EMS Dispatch - Structure
PSAPs, Technology

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EMS Dispatch Components

PSAP = Public Safety Answering Point
– 911 Center
– Receives call / determines service needs
– May perform EMD function or transfer caller
– May dispatch EMS unit(s)

EMD = Emergency Medical Dispatch
– Prioritizes Call
– Dispatches EMS unit(s)
– Pre-Arrival / Post Dispatch Instructions
– May be co-located with PSAP or separate
  – "Secondary PSAP"

Emergency Medical Dispatch

• Responsibilities
  – Call Prioritization
  – EMS Unit Dispatch
  – Pre-Arrival / Post Dispatch Instructions

• Formal EMD System
  – Protocol Driven
    • Guidecard versus computer
    – Avoids dispatcher free-lancing
  – Various national / other EMD systems
    • EMD Center Accreditation
EMD Call Prioritization

- Purpose
  - Send “right resource in right mode in right time”
  - ALS vs BLS vs BLS+ALS +/- 1st responders
  - Decrease emergency (lights/siren) responses
  - Mobile Integrated Healthcare alternative response
- Use structured, protocol-driven caller interrogation
- Call Prioritization vs. Call Screening
  - Call Screening – EMS response optional
  - Call Prioritization – EMS response assured

EMS Unit Dispatch

- Confirm incident location
  - Must re-confirm from PSAP
  - Secondary PSAP: EMD receives ANI/ALI
- Computer-Assisted Dispatch (CAD)
  - Tracks status of all EMS units
  - Integrates into vehicle GPS tracking system
  - Documents all EMD activities
  - Response times, Scene times, Transport times
- Alert responding unit(s)

EMS “Control Center” Console
Pre-Arrival / Post-Dispatch Instructions

• Provide "Dispatch Life Support"
  – “Zero response time”
  – Dispatcher-Assisted CPR
  – “Where’s the public AED?”
  – “Crowd Sourcing” CPR
  – Assist in Childbirth
• High public expectations
  – Limited published evidence showing safety and efficacy
  – Liability for not offering?
• Use EMD Protocol Reference System
EMD Protocol Reference System

- **Key Questions**
  - Universal caller interrogation
  - Goal: Identify Chief Complaint
- **Chief Complaint Categories**
  - Generally 32 Chief Complaints
  - Uses key questions
  - Allows for Call Prioritization
- **Scripted Medical Protocol**
  - Provides clear, simple instructions to caller

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Sample Guidecard

![Sample Guidecard](source: New Jersey EMS)

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2015 AHA Guidelines for CPR & Emergency Cardiovascular Care

• We recommend that dispatchers provide chest compression-only CPR instructions to callers for adults with suspected OHCA (Class I, LOE C-LD).

• If the patient is unconscious with abnormal or absent breathing, it is reasonable for the emergency dispatcher to assume that the patient is in cardiac arrest (Class IIA, LOE C-LD).

2012 AHA Scientific Statement

Dispatcher CPR Instructions

1. Bring the phone and get NEXT to the person if you can.
2. Listen carefully. If you know CPR:
   - Place the person FLAT on his back on the floor.
   - PUT THE HEEL of your hand on the CENTER of the person’s CHEST.
   - Push your OTHER HAND on top of that hand
   - Push DOWN FIRMLY, ONLY on the HEELS of your hands, at least 2 inches, 100 times per minute.
   - Count outs loud: 1-2-3-4-5-6-7-8-9-10.
   - KEEP GOING. KEEEP PUMPING the CHEST UNTIL HELP TAKES OVER.
   - It’s okay to use the hands. 

   (for use after 30 compressions when suspected cardiac arrest is secondary to respiratory arrest)

   PFAH the NOSE, with your other hand. LIFT the CHIN so that the head TILTS BACK. Compleaty COVER the person’s MOUTH with your MOUTH.
   GIVE 2 BREATHS (some back to the phone).

   Then go back to the compression instructions. Give cycles of 30 compressions and 2 breaths until EMS arrives.

   http://circ.ahajournals.org/content/125/4/648.full?sid=f6d9350a-9df2-411f-a4a0-cf92df1d0a7
• King County, WA
  • Excluding Seattle
  • 416 arrests with PSAP recording
    • 80% identified as arrests
      • Median time 75 seconds
      • 62% had DA-CPR
  • Time to 1st compressions
    • 176 sec (range: 141-242)
  • Less likely to ID witnessed arrest
    • Patient reported “breathing”
    • Agonal breathing not recognized

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Performance Standards for Dispatcher-Assisted CPR


- 85% recognition of cardiac arrest in 1-2 min
- 75 sec to 1st compressions
- 62% had DA-CPR
- 3 min to delivery of first 5 compressions

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Does EMD Work?

- Can we safely allow for decreased response configurations?
  - BLS instead of ALS
  - “Cold” response
  - Mobile Integrated Healthcare alternative
- What is an acceptable under triage rate?
- Are there consequences of over triage?
- Do Pre-Arrival Instructions work?

**RESEARCH IN EMD!**
Final Thoughts

• EMS Medical Directors should…
  – Advocate for high-quality EMS dispatch
  – Visit their PSAPs and EMD centers
  – Include dispatchers in positive feedback

Questions / Comments

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911 References

• Federal Communications Commission 911
  – E-911: https://www.fcc.gov/general/9-1-1-and-e911-1-1-services
• First Responder Network Authority
  – http://firstnet.gov/
• National Emergency Number Association
  – http://www.nena.org/
• Assoc. of Public Safety Comm. Officials
  – http://www.apcointl.org/
EMD References

- NHTSA EMD Program
- International Academies of Emergency Dispatch
  - http://www.emergencydispatch.org/
- APCO Institute
  - http://www.apconintl.com/institute/
- PowerPhone
  - http://www.powerphone.com
- New Jersey EMD Guidecards
- American Heart Association

Disaster and Radio References

- Government Emergency Telecommunications System (GETS)
  - http://gets.ncs.gov/
- CDC – Health Alert Network
  - http://www2a.cdc.gov/HAN/index.asp
- Radio Amateur Civil Emergency Services
  - http://www.qsl.net/races/
- Free radio frequency / system information
  - http://www.radioreference.com/