Integrating the Healthcare Enterprise

IHE IT Infrastructure Technical Committee White Paper 2008 - 2009

'ID/ECON White Paper'

Template for Law Enforcement to Hand Over Crash Victim Identity (ID) and Emergency Contact Information (ECON) to EMS Providers Following a Motor Vehicle Crash

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Table of Contents

1 Introduction 3
2 Goals 4
2.1 Open Issues and Questions 4
3 Overview 5
4 Problem 6
5 FL & OH Deploy DMV Network for Statewide ID/ECON Access 7
6 Nlets Creates VIN# Network for Nationwide ID/ECON Access 8
8 Building the Case for ID/ECON IHE Profiled Support 11
9 References 12

1 Introduction

This white paper was prompted by the Health Information Technology Standards Panel (HITSP) Emergency Responder – Electronic Health Record (ER-EHR) Use Case. The ER-EHR Use Case includes defining the functional components and standards that will provide crash scene responders, (police, fire, EMS), with pertinent health information on motor vehicle crash victims from an Emergency Contact Registry (ECON), Personal Health Record (PHR) and/or Electronic Health Record (EHR). The objective is to achieve focused improvements in crash victim care and safety leading to improved post-crash survivability, thereby, furthering the reduction in traffic fatalities and serious injuries on the nation's roadways.

Later this year, law enforcement across the United States will be able to leverage an existing nationwide law enforcement telecommunications network designed to put emergency contact information for motor vehicle owners in the hands of crash scene police within seconds. The goal is for law enforcement to achieve a significant reduction in the timeframe it takes to confirm the identity of unresponsive crash victims, provide personalized care, and notify their emergency contacts.

A key interoperability component of the ER-EHR Use Case is the capability for law enforcement to securely hand over crash victim identity (ID) and associated ECON information to crash scene EMS providers, thereby enabling EMS providers to securely query for a 'short list' of crash victim personal medical data, such as pre-existing conditions, medications, or allergies, from a PHR and/or EHR. There is, however, no standards-based interoperable transaction enabling law enforcement to securely hand over crash victim ID/ECON information to crash scene EMS providers. As a result, it is typically a manual process of passing information from law enforcement to EMS, if it happens at all.

This white paper looks at the issues and opportunities of further leveraging the existing nationwide law enforcement telecommunications network to establish a standards-based interoperable transaction linking together law enforcement and EMS systems to provide automated support for a secure hand over transaction. This can be seen as an opportunity to enhance the care and safety of crash victims by supporting a standards-based interoperable transaction which will enable law enforcement to securely hand over crash victim ID/ECON information to on-scene EMS providers.

2 Goals

This paper addresses the following goal:

- Show a vision for enhancing emergency medical care and safety for motor vehicle crash victims by supporting a standards-based interoperable transaction that will enable law enforcement to securely hand over crash victim ID/ECON information to crash scene EMS providers in an automated format.

The concepts presented in this paper are evolving rapidly as interest and technology adoption in the emergency response industry grows. The goal is to summarize current activities and set a statement of direction with full expectation that over time this direction will evolve as appropriate.

2.1 Open Issues and Questions

1. How will credentialing of crash scene EMS providers be handled?
2. Is leveraging an existing nationwide public safety telecommunications network sufficient to build trust relationships among crash scene EMS providers to access and exchange crash victim ID/ECON information?

3 Overview

This white paper addresses the need for a standards-based interoperable transaction enabling law enforcement to securely hand over crash victim ID/ECON information to crash scene EMS providers in an automated format.

This is a very important problem to solve due to the potential for significant payoff in saving lives and minimizing post-crash injuries on the nation's roadways.

The U.S. Bureau of Transportation Statistics reports that in 2006 there were more than 2.5 million people injured in motor vehicle crashes (250,000 of which were life threatening) and more than 42,500 deaths. Motor vehicle crashes represent the leading cause of unintentional injury and admittance to an emergency room in an unconscious state, as well as, the third leading cause of death in the United States, surpassed only by heart disease and cancer.

The need is great, given the number of serious crashes each year, the importance of timely access to pertinent health data from a PHR and/or EHR for improving post-crash survivability, and the difficulty EMS providers typically have in locating such data, especially when time is of the essence.

The most relevant work in the field is the Health Information Technology Standards Panel (HITSP) Emergency Responder – Electronic Health Record (ER-EHR) Use Case which is defining the functional components and standards that will achieve health information data interoperability among emergency responders.

This white paper addresses the following:

- How the National Law Enforcement Telecommunications System (Nlets) links together state, local and federal law enforcement and DMV agencies to put ID/ECON information for motor vehicle owners in the hands of crash scene police nationwide within seconds
- A recommendation to further leverage Nlets nationwide communications network to support a standards-based interoperable transaction that will enable law enforcement to securely hand over crash victim ID/ECON information to crash scene EMS providers in an automated format.

4 Problem

A worst case scenario is an emergency responder trying to provide care for an unidentified, unresponsive motor vehicle crash victim. Contrary to popular belief, crash scene emergency responders cannot quickly gain access to data, such the as the motor vehicle owner emergency contact name(s) and contact phone number(s) to assist with positive identification of the crash victim, as well as, provide additional knowledge about certain aspects of the crash victim's health, such as pre-existing conditions, medications, allergies, etc.

Emergency responders, typically law enforcement, resort to searching personal belongings (e.g. wallet, glove compartment, cell phone, etc.) for leads to the identity of an emergency contact and/or next-of-kin. Meanwhile, hours elapse (a national average of six hours for in-state incidents to over two days for out-of-state incidents) as family members are not notified and crash victims enter the emergency healthcare system without the benefit of family members to advocate on their behalf and/or provide added-value information to enhance the medical care of loved ones.

In most cases, the only information available to law enforcement is the address on the crash victim's driver's license. When law enforcement are unable to contact anyone at the crash victim's home address listed on the driver's license, law enforcement begin a search, contacting neighbors or looking up old records. Still law enforcement can encounter obstacles, such as unlisted phone numbers that might require a warrant for release in certain jurisdictions.

The following media headline is an example of tragic circumstances which may have been averted had motor vehicle owner ID/ECON information been readily accessible to law enforcement at the scene of the crash, thereby enabling timely notification of next-of-kin:

The Baltimore Sun, Baltimore MD – July 2007

Crash victim dies alone in hospital after police fail to alert kin

Man's death after crash highlights inconsistent rules regarding notification of next-of-kin.

5 FL & OH Deploy DMV Network for Statewide ID/ECON Access

Over the past five years, lobbying efforts by www.ToInformFamiliesFirst.com and www.ParentGrief.com successfully passed legislation to create a Department of Motor Vehicles (DMV) ID/ECON network in the states of Florida and Ohio. The legislation requires DMV to allow individuals holding a valid Florida or Ohio driver's license, commercial driver's license, temporary instruction permit, or identification card to list the name, address, telephone number, and relationship of at least one contact person who should be contacted by law enforcement if the individual is involved in a motor vehicle crash or an emergency situation and the individual dies or is seriously injured or rendered unconscious and unable to communicate.

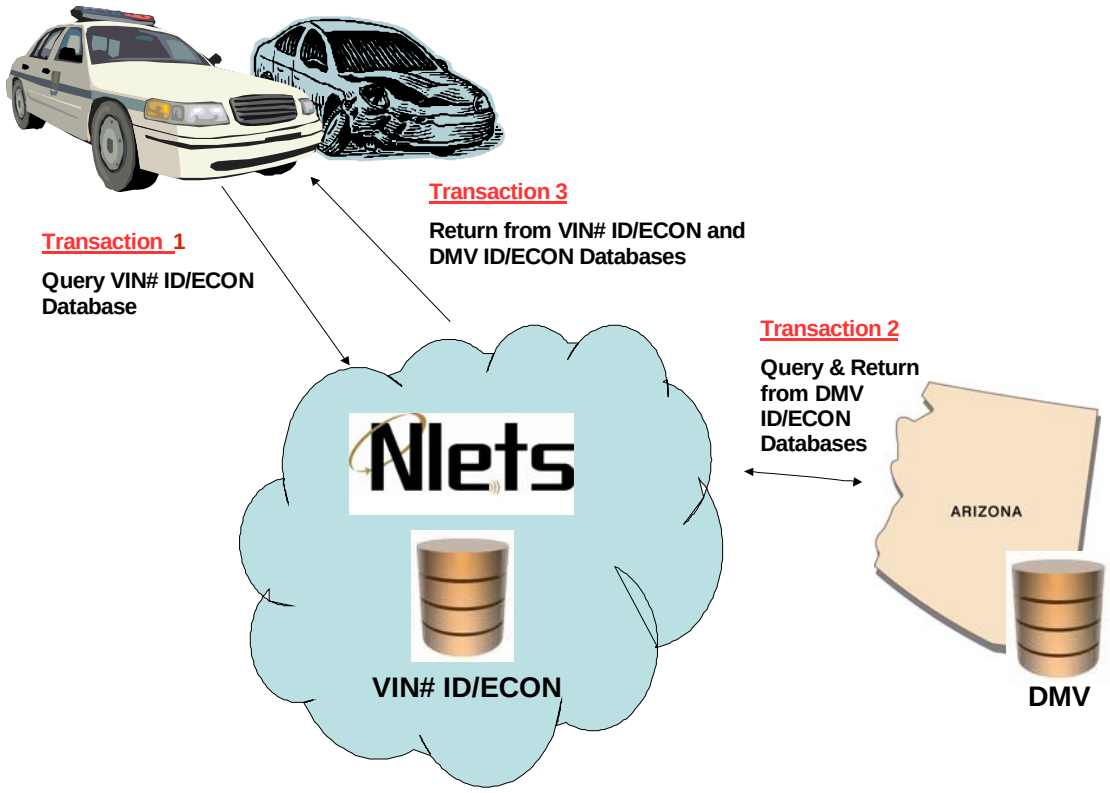
These are, however, only two states, and there are limitations on what these efforts can accomplish. The DMV ID/ECON queries are not interoperable which means the emergency contact data for a Florida licensed driver involved in a motor vehicle crash in Ohio may not be available to the Ohio State Highway Patrol due to the lack of nationwide interoperability. In addition, if a crash victim is unconscious or otherwise unidentifiable, law enforcement must physically locate a driver's license at the crash scene in order to initiate a query, which is not always possible due to the type and severity of the crash (e.g. Minnesota bridge collapse). And, even if a driver's license is physically located, it may not be valid (i.e. fake ID).

6 Nlets Creates VIN# Network for Nationwide ID/ECON Access

Later this year, consumers purchasing or leasing motor vehicles from authorized dealerships of a participating automotive manufacturers will be afforded the option to register their ID/ECON information to their automobile's vehicle identification number (VIN#). The VIN# ID/ECON is a standards-based system operated and controlled by the National Law Enforcement Telecommunications System (Nlets) and is designed to put ID/ECON information for motor vehicle owners in the hands of crash scene law enforcement quickly. The goal is for law enforcement to achieve a significant reduction in the timeframe it takes to confirm the identity of unresponsive crash victims, provide personalized care, and notify their emergency contacts.

Nlets (www.nlets.org) is an international, computer-based message switching system that links together state, local and federal law enforcement and DMV agencies for the purpose of information exchange. Nlets supports data communication links to state networks using a commercial frame relay service. All agencies within each state are serviced through this state interface. The Nlets user population is composed of all of the states/territories, all federal agencies, and state DMVs, all securely exchanging data, including motor vehicle owner ID/ECON information.

The following diagram is provided to illustrate the sequence of Nlets VIN# ID/ECON system transactions:



The Nlets VIN# ID/ECON query is interoperable with Florida's and Ohio's DMV ID/ECON network and leverages Nlets connectivity by linking together more than 20,000 law enforcement agencies nationwide and more than 500,000 in-vehicle police mobile data devices in the United States and Canada.

7 Leveraging Nlets Network to Securely Hand Over Crash Victim ID/ECON Information to Crash Scene EMS Providers in an Automated Format

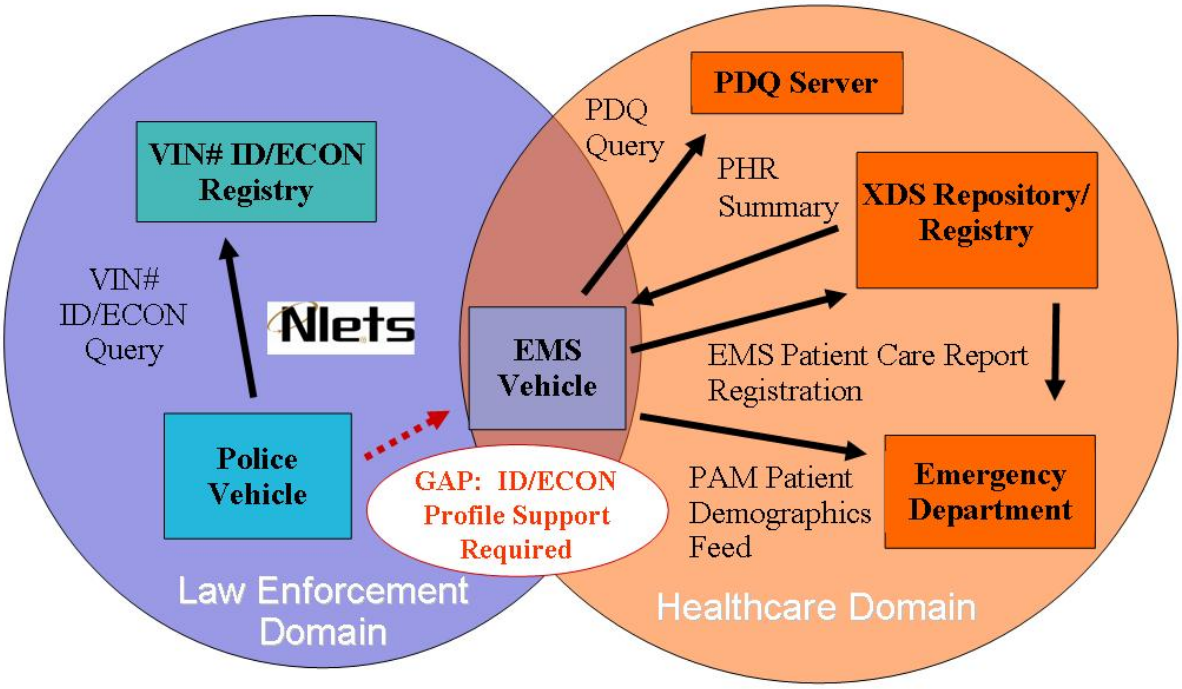
The minutes after traumatic injuries are sustained, or the so-called 'golden hour' are critical with regarding to saving a crash victim's life and minimizing the effects of injuries sustained. A worst case scenario is an EMS provider working with an unidentified, unresponsive crash victim and has no idea what other medical conditions the accident victim may have or which medications he or she might be taking.

A key component of the ER-EHR Use Case is the capability for law enforcement to securely hand over crash victim ID/ECON information to crash scene EMS providers in an automated format, thereby enabling EMS providers to securely query for a 'short list' of crash victim personal health information, such as pre-existing conditions, medications, or allergies, from a PHR and/or EHR

However, before an EMS provider can query for historical health information from a PHR and/or EHR, positive identification of the crash victim is required. Without positive identification, there is no crash victim-specific information access or exchange. Given the EMS priority of delivering emergency medical care, law enforcement is typically tasked with identifying unresponsive crash victims. They have the tools and communications network (i.e.; Nlets) readily available to conduct an identity investigation and obtain associated emergency contact information.

Once law enforcement positively identifies a crash victim and obtains any associated emergency contact information via the Nlets network, the problem remains that there is no standards-based interoperable transaction enabling law enforcement to securely hand over crash victim ID/ECON information to crash EMS providers in an automated format.

The following diagram is provided to illustrate the overall sequence of transactions between the law enforcement domain and healthcare domain and how Nlets connectivity might be leveraged, assuming the ID/ECON 'standards gap' is resolved for the hand over of crash victim ID/ECON information to crash scene EMS providers:



By automating law enforcement hand off of crash victim ID/ECON information, precious minutes are saved in the delivery of emergency medical care. The potential contribution to the field is a dramatic reduction in the time it takes for EMS providers to obtain positive ID and associated ECON information.

Obtaining positive ID for a crash victim is a critical and essential step to enabling the balance of crash scene EMS transactions, including querying for the location of a crash victim PHR (IHE PDQ) and then querying the needed documents (IHE XDS) and retrieving a 'short list' of pre-existing conditions, medications, allergies, as well as, supporting patient care report (PCR) registration and real-time messaging of crash victim demographics (IHE PAM) to emergency department clinicians and other authorized parties.

8 Building the Case for ID/ECON IHE Profiled Support

The quest for a standards-based interoperable transaction enabling law enforcement to securely hand over crash victim ID/ECON information via Nlets to crash scene EMS providers will be largely dependent upon IHE profiled support. IHE profiled support will enable the HITSP ER-EHR Technical Committee to define how to integrate and constrain existing technical standards and specifications, ultimately enabling the deployment of standardized, widely available and secure solutions for law enforcement and crash scene EMS providers to securely access and exchange ID/ECON information. This will solve a critical public safety problem, given the number of serious motor vehicle crashes each year, the importance of timely access to potentially life-saving information for improving post-crash survivability, and the difficulty crash scene emergency responders typically have in locating such data, especially when time is of the essence.

9 References

Health Information Technology Standards Panel (HITSP) Emergency Responder – Electronic Health Record (ER-EHR) Use Case:

http://hitsp.wikispaces.com/space/showimage/HITSP_V1.1_2007_IS04+-+Emergency+Responder+EHR.pdf

