  - Combo incentives > usual care (13% vs. 9%)
- Cost-benefit analysis of incentives
  - $1.90 net savings in 10 years for every $1 invested
- Effect of incentives on direct-to-member demand
  - 4x more likely to call with incentive than free counseling
- Priority population impact
  - Targeted community outreach
- Direct-to-member mailing methodology
  - All-household vs. targeted member mailings

Download: bit.ly/ajpmdec18
CA: Smoking Declining (10%) but still 2.8M

ADULT CIGARETTE USE

Fewer adults are smoking cigarettes than ever before. The adult cigarette smoking rate in California declined by 57.4 percent between 1988 and 2017 (Figure 3), with a current rate of 10.1 percent or about 2.8 million adults.

Figure 3. Cigarette smoking rate among California adults, 1988 to 2017

CA Quits

Statewide project to accelerate health system integration of tobacco treatment

- Learning collaboratives for DHCS PRIME safety net hospitals & FQHCs
- Workgroups for Medi-Cal managed care plans, public health partners
Summary

- Smoking and vaping increases health risks for COVID
- Adapt tobacco cessation for patients and providers with shelter-at-home
- Population health integration with the California Smokers’ Helpline
Connect with CA Quits

- www.caquits.com
- Monthly e-newsletter sign-up: bit.ly/caquitsenews