EMS Dispatch - Function
*Call Taking, Pre-arrivals, and System Integration*

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### EMS Dispatch Components

**PSAP = Public Safety Answering Point**
- 911 Center
- Receives 911 call
- Determines service needs
- May perform EMD function or transfer caller to EMD
- May dispatch EMS unit(s)

**EMD = Emergency Medical Dispatch**
- Prioritizes Call
- Dispatches EMS unit(s)
- Pre-Arrival 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
    • Guide card 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
  • 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, give naloxone, give Epi autoinjector

• 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
Sample Guide Card

ALL CALLERS INTERROGATION

1. “Where is your emergency?” (Address or Location)
2. “What is the number you are calling from?”
3. “What is the emergency?”
4. “What is your name?”
5. Determine age and sex of patient

6. “Is the patient conscious?” (Able to talk)

NO
Dispatch ALS & BLS

7. “Is the patient breathing NORMALLY?”

NO
Go to CPR Instructions for age group

UNCERTAIN
Go to CARDIAC ARREST/DOA

YES
Go to UNCONSCIOUS/PAINTING

YES
Go to BREATHING PROBLEMS

Determine chief complaint and turn to appropriate card.

Source: New Jersey EMS

Sample Guide Card

CHEST PAIN/HEART PROBLEMS

“Where in the chest is the pain located?”

“Does the patient feel pain anywhere else? If so, where?”

“How long has the pain been present?”

“Is the patient sweating profusely?”

“Is the patient nauseated or vomiting?”

“Is the patient weak, dizzy, or faint?”

“How does the patient act when he/she sits up?”

“Does the patient feel the pain when the person breathes or moves?”

“Has the patient ever had a heart problem, heart surgery, a device to help their heart work or a previous heart attack?”

“Is the patient experiencing rapid heart rate with chest pain?”

SIMULTANEOUS ALS/BLS

Patient over 35 with any critical symptom.
Decreased level of consciousness.
Patient complaining of chest pain with any of the critical symptoms:
Short of breath, nausea, diaphoretic (sweating profusely), rapid heart rate, syncope (weak, dizzy or faint) or with cocaine/crack (drug) use.

BLS DISPATCH

Patients under 35, without critical symptoms

Source: New Jersey EMS
Sample Guide Card

CHEST PAIN/HEART PROBLEMS Pre-Arrival Instructions

"Can the patient take aspirin?"
If yes: "Have they had any bleeding from mouth or rectum?"
If no bleeding, advise caller to assist patient to take 1 full size (325mg) adult aspirin or 4 low dose (81mg) tablets. Have the patient chew them before swallowing.

"Does the patient have nitroglycerin?"
If yes: "Has the patient taken one?" if not taken, "Take as the physician has directed" (patient should be seated).

Have the patient sit or lie down, whichever is more comfortable.
Keep patient calm.
Loosen any tight clothing.
Gather patient medications, if any.
If the patient's condition changes, call me back.

Prompts
If unconscious, go to UNCONSCIOUS/BREATHING NORMALLY AIRWAY CONTROL.

If unconscious, NOT breathing normally, go to CPR for appropriate age group.

If the patient has a ventricular assist device, (may be called a VAD, heart pump, RVAD, LVAD, BVAD, or LVAS) do not perform chest compressions.
If patient has a pacemaker or internal defibrillator CPR can be performed if needed.

Source: New Jersey EMS

ProQA Computer-Based System

Source: Life EMS Ambulance - ProQA/MPDST™
• 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).

Conscious?  Breathing?
No + No = Go!  
(Start CPR)
2012 AHA Scientific Statement

Dispatcher CPR Instructions

1. Bring the phone and get NEXT to the person if you can.
2. Listen carefully. I'll tell you what to do.
   - Place the person FLAT on his back on the floor.
   - KNEEL by the person’s side.
   - Put the HEEL of your HAND on the CENTER of the person’s CHEST.
   - Put your OTHER HAND ON TOP of THAT hand.
   - PUSH DOWN FIRMLY, ONLY on the HEELS of your hands, at least 2 inches.
   - Do this 30 times, just like you’re PUMPING the chest. Count OUT LOUD: 1-2-3……..50 (correct rate if needed)
   - KEEP DOING IT: KEEP PUMPING the CHEST UNTIL HELP TAKES OVER.
   I’ll stay on the line.

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

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

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

Source: http://circ.ahajournals.org/content/125/4/648.full?sid=f6d9350a-9df2-411f-a4a0-cf982df1dd07
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

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…
  • Champion high quality EMS dispatch
  • Visit their PSAPs and EMD centers
  • Include dispatchers in positive feedback

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