Agenda

01. Introduction & Opening Remarks

02. Intelligence-Led Pandemic Plans from Preparedness through Response and into Recovery

03. State: Using GIS and Analytics to Inform Statewide Response in COVID-19

04. Federal: Leveraging Technology to Support Decision Making on Fatality Management, Medical Supplies, PPE, and in Monitoring Social Activity

05. Local/Regional: Automating and Integrating Medical/Healthcare Capacity Data Reporting & Analysis in Real-Time

06. Community Discussion and Action Items
House Keeping

• Full Zoom and Audio via weblink and/or in combination with Telephone for audio.
• Audio Only – Call-in using the Telephone Numbers Provided for Listen only.
• All participants will receive the recording and materials following the session.
• Active Engagement using Q&A in ZOOM and Mentimeter.

This slidedeck, supporting materials, and a recording of today’s session will be posted to the NAPSG website and an email will be sent to all registered participants with the link.
Engage and Participate!

• Due to the large attendance, all participants are muted for the duration of the session to prevent background noise.

• Please use the following functions:
  • Zoom Q&A feature to pose questions to the Panelists
  • Zoom Chat for commentary
  • Mentimeter links to provide input

• We will address Q&A periodically during the webinar!
Who is Here

785 Participants
Including Canada, UK, and New Zealand
Unifying Efforts

Establish a foundation for a data-driven public health and emergency management system

- Data Scientists
- First Responders & Emergency Managers
- Technology & Technologists
- Policy Makers
- Geographers and GIS Experts
- Governments
- Hospitals & Healthcare
- Commerce & Economic Recovery
- Public Health & Epidemiologists
- Governments
- NAPSG Foundation
- NSGIC
- URISA

napsgfoundation.org  |  @napsgfoundation
Identify and document capability gaps and lessons learned in information sharing and the use of GIS & technology to support coordination and decision making by public health and emergency management in response and recovery from COVID-19.

**June 2020**
- Conduct first virtual engagement session for public safety stakeholders

**June 2020**
- Develop and release a COVID-19 Technology & GIS Hot Wash Questionnaire

**August 2020**
- Conduct second virtual engagement session for public safety stakeholders

**September 2020**
- Release version 1.0 COVID-19 Technology & GIS AAR and Improvement Plan

**Ongoing**
- Coordinate with the FEMA / HHS COVID-19 after-action team on integration of findings
Opening Remarks

Dr. David Alexander
Participant Questions

• Prior to COVID-19, did your agency have a Pandemic Response Plan in place?

• Did your agency successfully use its Pandemic Response Plan to guide COVID-19 response?

Participate at menti.com
Use the code 82 04 11 7
Intelligence-Led Pandemic Plans – City of Chicago

Christopher Shields, BS EMT-P
Assistant Commissioner
Chicago Department of Public Health
Intelligence Led Pandemic Planning and Response—City of Chicago

Open Community Forum: COVID-19 Tech & GIS Hot Wash

August 25, 2020
The city of Chicago utilizes various data components to inform the construction of programming, plans, polices and procedures. The activities drive training, which drives exercises, which drives corrective actions.

The Chicago Department of Public Health captures the population framework (Health Indicators) through our Healthy Chicago 2.0 program: https://www.chicagohealthatlas.org/

- Population density
- Economic Hardship
- Race / Ethnicity / Spoken Language
- Area resources (Health / Food / Services, etc.)
- Underlying disease trends and other social determinants

All of the data points inform predictive planning to support our population during emergencies, but allow for specific modifications based on the incident dynamics, i.e., Cold / Heat, Civil Unrest / Outbreaks
Once we capture the data sets (indicators), we visualize the city via heat mapping, turning layers on / off to better understand potential impacts to community areas or targeted populations.

Through planning scenarios and our Threat Hazard Analysis, we apply predictive analytics to identify positive and negative impacts on our city, based on the planning assumptions and the underlying data sets.

For seasonal influenza as the example, we utilize previous years data (negative impacts or outcomes) to inform response changes to the upcoming season:

- Did we see outbreaks in specific setting (Schools, Congregate housing, Churches, etc.)
- Did we see unusual clusters of disease, outside of the baseline groups
- Did hospitalizations trend as expected against virulence of disease burden
- What additional co-morbidities, social or environmental conditions impact response operations
Chicago maintains an active Pandemic Influenza plan / annex as part of our Communicable Disease program, which undergoes internal / external peer review with our strategic partners (Emergency Management, Fire / EMS and trusted coalition partners) every 2 years, in alignment with EOP refreshes.

This annex was amended and reviewed as part of the Crimson Contagion “All of Nation” exercise during the summer / fall of 2019.

Annex is built based on two novel influenza categories (Spanish Flu – high mortality and the H1N1 Pandemic – low mortality)

Unlike many plans, this document was built as a decision matrix structure; providing “Courses of Action” discussion points, spread across an 18-month pandemic timeline.

2020 COVID-19 City of Chicago Pandemic Influenza Annex - Development
# 2020 COVID-19 City of Chicago Pandemic Influenza Annex – Crosswalk Example

<table>
<thead>
<tr>
<th>Month</th>
<th>International/National Considerations</th>
<th>Chicago Specific Considerations</th>
<th>Illness, Outpatient, Hospitalization, and Death Count in Chicago Planning assumptions</th>
</tr>
</thead>
</table>
| Eight (8) | - PIF 3: Initiation of a pandemic wave The United States is able to place the first orders of the vaccine.  
- CDC expands its contract for the childhood Vaccine for Children program in the United States to provide a centralized distribution of novel influenza vaccine.  
- Available vaccine supplies will be allocated to states proportional to their total populations and shipped to public and private provider vaccination sites based on orders placed by the states. | - Cases decline.  
- Public concern over mortality and lack of antiviral increases and heavily reported on the media and through social media. Also, citizens upset that new vaccines have not reached Chicago.  
- Disruptions in “everyday” life continue with events and flight cancelation and possible school and workplace closure. Economic concerns spread through social media.  
- Citizens will be upset by slowed funeral services. Private and public sector employee morale could be lowered, and mental health will be worsened by the increased stress caused by the pandemic. Especially, hospital and clinic staff and those involved directly in emergency response will experience burn out.  
- Isolation and quarantine measures continue. Hospitals and clinics are still short staffed and overcrowded. | - Illness: 25,000  
- Outpatient: 12,500  
- Hospitalizations with influenza related illness: 1,750  
- Deaths: 315  

**COVID-2019 Real-world results**  
- Illness: 162,748 (Illinois)  
- Outpatient: retrospective value  
- Hospitalizations:  
- Deaths: 7,301 (Illinois) |
2020 COVID-19 City of Chicago Pandemic Influenza Annex – Crosswalk status

SARSCoV-2 response occurred 26 days into plan cycle (January 23rd, 2020)
2020 COVID-19  City of Chicago
Pandemic Influenza Annex – Crosswalk status report

*Planning Considerations Pan Flu Annex versus SARS CoV-2 actual*

- Agricultural Production Disruption - Yes
- Critical Infrastructure Impacts - Yes
- Educational Disruption - Yes
- Elderly Mobility Disruption - Yes
- Food Service Disruption – Yes
- Hospital / Medical SURGE – Yes
- Attack and Mortality rates – Yes
- Large Event Cancelation - Yes
- Media Demands - Yes
- Mutual Aid Logistics break-down - Yes
- Travel Restrictions – Yes
- Public Sector Personnel Shortage – Yes
- Social Unrest - Yes
- Social Vulnerability – Yes
- Transportation Sector Limits – Yes
- Vaccination - Pending
2020 SARS-CoV-2 City of Chicago Pandemic Preparedness—How to Operationalize

*Predictive Analytics and systems*

- Blue Dot
- John’s Hopkins University
- Chicago Public Health Atlas
- Local ESRI GIS sub-structures
- Argonne National labs
2020 SARS-CoV-2 City of Chicago Pandemic Preparedness—How to Operationalize

CDC confirms coronavirus case in Chicago woman

MCCORMICK CONVERTS TO TEMP CARE FACILITY

Mayor Lightfoot and Governor Pritzker announced 5,000 beds are being added to the event center as COVID-19 cases continue to rise.
Chicago Emergency Response Structure – previously established and operational

- City of Chicago First Response Agencies, and
- Chicago Healthcare Coalition

2020 SARS-CoV-2 City of Chicago Pandemic Preparedness—How to Operationalize
2020 COVID-19  City of Chicago
Pandemic Influenza Annex – Which Data to inform decisions

• Initial data would be used for city of Chicago residents with a COVID-19 diagnosis or were a patient under investigation (PUI) to allow for geo-spatial tracking for EMS and Police responses

• Data would be used to identify clusters (outside of a residential setting), on a zone map for targeted messaging and interventions

• Data is utilized to inform mobile testing locations, based on percent infectivity within a zone / zip code

• Vaccination based on prioritization groups (Federal) and most impacted (Local) decisions
2020 COVID-19  City of Chicago
United States Heat Mapping data sets

March 9th, 2020

March 17th, 2020

March 25th, 2020

March 30th, 2020

Source: COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU)
COVID Dashboard

2020 COVID-19 Pandemic Influenza Annex – Which Data to inform decisions

CHICAGO COVID-19 UPDATE
August 12, 2020

There are 64,612 cases of COVID-19 and 2,812 deaths among Chicago residents as of August 12, 2020. There are an average of 299 new cases and 3 deaths every day. An estimated 58,364 residents have recovered.¹

Confirmed daily COVID-19 cases and 7-day rolling average

COVID-19 testing and percent positivity, 7-day rolling average

Number of tests performed and percentage of tests that were positive averaged over 7 days. Includes molecular tests performed at state and private laboratories with known specimen collection dates. Percent positivity is based on number of tests. Tests performed between July 23 and July 29, 2020 are not included in graph. CRIM may not receive all positive results.

2020 COVID-19
City of Chicago Pandemic Influenza Annex – Which Data to inform decisions
2020 COVID-19
City of Chicago
Pandemic
Influenza
Annex – Which
Data to inform
decisions
2020 COVID-19 City of Chicago Pandemic Influenza Annex – Which Data to inform decisions

July 5, 2020 – July 25, 2020

July 19, 2020 – August 5, 2020
## 2020 COVID-19 City of Chicago

### Pandemic Influenza Annex – Success versus Lesson Learned

#### Success

1. Partners had been engaged since original annex development; understood roles and responsibilities
2. Transitioning Health Command to Citywide unified Command as incident moved from local containment to systemic response
3. Incorporation of planning COA’s to operationalize a multitude of components through-out the response

#### Lessons learned

1. Initial planning assumptions did not address full systematic failures so early in response
2. Non-traditional consumers of response resources in a scarce resource environment
3. Rapid progression through phases of response strained infrastructure capabilities, even with SURGE protocols in place
Thank You!

Chicago.gov/Health  HealthyChicago@cityofchicago.org
@ChicagoPublicHealth  @ChiPublicHealth
Did your agency's Pandemic Response Plan include the production and use of data-driven decision support technology?

Participate at menti.com
Use the code 82 04 11 7
Considerations for Community Stories

• What key operational / decision making need emerged in COVID-19 that you sought to address with technology?
• What data science, data analytics, and/or GIS solution did you develop and implement?
• How was this solution(s) used by decision makers or managers during COVID response or recovery?
• Could this solution(s) be set-up and/or pre-staged in preparedness for a future pandemic?
Using GIS and Analytics to Inform Statewide Response in COVID-19

Daniel Stoelb
GIS Program Coordinator, Oregon Office of Emergency Management

Alaina Mayfield
Planner, Oregon Office of Emergency Management
Using GIS and Analytics to Inform Statewide Response

COVID-19

Daniel Snoddy, GIS Program Coordinator and Melissa Mayfield, Planner, Oregon OEM

https://storymaps.arcgis.com/stories/539c0c7662814c0cbff97ac8e0cafa25
Request for Feedback

• What innovative approaches did your agency take in applying GIS and data analytics to inform COVID-19 response and recovery operations?

Participate at menti.com
Use the code 82 04 11 7
Leveraging Technology to Support Decision Making on Fatality Management, Medical Supplies, PPE, and in Monitoring Social Activity During Pandemic Response & Recovery

Melissa Surette
Senior Planner
Federal Emergency Management Agency

Jeff Cegan
Strategic Planner,
US Army Corps of Engineers
Federal Emergency Management Agency

Benjamin Trump
Research Social Scientist,
US Army Corps of Engineers
LEVERAGING TECHNOLOGY TO SUPPORT DECISION MAKING ON FATALITY MANAGEMENT, MEDICAL SUPPLIES, PPE, AND IN MONITORING SOCIAL ACTIVITY DURING PANDEMIC RESPONSE & RECOVERY

Data Analytics Section, Region 1
Jeffrey Cegan, US Army Engineer Research and Development Center
Benjamin Trump, US Army Engineer Research and Development Center
Melissa A. Surette, Federal Emergency Management Agency
Susan M. Cibulsky, Assistant Secretary for Preparedness and Response
Jon Garrett, Federal Emergency Management Agency
Igor Linkov, US Army Engineer Research and Development Center

August 19, 2020
• The resource allocator calculates how to proportion supplies to requesting states.
• Decision-maker can choose between a needs-based approach based on projected case load, or equal distribution to requesting states.
• In this example, RI is considered to be a non-requesting state.
Outcomes:
- Additional PPE needs for shelter workers and emergency management personnel
- Needs for additional shelters to maintain social distancing
- Resource needs to maintain functionality of critical healthcare facilities
- Potential impacts on vulnerable communities (e.g. elderly)
**EVACUATION SUPPORT TOOL: PPE**

- PPE according to reuse scenarios (staff and evacuees)

### COVID Scenario - Reuse

<table>
<thead>
<tr>
<th></th>
<th>Pre-Storm</th>
<th>Post-Storm</th>
<th>Total PPE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PPE / Client</td>
<td>PPE / Staff</td>
<td>Total PPE</td>
</tr>
<tr>
<td>N95 Respirators</td>
<td>NA</td>
<td>1,175</td>
<td>1,175</td>
</tr>
<tr>
<td>Face Masks</td>
<td>2,447</td>
<td>979</td>
<td>3,426</td>
</tr>
<tr>
<td>Eye Protection</td>
<td>NA</td>
<td>1,175</td>
<td>1,175</td>
</tr>
<tr>
<td>Gowns/Coveralls</td>
<td>NA</td>
<td>1,175</td>
<td>1,175</td>
</tr>
<tr>
<td>Gloves (singular)</td>
<td>NA</td>
<td>77,521</td>
<td>77,521</td>
</tr>
<tr>
<td>Liquid-Gel Thermometers</td>
<td>2,447</td>
<td>NA</td>
<td>2,447</td>
</tr>
</tbody>
</table>

### COVID Scenario - No Reuse

<table>
<thead>
<tr>
<th></th>
<th>Pre-Storm</th>
<th>Post-Storm</th>
<th>Total PPE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PPE / Client</td>
<td>PPE / Staff</td>
<td>Total PPE</td>
</tr>
<tr>
<td>N95 Respirators</td>
<td>NA</td>
<td>7,047</td>
<td>7,047</td>
</tr>
<tr>
<td>Face Masks</td>
<td>7,341</td>
<td>2,936</td>
<td>10,277</td>
</tr>
<tr>
<td>Eye Protection</td>
<td>NA</td>
<td>7,047</td>
<td>7,047</td>
</tr>
<tr>
<td>Gowns/Coveralls</td>
<td>NA</td>
<td>7,047</td>
<td>7,047</td>
</tr>
<tr>
<td>Gloves (singular)</td>
<td>NA</td>
<td>77,521</td>
<td>77,521</td>
</tr>
<tr>
<td>Liquid-Gel Thermometers</td>
<td>2,447</td>
<td>NA</td>
<td>2,447</td>
</tr>
</tbody>
</table>
Critical facilities include hospitals, nursing homes, dialysis centers, etc.

Inundation depth forecasts generated by P-Surge software

Updated forecasts are released at 6-hour intervals, starting at 48 hours prior to expected landfall.
Micro-Exposure Model for FEMA Region 1 COVID-19 Workplace Risk

**Question:** How much COVID-19 risk do employees face if they re-enter the workplace? How many employees may return back to the workplace? Who may return? At what times and durations?

**Approach:** Develop a COVID-19 micro-exposure model to facilitate decision-making regarding employees’ return to the workplace.

Estimate the probability that an individual will be exposed to COVID-19 over a specified time window given their personal behaviors, as well as their interactions with others during this time.

Exposure probabilities are given per unit time where individuals face a series of potential exposure events based on the micro-environments they enter:

i. Home

ii. Transportation

iii. Workplace

Exposure probabilities should depend on a set of input variables related to individual behavioral patterns, local environmental conditions, and spatially-varying density of the infected population.
Factors that may contribute to COVID-19 exposure and transmission risk within each specific micro-environment will be measured and incorporated into the model:

- Dimensions of the enclosed space
- Sanitation of the enclosed space
- Ventilation and airflow
- People density
  - Capacity per square foot
  - Time of day
Request for Feedback

• How did your agency use data analysis to inform decision making around resource allocation during COVID-19?

Participate at menti.com
Use the code 82 04 11 7
Reminder!

Submit your questions in the Q&A feature in Zoom
Automating and Integrating Medical/Healthcare Capacity Data Reporting and Analysis in Real-Time

Ezekiel Peters, Esq, NRP
Director of Emergency Medical Services
Colorado Regional Health Information Organization
epeters@corhio.org
Cast of Characters and Definitions

- Colorado North Central All-Hazards Region (NCR)
- U.S. HHS Assistant Secretary for Preparedness and Response (ASPR)
- Hospital Preparedness Program (HPP)
- Colo. Dept of Public Health & Env’t Ofc of Emergency Preparedness & Response (CDPHE)
- Colorado North Central Region Healthcare Coalition (HCC)
- Colo. Regional Health Information Org. (CORHIO) Health Information Exchange (HIE)
- Emergency Medical Services (EMS) Director
- Health Level 7 (HL7) Admit, Discharge, and Transfer messages (ADTs)
- Organization for the Advancement of Structured Information Standards (OASIS) Hospital AVailability Exchange (HAVE)
- Juvare EMResource
Nationwide HIE
HIE in Colorado

CORHIO empowers people providers and communities by providing them the information they need to improve health.
<table>
<thead>
<tr>
<th>Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>7.7 Million</strong></td>
</tr>
<tr>
<td>Unique Patients in Colorado</td>
</tr>
<tr>
<td>(8.6 million nationwide)</td>
</tr>
<tr>
<td><strong>19,000</strong></td>
</tr>
<tr>
<td>HIE Users</td>
</tr>
<tr>
<td><strong>6,900</strong></td>
</tr>
<tr>
<td>Providers Participating</td>
</tr>
<tr>
<td><strong>206,000</strong></td>
</tr>
<tr>
<td>Patient Charts Accessed</td>
</tr>
<tr>
<td>PatientCare® 360/Month</td>
</tr>
<tr>
<td><strong>4.7 Million</strong></td>
</tr>
<tr>
<td>Notifications Sent/Month</td>
</tr>
<tr>
<td><strong>420,000</strong></td>
</tr>
<tr>
<td>Patient Result Messages Sent</td>
</tr>
<tr>
<td>to EHRs/Month</td>
</tr>
<tr>
<td><strong>74 Hospitals</strong></td>
</tr>
<tr>
<td>Live</td>
</tr>
<tr>
<td>(67 Data Senders)</td>
</tr>
<tr>
<td><strong>12 Labs Live</strong></td>
</tr>
<tr>
<td><strong>54,000</strong></td>
</tr>
<tr>
<td>Ambulatory Care Summaries</td>
</tr>
<tr>
<td>Added/Month</td>
</tr>
</tbody>
</table>
1) Patient goes to hospital which sends message to TDSO then to HIN
2) HIN checks patient-provider attribution and identifies providers
3) HIN retrieves contact and delivery preference for each provider from HPD
4) Notifications routed to providers based on electronic address and preferences

2018 Feb. – CORHIO EMS Director position created.

2019 Apr. – NCR Healthcare Coalition Surge Test

2019 Jul. – CORHIO Phase I report for NCR HCC on Using an EMS MACC and HIE ADT Messages to Manage NCR Patient Movements Under Medical Surge

2019 Aug. – NCR HCC funds Phase II work focused on ADTs.

2019 Dec. – CORHIO submits ASPR Next proposal to create fully automated Bed Information Network prototype after consultation with CDPHE OEPR, NCR HCC, and ASPR.


2020 Apr.–Present – 50 NCR HCC users onboarded for CORHIO Tableau display; All-Hazards NCR consuming feed for display in GIS Situation Awareness System.
Known Limitations and Unknowns

- Only routinely processing Emergency Department ADTs for end use.
- Unknown which ADT messages in local discard pile and specificity of message contents.
- Limited hospital IT and clinical staff availability to help unblock and interpret messages.
- Bed type definitions not standard among hospitals and CDPHE.
- Unknown baseline of how many of each bed type at each facility.

MVP Definition

- Calculate ED, Pediatric ED, Intensive Care Unit, and Pediatric ICU bed types only, for 6 major Colorado health systems’ hospitals.
- Timely and accurate enough counts for CDPHE to see trending, allow hospitals to manually update EMResource less frequently, and provide context and redundancy for EMResource.
- “CORHIO Bed Availability Dashboard is strategic; EMResource is tactical.”
<table>
<thead>
<tr>
<th>Hospital Name</th>
<th>Bed Count</th>
<th>ICU Bed Count</th>
<th>NICU Bed Count</th>
<th>Special Needs Bed Count</th>
<th>Red Line Bed Count</th>
<th>White Line Bed Count</th>
<th>COVID-19 Bed Count</th>
<th>Last Update</th>
<th>By User</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Suburban Methodist Center</td>
<td>120</td>
<td>25</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>10</td>
<td>4/3/2020 10:03</td>
<td>John Doe</td>
</tr>
<tr>
<td>St. Anthony North Health Campus</td>
<td>64</td>
<td>15</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>10</td>
<td>4/3/2020 10:03</td>
<td>John Doe</td>
</tr>
<tr>
<td>Cheyenne Mercy Regional Medical Center</td>
<td>60</td>
<td>15</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>10</td>
<td>4/3/2020 10:03</td>
<td>John Doe</td>
</tr>
<tr>
<td>St. Joseph Regional Medical Center</td>
<td>50</td>
<td>10</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>5</td>
<td>4/3/2020 10:03</td>
<td>John Doe</td>
</tr>
<tr>
<td>eagle Suburban Hospital</td>
<td>40</td>
<td>8</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>5</td>
<td>4/3/2020 10:03</td>
<td>John Doe</td>
</tr>
<tr>
<td>North Suburban Hospital</td>
<td>25</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>4/3/2020 10:03</td>
<td>John Doe</td>
</tr>
<tr>
<td>St. Francis Hospital</td>
<td>20</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>4/3/2020 10:03</td>
<td>John Doe</td>
</tr>
<tr>
<td>North Suburban Hospital</td>
<td>10</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4/3/2020 10:03</td>
<td>John Doe</td>
</tr>
</tbody>
</table>

**Summary**

- Total Bed Count: 280
- Total ICU Bed Count: 55
- Total NICU Bed Count: 20
- Total Special Needs Bed Count: 10
- Total Red Line Bed Count: 30
- Total White Line Bed Count: 120
- Total COVID-19 Bed Count: 20

**Last Update:** 4/3/2020 10:03

**By User:** John Doe
# CORHIO Bed Availability Dashboard

**Colorado Hospital Bed Availability Dashboard**

These are estimates based on automated reporting from hospital EHRs. Please verify with the facility before taking patient care actions. For detailed information about the data displayed, reference the Companion Documentation.

No Changes Since: 5/4/2020 11:25:02

<table>
<thead>
<tr>
<th>Region</th>
<th>Facility</th>
<th>Bed Categorization</th>
</tr>
</thead>
<tbody>
<tr>
<td>(All)</td>
<td>(All)</td>
<td>(All)</td>
</tr>
</tbody>
</table>

## Total Available Beds

<table>
<thead>
<tr>
<th>Facility</th>
<th>ED</th>
<th>ICU</th>
<th>Peds ED</th>
<th>Peds ICU</th>
</tr>
</thead>
<tbody>
<tr>
<td>OVERALL</td>
<td>753</td>
<td>261</td>
<td>184</td>
<td>28</td>
</tr>
<tr>
<td>Banner</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Northeast</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>West Metro</td>
<td>0</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>South Metro</td>
<td>0</td>
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</tr>
<tr>
<td>North Metro</td>
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<tr>
<td>West Metro</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Central Ma.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Central Co.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Boulder Co.</td>
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For assistance, please contact CORHIO’s Help Desk at helpdesk@corhio.org

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Current and Near-Future Work

- Working with data senders (hospital systems) to correct and tune existing counts, especially Adult ICU.
- Add 8 additional HAVE 1.0 bed types: Medical Surgical, Rehab Long Term Care, Pediatrics, Burn, Operating Rooms, Nursery Beds, Neonatal ICU, and Adult Psychiatric.
- Develop methods to more reliably and elegantly deal with beds re-typed, or ready to be re-typed, for disaster (e.g., Medical Surgical beds ready to convert to Adult ICU beds and new beds in Alternate Care Sites).
- Cross-reference bed availability with other COVID-19 data for improved insights. (E.g., how many Adult ICU beds are occupied by patients with a positive COVID-19 test?)
- Apply bed counting method to other non-fungible resources (e.g., ventilators).
- Exchange these data with other situational awareness, healthcare, and governmental reporting systems.
Request for Feedback

• Is your agency connecting to hospital data systems to automate health/medical data reporting?

Participate at menti.com
Use the code 82 04 11 7
Community Discussion and Action Items
Reminder!

Submit your questions in the Q&A feature in Zoom
• Have you started to look at updating your Pandemic Plans?
• If so, what types of updates are you looking at?

Participant Questions

Quickly answer questions using the QR Code or link.

Menti.com
Code: 82 04 11 7
Fireside Chat – Question 2 and 3

- What are you doing to ensure the capabilities and solutions you shared today are set-up or pre-staged to support a future incident?

- How are you working with Planners to incorporate the type of data analytics and GIS solutions you shared into your Pandemic Plans and other types of plans?

Participant Questions

Quickly answer questions using the QR Code or link.

Menti.com
Code: 82 04 11 7
Amplify Your Voice: COVID-19 Tech & GIS Questionnaire

• Provide **critical insight in your experience** using location-based technology, GIS, and data analytics during COVID-19

• Ensure AAR and Improvement Plan is **data-driven**

• Just 8-10 minutes to complete

• Help **get the word out** to participate

• You’ll receive an email with link to questionnaire

https://arcg.is/ODeue
Solutions & Open Data for the Community by the Community

- A community-curated library and clearinghouse - for use by public safety in discovering, exploring, and sharing resources and data for preparedness and incident response & recovery.

Link:
https://prep-response-portal.napsgfoundation.org/
Portal: Community Engagement
Submit your questions in the Q&A feature in Zoom
Complete the Questionnaire!
https://arcg.is/ODeue

Keep an eye out for the v1.0 AAR and Improvement Plan

Coordinate with the FEMA / HHS COVID-19 after-action team on integration of findings
Upcoming Events

Registration Open!
https://www.napsgfoundation.org/events/

2020 Virtual Events

• **August 27** – EM Geo Forum: Wildfire Workflows and Considerations for Emergency Management @ https://conta.cc/322h26G

• **October** – PrepTech Talk: Innovations in Planning for the 21st Century

• **November** – PrepTech Talk: Verdict is Out: Decrypting Risk, Resilience, Social Vulnerability Data & Indices

• **December** - PrepTech Talk: Drones and Imagery for Resilience

2021 In-Person Events

Call for Topics Open!
Thank You!

Rebecca Harned | rharned@publicsafetygis.org

Molly Schar | molly.schar@nsgic.org