First 100 Cases of BLS First Responder Administered Naloxone in a Statewide EMS System

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First 100 Cases of BLS First Responder Administered Naloxone in a Statewide EMS System

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BACKGROUND
• 3rd state to mandate implementation among fire departments

Fire departments & municipality objections:
• Unfunded mandate for training and medication maintenance
• Concern from fire community about diverted training time

Medical community objections:
• “With a hammer, everything looks like a nail” effect
• Is naloxone administered inappropriately in lieu of proper PPV
• PPV treats respiratory depression of opioid overdose, so why complicate?
• Redundancy as ALS does this already & usually arrives promptly

Significant public interest and positive media coverage regarding first responder naloxone

STATE NALOXONE PROTOCOL
• Known or suspected opioid overdose patient not in cardiac arrest
• Administered after PPV established
• Purpose to counter respiratory depression, not improve alertness
• Two first responders on scene for safety
• ALS arrival >5 minutes
• No nasal trauma, epistaxis, or cocaine usage

PURPOSE
We sought to evaluate the first 100 Michigan first responder naloxone administrations for medical appropriateness and protocol adherence:
• Does naloxone displace emphasis on early PPV?
• Is naloxone being administered to appropriate patients?
• Does the mandate save patients who would not receive ALS in time?

METHODS
• Retrospective chart review
• Utilized MI-EMSIS – a statewide EMS information system database
• Filtered on “naloxone” as a medication administered
• Began with mandatory implementation date of 10/15/2015
• Selected first 100 cases that met inclusion criteria
• Three investigator panel evaluated medical appropriateness
• Data abstracted from each case:
  • Initial impression of mental and respiratory status
  • Airway interventions attempted
  • Known history of opioid abuse
  • Timing of ALS arrival
• Data were analyzed using standard descriptive statistics

RESULTS
• 71% male
• Ages 18-89, Mean 37, Median 35, Mode 23
• 66% known positive drug history
• 75% of naloxone administrations were in patients with a pulse with an inadequate respiratory rate
• Of patients needing PPVs, 51.3% received PPVs prior to naloxone administration

DISCUSSION
• This study is the first to evaluate a statewide naloxone mandate
• In light of skyrocketing opioid overdose deaths, a great deal of political enthusiasm surrounds first responder naloxone use, yet little evidence exists to support that these mandates improve patient outcome.
• Our data suggest that insufficient emphasis has been placed on adherence & integration of naloxone protocols.
• First responder naloxone is frequently redundant with already available ALS naloxone and no patient deaths were noted to be associated with BLS not administering naloxone.

CONCLUSION
• Adherence to the state naloxone protocol appears poor
• The majority of patients given naloxone had inadequate respiratory rate
• Naloxone was frequently administered before PPV
• Known drug abuse history significantly affected first responder treatment behavior. PPV was not administered prior to naloxone as readily in these patients
• When documented, the majority of naloxone administrations occurred within 5 minutes ALS arrival

LIMITATIONS
• MI-EMSIS is not a registry
• Inconsistency of quantity and quality of data elements among records

REFERENCES