

Sunrise Hospital & Medical Center

Response to October 1 Mass Casualty Event



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Christopher Fisher, MD FACS
Trauma Medical Director

Jeffrey Murawsky, MD FACP
Chief Medical Officer

About Sunrise Hospital & Medical Center



- 692-bed adult & children's hospital
- Regional center for tertiary care
- 170,000 ER visits annually
- Closest hospital to Las Vegas Strip
- Level II Trauma Center

Level II Trauma at Sunrise Hospital

- 2842 trauma activations in 2017
- 2651 adults and 191 pediatric cases
- 43% admissions, 27% to critical care units

Sunrise Hospital Trauma Center Team

Trauma Surgeons:

- Christopher Fisher, TPD MD FACS, Trauma Surgeon (2004)
- Stefan Chock, MD, Trauma Surgeon (2005)
- Ben Davis, MD, MPH, Trauma Surgeon (2004)
- Matthew Johnson, MD, Trauma Surgeon (2013)
- Kitae Kim, MD, FACS, Trauma Surgeon (2005)
- Alan D. MacIntyre, DO, Trauma Surgeon (2010)
- Sheri Stucke, Ph.D, APRN, Trauma Nurse Practitioner (2005)



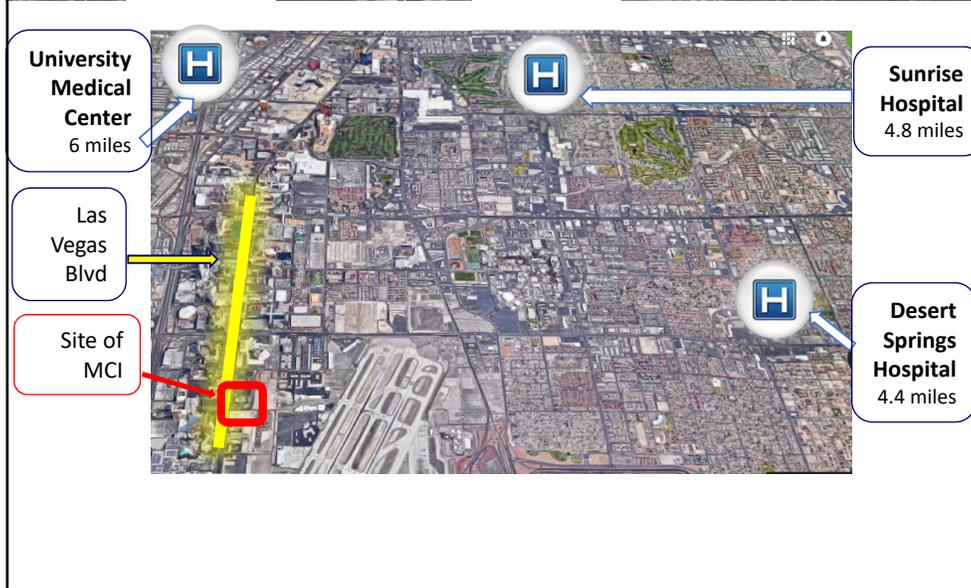
Sunrise Hospital Trauma Center Team

Emergency Team Leadership:

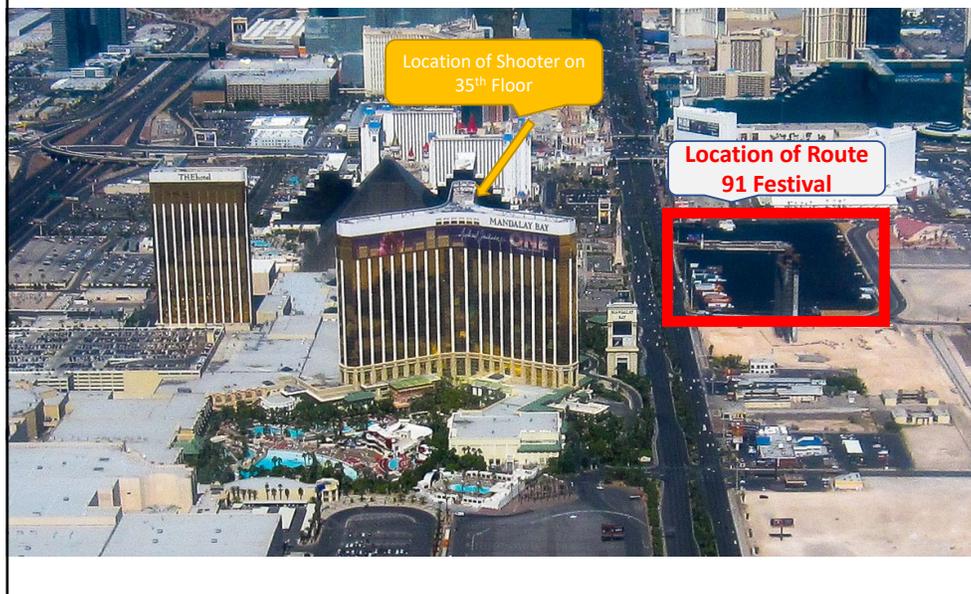
- Dr. Scott Scherr – ER Medical Director
- Dr. Jaime Primerano – Assistant ER Medical Director
- Dr. Kevin Menes – Attending Physician, night shift



Our Proximity to the Incident...



Our Proximity to the Incident...



EMS Arrival Process and Coordination



Initial EMS Call Distribution

Delayed Call Distribution



7

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212 patients treated (identified) + at least 30 still unidentified

92 patients arrived with no identification

64 admissions to floor, 31 to ICUs and 34 observation stays

≈ 100 physicians & over 200 nurses responded to assist

83 surgeries performed

516 blood products administered

50 crash carts deployed in 1 hour

Together, we are a community dedicated to healing.

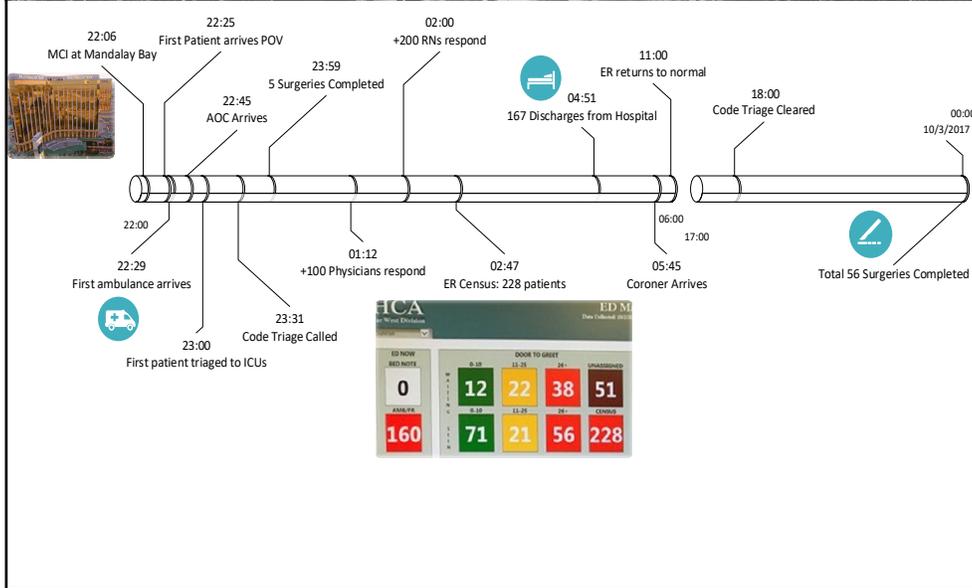
Patient Breakdown

- **124 Gun Shot Wounds**
- **58 surgeries in first 24 hours**
 - 5 Thoracic
 - 15 Abdominal
 - 5 Cranial and Cervical
 - 17 Orthopedic
 - 2 Vascular
 - 9 Multi system
- **87 total surgeries**
 - 7 additional Cranial and Cervical
 - 15 additional Abdominal
 - 6 additional Orthopedic
 - 2 additional Multi system

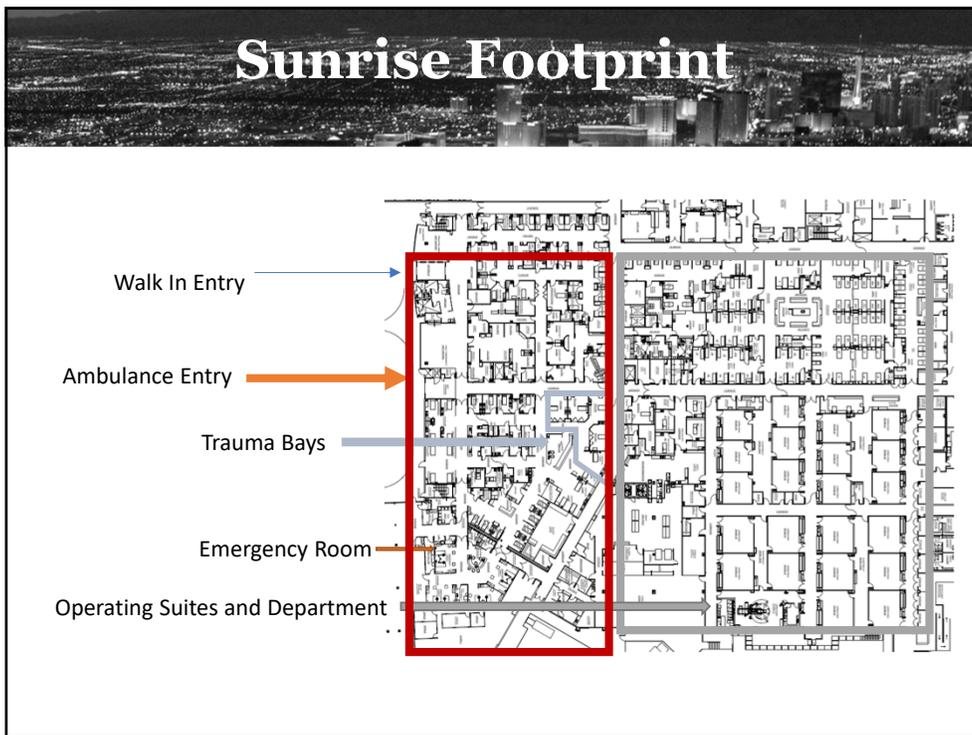
Patient Breakdown

- **16 Mortalities**
 - 10 DOA
 - 4 Unsalvageable
 - 1 Intra-Operative
 - 1 Withdrawal of care (Brain Death)
- **516 Blood Products**
 - 222 units of PRBC
 - 100 units of Cyroprecipitate
 - 119 units of FFP
 - 42 units of single donor platelets
 - Waste
 - 5 single donor platelets
 - 21 units of PRBC
 - 7 units of FFP

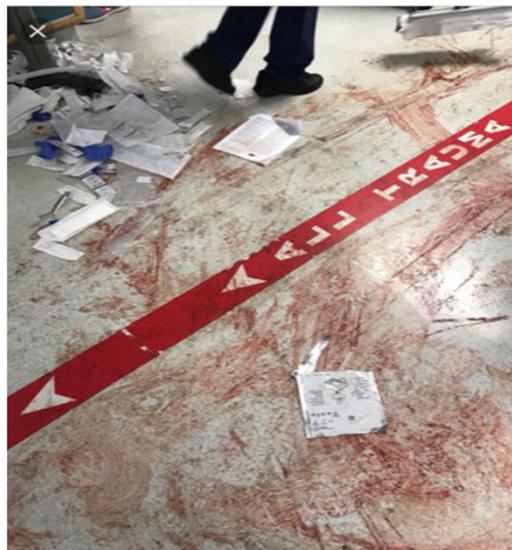
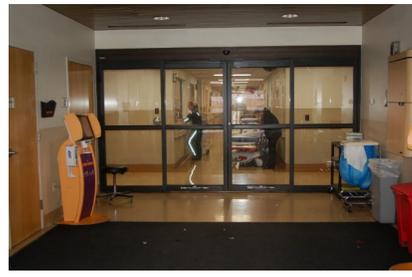
Preliminary Event Timeline



Sunrise Footprint

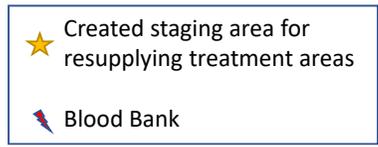


Entry to Emergency Department



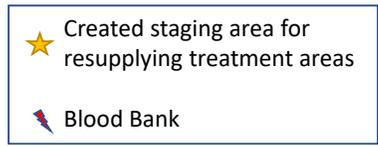
Triage, Assessment and Treatment

- Utilized Emergency Room for Initial Stabilization and Evaluation
- Color Coded System for Triage
 - Black, Grey, Red, Orange, Yellow, Green
 - Grey and Red first priority for Trauma Team
 - ED managed and addressed Orange and Yellow
 - Green after triage, evaluated by additional ED staff on arrival



Triage, Assessment and Treatment

- Routed to Trauma Bays for Initial Treatments with major injuries
- Emergency Room areas dedicated to specific treatments
 - Major Injuries to Trauma Space (RED)
 - Overflow into ED care areas, avoided spaced with poor line of sight
 - Minor injuries to Pediatric Space (GREEN)



Triage, Assessment and Treatment

- Activated hospital staff to pair one RN to one patient until handoff to OR, ICU or Floor
- Dedicated RT for intubation support and supply pack creation in ED
- Dedicated ED pharmacy resources to ensure adequate medication supplies
- Temporary Morgue to handle expanded numbers of victims



★ Created staging area for resupplying treatment areas

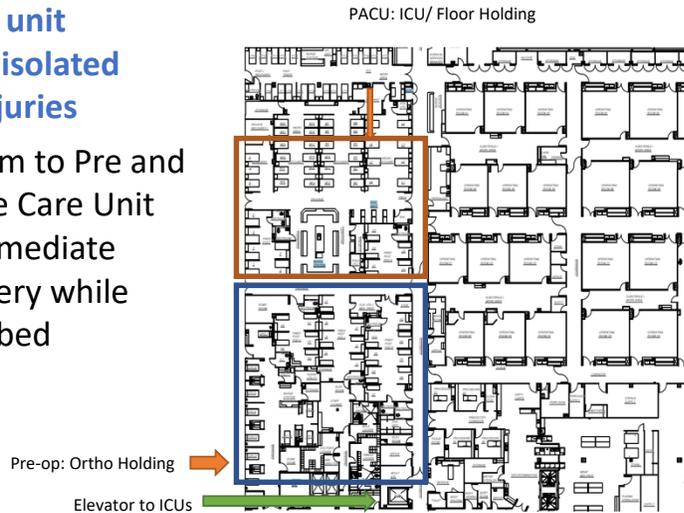
⚡ Blood Bank

Trauma Bays and Emergency Room Spaces



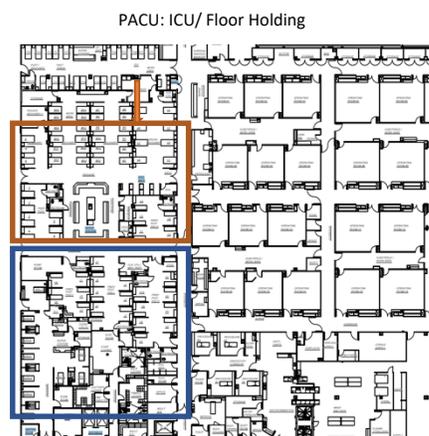
Triage, Assessment and Treatment

- **Pre-operative unit dedicated for isolated orthopedic injuries**
- Dedicated team to Pre and Post Operative Care Unit to manage immediate post-op recovery while assigning ICU bed



Triage, Assessment and Treatment

- **Transitioned patients to ICU to complete evaluations**
 - Trauma Surgeon, Anesthesiologist, Intensivist and support team in each ICU
 - Moved as soon as hemodynamically stable
 - Mobilized Hospitalists and Intensivists to ensure open ICU beds (184 discharges in 15 hours)



Triage, Assessment and Treatment

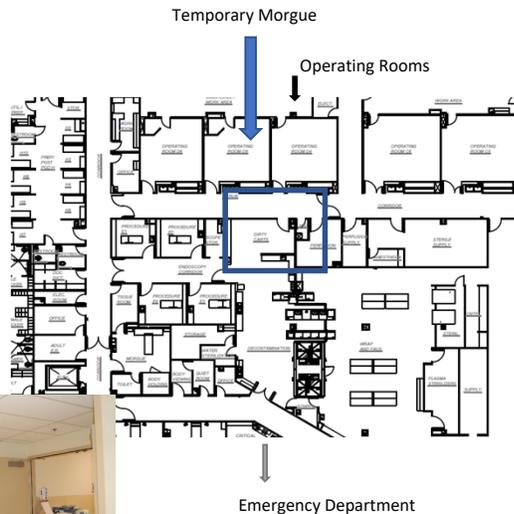
- **Dedicated Additional Staff for OR room turn around**
- Grouped pods of OR rooms for specific types of cases
- **Ensured sufficient anesthesia coverage to operate all available rooms (capacity of 20)**
- Operative Prioritizations
 - Hemorrhage > Contamination > Revascularization > Decompression > Stabilization
 - Damage control
 - Cancel elective schedule, anticipate numerous repeat OR visits

	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5
ENDO
C1
C2
C3
C4
C5
D1
D2
D3
D4
D5
E1
E2
E3
E4
E5

Triage, Assessment and Treatment

Created Temporary Morgue in Endoscopy

- Plan for appropriate management and preservation of evidence
- Assigned staff to assist with coordination with Coroner's Office and family notification
- Ensure that staff appropriate
- High risk for post-incident stress





Hospital Wide Efforts

Logistics

- Blood Bank ensured shifting of supplies from hospitals not impacted
- Ensured Environmental Services team dedicated to all spaces
- Support from local HCA hospitals to ensure all supplies available at all times
- Created dedicated supply chains for pharmacy, surgical and general needs
- Created additional inpatient bed capacity thru returning beds to service
- Ensured security engagement to control campus

Family/Staff Support

- Assigned Chaplain and Social Worker Resources to manage concerned families
- Created Dedicated Family Space allowing treatment space to not be disturbed
 - On Ward family brought to bedside
 - Staff to managed visits in the operative and trauma areas
- Regular communications to update on status
- Dedicated Nutrition Teams to keep staff hydrated and fed
- Immediate Deployment of Crisis Counselors from HCA, Department of Veterans Affairs and Local Teams



Hospital Wide Efforts

Steps in Recovery:

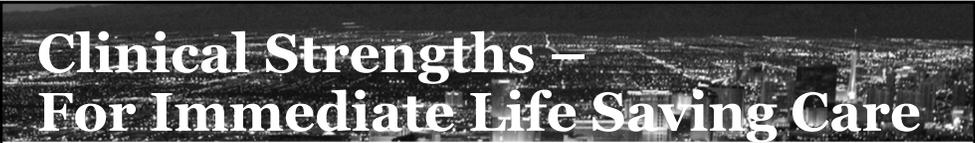
- Employee assistance program deployed at both a fixed location and teams rounding on the units to provide both individual staff and staff-family member support
- Leadership rounding within all departments of the hospital
- 1:1 and small group debriefing discussions and critical incident stress debriefings in focused areas
- Leadership will coordinate a survivor reunion (requested by staff) to assist patients, families and staff in the healing process
- Illustrations of appreciation and pride will be shared with staff, families, visitors and the HCA community

Clinical Strengths – For Immediate Life Saving Care

- Experienced tactical (SWAT) physician made an **early decision to designate areas in the Emergency Department (*1)**
- ED and Trauma Physician leaders **strategized to stabilize patients in the ED then immediately transfer by primary injury category (*2)**
- ED Physician took **lead on immediate triage of victims and directed to appropriate areas**
- Trauma Physician took **lead on surgical triage and directed surgical strategy**

Clinical Strengths – For Immediate Life Saving Care

- **ED Nurses rapidly reprioritized patients and initially engaged in resuscitation** of multiple patients until additional staff arrived
- **Leaders take pause in care to organize a system response** (Critical factor to gain control)
- **Paramedics and flight crew on-site supported** Sunrise staff by placing IOs and Intubations
- **Clinical staff self-dispatched** to support the anticipated need at Sunrise and upon arrival did whatever role or task was needed
- Pulmonary and Critical Care staff were available and engaged in on going care needs to leverage trauma team capabilities



Clinical Strengths – For Immediate Life Saving Care

- Rapid and wide-spread **utilization of Interosseous (IO) Needle** for volume management and med administration
- RRT rapidly developed **intubation packs** (Meds/Tube/ETCO2 cap)
- Use of **capnography for tube confirmation** (due to scope batteries dying)
- Radiologist performed **immediate bedside read on digital x-ray machine**
- Cardiology performed **bedside ECHO & FAST exam**
- Use and **triage of O-Negative blood**



Non-Clinical Strengths

- **Early notification (verified)** by hearing initial police dispatch on Metro PD Officer's radio in ED
- **Whole-of-community response by staff** of Sunrise Hospital (All departments, all personnel did what was needed without delay to save lives)
- **iMoble for rapid & effective mass notification of in-house staff** (Best Practice in Nursing Supervisor utilization of iMobile messaging system)
- **Metro Police and Sunrise Public Safety Officers secured the facility perimeter** for safety of staff and patients
- Strong coordinated **Media Center** to allow providers to focus on care while informing national community



Non-Clinical Strengths

- Experienced Hospital Team leading Incident Command Structure (**HICS**)
- **Early establishment of a family staging area** (Critical point to keep family out of the clinical units to allow staff to care for volume of patients and to manage a safe environment of care)
- **Give the families/loved ones a task so that they can focus** and feel a contribution
- Provide on-going **updates to the families** at **routine times** to manage anxiety and expectations
- **CEO provided the family updates** so that they feel the top leader is addressing their concern



Non-Clinical Strengths

- **EVS rounded on the ORs** to perform a rapid “all-hands clean-up” to turn over the ORs rapidly
- Single **rooms (head-walls) were made into double or triple occupancy** to manage the surge
- **Leadership presence and emotional intelligence instilled in staff a sense of calm and stability** that gave staff the sense of order and safety while they worked
- Supplies and staff from **sister HCA facilities allow for additional surge capabilities**
- **Early critical incident stress debriefing by on-site VA vans and from resident Chaplains** prior to formal CISD and EAP resources



Clinical Opportunities

- **Disaster order sets with first nurse protocols** for immediate response to clinical surge needs (CBRNE & Trauma Surge)
- Additional **education and training for triage (consider START triage)** for ED staff and more importantly additional facility clinical staff, such as OR, ICU and MedSurge Physicians, Nurses and Respiratory Therapists
- **Standardize facility equipment, such as rapid infusers**



Clinical Opportunities

- **Pre-determined mass fatality management plan with greater detail for large scale events** (Body staging, identification/documentation, family reunification and viewing, forensic protocol and family notification process)
- **Establish a revised disaster surge cart set** that has the critical life-saving surge supplies and equipment, as well as intermediate and minor care supplies
- **Education to all clinical staff in the use and administration of IOs**, as well as the stocking of IOs in higher quantities for rapid infusion access

Non-Clinical Opportunities

- **Need for an automated mass notification system** for staff and physicians (Text, Voice and Email)
- **Revision of systematic trauma alias identification system**
 - Rapid System
 - Unique Mass Casualty Aliases (300+)
- **Improve mass care documentation process** and system (Manual paper charting / Downtime Forms)
 - Progress Notes
 - Order Protocols and Order Sheet
 - Nursing Documentation
 - Physical Identifiers and Social Information

Non-Clinical Opportunities

- **Increase stock of triage tags** (Rapid triage tags that match the local EMS triage protocols)
- **Installation of a bi-directional cellular phone amplifier** for effective cell phone coverage within the facility and back up systems when inoperable
- **Designated county emergency operations liaison** with clinical background
- **Expand use of portable two-way radios and communication plan** for every-day and surge communications



Non-Clinical Opportunities

- **Improve Bed Assignment System to accommodate surge processes**
- **Defer IT updates** when a critical incident is occurring
- **Staff and volunteer staging and accountability process** is needed to maintain control as well as safety and security within the environment of care during mass casualty incidents
- **Improve rapid staff identification system** (For staff that arrive without their identification that can be verified and identified)



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“Everyone just focused on taking care of the patients and doing their job.”

“We had all the supplies and staff we needed”

“The whole hospital came together”

“We maintained a calmness throughout the chaos”

