

CASE STUDY

How A Virginia Hospital Automated ePCR Data Into Their EMR

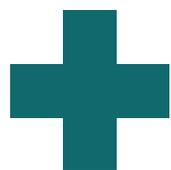
CARILION CLINIC

In today's world of shared information, timeliness and ease of access by the people who need it is important. Determining the best course of action and treatment could depend on it. Reducing siloed data, decreasing the time to receive patient information and increasing interoperability, drives better treatment and awareness for Emergency Medical Services (EMS), personnel and Emergency Departments (EDs).

GOAL: IMPROVE THE TRANSMISSION OF DATA

Carilion Clinic recognized interoperability deficiencies and sought ways to improve the transmission of data between **EMS agencies and Emergency Departments**.

Carilion Clinic is a not-for-profit health care organization headquartered in Roanoke, Virginia with seven (7) hospitals and 225 clinics. Carilion serves about 1 million residents in Southwest Virginia and utilizes Epic as their electronic health record system.



980,000
OUTPATIENT VISITS

170,000
ED VISITS

50,000
ADMISSIONS



13,230
EMPLOYEES



1,026
BEDS



700+
PHYSICIANS

76
SPECIALTIES

300
RESIDENTS & FELLOWS

CHALLENGE: THE EMS REPORT PROCESS

Historically, EMS agencies would need to connect to a printer and generate a paper report to leave at Carilion Clinic Emergency Departments (EDs) with the patient. The patient report was placed with other paper documents to be scanned into the Chart Review-Media Tab in Epic post discharge. It was then boxed and shipped to a third party scanning service, adding costs and delaying processing.

This historical process caused many **challenges for the ED:**



Lost or misplaced
paper documents.

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Third party delays & costs.



Scanning paper
documents results
in delays of
important and urgent
documentation
in the chart.



The paramedic's
treatment information
and notes are not easily
accessible during the
patient visit/stay.

PLAN + EVAL

Under the former process, EMS needed to connect to a printer and generate a paper report. Technical difficulties would often create frustrating delays.

Carilion set out to incorporate EMS reports electronically into the EMR using existing technology to reduce the time for records to become available for ED staff.



The switch to electronic records was the right thing to do for patients, EDs, hospital staff and EMS agencies.

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Carilion previously used Direct Secure Messaging for Transitions of Care to providers in the community.

It was determined this inherent functionality in Epic, through the interoperability platform Care Everywhere, would be the most efficient way to get records *into* the EMR. This meant EMS Agencies needed an ePCR system that could send records *out* via Direct Messaging.

Carilion established local EMS contacts through their Clinic Emergency Departments and learned that many high-volume agencies in their region utilize ImageTrend's ePCR solution, Elite. ImageTrend's product suite of Elite and Health Information Hub™ (HIH) is integrated with Kno2's Interoperability as a Service™ for Direct Secure Messaging, allowing the ImageTrend agencies to securely send ePCRs into the patient's chart in Carilion's EMR.

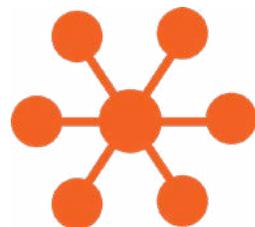
The solution was there for both entities; it just had to be utilized.

PROCESS

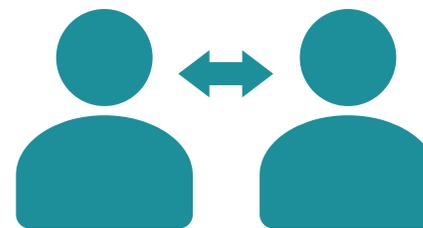
Carilion purchased the HIH solution from ImageTrend, which included a Kno2 account for each of their EMS agencies. Agencies use their automated workflow in ImageTrend Elite to automatically send ePCRs upon completion, and Carilion has immediate access to them in the patient's chart in Epic's Care Everywhere.



Medic completes PCR



ePCR is automatically sent to hospital via Direct Secure Messaging



Data is used for patient matching



ePCR is ingested into the patient chart

IMPLEMENTATION



Less than
1 month
to
set up
multiple
agencies

Implementation went very quickly. There was no heavy lifting for the Information Technology team or the ED at Carilion since they were already using Epic Care Everywhere to share millions of patient records. Carilion set up a test patient and had each agency send a test message from their ImageTrend Elite account to ensure successful exchange prior to going into production.

From the EMS agency perspective, the process was also easy.

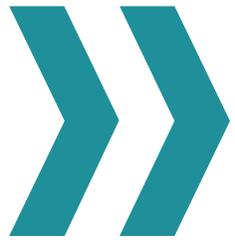
According to Tiffany Moran, Automation Coordinator for Roanoke Fire & EMS,



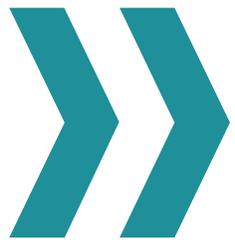
“There were minimal changes needed to our Elite system because we were already submitting electronically to our third party billing provider and to the Virginia Department of Health. ImageTrend added the additional export connection and then worked with Carilion and me to verify both the transmission and receipt of data. It was truly seamless to our providers in the field and we have not had to give it a second thought since.”

RESULTS

ImageTrend HIH and Direct Secure Messaging via Kno2 were activated in February 2018. There were two key and immediate benefits:



Reports Available Immediately. It eliminated manual labor at the hospital and improved the reliability of attaching ePCRs to the correct patient's chart. In the first year of use, more than 20,000 EMS reports were received and available in Care Everywhere within Carilion's Epic system. Because EMS agencies already have an excellent demographic process, as well as high data quality from Elite's real-time validation, there was a low volume of unmatched patients. Now the reports are available in the patient's chart immediately after completion by the medic using ImageTrend Elite. Gone are the days of searching the Media Tab for PCRs or treating a patient without access to the pre-hospital report.



Improved EMS Crew Efficiency. This also improved EMS crew efficiency. They don't have to log into a separate system or duplicate data entry to send it to the receiving EDs at Carilion, and it eliminates the need to connect to a printer and produce a paper report. Often technical difficulties create frustrating delays for the crew and the ED staff. Now the crew is in service sooner and able to leave for the next call immediately.

Additionally, EMS agencies no longer incur the costs to maintain printers or separate computers at the hospital.

There are still the occasional unmatched patients due to bystanders providing incorrect information or a miskey, which are reconciled when they appear on the Incoming Messages Report in Epic, an existing HIM operations workflow for unmatched patients.

NEXT STEPS



Establishing electronic records from EMS into the hospital EMR was just the first step in Carilion's plans.



“Ultimately, we will establish bi-directional exchange with EMS and patient lookup so the paramedic can query Carilion’s Epic system on dispatch, pull the patient’s chart into the system and know what medications they may have been on, allergies or care history,” remarked Walt Fisher, Application Analyst at Carilion. **“For example, just knowing the patient has diabetes would be helpful when arriving on scene.”**

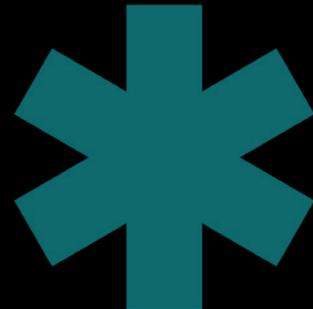
In the not too distant future, this bi-directional exchange will be expanded to operations and payment queries to retrieve discharge and insurance information, using Carequality through Kno2, for additional time savings by both the hospital and EMS agencies as well as better outcomes through improved quality assurance and training by the agencies.



“The ability to view hospital data after the patient leaves our care would be extremely helpful,” added Moran. **“We could use the data to help train our providers, it would help us identify John/Jane Doe patients for billing, and sometimes our providers simply want to know if their patient walked out of the hospital after their cardiac arrest call.”**

CONCLUSION

Both Carilion and the EMS agencies have benefited from this standards-based exchange of patient information. By enabling interoperability from EMS to hospitals via ImageTrend and Kno2, Carilion was able to drastically improve the availability of patient care records and matching of patient identification. EMS agencies also benefit from faster turnaround at patient handoff. Most importantly, patient care is positively impacted because information is accessible by the entire care team in the right place and at the right time.



ABOUT KNO2

Kno2® is leading healthcare's path to interoperability across every patient care setting. Kno2: Interoperability as a Service™ (IaaS) turns on connectivity to millions of healthcare providers and the capability to send, receive, find and use patient information with everyone. Kno2's IaaS enables access to providers via cloud faxing, Direct secure messaging, patient information query and patient care networks (referrals, ACOs, HIEs) guided by connectivity assessments and analytics. To discover your path to interoperability, please visit <http://www.kno2.com>.

ABOUT IMAGETREND

ImageTrend, Inc. is dedicated to connecting life's most important data in the healthcare and emergency response community. ImageTrend delivers software solutions, data analytics and services for EMS, Fire, hospitals, community paramedicine (CP), critical care and preparedness to enable fully integrated patient-centric healthcare and public safety. ImageTrend's commitment to innovation, our clients, and providing world-class implementation and support is unsurpassed. Based in Lakeville, Minnesota, ImageTrend combines business analysis, creative design and data-driven architecture to offer scalable solutions and strategies for today and the future.

Contact us to learn more about how our solutions can work for you!

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