UC Davis Health – PULSE EMS Integration

Submitter Information:
Michael Marchant, HIE and Integration Manager, UC Davis Health
MBMarchant@UCDavis.edu
916 734 0942 (o)
916 889 4591 (c)

Project Team Members:
Willy Bansi – HIE Project Manager
Michael Marchant – HIE and Integration Manager
Tyler Steier – Epic TS
Leslie Witten – EMSA Project Manager
Karen Boruff – CAHIE Project Manager
Jeremy Wong – AI – Senior Manager

Project Summary:
This project has connected UC Davis Health with the California EMS Authorities PULSE EMS (Patient Unified Lookup System) to provide available patient information to disaster healthcare volunteers (DHVs) in the event that the EMS Director declares a state of emergency and ‘turns on’ the PULSE EMS system. UCDH established standard health information exchange connectivity with the PULSE EMS vendor, Audacious Inquiry and their technology, providing a process to lookup patients and return standard Clinical Context Documents (CCDs) for viewing within the PULSE system. The system leverages the California Trusted Exchange Network (CTEN) for connectivity and established messaging and security protocols for the exchange.

Project Narrative:
In the spring of 2016, the California Association of Health Information Exchanges (CaHIE) Executive Director Robert ‘Rim’ Cotheren approached UC Davis Health about participating in a pilot program to connect our organizations EHR (Epic) with the states DHV EHR, PULSE EMS. Through several months of work, meetings and coordination, we were able to connect with the PULSE system, deliver meaningful data and provide our community with needed information in the event of a disaster.

On June 14-15 2017, UC Davis Health along with the EMS Authority, their vendor and several other participating organizations participated in a Table Top Drill at Sacramento State University. The purpose of this drill was to complete end to end testing with not only the technology but with specific use cases being executed by the disaster healthcare volunteers working within the PULSE EMS system.

At the conclusion of the testing, all systems checked out, volunteers were able to execute the test plans to everyone’s satisfaction and all participants were ready to move the technology into a production state, in preparation for the next EMS designated emergency.
At the end of our testing, the below solution was staged in our production environments to response as needed.


The California Emergency Medical Services Authority (EMSA) activated the Patient Unified Lookup System for Emergencies (PULSE) for the first time on October 9, 2017 in response to the fires in Napa, Lake, Sonoma, Mendocino, Butte, and Solano Counties. At that time, PULSE participants confirmed their production environments were up, ready and connected in the event the EMS Authority deployed the disaster healthcare volunteers to provide care.

PULSE was deactivated when EMSA began recovery on October 27, 2017.

UC Davis Health participated in the PULSE pilot program based on our strong believe the interoperability and health information exchange are necessary to provide extra ordinary care. Providers need the most up to date and relevant information to increase their ability to provide appropriate care in the event of an emergency. UC Davis Health also believes that as part of the Northern California healthcare community, it was our duty to participate as an example of the community based healthcare organization we are and continually strive to improve the health in our community.