AASLD-AMH-CASL WEBINAR: COVID-19 AND THE LIVER IN NORTH AMERICA: IMPACT OF CONTRASTING HEALTH CARE SYSTEMS
Agenda

• Welcome and Presenter Introductions
  - Jordan Feld, MD, MPH
• COVID-19 in Canada
  - Kelly W. Burak, MD, FRCPC, MSc(Epid)
• COVID-19 in Mexico
  - Laura Cisneros, MD
• U.S. Public Health Response to COVID-19
  - Brett E. Fortune, MD, MSc
• Q&A and Panel Discussion
  - Moderators and Presenters
Webinar Q&A

• Submit your questions anytime during the webinar in the Q&A box at the top or bottom of your screen.

• Questions will be answered at the end of the presentations.
Webinar Moderator

Jordan Feld, MD, MPH
Associate Professor of Medicine,
University of Toronto
Toronto, Ontario, CANADA

President, Canadian Association for the Study of the Liver
Webinar Moderator

Ignacio Aiza, MD
Director
Clinic for Liver Diseases
Hospital Angeles Lomas
Mexico City, MEXICO

Director International Relations AMH
Webinar Moderator

Jennifer Price, MD, PhD
Associate Professor
Department of Medicine and
Division of Gastroenterology and Hepatology
University of California, San Francisco (UCSF)
Director of the UCSF Viral Hepatitis Center
San Francisco, CA, USA
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Webinar Presenter

Kelly W. Burak, MD, FRCPC, MSc(Epid)
Professor, Medicine and Oncology
Associate Dean, Continuing Medical Education & Professional Development
Co-Lead, Physician Learning Program
Cumming School of Medicine, University of Calgary
Calgary, Alberta, CANADA
Laura Cisneros, MD
Hepatologist, Gastroenterologist
Center for Liver Disease and Transplantation
Hospital San José Tec Salud
Monterrey, Nuevo León, MEXICO

President of the Mexican Association for the Study of the Liver
Webinar Presenter

Brett E. Fortune, MD, MSc
Associate Professor of Medicine
Center for Liver Disease and Transplantation
Weill Cornell Medicine
New York Presbyterian Hospital
New York, New York, USA
Poll Question

Please let us know where you are watching from, what type setting do you most often work and what your primary role is.
COVID-19 in Canada

Kelly W. Burak, MD, FRCPC, MSc(Epid)
Professor, Medicine and Oncology
Associate Dean, Continuing Medical Education & Professional Development
Co-Lead, Physician Learning Program
Cumming School of Medicine, University of Calgary
Calgary, Alberta, CANADA
Conflict of Interest Disclosure

- Faculty: Kelly Burak
- Relationships with financial interests:
  - Grants/Research Support: none
  - Speakers Bureau/Honoraria: none
  - Consulting Fees: none
  - Patents: none
  - Other: Employee of University of Calgary
## How do we compare?

### Surface Area, Population, and World Rank

<table>
<thead>
<tr>
<th>Country</th>
<th>Surface Area (M km²)</th>
<th>World Rank</th>
<th>Population (M)</th>
<th>World Rank</th>
</tr>
</thead>
<tbody>
<tr>
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<td>9.98</td>
<td>2</td>
<td>37.4</td>
<td>39</td>
</tr>
<tr>
<td>USA</td>
<td>9.53</td>
<td>4</td>
<td>329.1</td>
<td>3</td>
</tr>
<tr>
<td>Mexico</td>
<td>1.96</td>
<td>13</td>
<td>127.6</td>
<td>10</td>
</tr>
</tbody>
</table>

### COVID-19 Cases and Deaths

<table>
<thead>
<tr>
<th>Country</th>
<th>COVID-19 Cases</th>
<th>World Rank</th>
<th>COVID-19 Deaths</th>
<th>World Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>149,939</td>
<td>26</td>
<td>9,294</td>
<td>20</td>
</tr>
<tr>
<td>USA</td>
<td>6,935,414</td>
<td>1</td>
<td>201,920</td>
<td>1</td>
</tr>
<tr>
<td>Mexico</td>
<td>710,049</td>
<td>7</td>
<td>73,258</td>
<td>4</td>
</tr>
</tbody>
</table>

[31,920,652 Cases, 977,311 Deaths](https://coronavirus.jhu.edu/map.html) as of September 24, 2020
How do we compare?

COVID-19 cases per million

COVID-19 deaths per million

Shown as 7 day rolling average

https://ig.ft.com/
as of September 24, 2020
COVID-19 Cases and Deaths in Canada

https://health-infobase.canada.ca/covid-19/

as of September 20, 2020
COVID-19 Deaths in Canada by Age

90% of COVID-19 related deaths in Canada are in persons over 70 years old

https://health-infobase.canada.ca/covid-19/

as of September 20, 2020
Healthcare Spending in Canada

How much will we spend on health in 2019?

$264.4 billion

3.9% growth

$7,068 per person

11.6% of GDP

30%
Private
Out of pocket: 14.4%
Private insurance: 12.3%
Other: 2.3%

70%
Public
Provincial and territorial governments: 65.1%
Other public sector: 5.3%

Forecasted for 2019

Source:
National Health Expenditure Database, Canadian Institute for Health Information.

© 2019 Canadian Institute for Health Information.

How do we compare?

Healthcare Spending in 2018

- **Canada**: 10.7% of GDP, $6,448
- **United States**: 16.9% of GDP, $13,722
- **Mexico**: 5.5% of GDP, $535

Data for Mexico obtained from https://www.statista.com/statistics/

Calgary fashion brands celebrate Canada’s top female medical officers with T-shirts

Flatten the curve

Mar 18 – delay / postpone surgery (LDLT) & procedures (endo)
Mar 31 – no face-to-face visits for non-urgent ambulatory care

Increase capacity

Safely reopen

May 11, 2020 phased relaunch of ambulatory care services, including GI endo
COVID-19 Testing

Alberta Precision Labs has reached another incredible milestone of completing 1 MILLION #COVID19 tests. We know how critical testing is to the overall #COVID19 response. #ThankYou 🎈 APL team for ur commitment & dedication to all Albertans!!! @AHS_media

https://www.chi-csm.ca/
as of September 20, 2020
949 cases (2 deaths)
2,000 workers
1,560 cases

Inside the slaughterhouse

North America's largest single coronavirus outbreak started at this Alberta meat-packing plant. Take a look within.

They came to Canada as essential workers. Hundreds were infected with the coronavirus on the job

By Paula Newton, CNN
Updated 3:53 PM EDT, Tue June 16, 2020
Second Wave

“Other Second Wave” due to
• Deferred care & ↓ screening
• ↓ mental health & ↑ addictions
• Economic loss
• Burnout amongst HCWs
Conclusions

• Canada has fared relatively well during pandemic
  • Strong public health system
  • Access to testing and contact tracing

• COVID-19 has unmasked issues
  • Long-term care of elderly, vulnerable populations (low SEC, immigrants)
  • Slow to open → How will we deal with back log of deferred care?
    How will we sustain our publicly funded healthcare?
For further information please contact

Email: kwburak@ucalgary.ca
Twitter: @kwburak
COVID-19 and the Liver in North America: Impact of Contrasting Health Care Systems

Laura Cisneros MD
President of AMH
Conflict of Interest Disclosure

- Relationships with financial interests:
  - Grants/Research Support: none
  - Speakers Bureau: Gilead, Bristol, Abbvie, Roche, Bayer
  - Consulting Fees: none
  - Patents: none
Epidemiology of COVID-19 in México

- Total Contagions: 700,580
- Confirmed active cases: 29,423
- Deaths: 73,697
- Suspected cases: 81,597
- Hospitalized: 24.37%
- Ambulatory: 75.63%
- Women: 47.93%
- Men: 52.07%
Mexican Health Care System

- Public Hospitals:
  - IMSS (39.9%)
  - SSA: INNCMSZ, INER, INSABI
  - ISSSTE (7.7%)
  - PEMEX (1.2%)
  - SEDENA (1%)

- Private Hospitals:

INEGI 2015
Epidemiological COVID-19 Semaphore
Sept 7-13, 2020
Control Policies

- Use of obligatory face mask everywhere
- Continue hand washing. Use of hand sanitizing gel
- Taking people’s temperature at every point of entry with infrared thermometer
- Keeping safe distance of 1.5 mts
- Increase in the detection using more diagnostic tests
- Diagnosis with PCR test oropharyngeal and nasopharyngeal samples and isolation of positive cases
- Re-inforce of the monitoring systems
- Potentializing primary care services to improve the detection, prevention and monitoring
- Reduction of concentration of people through the restrictions in the nocturnal events. Closing time limits.
- Implementing contact tracing
Control Policies

• We do not have CONTACT TRACING PROGRAM
Public Policies for the Containment of COVID-19

The Oxford COVID-19 Government Response Tracker
1. School Closures
2. Labor environmental suspension
3. Public event cancelation
4. Public transport suspension
5. Informative campaign development
6. Interstate travel restrictions
7. International travel control
8. Mandatory staying home
9. Restrictions to the size of group gathering
Proportion of the population reporting always wearing a mask when leaving home on August 24 2020

Mask data source: Premise: Facebook Global symptom survey (This research is based on survey results from University of Maryland Social Data Science Center); Kaiser Family Foundation; YouGov COVID-19 Behaviour Tracker survey. Source: IHME, University of Washington, 2020. Available from https://covid19.healthdata.org
Diagnostic Test
COVID-19 diagnostic tests per 100,000 people on August 20 2020

Rate: Tests/1000 Inhabitants
Source: Our World in Data (May 11 to August 25)
% of Positive Cases per Diagnostic Tests Done
Source: Our World Data
(March 14-August 25)
Diagnostic Tests

- **IMSS**: Primary care ➔ suspicious patient ➔ work - leave / 14 days. The tests are done in 25% of the patients mainly in hospitalized cases.

- **SSA**: 2000 tests/day using the Berlin Protocol that WHO recommended. If the patient needs any hospitalization for any cause they need a PCR Diagnostic test COVID-19: Nasopharyngeal and oropharyngeal sample.

- **Private Hospitals**: All admitted patients tested and submitted to Thorax CT Scan.
Treatment
Eight Categories Ordinary Scale

- Triage
- Risk Classification (points)
  1: not hospitalized, no limitation of activities
  2: not hospitalized, limitation of activities, home oxygen requirements or both
  3: hospitalized, not requiring supplemental oxygen. SOC
  4: hospitalized, not requiring supplemental oxygen but requirements of ongoing medical care, low risk, depends on associated morbidity
  5: hospitalized requires any supplementary O2 (<15 lt > 15 lts)
  6: hospitalized requires not invasive ventilation or high flow oxygen device
  7: hospitalized, receiving invasive mechanical ventilation or extracorporeal membrane oxygenation (ECMO)
  8: death
<table>
<thead>
<tr>
<th>IMSS</th>
<th>SSA</th>
<th>ISSSTE</th>
<th>PEMEX</th>
<th>SEDENA</th>
<th>PRIVADO</th>
</tr>
</thead>
<tbody>
<tr>
<td>n =181,258</td>
<td>n = 313,182</td>
<td>n =24,731</td>
<td>n = 7661</td>
<td>n =3594</td>
<td>n = 17740 (1300)</td>
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<tr>
<td>Hidroxicloroquine</td>
<td>Vermeptina</td>
<td>Tocilizumab (at beginning)</td>
<td>Tocilizumab</td>
<td>Baricitinib</td>
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<tr>
<td>Dexamethasone</td>
<td>MPN</td>
<td>Dexamethasone (optional)</td>
<td>Dexamethasone</td>
<td>Dexamethasone</td>
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<tr>
<td></td>
<td>Prednisone</td>
<td></td>
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<td>Enoxaparin</td>
<td></td>
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<tr>
<td>Azitromicine</td>
<td>Azitromicine</td>
<td>Azitromicine</td>
<td>Azitromicine</td>
<td>Ceftriaxone</td>
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<tr>
<td>Ceftriaxone</td>
<td></td>
<td></td>
<td>Carbapenem in UTI</td>
<td>Cefetazoline</td>
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<tr>
<td>Kaletra (Ritonavir + Lopinavir)</td>
<td>Tocilizumab</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Convalescent plasma</td>
<td>Vit D</td>
<td></td>
<td></td>
<td>Convalescent plasma</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vitantenol +Fluticasona</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Mortality Rate
Deaths for Covid-19 in Mexico, Comorbidities Related % until August 10, 2020

- Hipertensión: 43.90%
- Diabetes: 37.94%
- Obesidad: 24.55%
- Tabaquismo: 8.07%

Fuente: Secretaría de Salud de México
Daily Deaths in Patients Diagnosed with COVID-19

Source: Financial Times August 30
<table>
<thead>
<tr>
<th></th>
<th>Población</th>
<th></th>
<th>Muertes</th>
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</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>%</td>
<td>Rank</td>
<td>%</td>
</tr>
<tr>
<td>China</td>
<td>18.5%</td>
<td>1</td>
<td>0.6%</td>
<td>28</td>
</tr>
<tr>
<td>India</td>
<td>17.7%</td>
<td>2</td>
<td>7.7%</td>
<td>3</td>
</tr>
<tr>
<td>US</td>
<td>4.2%</td>
<td>3</td>
<td>21.6%</td>
<td>1</td>
</tr>
<tr>
<td>Indonesia</td>
<td>3.5%</td>
<td>4</td>
<td>0.9%</td>
<td>19</td>
</tr>
<tr>
<td>Pakistan</td>
<td>2.8%</td>
<td>5</td>
<td>0.7%</td>
<td>23</td>
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<tr>
<td>Brazil</td>
<td>2.7%</td>
<td>6</td>
<td>14.3%</td>
<td>2</td>
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<tr>
<td>Nigeria</td>
<td>2.6%</td>
<td>7</td>
<td>0.1%</td>
<td>48</td>
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<tr>
<td>Bangladesh</td>
<td>2.1%</td>
<td>8</td>
<td>0.5%</td>
<td>29</td>
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<tr>
<td>Russia</td>
<td>1.9%</td>
<td>9</td>
<td>2.0%</td>
<td>12</td>
</tr>
<tr>
<td>Mexico</td>
<td>1.7%</td>
<td>10</td>
<td>7.6%</td>
<td>4</td>
</tr>
<tr>
<td>Colombia</td>
<td>0.7%</td>
<td>28</td>
<td>2.3%</td>
<td>11</td>
</tr>
<tr>
<td>Argentina</td>
<td>0.6%</td>
<td>31</td>
<td>1.0%</td>
<td>18</td>
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<tr>
<td>Perú</td>
<td>0.4%</td>
<td>42</td>
<td>3.4%</td>
<td>9</td>
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<tr>
<td>Chile</td>
<td>0.2%</td>
<td>61</td>
<td>1.3%</td>
<td>14</td>
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<tr>
<td>Ecuador</td>
<td>0.2%</td>
<td>65</td>
<td>0.8%</td>
<td>21</td>
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<tr>
<td>Las Américas</td>
<td>13%</td>
<td>55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LA</td>
<td>8%</td>
<td>33</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fuente: Estimaciones propias con base en datos de Our World in Data.
% of Hospitalized COVID-19 Patients Who Died
Source: Sanchez Talanquer
Per Date and Attention by Institution
Disparities in Liver Health Exacerbated by the COVID-19 Pandemic

- Delay in the **Diagnosis**: Increase the number of test Telemedicine

- Decrease **Access**: Flexibility in resource allocation

- Delay or Lack of **Treatment**
Mexico ranks 10th in the world’s population.
Percentage of the Population Who Reside in Urban, Rural and Remote Areas in LA

<table>
<thead>
<tr>
<th>Country</th>
<th>Total population</th>
<th>Remote areas (&lt;50 people/mile)</th>
<th>Rural areas (&lt;999 people/mile)</th>
<th>Urban areas (&gt;1000 people/mile)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>43,497,320</td>
<td>26%</td>
<td>57%</td>
<td>43%</td>
</tr>
<tr>
<td>Bahamas</td>
<td>358,604</td>
<td>17%</td>
<td>35%</td>
<td>65%</td>
</tr>
<tr>
<td>Bolivia</td>
<td>11,218,101</td>
<td>32%</td>
<td>76%</td>
<td>24%</td>
</tr>
<tr>
<td>Brazil</td>
<td>201,388,560</td>
<td>15%</td>
<td>54%</td>
<td>46%</td>
</tr>
<tr>
<td>Chile</td>
<td>17,911,492</td>
<td>17%</td>
<td>53%</td>
<td>47%</td>
</tr>
<tr>
<td>Colombia</td>
<td>52,641,020</td>
<td>6%</td>
<td>55%</td>
<td>45%</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>5,232,714</td>
<td>4%</td>
<td>51%</td>
<td>49%</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>10,136,528</td>
<td>0%</td>
<td>56%</td>
<td>44%</td>
</tr>
<tr>
<td>Ecuador</td>
<td>15,935,410</td>
<td>5%</td>
<td>49%</td>
<td>53%</td>
</tr>
<tr>
<td>Guatemala</td>
<td>16,328,786</td>
<td>2%</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>French Guiana</td>
<td>354,892</td>
<td>40%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Guyana</td>
<td>748,499</td>
<td>46%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Honduras</td>
<td>8,709,413</td>
<td>4%</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>Haiti</td>
<td>10,214,702</td>
<td>0%</td>
<td>56%</td>
<td>44%</td>
</tr>
<tr>
<td>Mexico</td>
<td>119,173,456</td>
<td>6%</td>
<td>51%</td>
<td>49%</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>7,245,555</td>
<td>8%</td>
<td>68%</td>
<td>32%</td>
</tr>
<tr>
<td>Panama</td>
<td>3,451,344</td>
<td>12%</td>
<td>79%</td>
<td>21%</td>
</tr>
<tr>
<td>Peru</td>
<td>31,874,954</td>
<td>14%</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>Puerto Rico</td>
<td>4,389,532</td>
<td>0%</td>
<td>38%</td>
<td>62%</td>
</tr>
<tr>
<td>Paraguay</td>
<td>7,777,998</td>
<td>16%</td>
<td>53%</td>
<td>47%</td>
</tr>
<tr>
<td>El Salvador</td>
<td>7,979,291</td>
<td>0%</td>
<td>37%</td>
<td>63%</td>
</tr>
<tr>
<td>Latin America</td>
<td>576,242,661</td>
<td>12%</td>
<td>55%</td>
<td>45%</td>
</tr>
<tr>
<td>Canada</td>
<td>34,417,676</td>
<td>14%</td>
<td>45%</td>
<td>55%</td>
</tr>
<tr>
<td>Great Britain</td>
<td>60,565,220</td>
<td>2%</td>
<td>44%</td>
<td>56%</td>
</tr>
<tr>
<td>USA</td>
<td>321,195,904</td>
<td>11%</td>
<td>45%</td>
<td>55%</td>
</tr>
</tbody>
</table>

Table 2: Percentage of the population who reside in urban, rural, and remote areas.
### Percentage of the Population Who Reside in Urban, Rural and Remote Areas in Mexico

<table>
<thead>
<tr>
<th>Mexico</th>
<th>Total Population</th>
<th>Remote Areas</th>
<th>Rural Areas</th>
<th>Urban Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>119,173,456</td>
<td>6%</td>
<td>51%</td>
<td>49%</td>
</tr>
</tbody>
</table>
# Indigenous Population in Latin America

<table>
<thead>
<tr>
<th>Country</th>
<th>Total population</th>
<th>Indigenous population</th>
<th>Percent of population classified as indigenous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolivia</td>
<td>10,290,003</td>
<td>7,305,902</td>
<td>71%</td>
</tr>
<tr>
<td>Guatemala</td>
<td>14,099,032</td>
<td>9,305,361</td>
<td>66%</td>
</tr>
<tr>
<td>Peru</td>
<td>29,549,517</td>
<td>13,888,273</td>
<td>47%</td>
</tr>
<tr>
<td>Ecuador</td>
<td>15,223,680</td>
<td>6,544,660</td>
<td>43%</td>
</tr>
<tr>
<td>Belize</td>
<td>3,277,799</td>
<td>62,693</td>
<td>19%</td>
</tr>
<tr>
<td>Honduras</td>
<td>8,296,683</td>
<td>1,241,674</td>
<td>15%</td>
</tr>
<tr>
<td>Mexico</td>
<td>114,975,406</td>
<td>16,085,059</td>
<td>14%</td>
</tr>
<tr>
<td>Chile</td>
<td>17,062,369</td>
<td>1,365,390</td>
<td>8%</td>
</tr>
<tr>
<td>El Salvador</td>
<td>6,090,646</td>
<td>425,736</td>
<td>7%</td>
</tr>
<tr>
<td>Suriname</td>
<td>560,157</td>
<td>33,777</td>
<td>6%</td>
</tr>
<tr>
<td>Guyana</td>
<td>741,908</td>
<td>44,514</td>
<td>6%</td>
</tr>
<tr>
<td>Panama</td>
<td>3,510,045</td>
<td>210,602</td>
<td>6%</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>5,777,707</td>
<td>285,813</td>
<td>5%</td>
</tr>
<tr>
<td>French Guiana</td>
<td>N/A</td>
<td>N/A</td>
<td>4%</td>
</tr>
<tr>
<td>Paraguay</td>
<td>6,541,591</td>
<td>196,248</td>
<td>3%</td>
</tr>
<tr>
<td>Trinidad and Tobago</td>
<td>1,226,383</td>
<td>24,773</td>
<td>2%</td>
</tr>
<tr>
<td>Colombia</td>
<td>45,239,079</td>
<td>904,782</td>
<td>2%</td>
</tr>
<tr>
<td>Venezuela</td>
<td>28,047,938</td>
<td>560,959</td>
<td>2%</td>
</tr>
<tr>
<td>Jamaica</td>
<td>2,889,187</td>
<td>57,784</td>
<td>2%</td>
</tr>
<tr>
<td>Puerto Rico</td>
<td>3,998,905</td>
<td>79,978</td>
<td>2%</td>
</tr>
<tr>
<td>Dominicana</td>
<td>73,126</td>
<td>1,462</td>
<td>2%</td>
</tr>
<tr>
<td>Barbados</td>
<td>287,733</td>
<td>3,194</td>
<td>1%</td>
</tr>
<tr>
<td>Guadalupe</td>
<td>N/A</td>
<td>N/A</td>
<td>1%</td>
</tr>
<tr>
<td>Martinique</td>
<td>N/A</td>
<td>N/A</td>
<td>1%</td>
</tr>
<tr>
<td>Bahamas</td>
<td>316,182</td>
<td>3,162</td>
<td>1%</td>
</tr>
<tr>
<td>Argentina</td>
<td>42,192,494</td>
<td>417,706</td>
<td>1%</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>4,636,348</td>
<td>45,436</td>
<td>1%</td>
</tr>
<tr>
<td>Brasil</td>
<td>265,716,689</td>
<td>411,434</td>
<td>0%</td>
</tr>
<tr>
<td>Uruguay</td>
<td>3,316,328</td>
<td>995</td>
<td>0%</td>
</tr>
<tr>
<td>Total for Latin America</td>
<td>58,074,373</td>
<td>59,509,367</td>
<td>10%</td>
</tr>
</tbody>
</table>

*The total indigenous population was calculated using the reported percentage of indigenous people in each country. % = Rounded to the nearest percent.

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Goss PE. The lancet.com/oncology 2013;14:391-436
### Indigenous Population in Latin America

<table>
<thead>
<tr>
<th>Mexico</th>
<th>Total Population</th>
<th>Indigenous Population</th>
<th>Percent of Population Classified as Indigenous</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>114,975,406</td>
<td>16,085,059</td>
<td>14%</td>
</tr>
</tbody>
</table>
COVID-19 and the Liver

- Hospital San José Tec Salud Monterrey N.L.
- n=1300 COVID-19 patients from March to September 2020
- 122 patients with abnormal liver function test
- Underlying chronic liver diseases: 31 (2.38%)
- Hepatic dysfunction with normal liver enzymes when admitted: 91 (9.4%)
- 112 patients increase of ALT and AST or AP after use of Lopinavir/Ritonavir/Baricitinib (DILI)
- Hepatic dysfunction can occur in severe cases and were associated with fatal outcome
Where Most Health Workers Have Died From Covid-19

Countries with the highest number of health worker deaths from Covid-19*

Mexico 🇲🇽 1,320
United States 🇺🇸 1,077
United Kingdom 🇬🇧 649
Brazil 🇧🇷 634
Russia 🇷🇺 631
India 🇮🇳 573
South Africa 🇿🇦 240
Italy 🇮🇹 188

*As of September 03. Data represents a snapshot given that definitions of health workers and Covid-19 deaths vary between countries.
Source: Amnesty International
CENATRA issued Recommendations to the National Donation and Transplant Subsystem to temporarily suspend organ and tissue donation and transplant programs at the national level, with the exception of this measure to carry out transplants in case of national emergency on March 1.

- Reactivation of transplant program in August 14.
- Until September 7, 2020 a cumulative of 42 transplant recipients' deaths for COVID-19 confirmed.
- Confirmed cases: 164 in liver transplant recipients: 10.
- Suspected cases: 21.
- Negative cases: 28.
Digestive Endoscopy and COVID -19

- Suspension of activities in Endoscopy Centers
- Only emergency endoscopies
- Since March 14, 2020 to July 2020
- Currently the reactivation has taken place step by step
Conclusions

• The differences among three health care systems are abysmal

• We have made exceptional efforts with the resources available to us
Thank you
The U.S. Public Health Response to COVID-19

Brett E. Fortune, MD, MSc
Associate Professor of Medicine
Center for Liver Disease and Transplantation
Weill Cornell Medicine
New York Presbytery Hospital
Disclosures

I have no conflicts or financial disclosures for this presentation
Nearly 7 million CASES  Nearly 200,000 DEATHS

Most Cases and Deaths in the World
Rate of National Burden from COVID-19

U.S. Compared to Other Countries

Daily new confirmed COVID-19 cases per million people

Shown is the rolling 7-day average. The number of confirmed cases is lower than the number of actual cases; the main reason for that is limited testing.

Source: European CDC – Situation Update Worldwide – Last updated 27 August, 10:34 (London time)

https://www.thestreet.com/
Federal and State Response to COVID-19

National State of Emergency Declared – March 13, 2020 from White House
March 11, 2020 – WHO declared pandemic
All states under Emergency order by March 16, 2020

➢ State officials given emergency powers
  - Activate state emergency personnel and funds
  - Support the needs of local governments
  - Protect consumers against price gouging
  - Adjust regulations to maximize access to health care - CMS

Efforts to “Flatten the Curve” – State regulations
  - Mandatory face mask use in public
  - Social distancing measures:
    - mandatory stay at home orders
    - closures of non-essential businesses
    - bans on large gatherings, limits on bars, restaurants and other public places
    - school closures
  - Travel advisories, mandated COVID testing

Nearly 3 Trillion Dollars spent for COVID-19 relief in the U.S.
COVID Case Burden – State Variation

Texas

Florida

California

New York

https://coronavirus.jhu.edu/data/state-timeline/new-confirmed-cases/
• Significant variation in public acceptance and adherence

• Rapid relaxation on restrictions during reopening phases

The States Most & Least Likely To Wear Face Masks

Share of the public who have worn a face mask in public over the past two weeks*

* States and D.C.
  n=89,347 (Mar 26-Apr 29, 2020)
  Source: YouGov

McCarthy. Forbes. May 12 2020
Healthcare Policies

- Expansion in hospital financial protection
- Surge in telemedicine utilization
  - Waivers of CMS restrictions and HIPAA
    - Allow more tech platforms and increase access
- Increased funds to rural care centers
- Supplying high demand on viral testing, PPE, and medical equipment
  - ~2-4 week deficit during initial surge
Shifts in Healthcare Delivery – Initial Surge

Initial Phase (Inpatient focus):
- Closure of all nonemergent/nonessential procedures or surgeries
  - Expansion of inpatient bed capacity
  - Mobile ICUs
  - Expansion of healthcare workforce
    - Early medical and nursing school graduation
    - Voluntary HC workers from low caseload states
    - Redeployment

Second phase (Ambulatory focus):
- Convert nonessential ambulatory care into telemedicine
- Gradual reopening of ORs and procedure units, standardized test protocols
NYC Telehealth Experience

Monthly AVG by Encounter Types

Pre-COVID Mar-20 Apr-20 May-20 Jun-20 Jul-20

Telemedicine In Person

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Ongoing Barriers in the U.S.

• Universal access to COVID testing

• Public acceptance of social distancing, face masks during reopening phases

• Overall preparation for potential “second COVID wave” as well as consequences from deferred medical care
  • Vaccination plan when available
    • DON’T FORGET influenza
  • Address disparities in vulnerable populations
Disparities in COVID Outcomes - NYC

2009-2013 American Community Survey

NYC health department
Ongoing Issues for Patients with Liver Disease

- Impact of ongoing public fear
  - Education and reassurance VS. unknown truth on exposure risk
- Delays in routine testing, screening procedures, and treatment
  - Wave of severe decompensation and Cancer
    - Impact of mental health and substance abuse
- Acceptance of health systems to use virtual care for patients with liver disease
  - Hybrid model for both in-person and virtual care
  - Adjust infrastructure and care delivery models

Mahmud, et al. Gastroenterology 2020

Tapper, Asrani. J Hepatology 2020
Organ Transplantation During COVID-19 Pandemic

Next Directions…

- Further expansion in medical insurance coverage
  - Telehealth and preventive health programs

- National education efforts
  - Address community disparities using federal, state and local officials to provide a single message

- Continued financial support for health systems and the public
  - Preparation plans for second surge – equipment, PPE, workforce demands

- Vaccination programs (including influenza)

- For patients with Liver Disease, adapt care models to ensure appropriate screening, treatment, plus transplant access
Poll Question

Please let us know what percentage of your practice is CURRENTLY virtual and what percentage of your practice you would like to continue virtually post-pandemic.
Panel Discussion

• Please submit your questions to the Q&A Chat now.