

A P R E S E N T A T I O N B Y E S O

Overview of Pre-Hospital PCR and Integration Challenges

eso

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Data Landscape

Two different systems with data about the same patient encounter..



EMS Data



Hospital Data



Field EMS Data Collection

Integrated Computer Aided Dispatch

Patient Side Documentation

Integrated Cardiac Monitors

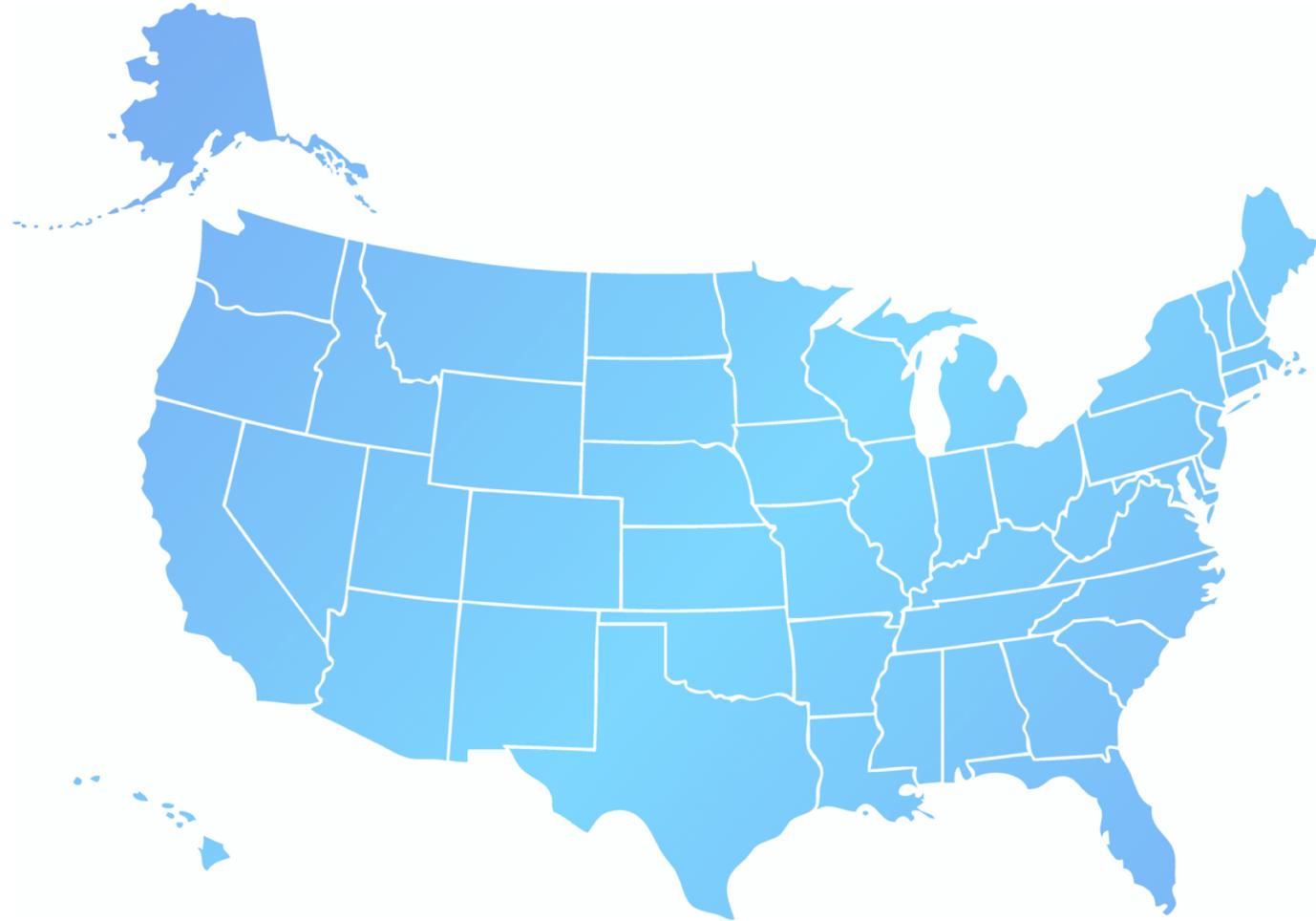
Web and Mobile Clients

EMS Medical Billing Integration

National EMS Data Standard

NEMSIS 3.5

- Incident Details
- Patient Demographics
- Pre-Hospital Assessments
- Pre-Hospital Patient Care



Compliance Requirements

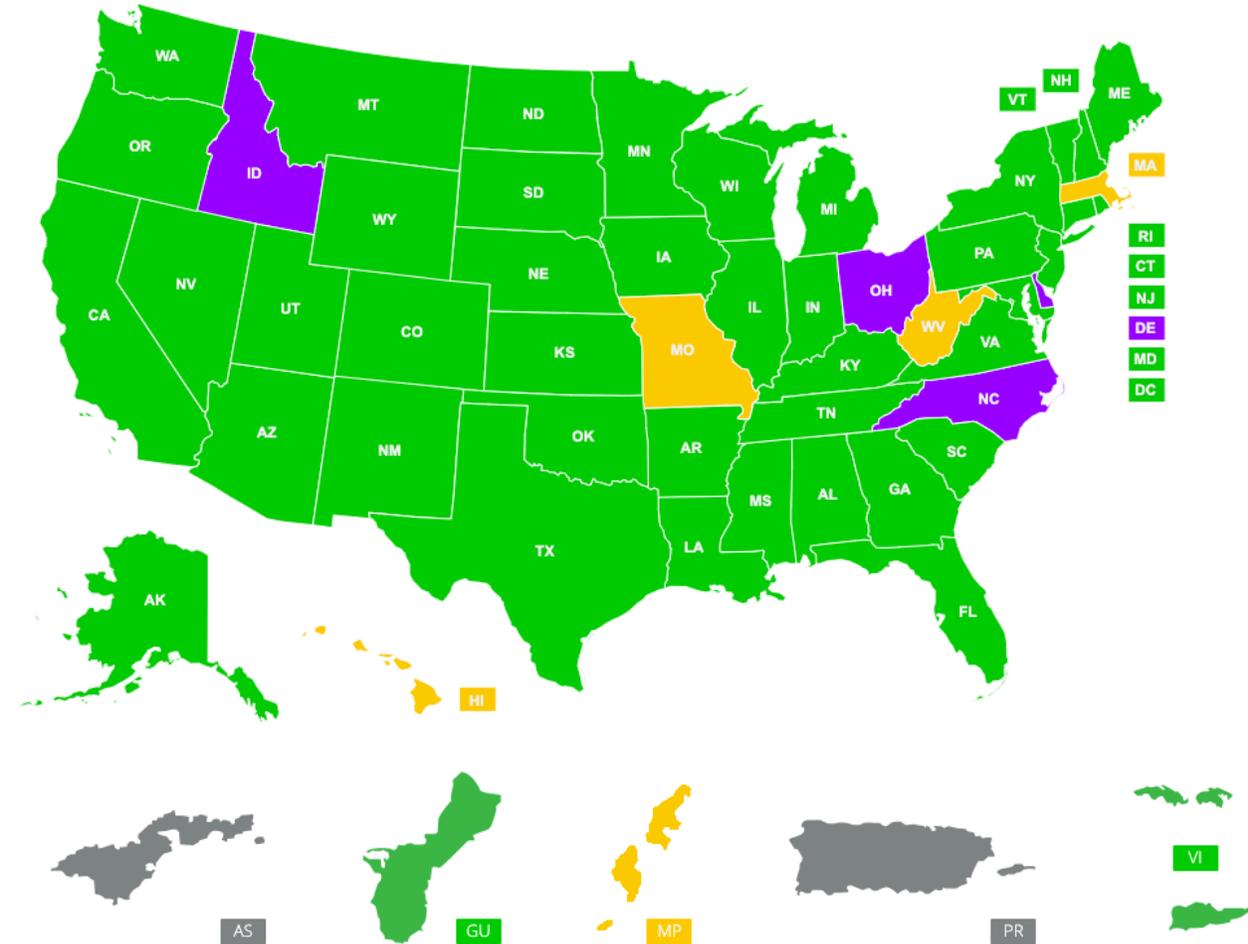
NEMSIS

- **State Legislative Requirements**

- Agency must produce conformant data.
- Agency must do so on a timely basis.

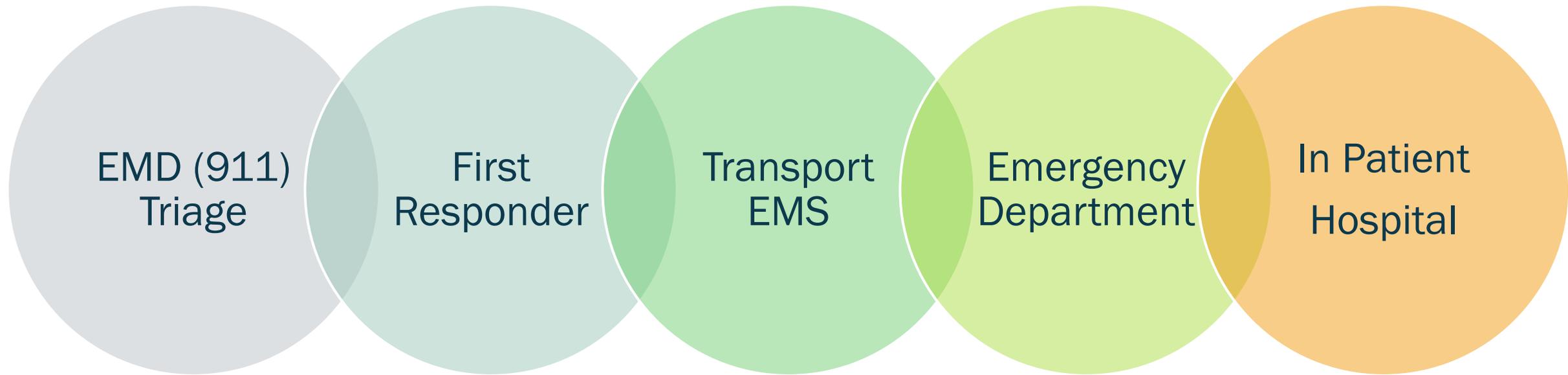


■ Submitting v3 Data ■ v3 Implementation Plan ■ v3 Documents Available ■ Limited Progress



The Continuum of Care

EMS Industry Perspective



State of the Industry – EMS Sharing with Hospital

Format Options

- Native NEMESIS XML
- Printed Report Document
- Clinical Data Architecture – EMS
- Template
- IHE Profiles
 - Paramedic Care Summary

Integration Options

- Web Services (Custom)
- HL7 Version 2 - MLLP
- Direct Messaging XDR + XDM
- Fast Health Interoperability Resources

Format Complications

Native NEMESIS XML

Complicated structure requiring custom development on receiving side to utilize the discrete data provided.

Printed EMS Record

No Discrete Data Elements available for reporting or analysis to the hospital.

CDA – EMS Template

Minimal to no custom template adoption by Hospital EMR systems outside of meaningful use profiles.

IHE – Paramedic Care Summary

Incomplete Data Set from Pre-Hospital Record.

Integration Complications

Custom Web Services

Most Expensive to implement from a software and records management integration perspective.

HL7 Version 2 - MLLP

Expensive to implement from an infrastructure perspective but very well-known software implementation process on the hospital receiving side.

Direct Messaging

Messaging clearinghouses called HISPS can make this profile prohibitively expensive for the use case.

FHIR

Inconsistent versioning across EMR vendor software providers which requires customization by the sender.

Hot Trends in EMS Interoperability

- **Health Information Exchange Integration**
 - Field provider access to pull patient care record in field.
 - EMS Record added to Continuity of Care Documentation.
- **Standardization of "Outcome" Information from Hospital to EMS**
 - NEMESIS Proposed Standard from Vendor Workgroup.
 - Based on Existing Interoperability Standards
- **Integration of EMS Data into Specialty Patient Registries**
 - Reduction of Data Entry Errors in Quality Management Systems.

Reciprocal Quality Improvement “Outcome” Data

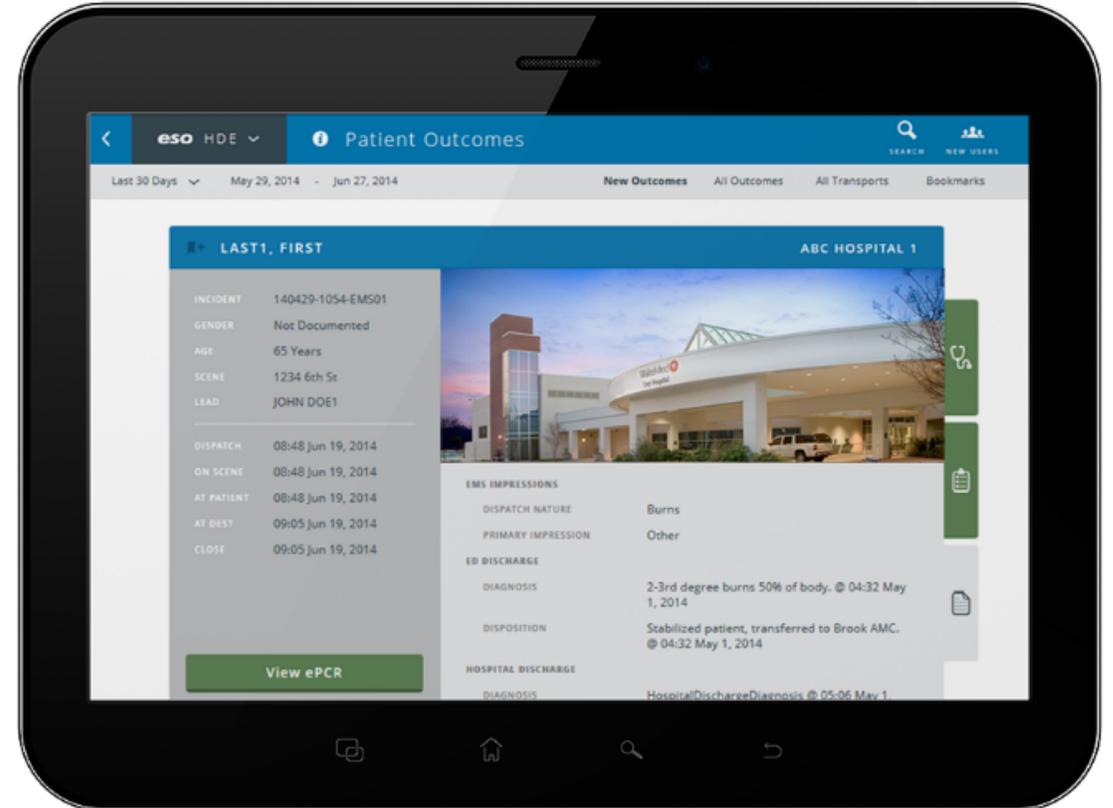


“An outcome is data provided to EMS by other clinical providers within the continuum of care used for clinical and process performance improvement.”

- What happened with my patient after I transferred care?
- How can I improve my care of like patients?
- Is everything I am doing prior to arrival medically necessary or even in the patient’s best interest?

Immediate Provider Feedback

- Loop Closure
- Comparative Assessment Analysis
- Field Impression Confirmation
- Quality Management



Aggregate Outcome Analysis

- Protocol Improvement
- Provider Education
- Quality Management
- Assessment Qualitative Analysis
- Research



Current Barriers

- No stand-alone standardized data element sets.
- No standard protocol for communication of outcome information.
- Misconception under HIPAA of access rights related to the continuum of care and performance improvement.
- Complications around business to business data sharing and covered entity agreements.

Call to Action

1. Provide referenceable federal clarification to remove interoperability barriers directly related to the misconception of HIPAA requirements as it pertains to quality improvement programs and the continuum of care.
2. Provide incentives for implementation of standards-based Integrating the Health Care Enterprise (IHE) and National EMS Information System (NEMSIS) interoperability profiles. Require a complete meaningful exchange of discrete EMS data into the hospital. Additionally, the incentive must require the reciprocal delivery of standards-based outcome information back to EMS.

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RICHARD.HALE@ESO.COM