Pre-hospital Trauma Education …in a Changing World

LE/Fire/EMS Training Together

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Disclosure

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- In accordance with the Accreditation Council for Continuing Medical Educations (ACGME) Standards, the American Nurses Credentialing Center's Commission on Accreditation and the Continuing Education Coordinating Board for Emergency Medical Services and the policy of the ACEP, ENA and CECBEMS, presenters must disclose the existence of significant financial interests in or relationships with manufacturers or commercial products that may have a direct interest in the subject matter of the presentation, and relationships with the commercial supporter of this CME activity. These presenters do not consider that it will influence their presentation.
- Dr. Listerman does not have a significant financial relationship to report.

How I got to this point...

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- Flight Surgeon with USN
- Flight Surgeon with NASA
- Medical director with three local Fire/EMS departments
- Medical director and team member with local SWAT/SRT
- Physician Director of Emergency Preparedness
- Attending ED physician at Level 1 trauma center and ED residency.

How I got to this point…

- i.e.---**I train as a TEAM with many groups**

- The reasons we train
  - Learn new skills or knowledge
  - Solidify that skill or knowledge
  - Work smoothly as a team when the SHTF

Our Goals today

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- Demonstrate need for combined training-LE, Fire, EMS
- Understand reducing time to initial lifesaving treatment saves lives
- Real world situations that shows value of this training
  - Tactical and non-tactical
  - Hemorrhage and airway control
- Provide specific plans, tools, scenarios to implement training

The order of fun!

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- Scenario-the traditional approach
- Roles
- Current State…and who benefits from Combined Training
- Groups that support Combined Training
- Events that have occurred
- Simple Areas of Confusion
- Some history of Active Shooter Events (ASEs)
- How the “RTF” concept works
- Other Shared Training Scenarios
- Hurdles to overcome
- Scenario…run differently this time
- The Take-Home Message

Scenario 1…

- Active shooting event
- 911 call…not just one agency!
- First arrival…police usually first
  - Columbine taught them to IMMEDIATELY contain shooter-LE changed tactics
- EMS Staged pending “safety” of situation
  - We will cover how “safe” it is or isn’t…and people die when care waits
- 5 Victims
  - Major hemorrhage-will bleed to death in a few minutes
  - Chest wound- progressive respiratory distress…and will die in 15-20 min
  - Abdominal wound-will likely live, but on-scene suffering
  - Upper extremity wound—non life threatening
  - Not wounded-but do they have the knowledge/tools to help?
- 3 live, 2 die, LE/Medics safe, scene controlled, community angry

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“The fate of the wounded rests in the hands of the ones who apply the first dressing”

LTC. NICHOLAS SENN 1898

Chief Surgeon, Sixth Army Corps

49th President of the American Medical Association

1844-1908

Are the Roles that different?

- Police
  - To Protect and Serve
- Firefighters*
  - Rescue from fire, structure collapse, educating children…
- Medics*
  - Rapidly bring lifesaving medical care out to the community

*Fire and EMS often housed together. Aurora did not have this arrangement.

Are the Roles that different?

Different Roles...Same Goals

- Police, Firefighters, Medics

- They all put themselves <u>at risk every day</u> to help others in their communities.

Todays overriding goal..

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- Convince you that combining training with Police, Fire, Paramedics (and Intermediates and Basics) is not only good...but it right and necessary.

- We and our communities NEED to do this!

The current state…

- Fire, EMS, and Police(LE)
  - rarely train together
  - despite often working together in the field and…
  - having a common goal of public safety.
- Although common goals, LE and FD/EMS have different…
  - Missions
  - special needs
  - and special equipment.

Real World Situations... training together may help?

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- A traffic accident or home injury may also be a crime scene while EMS may simply see patients needing care.
- Large scale events (e.g. Boston bombing, Aurora shooting, LAX shooting) require coordination and understanding to make use of resources effectively.
- FEMA is now recommending rapid deployment of EMS for active shooter situations in mitigated risk areas and deployment of Rescue Task Force (RTF) or equivalent.
- EMS providers and physicians need to know how to work in these arenas, how to care for some of these patients and deal with these issues

Real World Situations...
Common dispatches include:

- Vehicle accidents
- Domestics
- Assaults
- Hazmat
- Clandestine labs/Meth
- Bomb threats
- Structure fires
- Search/rescue
- Tactical police operations (= or – embedded TEMS)

What events Need Cooperation?

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- Active Shooter
- Terrorist
- Disaster
- Any large scale event with risks to life in a community
- In truth…ANY situation can benefit from cooperation

Active Shooter Events

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- Large media attention recently (Marysville Pilchuck High School)
- Have demonstrated need for coordination
- All (LE, Fire, EMS) can benefit from combined training

We will approach many of todays points considering the Active Shooter Scenario to be consistent..

Am I the only one promoting this?

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- FEMA position
- The Hartford Consensus
- NFPA
- IAFF Position Statement: Active Shooter Events
- IAFC Position: Active Shooter and Mass Casualty Terrorist Events

FEMA-To increase survivability of victims:

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- Fire/EMS and LE should
  - ...plan and train together.
  - ...establish a single Incident Command Post (ICP) and establish Unified Command (UC).
  - ...Include AS/MCIs in tabletop and field exercises to improve familiarity with joint protocols. Regularly exercise the plan.
- ...fire department personnel must learn common LE terms and vice versa. Share definition of terms to be used in AS/MCIs and establish a common language.
- Incorporate tactical emergency casualty care (TECC) into planning and training.

Excerpt from:
U.S. Fire Administration, Fire/Emergency Medical Services Department Operational Considerations and Guide for Active Shooter and Mass Casualty Events. September, 2013

The Hartford Consensus …what is it?

- *Joint Committee to Create a National Policy to Enhance Survivability From Mass-Casualty Shooting Events.*
- *American College of Surgeons (ACS) played a leadership role.*
- *Representation from:*
  - *American College of Surgeons*
  - *PreHospital Trauma Life Support*
  - *Federal Bureau of Investigation*
  - *Major Cities Chiefs Association*
  - *International Association of Fire Chiefs:*
    - *emergency medical services (EMS) section*
  - *Committee on Tactical Combat Casualty Care. (TCCC)*

The Hartford Consensus

- "Care of the victims is a shared responsibility between law enforcement, fire/rescue, and EMS"
- "The Hartford Consensus seeks to improve survival from active shooter events. The use of THREAT and a more integrated response by law enforcement fire/rescue, and EMS offers communities a mechanism to minimize loss of life in these incidents."
  - **T**hreat suppression
  - **H**emorrhage control
  - **R**apid **E**xtrication to safety
  - **A**ssessment by medical providers
  - **T**ransport to definitive care

Active Shooter and Intentional Mass-Casualty Events: The Hartford Consensus II
By Joint Committee to Create a National Policy to Enhance Survivability From Mass Casualty Shooting Events
PUBLISHED September 1, 2013

The Hartford Consensus
Public:

- **Uninjured or minimally injured victims can act as rescuers. Everyone can save a life.**
- Initial response from uninjured bystanders and minimally injured victims
- Design education programs and implement training for a public response
- Pre-position necessary equipment in appropriate locations
- Education message should include the concept of “Run, Hide, Fight”

The Hartford Consensus
Law enforcement:

- **External hemorrhage control is a core law enforcement skill.**
- Ensure appropriate equipment is available to every law enforcement officer
  - tourniquets and hemostatic dressings
- Ensure assessment and triage of victims with possible internal hemorrhage for immediate evacuation to a dedicated trauma hospital
- Train all law enforcement officers to assist EMS/fire/rescue in the evacuation of the injured

The Hartford Consensus
EMS/fire/rescue:

- **Response must be more fully integrated and traditional role limitations revised.**
- It is no longer acceptable to stage and wait.
- Training must include hemorrhage control techniques
  - tourniquets, pressure dressings, and hemostatic agents.
- Incorporate Tactical Emergency Casualty Care training
- Modify the response doctrine to improve the interface between EMS/fire/rescue and law enforcement in order to optimize patient care

NFPA September 2013 adopted a position paper

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"

- It is imperative that local fire and police departments have common tactics, common communications capabilities and a common lexicon for seamless, effective operations.
- Local fire and police departments should establish standard operating procedures to deal with these unusual, highly volatile, and extraordinarily dangerous scenarios.
- Police and Fire Departments should train together. Initial and ongoing training and practice are imperative to successful operations.
- In accordance with NIMS guidance, Fire and Police should establish a single Command Post (CP) and establish Unified Command (UC).

"

UFF Position Statement: Active Shooter and Mass Casualty Terrorist Events

September 16, 2013 – Fire chiefs from the United States, Canada and the United Kingdom participated in the National Fire Protection Association (NFPA) Urban Fire Forum (UFF) in Quincy, Mass. September 12-14

IAFF and IAFC Position Statement: Active Shooter Events

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- Law Enforcement and Fire Departments should train together.
- Initial and ongoing training and practice are imperative to successful operations.
- Use of the Rescue Task Force (RTF) concept for on scene response.
- Use of common communications terminology

http://www.iaff.org/Comm/PDFs/IAFF_Active_Shooter_Position_Statement.pdf

Real Events inspiring change
Columbine High

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- Columbine High taught LE that they need to rapidly enter during active shooter events.

- Officers responding to Columbine sought to set up a perimeter and contain the shooters.

- "The fundamental change is that if somebody is actively shooting, then the law enforcement officers are being trained to move toward the sound of the guns."

retired Army Lt. Col. Dave Grossman

Real Events inspiring change
Aurora Theater

- Ambulance, Fire, and police confusion
- University of Colorado Anschutz Medical Center received 3/23 patients by EMS.
- Most of the sickest came in Police vehicles.
- Notification from fire dispatch to emergency medical workers was 17 minutes after the shooting was reported.

- VERY complex causes… I am NOT pointing fingers.

Real Events inspiring change
Boston Bombing

- Police officer (and brother of onboard medic) drove the ambulance with injured Officer Richard Donahue to hospital after the shootout with Boston bombing suspects.

- The ambulance emergency brake remained on the whole trip since the officer had never been shown the basics of ambulance driving.

http://www.bostonglobe.com/metro/2013/04/25/valor-devotion-brought-watertown-drama-end/XSFt1NfwswPTxgdQx81LJM/story.html

Real Events inspiring change
LAX TSA Shooting

- TSA officer laid bleeding at LAX for 33 minutes until he could receive medical care…28 minutes after police neutralized the suspected shooter.
  - *"I basically think there's a lack of coordination between entities at this airport."* said Dr. Lawrence E. Heiskell, a physician and reserve police officer who founded the International School of Tactical Medicine.

What do they ALL have in common?

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- Need to get EMS/medical care to the patient quickly
- Staging and waiting for “safe” does not work
- Areas are not “safe” for a long time
  - Neither are calls to accidents
  - Neither are burning structures
  - Neither are upset family members
- People die in minutes…we can not wait to initiate care

Simple Areas of Confusion

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Terminology

- Hot Zone
- Warm Zone
- Cold Zone
- Inner Perimeter
- Outer Perimeter
- Concealment
- Cover
- Contact Team
- Immediate Action Team
- Rescue Team
- Rescue Task Force
- Casualty Collection Point
- TEMS

Simple Areas of Confusion

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Numbering

Law Enforcement

- Building Side Designation-LE
  - Side 1
  - Side 2
  - Side 3
  - Side 4
- Building Floor Designation-LE
  - A, B, C…
- Floor **NOT** Divided into Quadrants
- Window/door Openings
  - L→R 1, 2, 3, etc

Fire/EMS

- Building Side Designation-Fire/EMS
  - Side A
  - Side B
  - Side C
  - Side D
- Building Floor Designation-Fire/EMS
  - 1, 2, 3…
- Floor Divided into Quadrants
  - A, B, C, and D
- Only Man doors numbered

But we do need to train correctly

- PPE is not just gloves and masks
- When is it “safe” and is there data to show this?
- Will people respond positively to the change
- Can we get funding?!

- We owe it to our people to train them

- And we owe it to our communities to train well

Active Shooter Events

What Really Happens

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ACTIVE SHOOTER EVENTS FROM 2000 TO 2012

BY J. PETE BLAIR, PH.D., M. HUNTER MARTAINDALE, M.S., AND TERRY NICHOLS, M.S.

Active Shooter Events by Year

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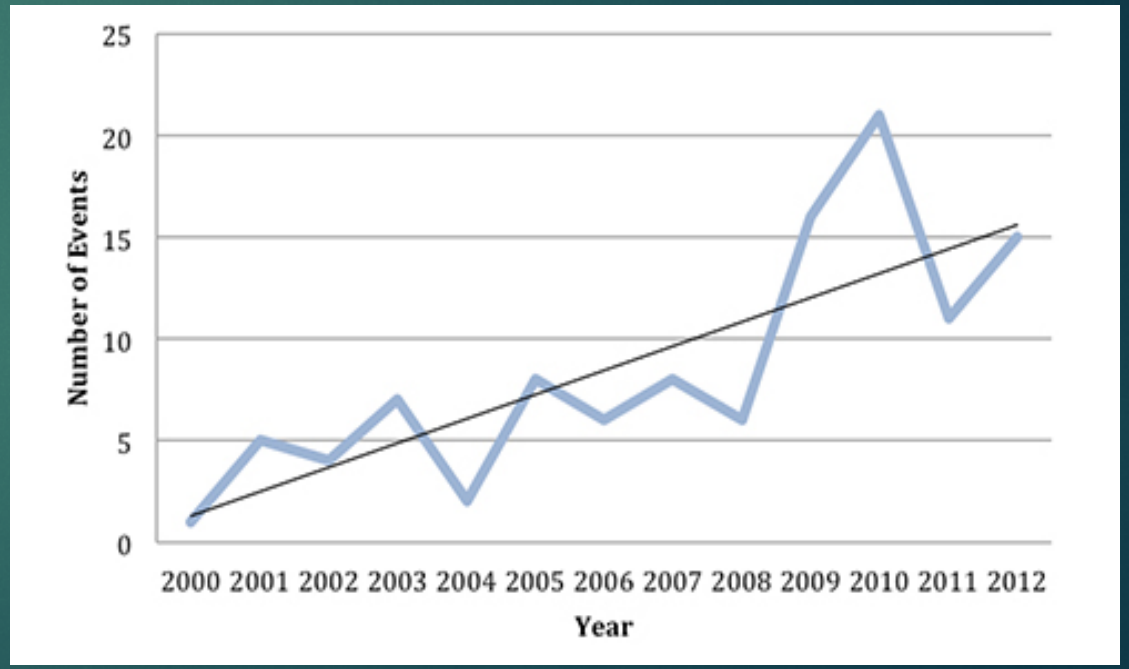
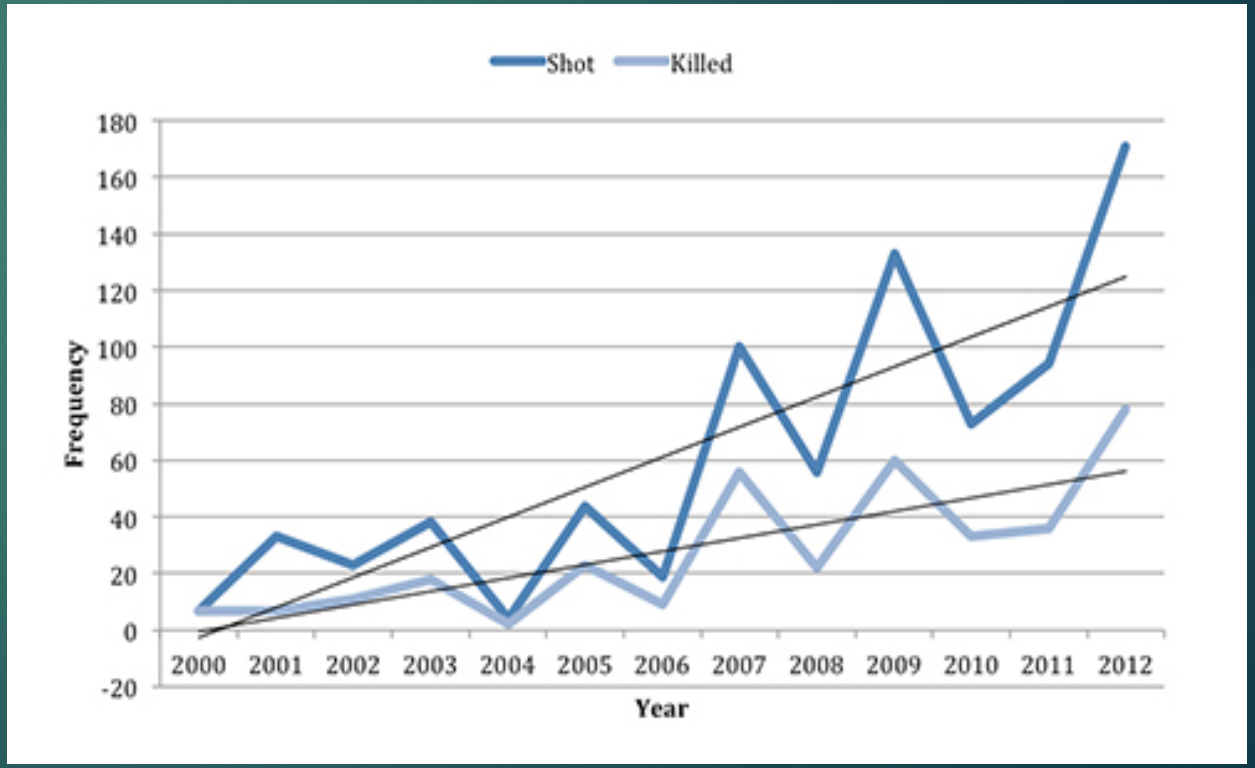
- 1 every other month between 2000 and 2008 (5 per year)
- More than 1 per month between 2009 and 2012 (almost 16 per year)
- Possible artifact (perhaps, archiving of the news reports has improved in recent years)
- 17 Events in 2013…the trend continues



Active Shooter Events from 2000 to 2012 An FBI Study
J. Pete Blair, Ph.D., M. Hunter Martaindale, M.S., and Terry Nichols, M.S.

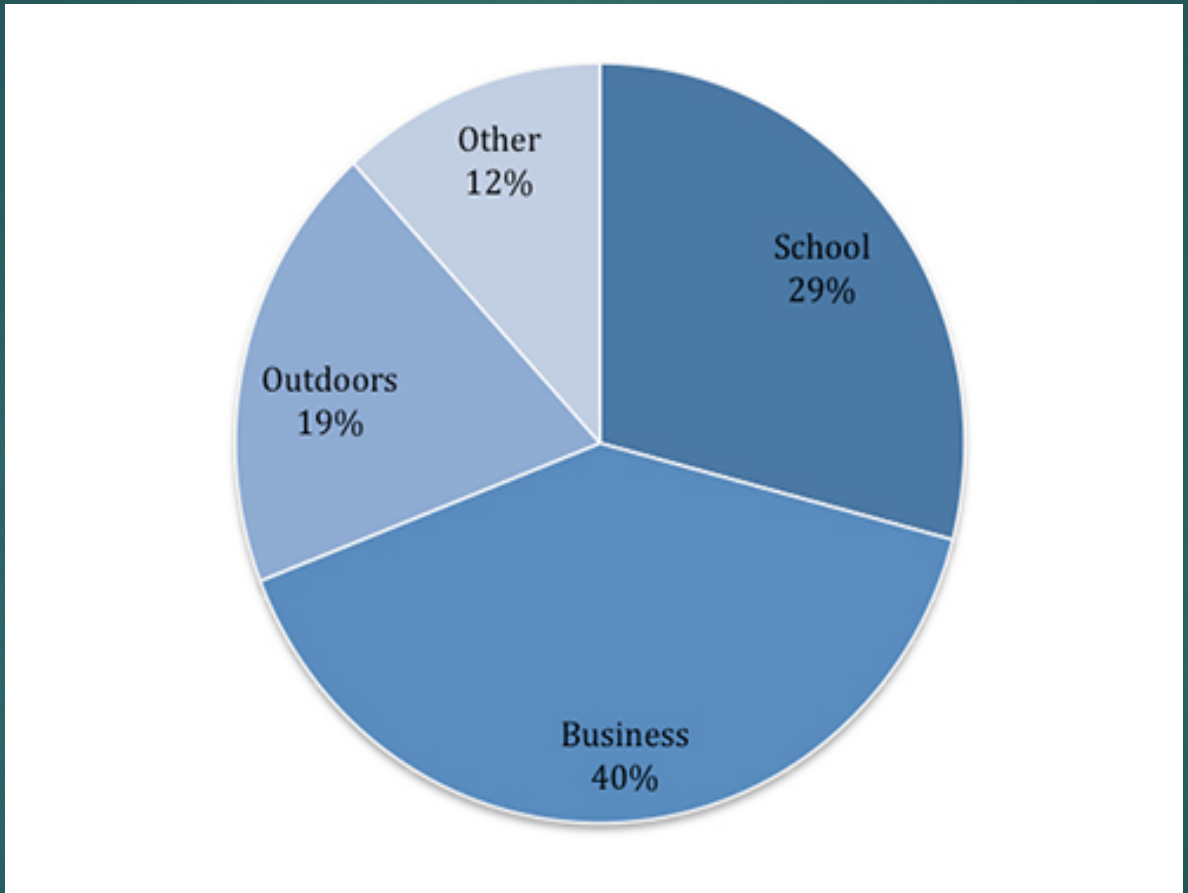
Number of People Shot and Killed Per Year

- Number of events trend mirrored in number shot and killed.



Active Shooter Events from 2000 to 2012
J. Pete Blair, Ph.D., M. Hunter Martaindale, M.S., and Terry Nichols, M.S.

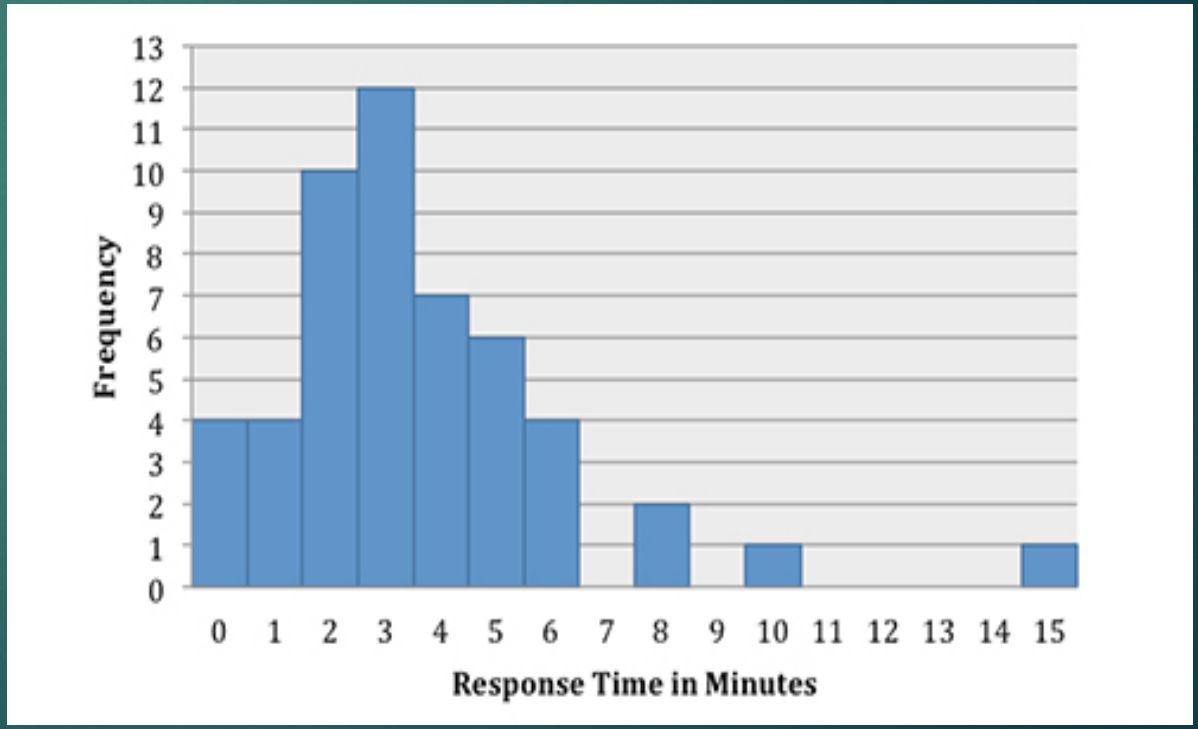
Location of Attacks



Active Shooter Events from 2000 to 2012
J. Pete Blair, Ph.D., M. Hunter Martaindale, M.S., and Terry Nichols, M.S.

Police Response Time

- Not available for more than half of the cases
- 51 cases included data -median response time was 3 minutes



Active Shooter Events from 2000 to 2012
J. Pete Blair, Ph.D., M. Hunter Martaindale, M.S., and Terry Nichols, M.S.

Number of People Shot per Event

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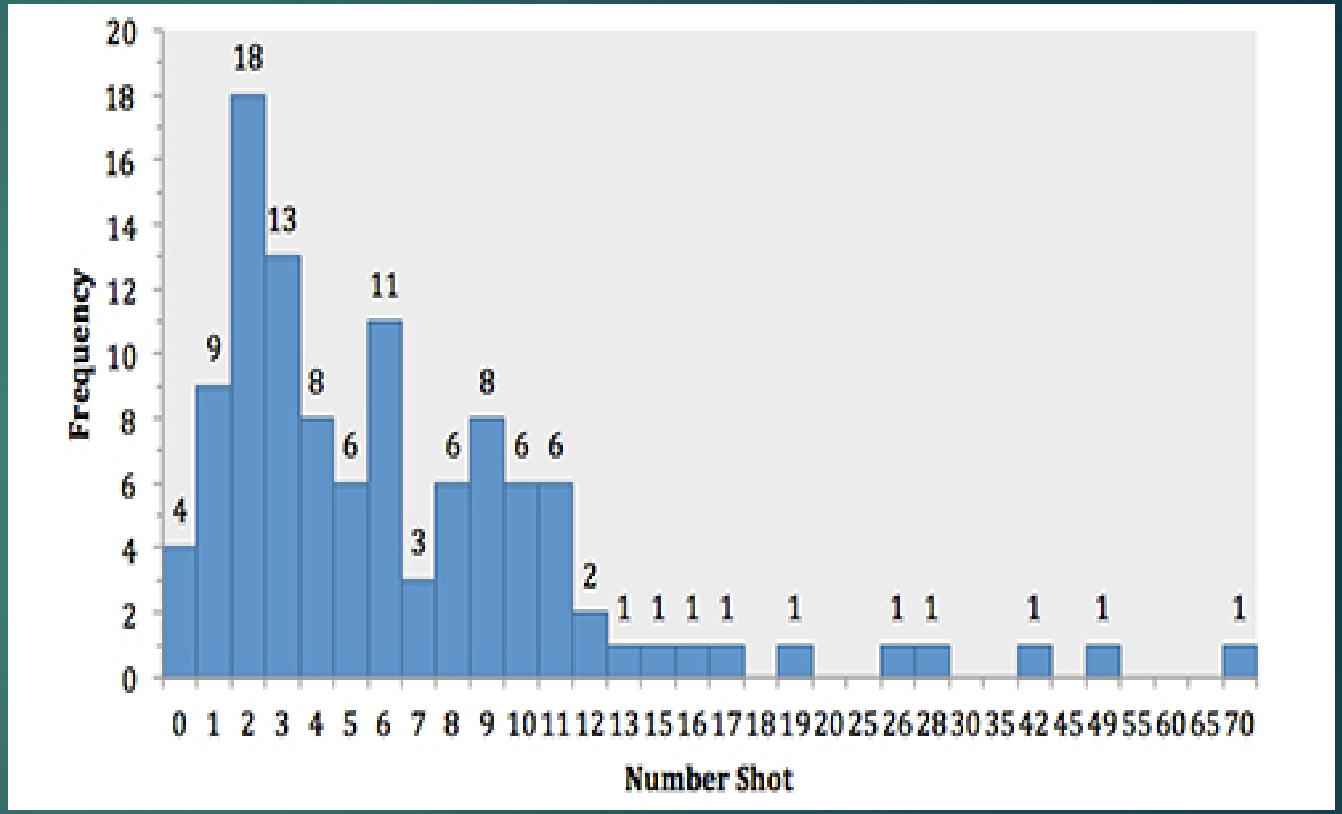
1. Century 21 Theater (58, 12)
2. Virginia Polytechnic and State University in Blacksburg (32, 17)
3. Fort Hood Army Base, 2009, Texas (13, 32)
4. Sandy Hook Elementary School (26 +1, 2)
5. Northern Illinois University DeKalb (5, 16)

(deaths, injuries) – by gunfire



Median is five--not including the shooter in these counts

Active Shooter Events from 2000 to 2012
J. Pete Blair, Ph.D., M. Hunter Martaindale, M.S., and Terry Nichols, M.S.

Shooter Equipment

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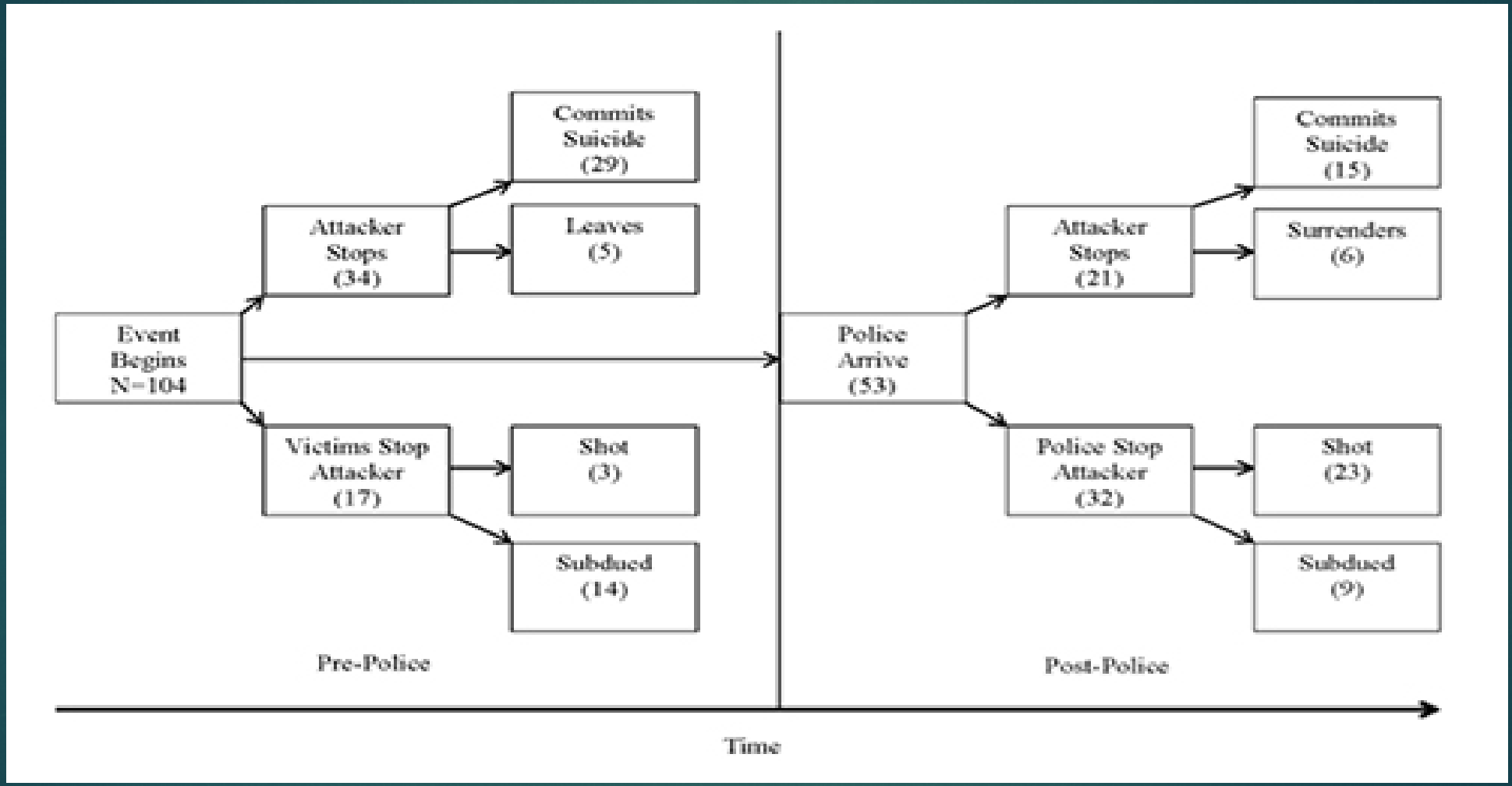
- Most powerful weapon used was a pistol – 60%
- Most powerful weapon used was a rifle – 25%
- Most powerful weapon used was a shotgun – 8%
- Multiple weapons in about one-third of the attacks
- Brought improvised explosive devices (IEDs) in 3%
- Wore body armor in 5%

Active Shooter Events from 2000 to 2012
J. Pete Blair, Ph.D., M. Hunter Martaindale, M.S., and Terry Nichols, M.S.

Resolution of the Event-Summary Chart



Active Shooter Events from 2000 to 2012

J. Pete Blair, Ph.D., M. Hunter Martaindale, M.S., and Terry Nichols, M.S.

Rescue Task Force (RTF) ...or similar concept

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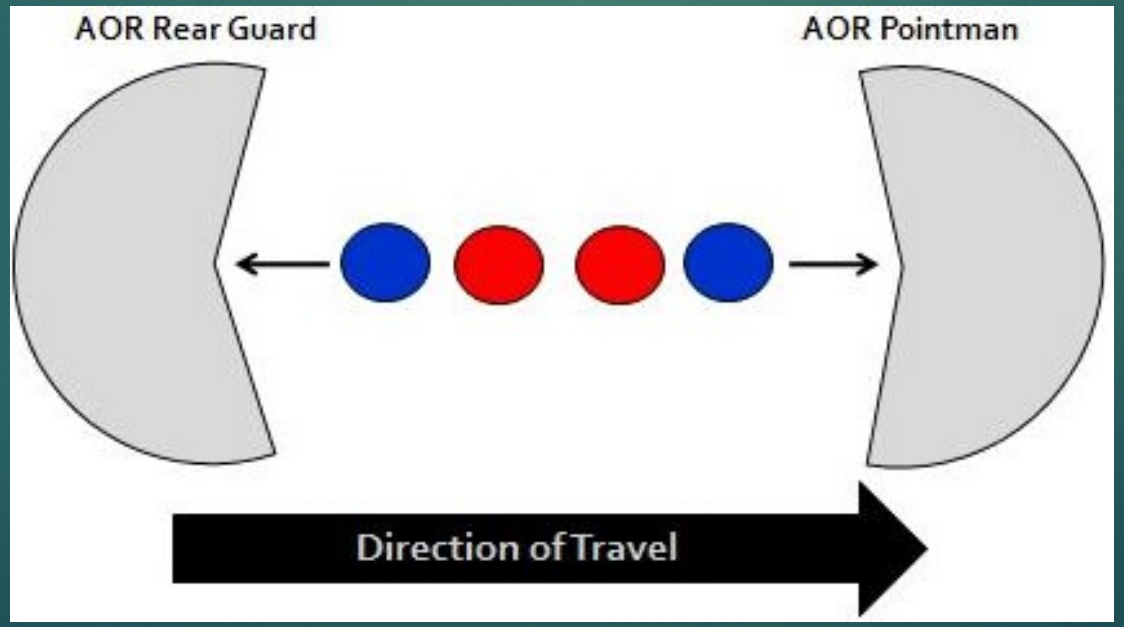
- Utilizes initial EMS/Fire medical responders-not TEMS
- Work with Law Enforcement assets
- Rapidly deploy as a team
- Access areas cleared but not secured
- Initiate treatment rescue of victims
- 2-4 LE, and 2-4 medics

Rescue Task Force (RTF)

- 2 + police officers - 1 front security & 1 rear security
  - They DO NOT assist medics with care
  - Responsible for security & movement ONLY



Rescue Task Force (RTF) ...or similar concept

- Two fire department personnel
  - Outfitted with ballistic gear
  - Carry only medical supplies for Tactical emergency Casualty Care (TECC)
  - Tasked with point of wound stabilization and/or victim extrication

Training and Equipment Implication

-Ready to Provide Medical Assistance

- Police can't be certain only one shooter
  - Systematic search can take hours.
- During this time, victims may (will!) die.
- National organizations have endorsed the Rescue Task Force (RTF) concept
  - EMS personnel wear body armor and are provided security by law enforcement personnel.
  - Allows significant improvement in EMS response to ASEs

What could LE teach FD/EMS?

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- Special focus on safety and security.
- Police vehicle special features and basic driving
- Firearm safety procedures.
- Access to injured officer.
- Duty belt removal.
- Ballistic vest removal/access.
- Issues regarding police dog on scene or injury.
- Crime/Terrorist scene preservation of evidence

What could FD/EMS teach LE ?

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- EMS has special focus on patient care.
- TECC (Tactical Emergency Casualty Care) education for LE
- Immobilization and hemorrhage control (tourniquet)
- Patient stretcher use and function.
- Jump bag, Oxygen location/recognition.
- Fire truck and ambulance basic driving - in case of need to move or use for tactical screen.
- Understand ambulance parking space requirements, posting and extra room for stretcher loading.

Sample Scenarios to start training Excited Delirium

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- Recognize Excited Delirium
- Why Tasers may not work in these case
- How not to get yourself hurt
- Can save the life of the patient
- Combined effort to approach, control and subdue
- Can significantly decrease liability/lawsuits

Sample Scenarios to start training Opiate Overdose

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- Recognize the overdose
- Options of care
- Airway management---basic
- Use of Naloxone-intranasal
- Safety after use of Naloxone!
- Police help EMS transport safely

Sample Scenarios to start training Police Officer in MVA

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- Recognize difficulties of Extraction
- How to hold C-spine with passenger compartment divider
- How to work around radios and computer
- Weapons safety—both need to have trust
- Removal of duty equipment

Sample Scenarios to start training Evidence Preservation

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- Recognize when a crime scene may exist
- What steps to minimize evidence loss
- How best to preserve evidence of different types
- How to record what you may have moved/touched

Sample Scenarios to start training Firearms Familiarization

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- Recognize when removing a firearm may be needed/correct-all parties agree
- How to make safe or at least move/store a firearm
- How to recognize the condition of a firearm
- What firearms are typically carried
- Practice with those exact firearms

Sample Scenarios to start training Hemorrhage control

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- Recognize life threatening bleeding
- Tourniquet use and indications
- Gauze versus Hemostatic Gauze use
- How to pack/wrap a wound
- Self aid
- Buddy Aid

Sample Scenarios to start training
Airway control

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- Recognize airway/breathing issues
- Clear/position airway
- Rrecovery position
- Nasopharyngeal airway placement
- Chest seal placement
- Needle thoracostomy placement

SWAT Officer learning airway and needle decompression techniques (TECC Guidelines: Indirect Threat Care)

Sample Scenarios to start training TECC

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- What care can be provided in Care Under Fire/Direct Threat
- What care can be provided in Tactical Field Care/Indirect Threat
- What care can be provided in Tactical Evacuation Care/Evacuation
- Skill Set Stations

Provider Level	Tourniquets**	Pressure Bandage w/ packing	Hemostatic Agents	Tourniquet De-escalation	Needle Thoracentesis	Surgical Airway	NPA	Blind Airway Insertion Device
LEO*	X	X	X				X	
EMR or equivalent	X	X	X		X***		X	X
EMT	X	X	X	X	X***		X	X
Advanced EMT	X	X	X	X	X	X***	X	X
Paramedic	X	X	X	X	X	X	X	X

Sample Scenarios to start training
IFAK, BOK, Tourniquet

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- What care can you realistically provide
- What "tools" are absolutely necessary for that care
- How to organize those tools
- How to practice to maintain proficiency

Hurdles to Overcome:

Safety

- Facts about the risks in given situations
- Team concept by itself increases safety of all
- All our jobs are unsafe…in different ways
- Training markedly increases the safety margin
- Appropriate equipment adds another margin
- Our Communities Need this…They need to be safe

Hurdles to Overcome:
Traditional Friendly abuse

- Donut/Power Ring eaters
- 200 years of tradition unimpeded by progress
- The reason they made firefighters is so police officers would have heroes too.
- “I’ve never seen a basement they couldn’t save.”
- "Hey, if you had gotten 4 more questions correct on the exam, you could have been a firefighter.“
- It's the only job where they wake you up when it's time to go home...

Hurdles to Overcome:

$$$$$$

- Equipment Costs money—we can't get around this one…but
- Combined training may reduce some cost
- Less Injuries reduces cost
- Asset forfeiture money from drug cases
- Local donations—include businesses in your training
- DRMO
- Good PR will cause the money to flow in!!

Hurdles to Overcome:
Most resolve quickly

- Dollars are always difficult
  - But you don't need to start with the body armor!
- Respect comes with Familiarity
- You will see scene management smooth out considerably
- Cooperation improves job success and satisfaction

Scenario 1…lets run this differently

- Active shooting event
- 911 call…not just one agency!
- First arrival…police rapidly move to contact.
- RTF quickly follows the Contact Team/SORAT
- 5 Victims
  - Major extremity hemorrhage-tourniquet applied and pulled to CCP - Medic 1
  - Chest wound- chest seal applied and ready to decompress if needed – Medic 2
  - Abdominal wound-will live-assisted out by two other victims
  - Upper extremity wound—non life threatening and helps to carry coworker
  - Not wounded-helps to carry coworker.
- ALL live, LE/Medics are safe, scene controlled, community happy…and they flood the services with money!

Conclusions

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- Current State of Separate Training hinders response to incidents
- Training together is:
  - Good for Morale
  - Good for public image
  - Force multiplier
  - Cost sharing
- Lives will be saved
- Many Groups and research supports this
- TECC training benefits: LE, EMS, Fire, Community

QUESTIONS????

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