Impact of Catastrophic Regional Disasters: Joplin and Beyond



Presented by: David Hood James Garrow

Russell Phillips & Associates, LLC

Fire and Emergency Management for Healthcare Facilities

Agenda

- Introduction / DPH Funding Update / OIG Report
- Impact of a catastrophic regional disaster: The Joplin tornado
- Review of the three (3) New England events: Tornado, Irene
 & Storm Alfred ("Halloween Storm")
- Influx of Residents / Surge Capacity Guidelines: Updated tools to receive residents from LTC facilities, hospitals and the community (DPH revisions)
- New MassMAP website
 - Setting up / Updating your account
 - Emergency Reporting System in single facility or statewide disasters
- Preparation for the June 2012 Exercises

Great News!

Civil Monetary Penalties (CMPs) – Use of the Funds

- 1. ~425 Medicare/Medicaid Certified facilities
- 2. 1 Year Membership in MassMAP including training, web-based systems, disaster exercises, consultation, tools/forms & support

Department of Health & Human Services (DHHS)

Office of Inspector General (OIG) Report

OIG Report: April 2012

- Why this was completed?
 - Follow-up to 2006 report (post Katrina / FL)
 - Identified significant deficiencies in Emergency Plans and Training
 - Identified that LTC would have to be prepared to stand alone in a disaster
 - Targeted Group
 - 2007 (Wildfire San Diego): 5 NH evacuated
 - 2008 (Gustav): 92 NH evacuated
 - 2008 (Ike): 84 NH evacuated
 - 2009 (Wildfire Santa Barbara): 1 NH evacuated
 - 2010 (Earl): 3 NH evacuated

Six Areas of Concern

- Staffing Tasks
 - Ensure sufficient levels to provide continuous care during disasters (back-up and sheltering plans)
 - Evacuate staff's family with facility
- Resident-care Tasks
 - Needs of residents (grief counseling, etc.) and handling illness or death during transfer/evacuation
- Resident Identification, Information & Tracking
 - Identify and track during evacuation
 - What information goes with the resident

Six Areas of Concern, cont'd

- Sheltering-in-Place Tasks
 - Minimum of 7 days
 - · Potable water, food and generator fuel supply
 - Medications and medical supplies/equipment
- Evacuation Tasks
 - Evacuation routes (primary and secondary)
 - Transportation of food, water (amount) and critical supplies/equipment
 - Transportation of meds, medical records, etc.
- Communication & Collaboration Tasks
 - With Ombudsman, residents, staff, AHJ and families
 - Collaborate with local emergency managers

2009/10 State Survey Agency Results

- Survey Outcomes: Massachusetts
 - 433 Nursing Homes Surveyed
 - 2.5% Emergency Planning Deficiencies
 - 23.6% Emergency Training Deficiencies
- Survey Outcomes: Connecticut
 - 239 Nursing Homes Surveyed
 - 2.5% Emergency Planning Deficiencies
 - 18.8% Emergency Training Deficiencies

Why are we here?

Who is Russell Phillips & Associates?

- Developer of MassMAP
- Since 1976: Fire, Emergency Management & Life Safety Compliance Services Exclusively to Healthcare Industry
- Services to more than 1,300 healthcare clients in 42 states
- Volunteer Reviewers of Local & National Disasters 9/11, Tropical Storm Allison (Houston), Katrina, California Wildfires, Joplin and Springfield Tornado, Hurricane Irene, Multiple Fatality Fires, etc.
- National Committee Involvement
 - NFPA 99- Chapter 12 Healthcare Emergency Mgmt. Technical Committee
 - NFPA 101 The Life Safety Code® Technical Committee
 - NFPA Healthcare Section Executive Board (1st Vice Chair)
 - Advisors on The Joint Commission Committee for Healthcare Safety

Recent Disaster Incidents (*RPA On-site Assessments)

- *Tornados in Tuscaloosa & Moulton, AL (4/27), Joplin, MO (5/22) and Springfield, MA (6/1)
- *Earthquake in the Northeast US
- *Hurricane/Tropic Storm Irene & Lee Flooding
 - 7,000 patients/residents evacuated in NY alone
 - CT hospital evacuation generator fire
- *Wildfires All over
- *Snowstorm/Power Failure New England Oct/Nov

The Joplin Experience May 22, 2011 - 5:41 PM

Joplin Tornado May 22, 2011, 5:41 PM

- Healthcare Delivery System:
 - 2 Acute Care hospitals 756 licensed beds
 - 389 beds (Freeman plus 32 SNF)
 - 367 beds (St. John's)
 - 187 patient on the day of tornado and ~25 in ED
 - 6 Skilled Nursing Facilities 692 licensed beds
 - Greenbriar 120
 - Meadows Care 120
 - Joplin Healthcare Center 86
 - Joplin Health & Rehab 120
 - NHC Joplin 126
 - Spring River Christian Village 120

Kansas City Star Article, 6/20/11

The Emergency Department physicians on duty looks up and sees a security guard tearing down the corridor.

"Take cover!" the guard shouts. "We're gonna get hit!"

Wind roars with such force the steel beams supporting the hospital's top floors twist four inches.

Glass explodes from every window; the air turns cold; lights flicker and die. The building jolts and is cloaked in blackness. Both generators, main and backup, have been blasted from their foundations.

Water pipes burst, showering everything. Ceilings cave; wires hang in the air like spider webs and spill on the floor. Explosive natural gas spews from broken pipes on the lower floors.

Our Client Honoring Their Staff

Tornado Impact – That Evening

- Hospitals: 367 of 756 licensed beds gone
 - St. John's Hospital: CLOSED
 - Before: 9 story building with 367 licensed beds
 - After: 3 tent field hospital with 60 beds, 20 for ER and 40 for patients
 - Today: Temporary Hospital (opened Sunday, April 15, 2012)
 - Freeman: 389 beds
 - 361 staff had homes destroyed out of 4,300
- Nursing Homes: 326 of 692 licensed beds gone
 - Greenbriar 120 (CLOSED 14 fatalities: 1 staff/13 residents)
 - Meadows Care 120 (CLOSED)
 - Joplin Healthcare Center 86 (CLOSED)
 - Joplin Health & Rehab 120
 - NHC Joplin 126
 - Spring River Christian Village 120

Tornado vs. Earthquake

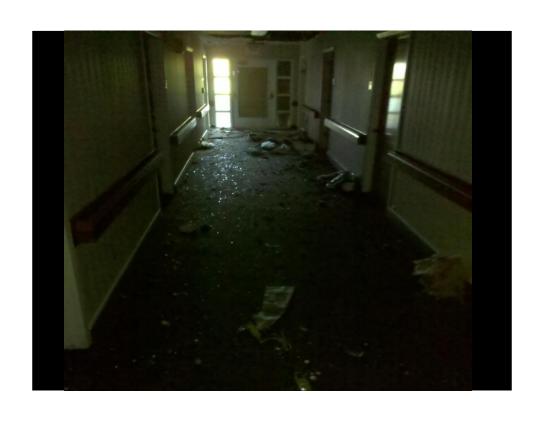
- Drop, Cover & Hold
- Move Patients into central corridors away from windows / doors to exterior
 - If unable to do so (e.g. higher acuity), move away from windows and cover with blankets / overbed tables

Don't stand in a door frame that has a door on it!

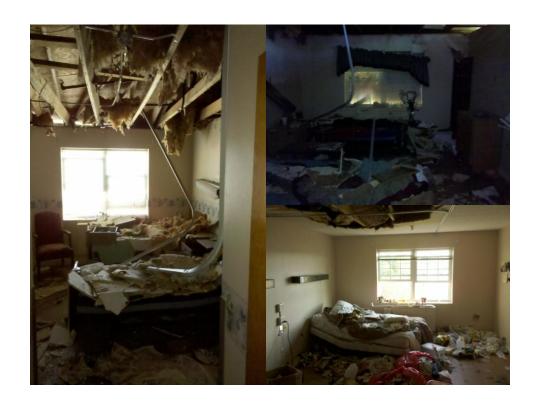












Hospital Impact

- St. John's Hospital Evacuation
 - Fires and exposed electrical throughout
 - Evacuation of all patients in 90 minutes (~187)
 - Generator failure destroyed (roof lands on the powerplant
 - Vertical evacuation completed in dark stairwells (NFPA 99 potential issue on lighting)





Hospital Surge

- Freeman Medical Center
 - Surge (41 ED treatments beds):
 - 20 Minutes: 200 patients
 - 120 criticals
 - 90 Minutes: 700+
 - 3 Hours: 1000+
 - $\sim 1,500 1,700$ total treated
 - Largest Single Influx of Patients in the US (on record)

Experience of a LTC Facility

- Roof lifted off building and dropped back down
- Staff ears popping from the pressure
- Exterior glass shattered and flew 25 30 feet
 - All agreed time permitting, put mattresses by end of corridor doors / windows if patients in hallway
 - Closed blinds reduced shatter spray
- Ceiling collapsed over exterior beds
 - Needed to shut down sprinklers due to water issues and no maintenance on-site

LTC Experience, cont'd

- Moved patients away from flowing water (sprinklers)
 - What is your shut-off valve strategy on a Sunday evening?
- Gas odor strong on exterior of building
 - Concerned about evacuating outside
 - What is your procedure for HVAC shutdown / containment?
- Coordination of staff by Nursing Supervisor and Charge Nurses—no leadership for 1+ hour
 - What was the Incident Command System used?
- Staff Calm \rightarrow Residents Calm

LTC Experience, cont'd

- Family members were put to work <u>or</u> took resident home
- Only 1 staff member went home
- Many off-duty staff reported to the facility
 - If homes standing and roads accessible
- Large influx / surge from community
 - Assumption that a "healthcare" facility can provide treatment
- Established external treatment and triage area
 - · Recommendation: No additional supplies needed
 - Addressed lacerations, missing limbs, etc.

Complete Evacuation

Components of a Full Bldg. Evacuation Plan

- Activation of Plan and Labor/Personnel Pool
- Establishment of Internal Holding Areas
- Resident Preparation on Units
- Marking of Resident Rooms (evacuated)
- Coordination of Transportation
- Determination of Receiving Sites
- Resident Tracking (internal and external)

Joplin Evacuation Reality

- Resident Preparation on Units
 - Meds & Personal Belongings in bags / Charts on laps
 - Marker with last name on arm
- Marking of Resident Rooms
 - Checked over and over again (Door Tags Recommended)
- Determination of Receiving Sites
 - No coordinated support
- Coordination of Transportation
 - Pick-up trucks and 4 door sedans
 - All POVs destroyed at facility
 - EMS on-scene 2 hours post event
 - 1st ambulance transport at midnight due to disaster

Joplin Evacuation Reality, cont'd

- Coordination of Transportation (equipment)
 - Pick-up trucks
 - Mattresses, wheelchairs, meds (beds followed next day)
 - Police road blocks, no facility ID → no access
- Use of Stop Over Point if applicable (fast out)
 - Stop over point became other healthcare facilities
 - Used before relocation outside of region
- Resident Tracking (internal and external)
 - Census log used on both ends
 - No Resident Evacuation Tracking Forms used

Joplin Evacuation Reality, cont'd

- Theft
 - Emergency Kit with emergency meds stolen b/w 2 5:00 AM
 - Lesson Learned: Monitor facility 24/7 after evacuation
- Go-Kit (needed)



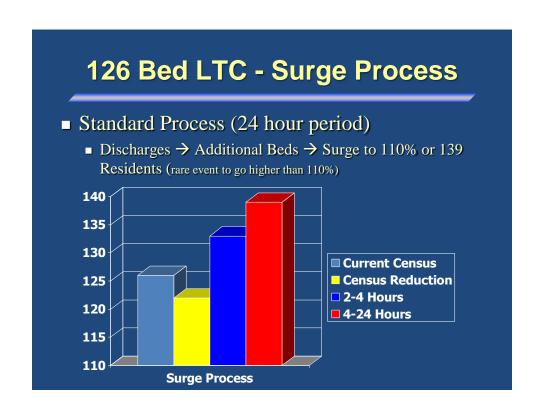
Pilgrim Rehab Example: 2011

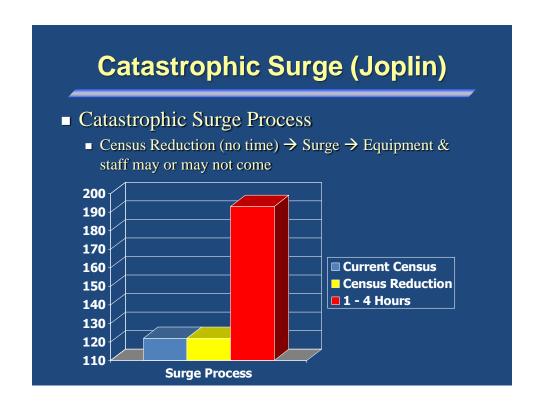
Influx of Residents / Surge

- Receiving facilities on generator
- Receiving facilities influx
 - Kept their residents in rooms / 4 open beds (out of 126)
 - Mattresses on floor or Geri chairs used in open space
- Tracking
 - Used Census List (from disaster facility)
 - Happened later (1:30 AM)
 - Charts with residents
 - NOTE: Other Joplin facilities received residents with no charts or information
- Equipment
 - Cycled in 30-45 minutes post resident arrival

Influx of Residents / Surge

- Resident Placement (Internal)
 - First Hours Residents on mattresses on floors in 3 primary locations
 - Maximum of 40 in a single dining room
 - Resident Names Tape on floor with names
 - Failed: Went to using name on forearm only
 - Day 2 Established zones for types of residents





Water

- Failure
 - Water Plant hit and limited to no water pressure
 - All bottled drinking never an issue
 - Toilets Force flush only / barrels placed on all floors
 - What is your strategy to address bucket brigades, barrels on resident care units, mechanism to distribute water to resident rooms (force flush)
 - Tankers brought in for fire protection and other utilities Fire department handled

Family Interaction & Personal Belongings

- Phones down limiting communications with family
- Family helped care for residents and relocated with them
- Issue: Facility names sounded similar
 - Joplin Healthcare / Joplin Health & Rehab, etc.
 - Frantic family checking all LTC facilities
- Personal Belongings Staff salvaged things and brought over in UHauls

Resident Relocation / Staff Support

- Social workers
 - Communication with families (as phones restored or face-to-face)
 - Approval for relocation outside area
 - 1 4 hours away
- Outside Region Receiving Facilities
 - Sent vehicles with clinical staff
- Staff from Corporate Groups
 - Daily trips with supplies to supplement Joplin teams (2 nurses, 4 CNAs & supplies)
 - Reserve hotel rooms ASAP (9pm that evening)

Communications

- Satellite Phone Failed (projectile)
- Landlines Failed
- Cell Phones Failed (1 type worked from roof)
 - Text Messaging Usually Worked
- Internet Failed
- 2-way Radios Worked
- Runners Worked
- HAM Amateur Radio Providers
- Gov't Emergency Telecommunications System (GETS) Cards

Communications

- Media
 - LTC Indicated: Amazing success with info local radio AM/FM
 - 100% of day for 1 week people called in and provided updates that were broadcast to all
 - Hospital Indicated: Complete failure b/c anyone could call in
 - Bad info floating around 100% of day
 - Hospital sent a person there for a full interview 1-2 times per day for the most current updates

Recovery

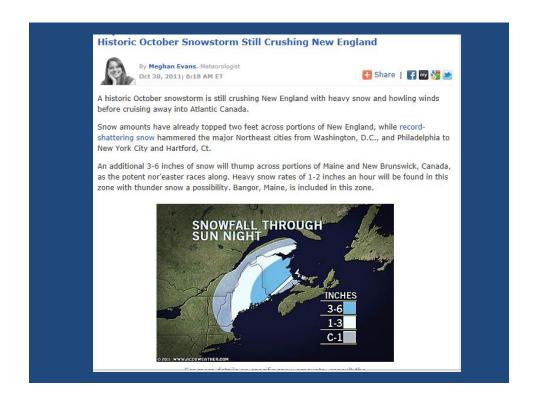
- Did the facilities continue to pay staff?
- Are they rebuilding to original capacity?
- How has this impacted future relationships between hospitals and LTC?
- Where did the residents end up?
 - Home
 - Other Local LTC Facilities
 - Other Regional LTC Facilities (2-4 hours away)
 - Transfer Trauma?

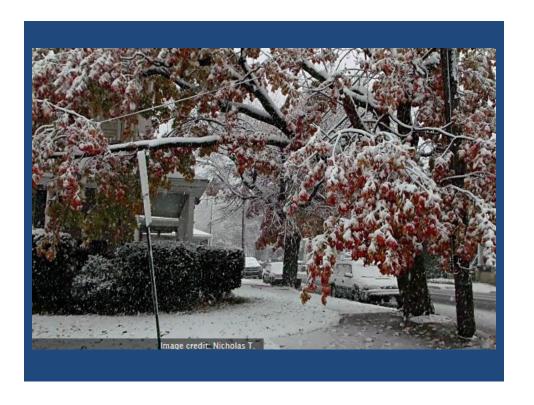






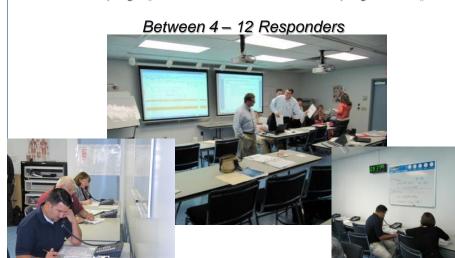








Locations: Jewish Geriatric Services (Reg. 1); Central MA EMS Corp - CMED (Reg. 2); Hebrew Rehabilitation Center (Reg. 3, 4 & 5)



Function of the LTC Coordinating Center / RMCC

- Assist and coordinate resident placement
- Support patient tracking "Close the loop"
- Assist with obtaining staff, supplies and equipment
- Assist with transportation of staff, supplies and equipment
- Interaction with local, regional and state agencies

ENSURE EVERYONE IS ACCOUNTED FOR

Hurricane Irene – One Experience

- Storm nearly over: 11:00am Sunday, August 28
- Multiple telephone poles and trees fell across road
 impacting access both ways
 - Power lines hanging across road less than 9 feet from ground - inhibiting EMS access
- Telephone pole on fire / immediate loss of power
- Generator activated → failed to transfer power
 - 911 called and responded
- Acuity of residents assessed. Staff dispatched to fill portable oxygen concentrators
- All IV lines and tube feeding 2 hr battery back-up
- **■** Emergency Responders wanted to evacuate



Their Street

- U-shaped road
- Both exits blocked by trees and telephone poles
- Difficult for staff to access



- Police closed road at Main Street in both directions
- Critical staff were turned away
- Staff had to be called to explain procedure for accessing facility
- No way for EMS or fire trucks to access facility

Situation Update

- To FD-requested 2 hrs to restore power or evacuate
 - Emergency Responders stayed on premises
- Mutual Aid Plan on alert
- Generator firm called to assess situation
 - 1 hour 45 minutes later generator company manually transferred power to building
- No more than 2 hours later generator started to leak oil and produce thick clouds of black smoke
- LTC-MAP: Activated the plan and Alert notification went out to all participating facilities

Situation Update, cont'd

- Arrangements made for 300kw rental generator
 - Power deliberately taken down for 2 hours to tie in rental
- Daily fuel deliveries due to smaller fuel tank
- City power resumed 6 days later

Halloween Storm: Same Facility

- October 29: Power failure (heavy snow and ice)
- Daily reporting of status to LTC Coordinating Center and State of CT
- Fuel vendor for generator (not accessible)
 - Used LTC-MAP to obtain alternate vendor
 - Daily fuel deliveries required
- Multiple facilities experienced same issue due to downed phone lines and cell towers

Halloween Storm Cont'd

- Hospitals requiring decompression (overloaded)
- November 2: requested waiver to surge 10% of capacity
 - Granted by CT DPH (15 minutes)
- Accepted 3 residents over capacity. More admissions in 1 week than we normally experience in 1 month
- Daily reporting to LTC Coordinating Center continues

Day 8/9 on Generator

- November 6: 4am; rental generator shuts-off
 - 911 called, remained on-site during event
- Generator company called to assess rental
 - Clogged fuel filter / Power resumed in under 2 hours
- On generator power until November 6 @ 5:30pm
 - Total of 9 days. 2 homes went 10 days with no power
- Army Corp of Engineers (Assessment kept on file indefinitely!)
 - On-site around noon to review specs of facility in the event an additional generator required
- No residents were at risk
 - All staff responded incredibly well
- December 28 Brand new generator installed

Emergency Reporting Information

- Key contact during event
- Beds status and type
- Operational issues and specifics
- Transportation vehicles, capacity & deployment time
- Staff: numbers / type and deployment time
- Resources & assets you can provide
- Resources & assets you may need

Statewide Actions in Irene and Halloween Storm

- **Reporting:** All completed Emergency Reporting
- **Situation Report:** Provided 1-2 Times Daily to DPH and Regional Partners (submitted to CMS)
- "At Risk": Members Communicated with
 - CT: 20 out of 78 (Irene) / 55 out of 78 (Alfred)
 - MA: 47 out of 447 (Irene) / 54 out of 447 (Alfred)
- Activation: Full stand up on multiple occasions for potential or actual evacuating facility
 - **IRENE NOTE:** In CT, 4 of 91 (incl. 11 hospitals) had generator failures at one time or another (4.4%)

Emergency Back-up Generators

- How deep have you gone?
 - Is there any redundancy (generators that parallel)
 - Do you have a quick connection pre-wired with transfer switch?
 - Voltage / Kw / Service Amperage
 - Cable Run (in feet to the electrical service)
 - Fuel Source
 - Exact Location on Campus (back-up)

Prioritization / Coordination

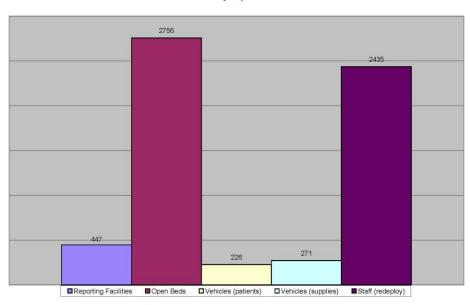
- Facilities Grouped for Tracking
 - Group 1: Reported No Issues (no actions taken / not called)
 - **Group 2:** Reported Issues (communicated with between 1-2 times daily for situation updates and resource needs)
 - Group 3: Did Not Report Considered "at risk" until communicated with
 - Drains resources when the facility is "OK" and did not report

Hospital Decompression

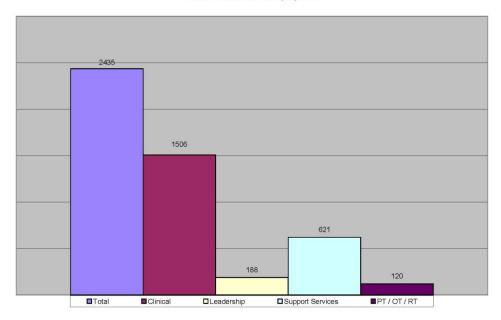
Frail Elderly / Medical Equipment / Clinical Needs

- 1. Standard Discharges
- 2. Medicare Eligible 3 day length of stay requirement (major hindrance)
- 3. Medicaid Eligible PASRR and Ascend
 - Payment under Respite Care provision
- 4. Private Insurance 3-5 days / until can return home
- 5. Private Pay -3-5 days / until can return home
 - Hospital / LTC rate discussions

MassMAP Summary Report - Hurricane Irene



Staff Available for Redeployment



Successes

- 100% accountability for all regional LTC facilities
- Effectively activated to support evacuation or imminent vendor / equipment needs
- Prepared to support out of region facilities (interactions with NYC in Irene)
- Communication Process with DPH and the RMCC / LTC Coordinating Center
- Communication Process with Members

Challenges

- Facilities Improperly Reporting
 - Reported they were OK, but really were "on emergency power" but OK
- Decompression of hospitals
 - 1135 Waiver would have minimized obstructions to decompress hospitals
 - Communications between hospitals and LTC

National Issue: Consistency in Handling Disaster Events

- Single Facility Event / Isolated Incident
 - Extremely challenging to preplan payer process
 - Fire or other immediate threat emergency forcing evacuation
- Single Facility Event / Regional Impact
 - State typically has exhausted all resources prior to waiver request
- Multiple Facility Event / Regional Impact
 - Easiest to secure 1135 Waiver

INFLUX OF RESIDENTS/ SURGE GUIDELINES FOR LONG TERM CARE FACILITIES

- •Originally developed in the Spring of 2010
- •Recent updates and enhancements for Spring 2012
- •Final Version: Prior to June disaster exercises

Overview

- Review intent / goal
- Overview components
- Key updates since 2010
- Review the surge planning process / tools

Introduction / Intent

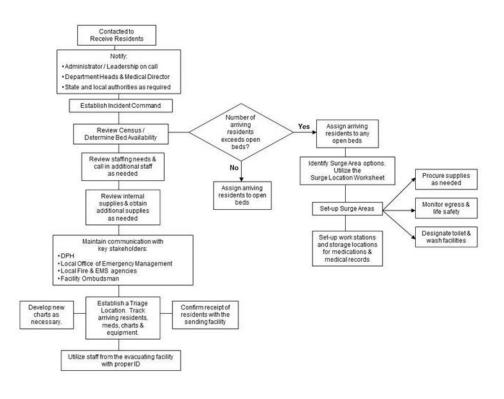
This document is intended to provide guidance to a long term care facility on the receiving end of a healthcare facility evacuation. It is intended to serve as a best practice template. Therefore, to be properly utilized by a specific facility, the guide will require review and tailoring. In many cases, footnotes have been utilized throughout the guide to prompt locations where facility specific tailoring will be required.

Introduction / Intent

- Addresses short term influx / surge situations
- 72 hours or less (24 hours is the state limit for before admitting; but 72 hours for sheltering)
 - Shelter: space designated in the licensed LTC facility in common space (not located in resident rooms) to those not admitted and beyond 24 hours (WAIVER)
 - Surge: Establishment of non-licensed beds located in designated shelter space (WAIVER)
 - Holding Area: Under 24 hours (NOTIFICAION ONLY)
- Does not address longer term resident care and sheltering solutions

Components (Key Components – Sect. I – IV)

- Algorithm
- Section I Activation & Preparation
- Section II Influx Utilizing Existing Licensed Beds
- Section III Surging to Shelter Evacuated Long Term Care Residents
- Section IV Sheltering Hospital Referred Special Populations
- Attachments / Tools



Activation

- Initial contact (to you via HHAN or phone call)
- Internal notifications
- External communications
 - added State and Local Authorities as required
- Incident Command
- Census / resident capacity (open beds by type)
- Staffing (call-ins / quantity and type)
- Supplies (Food, Nursing, Housekeeping, Maint)
- Triage (Identify area)

Activation

- Food (modify menus)
 - Account for additional residents, staff and family)
- Media and families (prepare statements)
 - Unifying families with residents as soon as possible
- Resident tracking
 - Communicate to sending facility specifics
 - Fax Influx of Residents Log if possible
- Credentialing (process detailed)
- Finance (monitor all costs incurred)

INFLUX UTILIZING EXISTING LICENSED BEDS

- Resident placement
 - Do not consider beds held for confirmed admission
- Continuing Care—ensure a strategy to provide continuity of care
 - Monitor impact on incoming and existing residents
 - Medical, nursing, behavioral and psychological needs

SURGING BEYOND LICENSED BED CAPACITY TO SHELTER EVACUATED LTC RESIDENTS

- Resident placement
- Options for increasing capacity
 - Outlined in the following slides
- Surge area set-up
 - Standard and "Emergent situations"
 - defined on the following slides

Options for Increasing Capacity

- Vacant licensed beds (NOTIFY ONLY)
- Reactivate licensed beds temporarily out-of-service
 - Contact DPH to reactivate the beds into downsized bedrooms (rooms that once had the space and these will be licensed)
- Transform non-sleeping areas into temporary shelter areas (WAIVER REQUIRED)
 - Areas served with emergency power for residents with critical electric medical equipment

SURGING BEYOND LICENSED BED CAPACITY No Minimum No Minimum No Minimum Sample Layout #1



Emergent Situations

- Immediate hosting of persons is needed
 - This may include an isolated single facility evacuation.
- Regional event multiple facility evacuations
- Situations affecting infrastructure and transportation routes
 - This may include situations where extended travel is unsafe due to road conditions and/or weather conditions.
- Situations that limit transportation resources
 - This may include scenarios where transportation resources (including EMS) are overwhelmed and transport over extended distances is impractical.

SURGING BEYOND LICENSED BED CAPACITY

- Medications and Medical Records
 - Designated storage
 - Maintain security standards for controlled substances
- Continuing Care

SHELTERING HOSPITAL REFERRED SPECIAL POPULATIONS

- Intake and placement
- Security and monitoring

Attachments / Tools

- Attachment A Influx / Surge Equipment Storage
- Attachment B Influx / Surge Supply Vendor List
- Attachment C Influx of Residents Log
- Attachment D Shelter/Surge Planning Worksheet
- Attachment E & F Massachusetts DPH Waiver Request Form
 - Sheltering of Evacuated Residents / Special Populations

Surge Planning

ATTACHEMENT D - SHELTER / SURGE PLANNING WORKSHEET

Internal Location	Ability to Set-up (1) – quick (2) – moderate (3) – extended	Set-up Instructions and Notes	Use Priority ²² (high) (mid) (low)	Max. Capacit
AMPLE – 1st Floor Therapy Suite	2	Move all tables, chairs and equipment to the east end of the room. Set-up four (4) groupings of four (4) cots or mattresses. One resident accessible toilet within the space. No nurse call. Tap bells will be required.	high	12

