



**Department of Community Health**

# EMS Information Systems

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# National EMS Information System

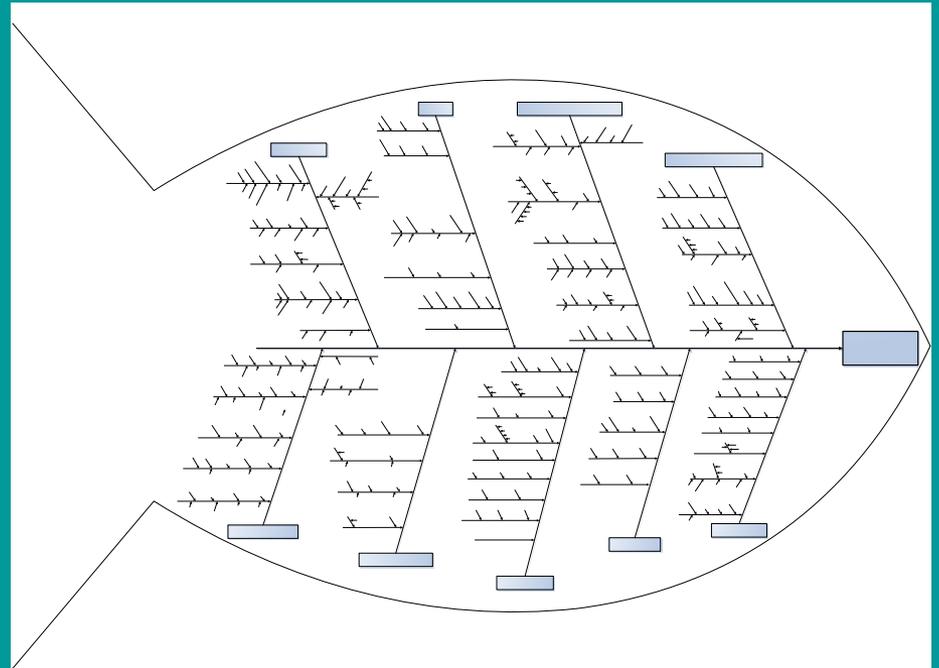


# The Project:

# National EMS Information System

## Long Term Goals

- Electronic EMS Data
- Standard EMS Dataset
- Data Systems
  - Local
  - State
  - National EMS Database
- Data Drives EMS
  - System
  - Personnel
  - Clinical Care



# The Consensus

## Professional Organizations

- AAA
- AAMS
- ACEP
- ACS-COT (NTDB)
- AHA (NRCPR)
- EMSOP
- IAFC
- IAFF
- NAED
- NAEMSP
- NASEMSD
- NENA

## Federal Partners

- CDC
- FEMA
- HRSA-EMSC
- HRSA-EMSC/NEDARC
- HRSA-EMSC/NRC
- HRSA-ORHP
- HRSA-Trauma/EMS
- NHTSA

# The State of the States

 MOU Participant

 Non-Participant



## MOU Participant Territories:

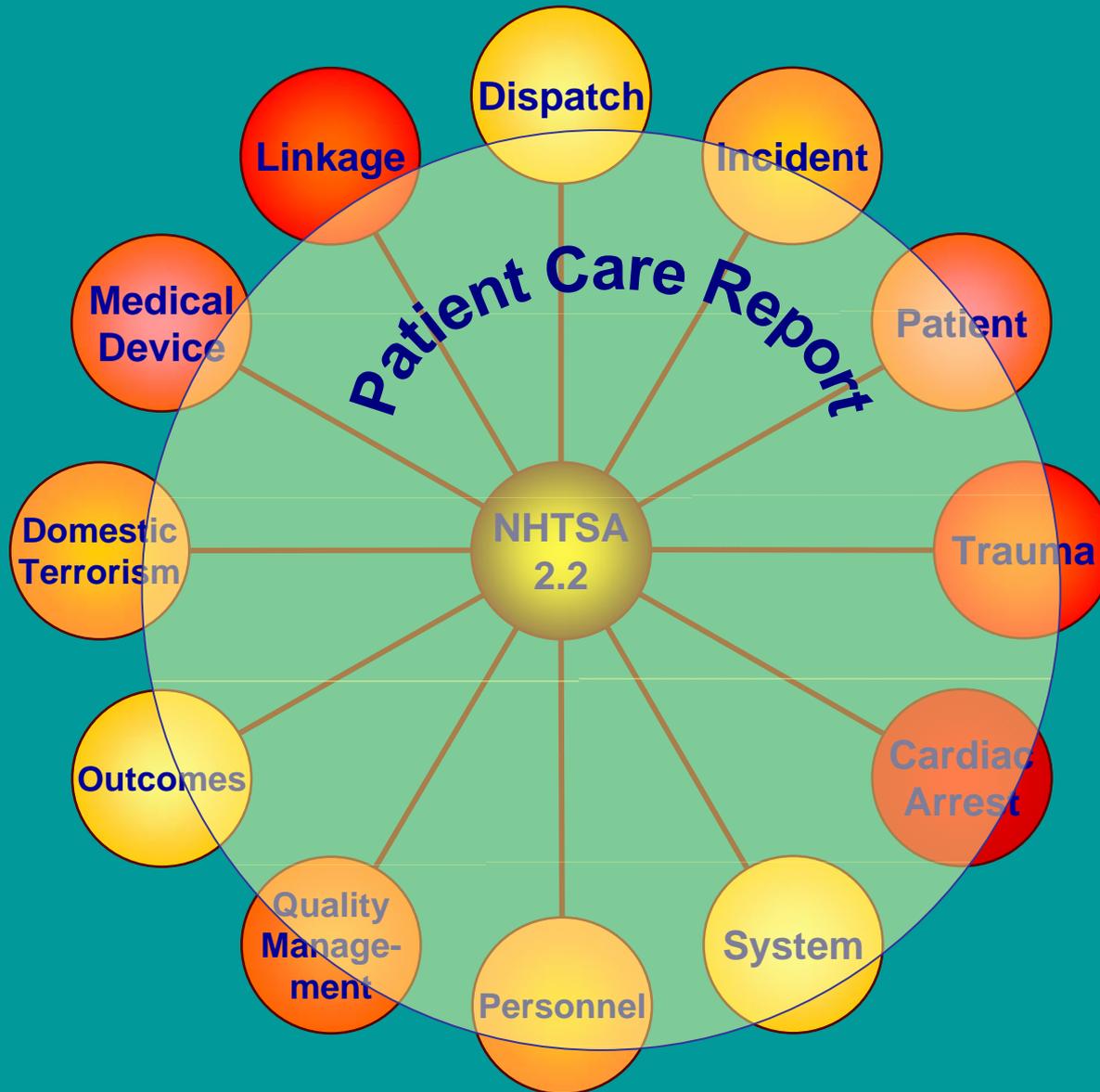
- Guam
- Northern Marianas Island
- District of Columbia
- American Samoa

## Non-Participant Territories

- Virgin Islands
- Puerto Rico



# The Data Sources



# US General Accounting Office – Report to Congressional Requesters

## Emergency Medical Services

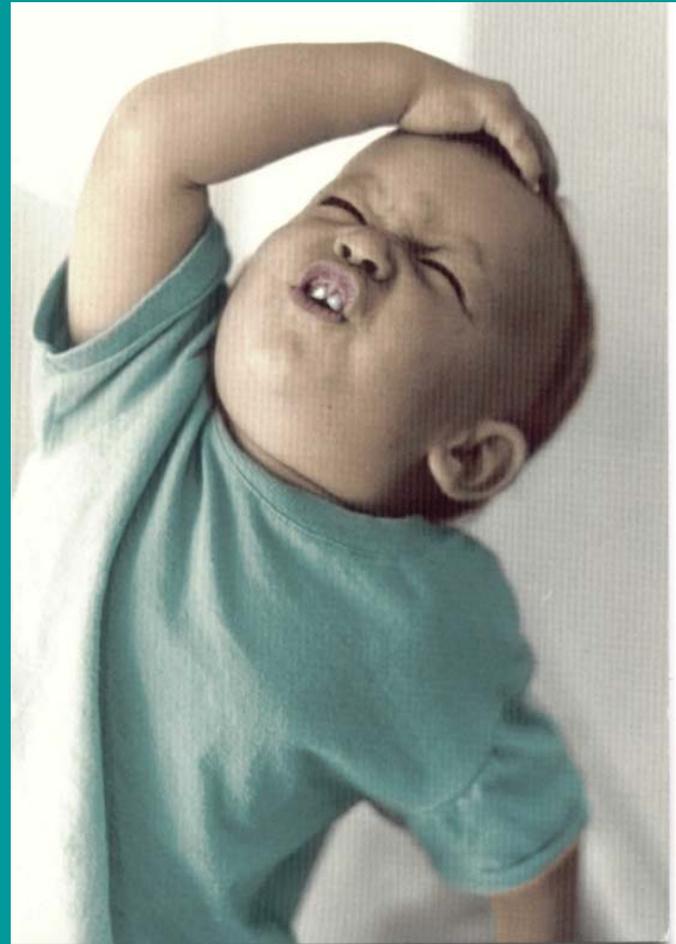
Reported Needs Are Wide-  
Ranging, With a Growing Focus  
on Lack of Data

# GAO Results.....

*The extent and impact of the reported needs is difficult to ascertain... because there is little standard and quantifiable information that can be used across systems. Most of the available information about the effect of unmet needs is localized and anecdotal.*

# National Pulse

- Asystole



# National: Where we want to be

- National EMS Database
- NASEMSD lead the charge
- Revision of the NHTSA Dataset
- Multidisciplinary approach





A Partnership Between the Michigan Department of Community Health,  
EMS & Trauma Systems Office, and Michigan's EMS Community.

# State EMSIS History

- Circa June 1, 1984
  - State EMS Division Develops Uniform Run Form
- June 2, 1984
  - State EMS Director Receives Negative Feedback from EMS Community
- EMSIS Development In Michigan
- NHTSA EMSIS Workshop
- Regional EMSIS Workshops
- State EMSIS Workshop
- Michigan EMS Uniform Data Elements
- Statewide Agency Survey
- Tested (abandoned) Commercial Software
- Michigan Software Development
- Field Testing
- Implementation Plan

# The Beginnings

- Michigan EMS Information System (MI-EMSIS) project began as a cooperative agreement between Michigan's State EMS office and MSU/KCMS in 1998.
- MERMaID – Michigan Emergency Medical Records

# NEMESIS

- National EMS Information System Project began in 2001
- Michigan Pre-Hospital Data Taskforce formed in 2002
- National EMS-C Data Analysis Resource Center (NEDARC) S.W.O.T. Analysis – 2004

# Project Team

- MDCH-EMS Section
  - State Oversight
  - Project Funding
- Michigan Prehospital Data Task Force
  - Represents EMS data stakeholders
  - Recommendations
- MSU/KCMS
  - Project Management
  - Regional Meetings
  - Operational Support

# Participating Organizations

- MAAS
- MCEP
- MAFC
- MAEMSS
- MAEMT
- MCRH
- MDCH-Injury Prev.
- MDCH-EMS Section
- OHSP
- MPFFU
- University of Michigan
- MSU/KCMS
- Provider-at-large
- Rural EMS Agency
- Suburban/Metro EMS Agency
- Urban EMS Agency
- SMEMSIC
- EMSCC

# Assumptions

- EMS Providers are interested in improving prehospital care and public health while reducing errors.
- The collection, aggregation, and analysis of EMS data is good providing it is well defined, safe, confidential and used.
- Linking EMS data with other pertinent data sources will improve the usefulness of the information....."whole is greater than the sum of the parts".....

# Assumptions continued

- Technology must support the concept.
- Data entry must be automated whenever possible for ease of use and for accuracy
- Confidentiality and privacy of data will be protected.
- EMS agencies must keep records and eventually services seeking reimbursement will be collected electronically
- The process will be lengthy, but is achievable

# Statutory Authority

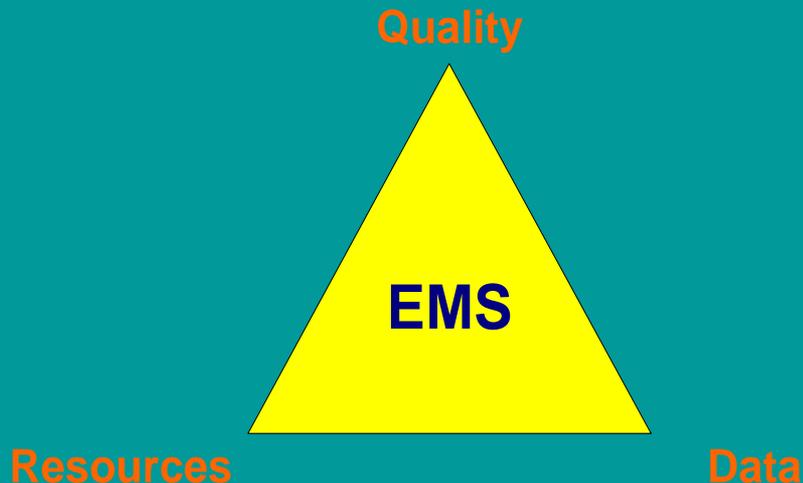
- Legal Authority
  - Part 209 of PA 368 of 1978 – Section 20910
  - Collect data as necessary to assess the need for and quality of EMS throughout the State.
- Administrative Rules
  - Require life support agencies to submit designated records and data for evaluation

# Data Sources

- State
- Local
- Linkage



# The Science of EMS



- EMS is local
- Quality is the target
  - System
  - Patient
- Data drives Resources
- Resources provide Quality

# The Need

- EMS Education
  - Curriculums
  - Local Education
- EMS Outcomes
  - Something other than death
  - System evaluation
- EMS Research
  - Generate hypothesis
  - Evaluate Cost effectiveness
  - Identify problems and target issues
- EMS Reimbursement
  - National fee schedule and reimbursement rates

# State: Where we are

- Very little information on local EMS data collection
- Most systems were paper based but discussing or transitioning to electronic

# State: Where we are

- Parts or all of 34 counties
- No system is compliant with the NHTSA 2.3 dataset/definitions
- Several models for data collection, but no uniformity or consistency across systems
- In general, there is an absence of data to drive reimbursement and policy decisions



# State: Where we want to be

- Electronic data collection
- Uniform dataset with definitions
  - Patient care
  - Technician
  - System
- Workflow oriented
- No dual entry
- Data comes from the source
  - CAD
  - Medical Devices
- The health care components are linked
  - Hospital
  - Dispatch
  - Public Health
  - Public Safety
- Quality Improvement
- Benchmarking
- Community based
- Information is passed to the State office of EMS for finance and policy decisions

# State: Where we want to be

- ePCR on every EMS patient encounter
- Electronic data transmission
- Privacy and confidentiality protection
  - System and patient
- Statutory authority

# State: Where we want to be

- Statewide Quality Improvement
- Benchmarking of compliance and public health indicators
- Support and Assistance Resources
- Annual Report for policy makers
- Provide data to the National EMS Database

# State: How to get there

- Identify resources for a state EMS database
- Technical Assistance
- Model templates and database schema's
- Model quality improvement reports
- Support to the state EMS office
- Uniform Dataset and definitions
- Peer Review Model Legislation
- Promote Research

# Local: How to get there

- Technical Assistance
- Model administrative and/or statutory language
- Standards for data collection and definitions
- Attach to EMS Education Agenda and local training programs
- Statewide Documentation/Data Collection/Submission Protocol

# What will we do with it?

- Public education and drive policy
- Identify national trends
- Benchmarking
- Reduce errors
- Business structure and management
- EMS Research hypothesis
- Outcomes
- Promote research
- Solidify EMS in the Healthcare family
- Drive education
- Prioritize needs and funding
- Determine effectiveness of systems and patient care

# MI-EMISIS

- Decision to stop further MERMaID development and seek a commercial vendor – January, 2006
- RFP drafted by MDCH and sent to MDIT – May, 2006
- ITB released to vendors – August, 2007
- Contract awarded to ImageTrend – December, 2007

# MI-EMSIS Timeline

- MI-EMSIS / ImageTrend State Bridge pilot phase began March 10, 2008 and lasted 90 days
- Lessons learned have been used to better the system
- Developed and conducted Regional Train-the-Trainer sessions

# MI-EMSIS Implications

- Agencies must use NEMSIS Gold Compliant software product
- Agencies should have Michigan/National data elements available for documentation
- All data elements shall be submitted to the state repository

# Implementation Plan

- Adopted the National data set
- Selected ImageTrend
- Conducted Pilot
- Conducted Train-the-Trainer of Pilot Sites
- Scheduled Regional Trainings
- MFR, BLS, LALS, ALS agencies begin collecting data April 1, 2009 with first submission to State repository May 15, 2009
- Agencies may begin submission immediately

# MCA Role in EMS Data Collection

# Medical Control Requirements

- MCAs are responsible for:
  - **The supervision and coordination of the EMS system.** EMS system means a comprehensive and integrated arrangement of the personnel, facilities, equipment, services, communications, medical control, and organizations necessary to provide emergency medical services and trauma care within a particular geographic area.

# Medical Control Requirements

- Appoint a Professional Standards Review Organization, for the purpose of improving the quality of medical care
- Collect data as necessary to assess the quality and needs of emergency medical services throughout its medical control authority region.

# PSRO

- A “Professional Standards Review Organization” (PSRO)
  - The PSRO is a review entity that is provided information or data regarding the physical or psychological condition of a person, the necessity, appropriateness, or quality of health care rendered to a person, or the qualifications, competence, or performance of a health care provider.

# Quality Improvement

- MCA must develop and implement protocols that ensure a quality improvement program is in place and provides data protection

# Quality Improvement

- The purpose of the MCA Quality Improvement program is to:
  - Assess the quality and need of EMS through the collection of system appropriate data.
  - Provide the services in the MCA area with a review process in which current protocols and their use can be monitored and upgraded.

# Quality Improvement

- The purpose of the MCA Quality Improvement program is to:
  - Provide a means of reviewing the standards of care in individual EMS services and the MCA as a whole.
  - Provide a means of documenting the need and/or desire for changes to the current protocols as written.

# Data Submission

- Data submitted by the life support agencies shall be reviewed by the MCA professional standards review organization for the purpose of improving the quality of medical care.
- A medical control authority shall ensure data is submitted to the department as prescribed in protocol.

# Data Submission

- In most cases, the life support agency will submit data directly into the state repository (Image Trend) and not directly to the MCA.
- The MCA will have the ability to pull their life support agency information from the state repository.

# Data Submission

- If a life support agency is found to not be submitting data, the MCA would contact the agency to determine why data has not been submitted.
- The MCA may contact the Department for assistance if needed.

# Confidentiality

- Data is protected under P.A. 270 of 1967, MCL 331.531-331.533

# Data Linkage

- UD-10 Crash Data
- Trauma Registry Data

# Contact Information for EMS State Data Manager

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