Roanoke Fire & EMS

Automating ePCR workflow saves time and reduces stress

Situation

Roanoke Fire & EMS serves a resident population of approximately 99,000 citizens spread out over 43 square miles. The agency is one of several providing emergency medical services to Carilion Clinic, a not-for-profit healthcare organization headquartered in Roanoke, serving approximately one million residents in southwest Virginia.

For all the EMS agencies transporting patients to Carilion, submitting PCRs was a manual process. EMS teams connected to a shared printer in the emergency department, printed out the PCR and submitted it to Carilion. The PCR was then scanned or entered manually to become part of the patient's electronic health record (EHR).

This arrangement presented a number of complications for Roanoke Fire & EMS, including:

Time spent connecting to the printer

Maintaining the printer and printing supplies

Tracking down and resubmitting reports that were lost in the process

Meanwhile, the automation coordinator was back at the station chasing down printers, supplies and problems, while the battalion chief had to follow up on missing reports for billing and compliance. It was a never-ending hassle.

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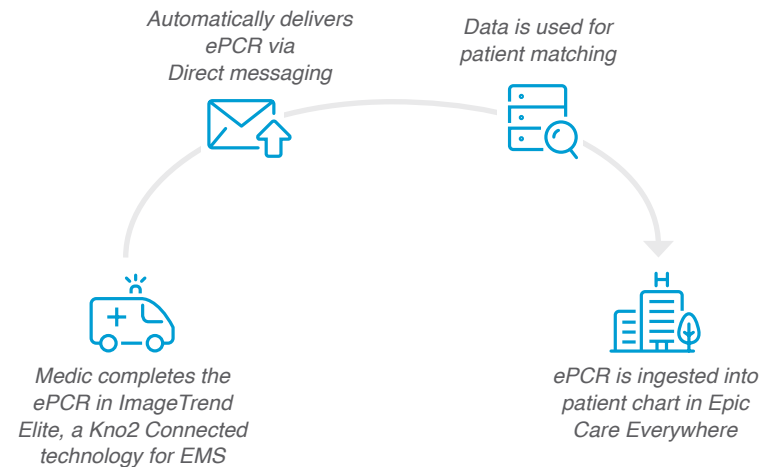
Solution

Roanoke Fire & EMS, like several other high-volume EMS agencies in the area, was already using ImageTrend Elite for ePCR creation. And Carilion had the ability to receive records into its EHR via Direct secure messaging through Care Everywhere, the interoperability platform in Epic.

The two systems simply needed to be connected.

That connectivity came from **activating their integrated Kno2 account, built into the ImageTrend Elite software**. Enabling Kno2 allowed EMS teams to automatically submit ePCRs directly to Carilion's Epic system.

Automatically delivers ePCR via Direct messaging

Data is used for patient matching

Medic completes the ePCR in ImageTrend Elite, a Kno2 Connected technology for EMS

ePCR is ingested into patient chart in Epic Care Everywhere

Implementation was quick and easy, and it was accomplished in less than one month. As Roanoke Fire & EMS Automation Coordinator Tiffany Moran put it, "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."

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> Tiffany Moran | Roanoke Fire & EMS Automation Coordinator

Results

One of the most immediate results of activating the Kno2 capabilities was improved EMS crew efficiency.

With **one integrated solution**, medics no longer had to log into a separate system or duplicate data entry to send PCRs to the receiving emergency department.

The **secure data connection** also eliminated the need to connect to a printer and produce a paper report, which was often a source of technical difficulties that created frustrating delays for the crew and the ED staff.

In addition, EMS agencies **no longer incurred the costs and time** to maintain printers or separate computers at the hospital.

Now the crews are back in service sooner and able to leave for the next call immediately.

Another benefit Roanoke Fire & EMS discovered was that automating the ePCR workflow eliminated the phone calls back and forth between the agency and the hospital regarding lost reports. With the previous paper system, the Roanoke battalion chief had to search for missing reports manually, print them out, scan them and send them to the hospital.

Next steps

Establishing an automated ePCR workflow in Carilion's EHR was just the first of several ways Roanoke Fire & EMS plans to leverage the Kno2 capabilities within ImageTrend Elite.

Soon the agency will establish a bi-directional data exchange that supports patient lookup so paramedics can query healthcare providers in the community during transport — including within Carilion's Epic system — pull the patient's chart into the system, and know immediately what medications the patient may have been on and any allergies or care history (e.g., diabetes or COVID-19 exposure).

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

"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."

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In conclusion

Both Roanoke Fire & EMS and Carilion have benefited from this standards-based exchange of patient information. By enabling interoperability between the EMS and hospitals via ImageTrend and Kno2, Carilion was able to drastically improve the availability of patient care records and matching of patient identification. Roanoke Fire & EMS also benefited from faster turnaround at patient handoff.

Most importantly, patient care has been 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 with the capability to send, receive, find and use patient information with everyone. Through Kno2's Interoperability as a Service™, common exchange methods including cloud fax, Direct messaging using the DirectTrust™ framework, patient information query with providers live on Carequality, including those connected through CommonWell Health Alliance®, IHE profiles, HL7 messaging, Fast Interoperability Healthcare Resources (FHIR), patient care networks (referrals, ACOs, HIEs), and other forms of exchange are standardized into simple send and receive workflows, from virtually any source. The innovative technology is smart enough to determine the most interoperable form of exchange to ensure that content flows freely between systems and providers. All this functionality is available to providers and technology vendors through a simple set of REST-based APIs or through a Kno2 portal.

To discover your path to interoperability, please visit **http://www.kno2.com** or call **888.390.6394**.