



Public Health Solutions For a New World

Achieving Efficiencies in Exercise Design & Delivery

NHCPC - December 12, 2024

HCCs in Illinois

County Population Data:

Suburban Cook County: 2,448,913

DuPage County: 920,762

Lake County: 714,342

Will County: 696,757

Kane County: 516,522

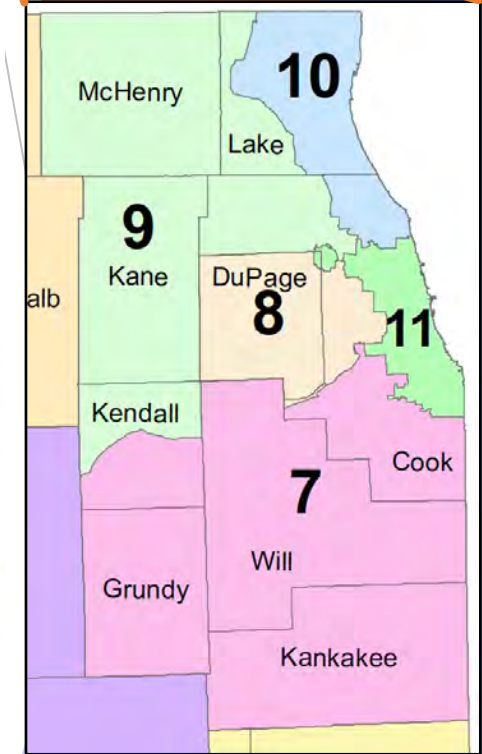
McHenry County: 314,042

Kendall County: 131,869

Kankakee County: 107,502

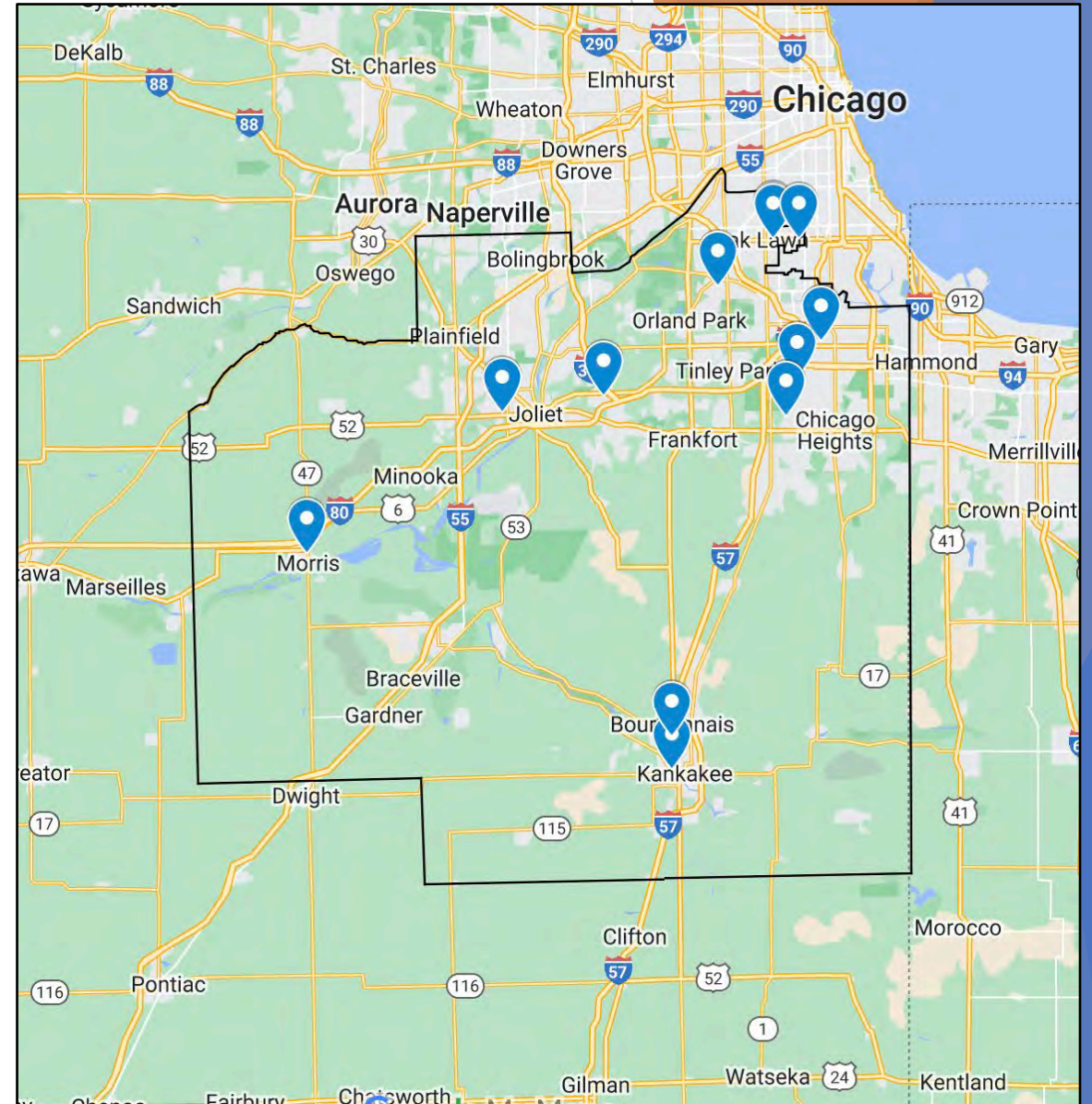
Grundy County: 52,533

Total Population Regions 7-10: 5,903,242



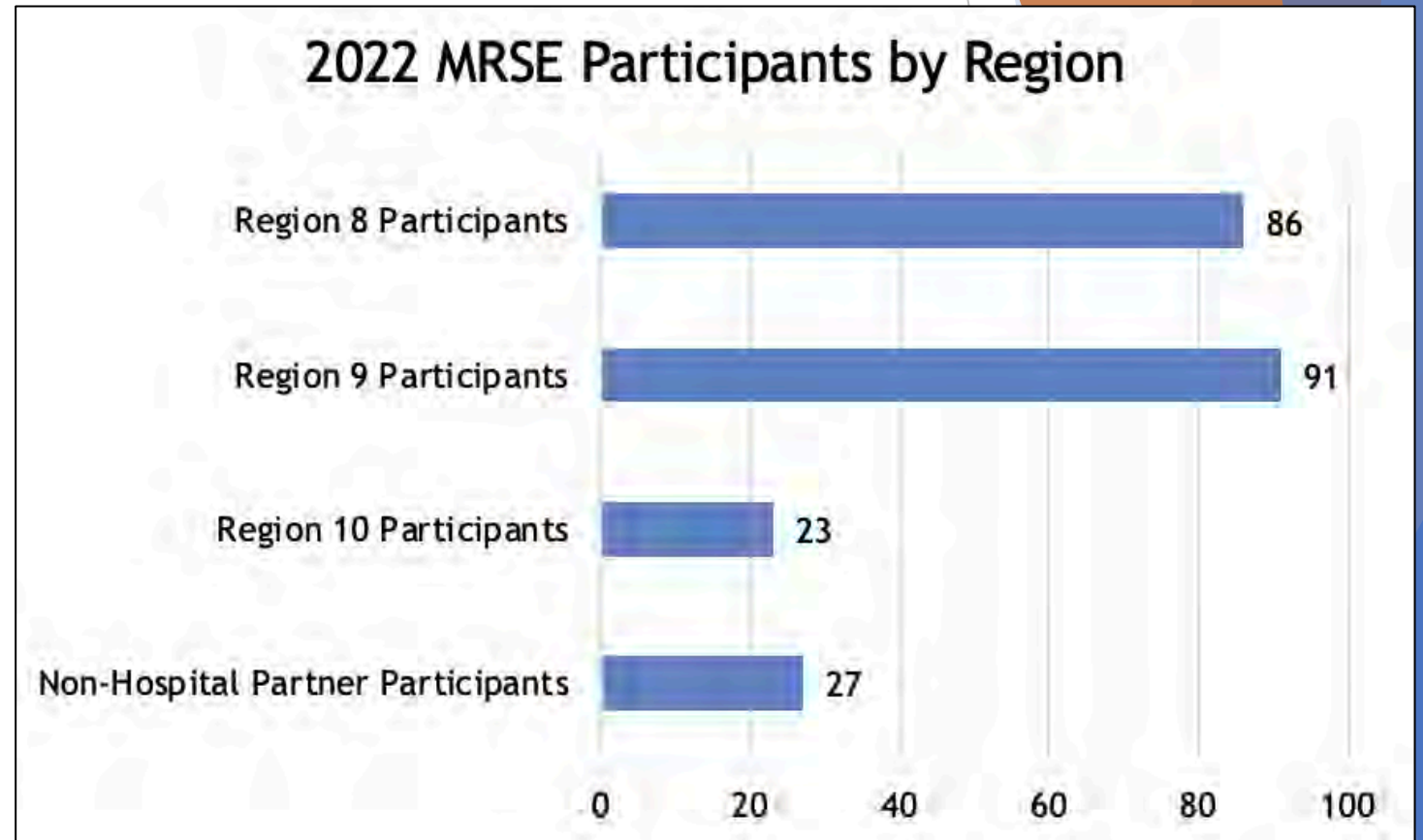
Region 7 HCC Background

- ▶ Encompasses the “South Suburbs” of Chicago and west to border with Indiana.
- ▶ Approximate population: 1.48 million
- ▶ Includes 14 acute care hospitals.
 - 2 Level 1 trauma centers
 - 1 Children’s Hospital
- ▶ *Chicagoland (NASCAR) Speedway is located in Joliet, IL.*
- ▶ *The Dresden and Braidwood Nuclear Power Plants are also located in Region 7.*
- ▶ *Actor Nick Offerman was born in Joliet, IL in the northern portion of Region 7.*



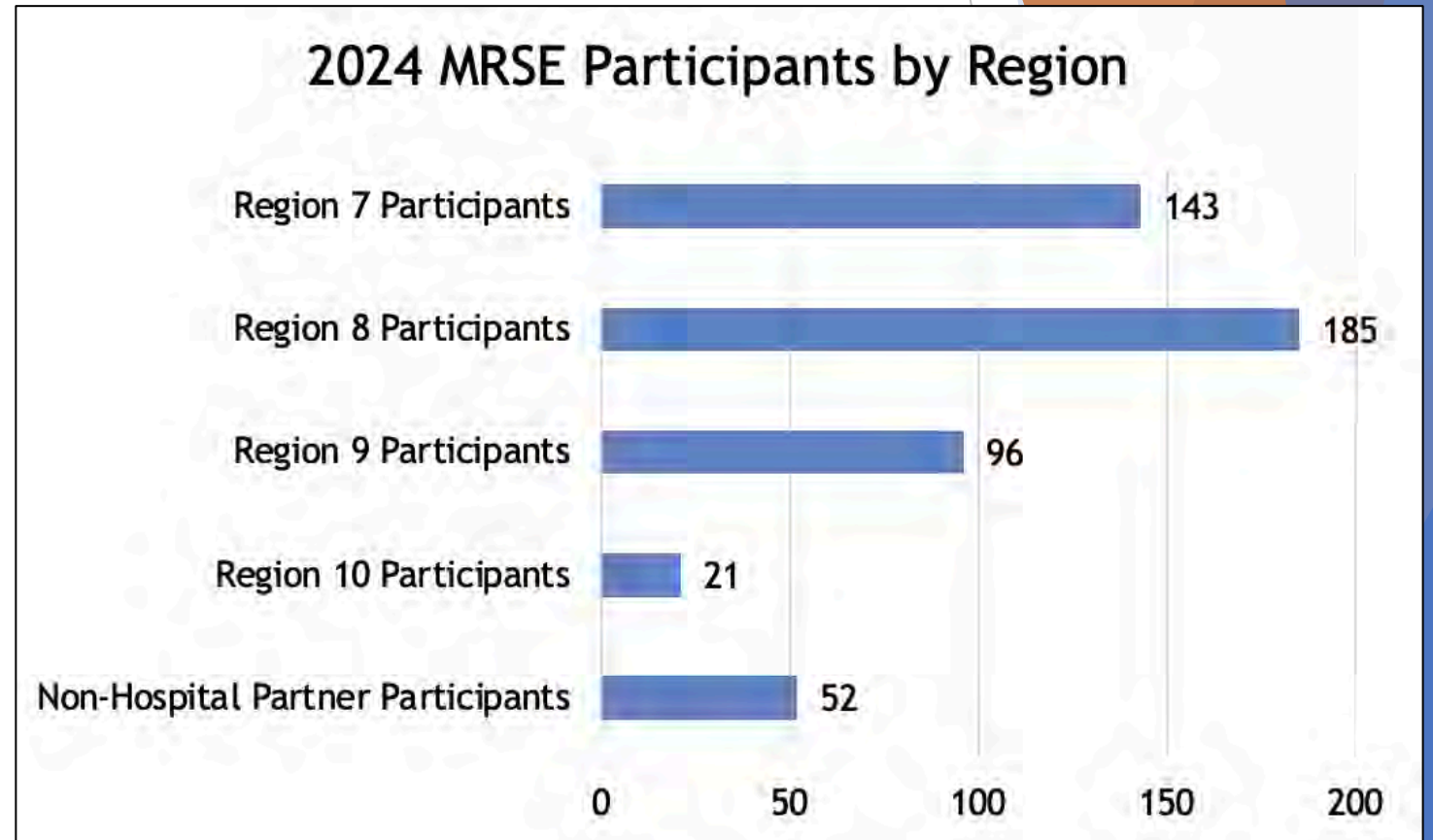
2022 MRSE Participants

- ▶ Total Participants: 227
 - Region 8 Participants: 86
 - Region 9 Participants: 91
 - Region 10 Participants: 23
- ▶ Non-hospital Participants: 27
 - EMA Participants: 3
 - Health Department Participants: 9
 - Fire/EMS Participants: 9
 - Other Participants: 6



2024 MRSE Participants

- ▶ Total Participants: 497
 - Region 7 Participants: 143
 - Region 8 Participants: 185
 - Region 9 Participants: 96
 - Region 10 Participants: 21
- ▶ Non-hospital Participants: 52
 - EMA Participants: 7
 - Health Department Participants: 17
 - Fire/EMS Participants: 20
 - Other Participants: 8



The Challenge

- ▶ Multiple exercise demands in addition to planning for special events and responding to real-life incidents.
 - ▶ MRSE
 - ▶ Chemical Annex Tabletop
 - ▶ CHEMPACK Training
 - ▶ Decontamination Training
 - ▶ Democratic National Convention
 - ▶ Cyber incidents at hospitals



Public Health Solutions For a New World

Pre-Exercise Briefing

- ▶ The briefing was held one week prior to the MRSE exercise.
- ▶ During this briefing, all materials and expectations for participants were reviewed.
- ▶ The briefing also helped ensure participants had access to the data collection tool.
- ▶ The pre-exercise briefing is critical to the success of the exercise!

Scenario

- ▶ Summer festivals are in full gear across Chicagoland.
- ▶ Summer weekend in July, Saturday night fests with concerts in the following locations:
 - ▶ (Region 7) Tinley Park, IL: 7,000 people (MABAS Div. 24)
 - ▶ (Region 8) Elmhurst, IL: 7,000 people (MABAS Div. 12)
 - ▶ (Region 9) Carpentersville, IL: 5,000 peoples (MABAS Div. 2 & 13)
 - ▶ (Region 10) Grayslake, IL: 6,000 peoples (MABAS Div. 4)
- ▶ A domestic terror cell has been able to acquire 18 gallons of agent Yellow (a 50/50 blend of blister agents Sulfur Mustard and Lewisite).
- ▶ Members of the terror cell conduct a covert operation at neighborhood festivals/concerts in Chicagoland suburbs (Tinley, Lake County, Carpentersville, and Elmhurst) where they utilize an aerial drone with an 18-gallon capacity to circle the concert grounds for 5 minutes from about 120 feet above to disseminate the agent, Yellow.
- ▶ The agent Yellow is released over a crowd of ~ 5,000 people at each of the 3 festival sites. The mildly warm temperature along with a light breeze aided an effective release.
- ▶ Many participants begin to feel the effects of the exposure within minutes with some experiencing respiratory distress and burning eyes. Venue security and EMS decide to end the event and evacuate. The HAZMAT team has been notified and are enroute. The scene is considered a mass casualty incident and multiple transports to local hospitals should be expected.



Casualties by HCC Region

Type	Region 7	Region 8	Region 9	Region 10
Green Adult	285	314	297	142
Yellow Adult	174	118	137	78
Red Adult	63	47	72	30
Total Adult	522	479	506	250
Green Pediatric	37	39	45	23
Yellow Pediatric	11	26	12	13
Red Pediatric	9	13	13	5
Total Pediatric	57	78	70	41
Total Patients	579	557	576	291

Method of Arrival to Hospitals

Method of Arrival	Region 7	Region 8	Region 9	Region 10
EMS Transport (50%)	289	279	288	146
Self-Transport (50%)	290	278	288	145

Exercise Agenda

Agenda Item	Time
Introduction/Scenario/Format/Rules	8:30 AM
EMS/Pre-Hospital Coordination	8:45 AM
Task 1: Initial Actions	9:30 AM
Task 2: Initial Bed Counts	10:00 AM
Task 3: Decompression/Rapid Discharge	10:30 AM
Task 4: Patient Triage/Admission Decisions	11:00 AM
Task 5: Patient Transfers	11:30 AM
Task 6: Staff Needs/Resources	11:45 AM
MRSE ENDEX	12:00 PM

Data Collection

Back

Multi-Region MRSE (IL-7, 8, 9, and 10) - 2024

Each hospital is expected to complete this questionnaire and include relevant data for the MRSE after action report. Please contact Steve Mier at steve@themiergroup with any questions.

* Required

1. Name (first, last) *

2. Hospital Name *

3. Your Email Address *

vimeo.com is sharing your screen. [Stop sharing](#) [Hide](#)

Notifications

- ▶ At the start of the MRSE exercise, each HCC (7, 8, 9, and 10) sent out an Everbridge notification to hospitals within their regions (Region 10 utilized ReGroup). The notification achieved 100% acknowledgement from at least one person at each hospital.
- ▶ *Sample Message: EXERCISE - MEDICAL RESPONSE SURGE EXERCISE*
- ▶ *THIS IS AN EXERCISE - "The multi-region medical response surge exercise (MRSE) has begun. Hospitals - please mobilize your teams for participation for an 8:30 AM start".*



Escalation of Mutual Aid

- ▶ MABAS can mobilize emergency response and EMS resources in coordination with the Illinois Emergency Management Agency (IEMA) and Illinois Department of Public Health (IDPH)/Emergency Medical Services (EMS). Some of the resources that MABAS can provide include EMS vehicles, passenger vans, temporary shelter, and decontamination functions.
- ▶ *There are five levels of Box Alarms* that are designed to provide additional support to on-scene EMS. An assessment on-scene will help EMS/MABAS determine which level of alarm is required. A fifth alarm can bring 10 fire engines, five trucks, four squads, and 30 ambulances to a scene. Additionally, MABAS can activate strike teams to be deployed if multiple scenes exist. These strike teams consist of five ambulances and a supervisor.
- ▶ If the resources MABAS can provide are insufficient for the scale of the incident and additional assets are required, MABAS can coordinate through IEMA to request inter-state mutual aid.



Patient Profiles

Adult/P	ID	Triage Lev	Age	Gender	Injury Description	Medical HX	Means of Arr	Hospital	Region
+		Red	22	F	Patient has crush injuries to right forearm and head from being trampled during melee/evacuation. Patient is displaying symptoms of shock. Blistering of skin/yellow in color, difficulty breathing.	+/- DM, HTN, HLD, Anxiety, Depression	EMS transport	Adventhealth - Bolingbrook	8
Adult	A11	Green	15	F	Patient was walking their dogs outside approximately 3 miles from the concert venue. She does report seeing a large drone overhead. Patient is presenting with difficulty breathing.	3 months pregnant	Self-transport	Adventhealth - Bolingbrook	8
Ped	P25	Green	15	F	Patient was walking their dogs outside approximately 3 miles from the concert venue. She does report seeing a large drone overhead. Patient is presenting with difficulty breathing.	3 months pregnant	Self-transport	Adventhealth - Bolingbrook	8
Ped	P26	Green	18	F	Burning eyes, nausea, and sweating. Bloody nose.	3 months pregnant	Self-transport	Adventhealth - Bolingbrook	8
Adult	A1	Yellow	19	F	Burning eyes, bloody nose, blisters on face. Injured ankle in evacuation.	6 months pregnant	EMS transport	Adventhealth - Bolingbrook	8
Adult	A4	Green	19	F	Patient was a parking lot attendant at the concert. Patient is agitated and is concerned that they have been exposed to a chemical. No injuries.	6 months pregnant	Self-transport	Adventhealth - Bolingbrook	8
Adult	A5								

Initial Actions – Public Health

- ▶ Includes notifying health department leadership and internal communications departments, especially Public Information Officers (PIO) and their teams, as well as Epidemiology and/or Environmental Health/Surveillance teams to begin population monitoring. From there, the communications teams would begin crafting messaging to go out to the public. Regarding resource coordination, health departments would work with their logistics teams to make sure they are aware that requests for personal protective equipment (PPE) may be coming from EMS or hospitals.
- ▶ Health departments would also coordinate with their local Emergency Management Agencies (EMAs) in case the resource requests are more than they have on hand or in warehouses. They would also make notification to and begin coordination with their IDPH Emergency Response Coordinator (ERC) that there may be resource requests coming.

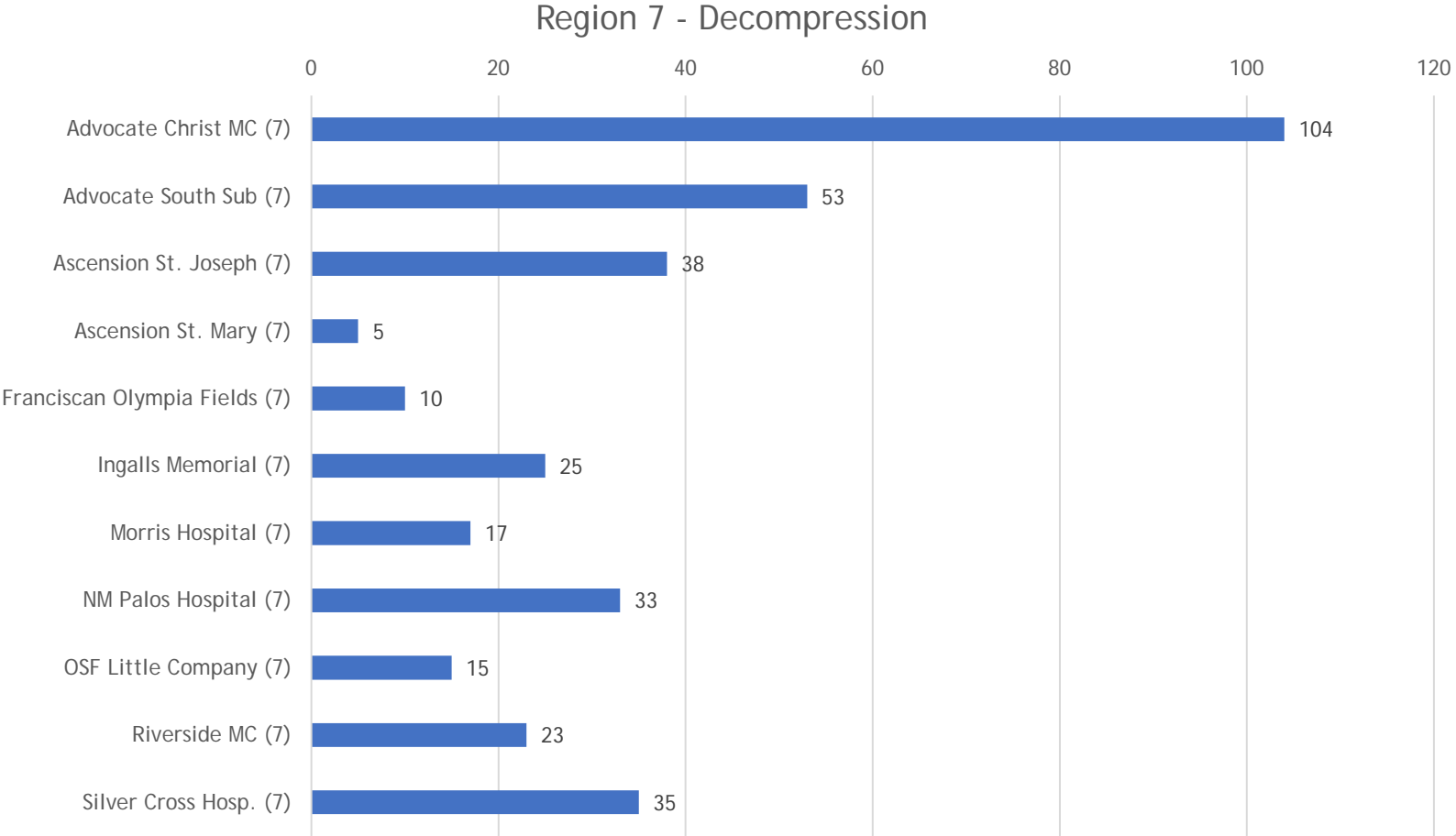
Initial Actions - Emergency Management

- ▶ In addition to supporting the larger resource requests from local health departments, one of the primary roles that EMAs would play in this type of response would be supporting other local/municipal response partners in whatever way they may need. EMAs would coordinate with other local public safety organizations such as police and fire to help guide public information messaging and directing phone calls.
- ▶ EMAs would also be looking at activating their Emergency Operations Centers (EOC) to help facilitate coordination and force multiplication. This coordination could also potentially include working with the Federal Bureau of Investigation (FBI) and working to establish family assistance and reunification centers. Additionally, EMAs may decide to send liaison officers to the municipalities/towns that have been impacted to provide additional support.

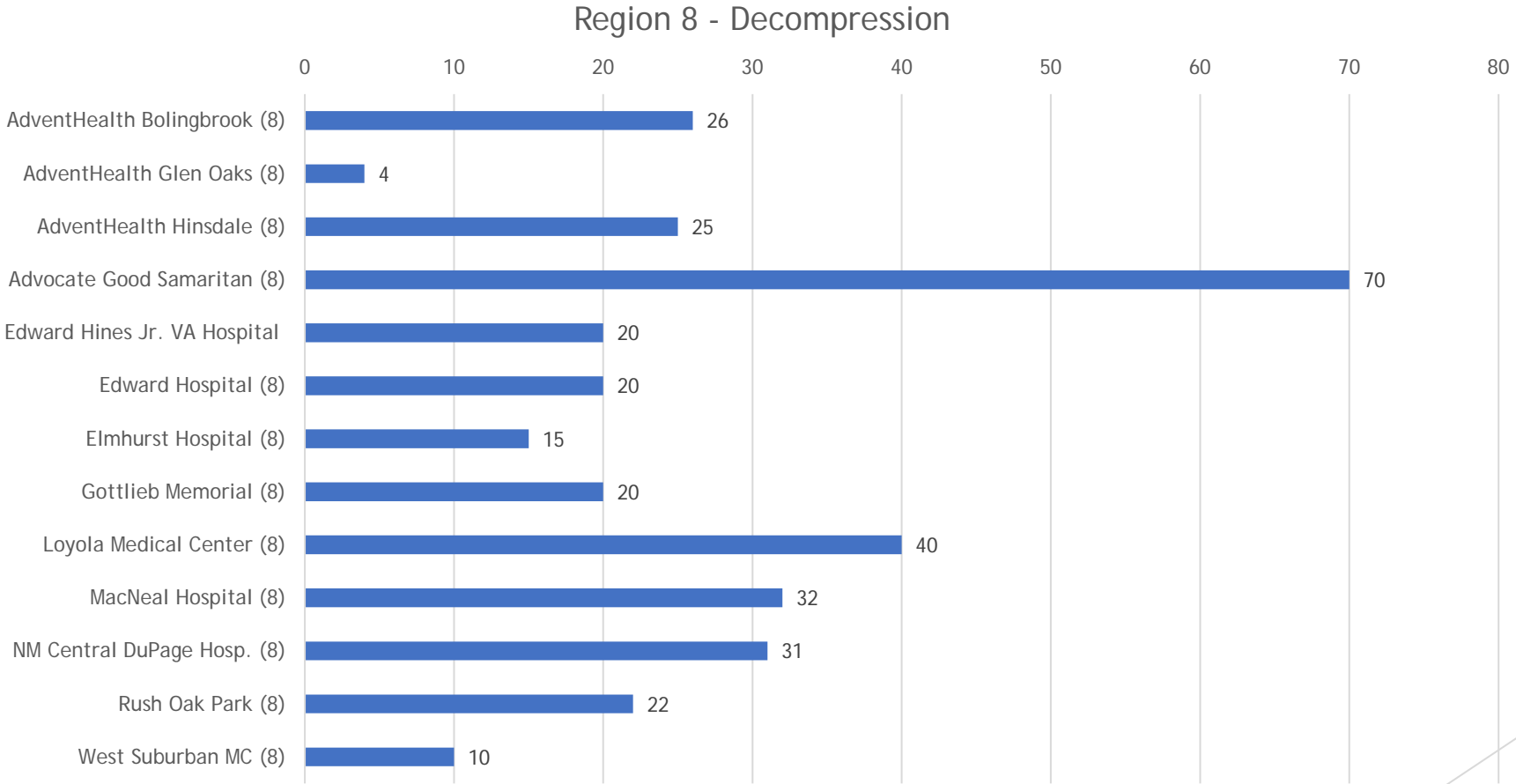
Initial Actions – Hospitals

- ▶ In addition to supporting the larger resource requests from local health departments, one of the primary roles that EMAs would play in this type of response would be supporting other local/municipal response partners in whatever way they may need. EMAs would coordinate with other local public safety organizations such as police and fire to help guide public information messaging and directing phone calls.
- ▶ EMAs would also be looking at activating their Emergency Operations Centers (EOC) to help facilitate coordination and force multiplication. This coordination could also potentially include working with the Federal Bureau of Investigation (FBI) and working to establish family assistance and reunification centers. Additionally, EMAs may decide to send liaison officers to the municipalities/towns that have been impacted to provide additional support.

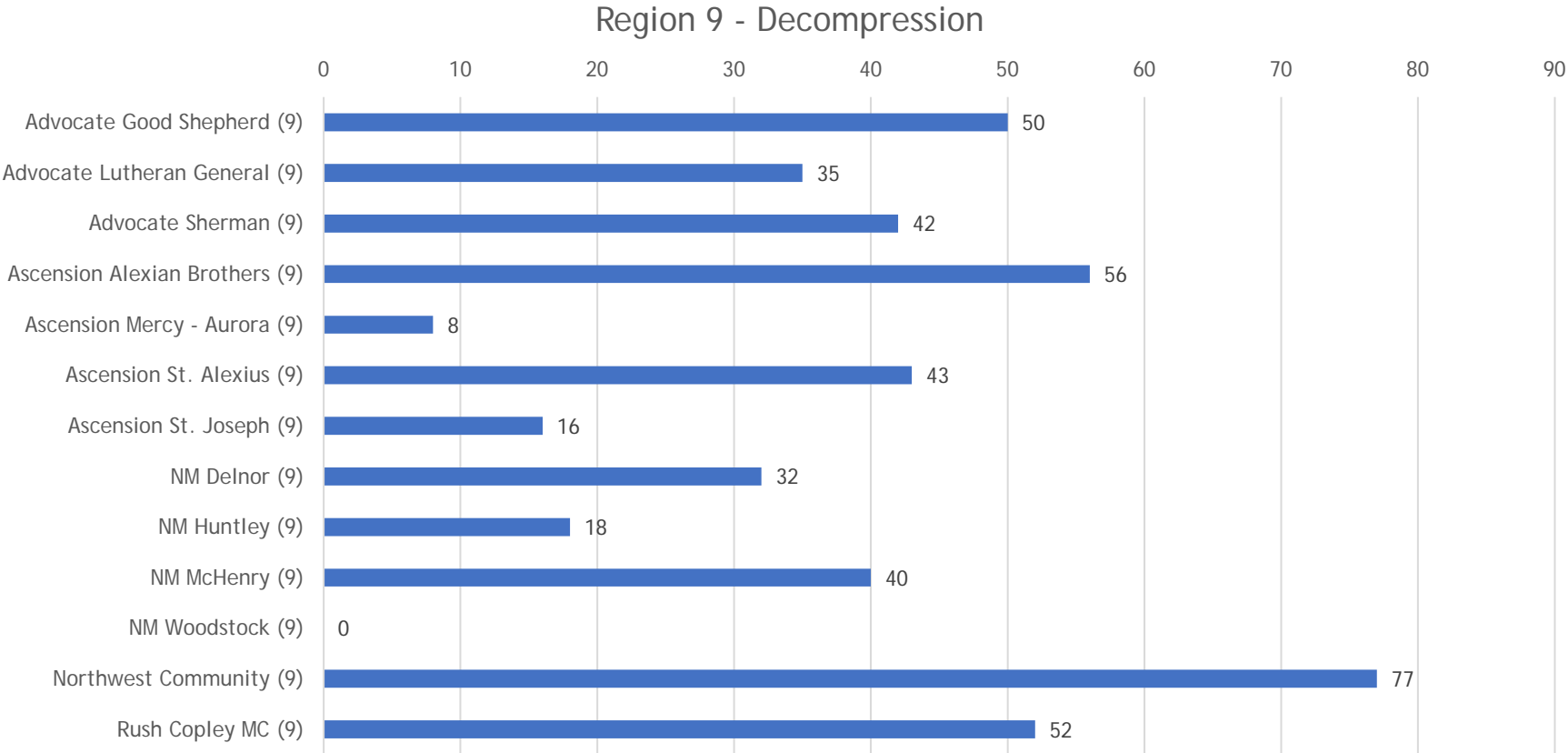
Decompression - Region 7



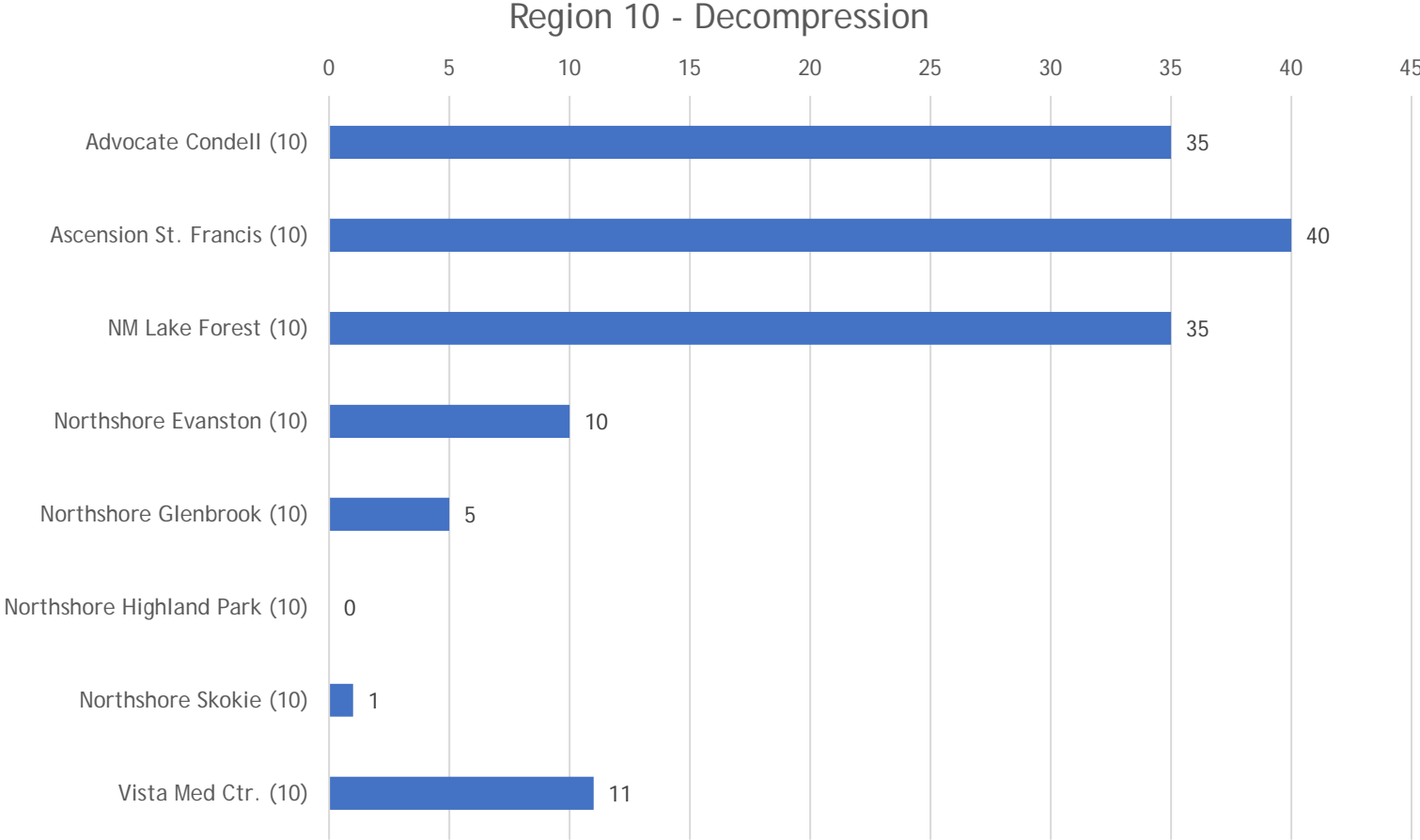
Decompression - Region 8



Decompression - Region 9



Decompression - Region 10

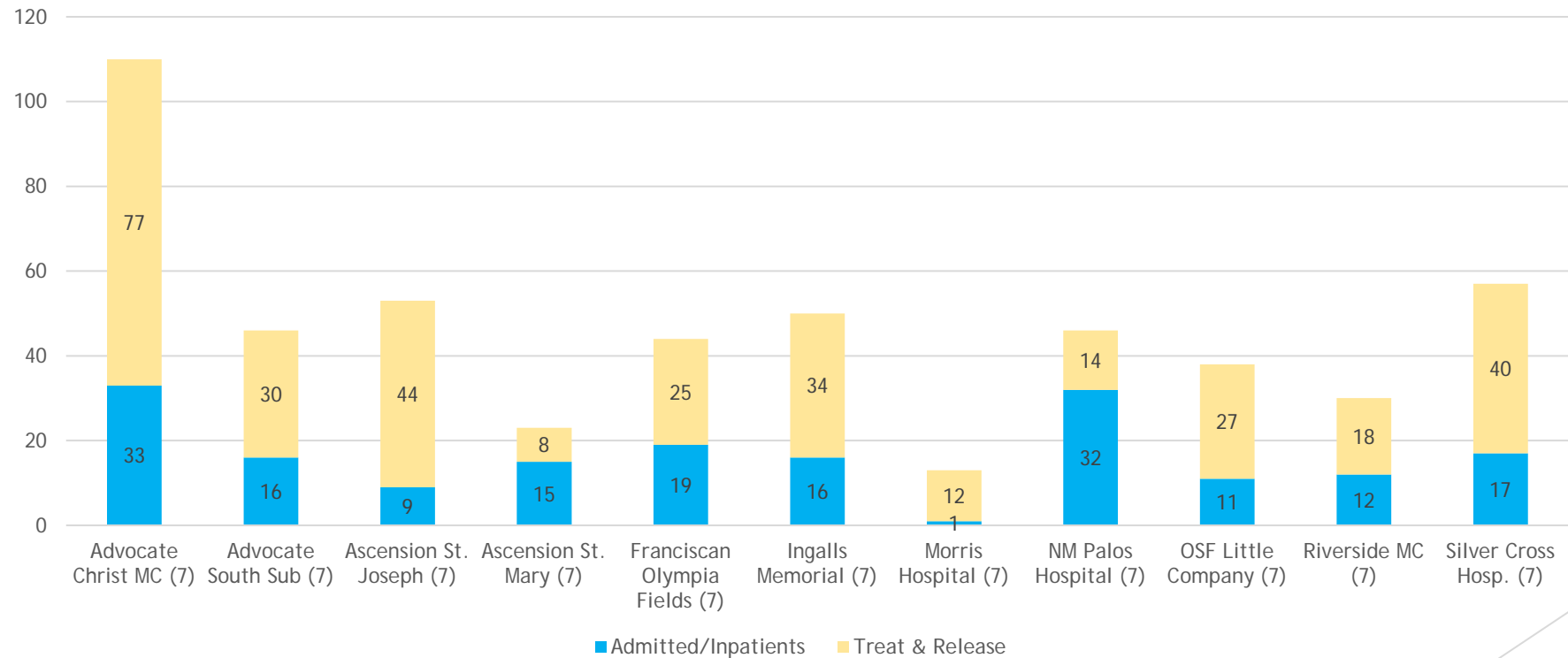


Decompression Summary

- ▶ Region 7:
 - A total of 358 patients can be rapidly discharged for an average of 33 patients per hospital.
- ▶ Region 8:
 - A total of 335 patients can be rapidly discharged for an average of 26 patients per hospital.
- ▶ Region 9:
 - A total of 469 patients can be rapidly discharged for an average of 36 patients per hospital.
- ▶ Region 10:
 - A total of 188 patients can be rapidly discharged for an average of 24 patients per hospital.

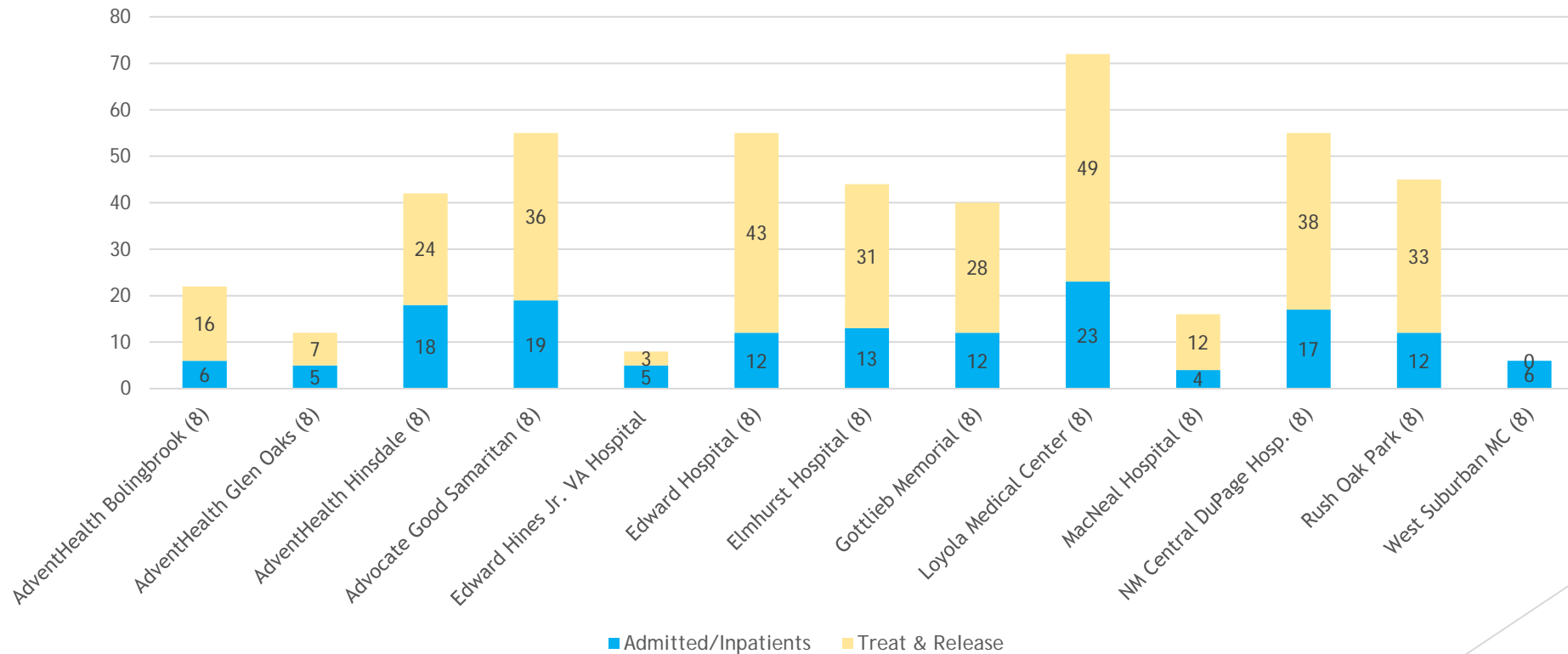
Patient Triage/Admission Decisions - Region 7

Region 7 - Patient Dispositions



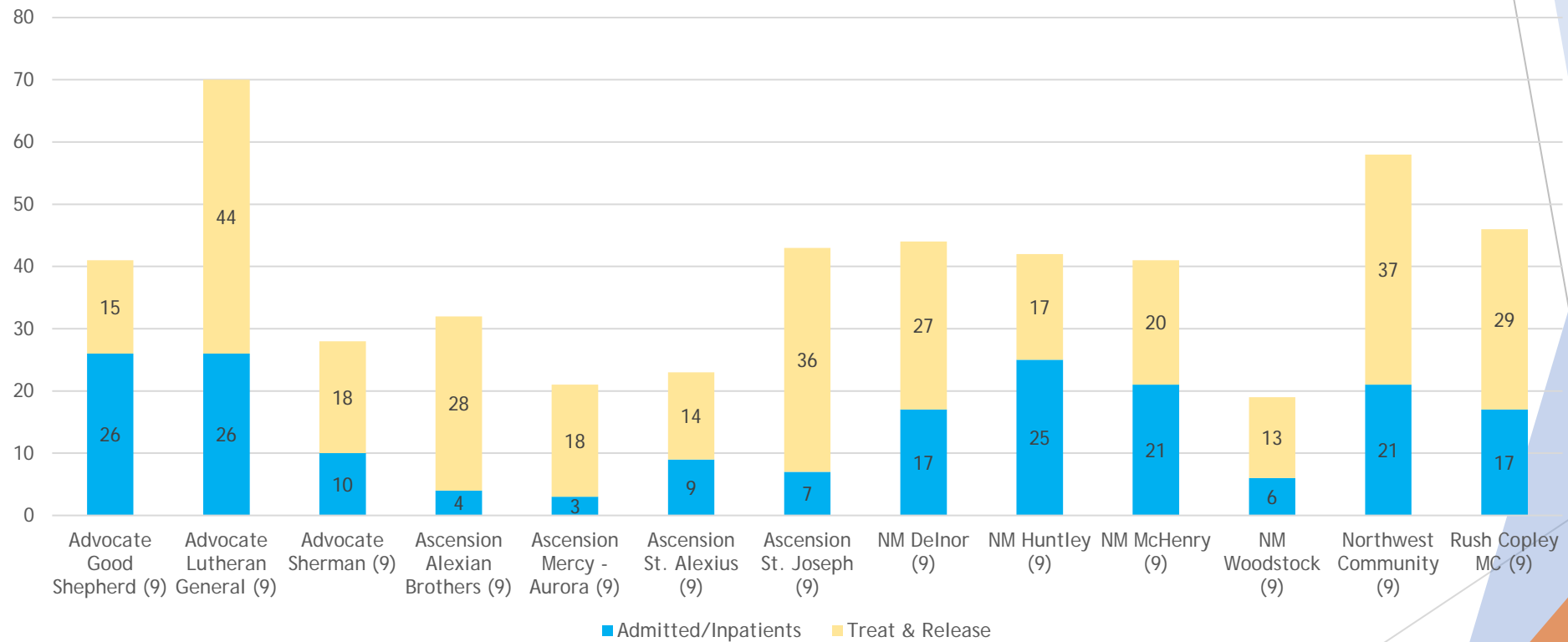
Patient Triage/Admission Decisions - Region 8

Region 8 - Patient Dispositions

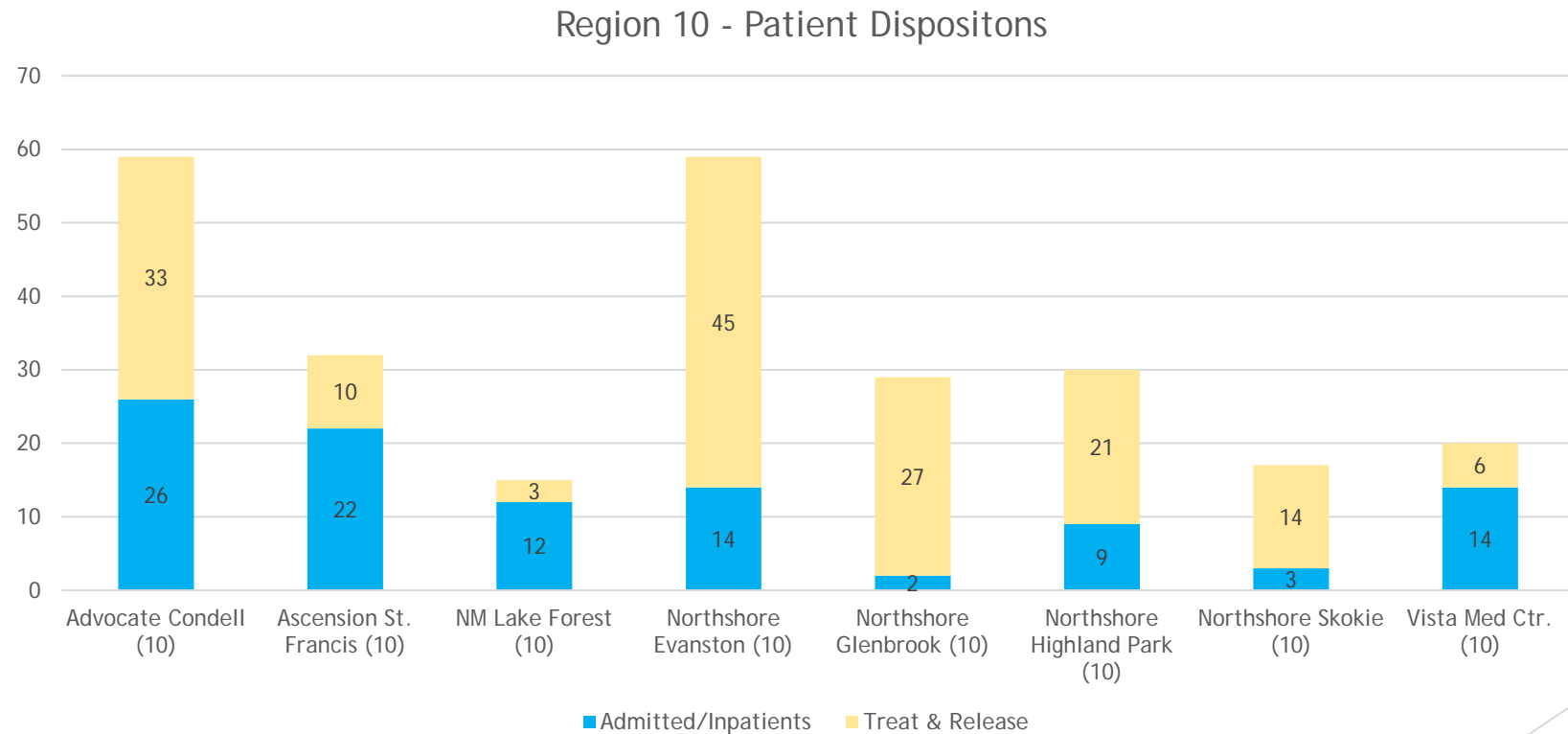


Patient Triage/Admission Decisions - Region 9

Region 9 Patient Dispositions



Patient Triage/Admission Decisions - Region 10



Triage/Admission Summaries

- ▶ Region 7: *Total Patients Triage* = 510
 - 181 admitted (35%) into inpatient unit
 - 329 treated and released from ED (65%)
- ▶ Region 8: *Total Patients Triage* = 472
 - 152 admitted (32%) into inpatient unit
 - 320 treated and released from ED (68%)
- ▶ Region 9: *Total Patients Triage* = 508
 - 192 admitted (38%) into inpatient unit
 - 316 treated and released from ED (60%)
- ▶ Region 10: *Total Patients Triage* = 259
 - 100 admitted (39%) into inpatient unit
 - 159 treated and released from ED (61%)

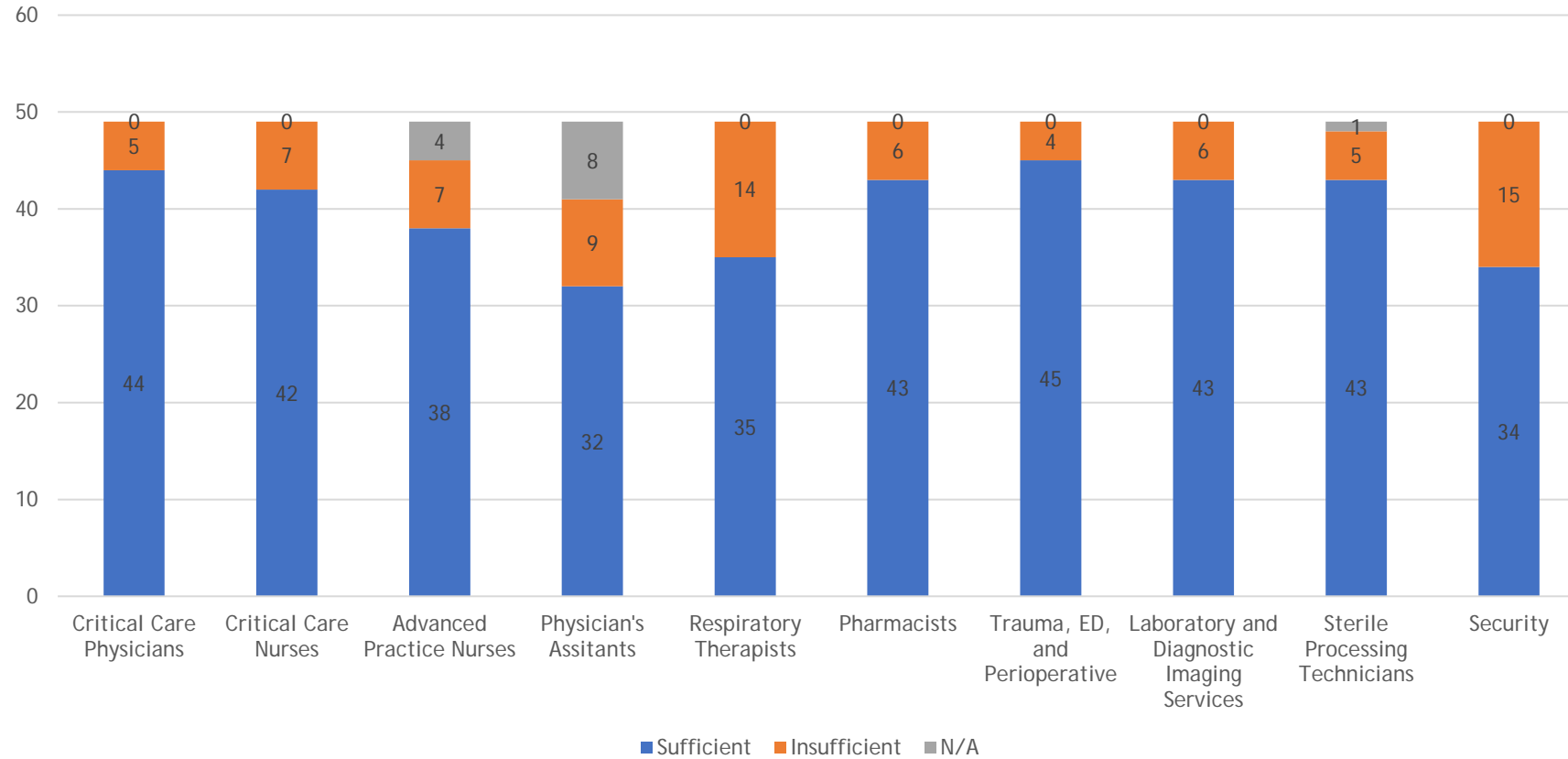
Patient Transfers Summaries

- ▶ Region 7: **510 patients** were successfully admitted across all hospitals (this includes ED treats + release).
 - 41 patients requiring admission also need transfer (from 4 hospitals). All (100%) of those patients were designated a transfer facility.
- ▶ Region 8: **472 patients** were successfully admitted across all hospitals (this includes ED treats + release).
 - 30 patients requiring admission also need transfer (from 4 hospitals). 26 (87%) of those patients were designated a transfer facility.
- ▶ Region 9: **508 patients** were successfully admitted across all hospitals (this includes ED treats + release).
 - 46 patients requiring admission also need transfer (from 6 hospitals). 44 (96%) of those patients were designated a transfer facility.
- ▶ Region 10: **259 patients** were successfully admitted across all hospitals (this includes ED treats + release).
 - 33 patients requiring admission also need transfer (from 5 hospitals). 27 (82%) of those patients were designated a transfer facility.



Staffing Needs/Resources

Staffing for Chemical Surge



Resources

- ▶ *Inject: your hospital is experiencing a shortage of CBRN filters for PAPRs due to continuous use and wear. In addition, your pharmacy is going to need to request BAL to administer to the more severe patients. What is your resource request process for this? Please submit the resource request in accordance with your established procedures.*
 - ▶ 213 RR process with Health Dept or EMA
 - ▶ Request from the RHCC
 - ▶ Request assets through mutual aid compacts
 - ▶ Request from local fire department/HAZMAT
 - ▶ Resources requested from system HQ

Strengths

- ▶ *MABAS-IL is a well-established system* that can rapidly identify and deploy EMS assets in large enough volume to meet this patient demand. This includes sufficient amount of Advanced Life Support (ALS)-capable assets and multi-patient transport vehicles.
- ▶ Health Departments and EMAs described the types of support they could provide to the HCC in a chemical incident to include notifications, resource coordination, risk communication as well as surveillance information exchange with hospitals.
- ▶ While it is manual and paper-based, *EMS agencies in Illinois have a well-established triage tagging system for patient tracking.*
- ▶ All Hospitals and relevant response partners (e.g., EMS and Public Health) were notified at the beginning of the exercise to demonstrate effective notification capabilities for all four regions utilizing the Everbridge system and ReGroup system.



Strengths

- ▶ Most hospitals provided comprehensive descriptions of their patient decontamination capabilities, along with patient throughput data.
- ▶ Hospitals *demonstrated effective initial response actions* including activation of the Incident Command System (ICS), development of an Incident Action Plan (IAP) and decompression/expansion actions to accommodate a large surge of patients.
- ▶ All hospitals were able to *rapidly triage patients* and make appropriate decisions as to patient admission or treat/discharge.
- ▶ The vast majority of hospitals were either able to accommodate a surge of inpatient admissions or were able to find appropriate destination hospitals.
- ▶ General consensus among hospitals was that *there were adequate staffing capabilities* collectively across the regions to accommodate the surge in this scenario.
- ▶ Most hospitals were able to articulate *the resource request process* for equipment and supplies (i.e., within the context of this scenario).

Opportunities

- ▶ It is unknown how quickly *ambulances could cycle back* (e.g., after transporting contaminated patients) to the scene and bring additional patients to hospitals.
- ▶ While at least one person from each hospital acknowledged the initial alert at the beginning of the exercise, there is a need for all hospitals to review their Everbridge and ReGroup recipients and ensure they are included on the HCC distribution.
- ▶ Hospitals and EMAs should conduct planning to formalize a communication/information sharing process during mass casualty incident (MCI) response.
- ▶ While hospitals were able to effectively articulate their decontamination capabilities, *there is a wide variance among facilities as it relates to patient throughputs*. Hospitals and associated Regions should ensure validation of decontamination throughput occurs at all facilities (e.g., through operations-based exercises) and this information should be updated in EMResource.
- ▶ *Pediatric care capabilities are somewhat limited* in all participating HCCs. Additional planning should occur with respect to pediatric transfers out of the Regions to hospitals with appropriate levels of care.



Opportunities

- ▶ Staffing in general was sufficient in most categories - *with the exception of Security and Respiratory Therapy*. Hospitals and HCCs should explore sources for private security surge as well as identification of Respiratory Therapists (e.g., via MRC or other means).
- ▶ *Not all hospitals were able to identify an appropriate facility to accommodate a patient transfer for inpatient admission*. It is recommended that facilities work closely with their Regional Hospital Coordinating Centers (RHCCs) to determine transfer options in future planning.
- ▶ There were some hospitals that struggled with the *resource request process*. It is recommended that health departments and EMAs provide additional briefings and materials to instruct hospitals and that resource request processes be included in future exercises.
- ▶ Hospitals should consider activation of *incident command for their regional system* in large MCI's. This could help ensure coordination for transfers, redeployment of staff, etc.
- ▶ HCCs should continue to advocate for *multi-region EMS/MCI exercises* such as this to most accurately reflect reality.
- ▶ There is a need for hospitals to adequately *project the need for decontamination resources* to include trained personnel, PPE, equipment, and supplies for a surge of exposed patients.



Adjustments for 2025

- ▶ 10% surge - more realistic and considerably less complicated
- ▶ Functional or FSE
 - ▶ Command center-based
 - ▶ Mock/volunteer patients
- ▶ What will we do different?
 - ▶ Public information
 - ▶ Interfacility transfers
 - ▶ Increased security participation
 - ▶ Reunification

Acknowledgments



Robert
Horsley,
Reg 8



Sarah
Farley,
Reg 10



Elizabeth
Regan,
MD, Reg 7



Steve
Baron,
Reg 9





Public Health Solutions For a New World

Questions & Thank You!

steve@themiergroup.com