



Mobile TeleHealth

The Digital Transformation of First Responders

Like many cities, Houston, Texas was facing a real problem, one that was negatively impacting their resources for emergency response. At issue, too many citizens were calling 911 to receive routine, or what's known as low-acuity, health treatments such as a free ride to a local emergency room. Following 911 protocol, with every call the city was required to send a firetruck and sometimes also an ambulance - both carrying valuable first responders to ensure the caller's safe transport to an emergency room. This quickly drove up costs for 911 emergency services, such as for fuel, added unnecessary burden to the city's hospitals and emergency rooms, and most importantly - kept first responders from helping those citizens facing a real emergency.

Case Study: Houston, Texas

Agency: Houston Fire Department

Challenge

- Reduce number of unnecessary ambulance transports for low-acuity patients
- Improve efficiency in responding to 911 calls
- Improve communications between the city's healthcare providers

Solution

- Cisco Jabber mobile video collaboration solution to enable instant communication
- Cisco Unified Communications Manager to allow inter-agency communication for fire department, hospitals, physicians and EMS crews during emergency response
- Leverage connections with local partnerships for more individualized patient care

Benefits

- Increase in efficiency by reducing total operation time to as low as 33 minutes
- Avoiding unnecessary hospital transports via ambulance in 80 percent of patients
- Reducing medical service costs for patients from as much as \$2,200 to just \$220

The Need for More Efficient Emergency Response

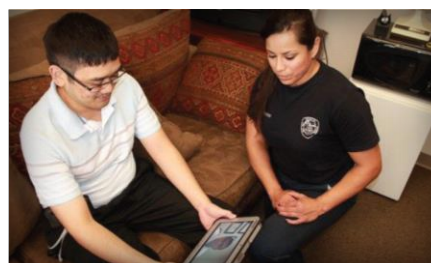
With nearly 4,000 firefighters protecting over 2.2 million people, the Houston Fire Department (HFD) can receive over 600,000 emergency calls each year. This can translate to over 400 EMS transports every day, so even a small percentage of unnecessary calls can have a dramatic impact on response times, quality of services, equipment wear and hospital wait times. So HFD decided to do something about it. In partnership with Cisco and Panasonic, they developed the Emergency TeleHealth and Navigation solution (ETHAN).

What is ETHAN?

ETHAN is a tablet-based mobile solution that empowers both emergency services and citizens to coordinate out-of-hospital care to **eliminate unnecessary and costly ambulance rides**. Upon arriving on-site, first responders ask themselves five introductory questions (such as are their signs of physical abuse, a gun present, etc.). If the answer is no to all, the tablet is then activated and a connection to an Emergency Operations Center (EOC) established. There, medical **doctors can interview the patient in real-time video**, via the tablet, to better determine the proper medical response. ETHAN accomplishes this by utilizing industry-leading Cisco collaboration solutions, including:

- Cisco Jabber Video for TelePresence
- Cisco Unified Communications Manager
- Voice Infrastructure and Applications

ETHAN provides automatic log-in, video logging and metatagging search capabilities. For repeat callers, this provides ease of search for previous incidents that can be used to **reduce unnecessary calls in the future**. And it is backed by Cisco cybersecurity protection that provides industry-leading defense across the entire attack continuum.



How it Works

By using Cisco's mobile video conferencing technology, ETHAN enables emergency response agencies like yours to deliver traditional healthcare faster and more cost effectively. It does this by letting patients and first responders communicate instantly, face-to-face, with qualified physicians to help

determine the most appropriate medical care solution:

Features

- **High Definition:** Enjoy high fidelity audio and high definition (720p) video on both desktop and mobile devices
- **Industry Leading Cybersecurity:** Keep your agency and patient data secure using industry leading cybersecurity that protects across the entire attack continuum
- **Screen Sharing:** View documents, photos and other files via easily in real-time
- **Policy Management:** Set access to features and capabilities based on individual user needs or security levels
- **Flexible Deployment:** On-premise, as a hybrid or in the cloud, based on your IT departments needs or capacities
- **Log Video Histories:** View times and lengths of video conferences and IP addresses of attendees

Why Cisco?

Only Cisco brings an integrated platform across network, data center, cloud, security, collaboration, analytics and IoT for faster digital transformation with reduced risk.

By helping public safety agencies like yours personalize citizen experiences, transform processes and empower personnel, Cisco is changing the way your city lives, works, learns and plays.

- When an EOC receives a call, first responders are dispatched
- If a more urgent call comes through while they are in route, EOC can use tablet to notify and redirect
- Upon arrival, they check the patient's vitals and complete basic health exams
- If the crew agrees that the patient does not need emergency care, they activate the **HIPAA compliant tablet** and begin **real-time HD video conferencing** (Cisco Jabber) with a physician(s) back at EOC on a Cisco video monitor
- Cisco Jabber empowers first responders with instant access to presence, voice, video, desktop sharing and conferencing
- While the patient and physician are video conferencing, first responders continue working on the patient, in-person, by palpating the site of any pain, checking vitals or making further physical assessments for the physician.

Real-time data sharing and video conferencing allows the physician to better understand the patient's situation and offer the appropriate option, which may include ambulance transport to a hospital, city-paid taxi service to a medical facility, or a reference to an appropriate provider. Emergency workers can even **connect instantly with a partner clinic** preferred by the patient, and schedule an appointment. In over 80 percent of incidents, an ambulance ride is unnecessary.

Benefits of Mobile TeleHealth

By empowering patients, first responders and physicians with mobile TeleHealth technologies to help choose the next step in their medical care, your agency can:

- Reduce total emergency vehicle and responder operation time
- Provide faster, more effective and more suitable healthcare services
- Give patients more choice
- Better manage patient wait times in emergency rooms.



Next Steps

For the city of Houston, Cisco's mobile collaboration technologies have already **eliminated over 6,000 unnecessary hospital transports**, saving them significant amounts of time, money and resources. As a result, first responders have reduced their total time away from the station from an hour and a half down to

as low as 20 minutes, helping ensure proper resources are available for other emergency calls when they come in. And our solution has already saved individual patients thousands of dollars on unneeded transport and hospital services.

By minimizing the number of times your ambulances have to transport low-acuity patients, all of your agency's personnel, resources and equipment experience less stress and wear, providing a higher quality of service over a longer time period. But more importantly, by using a mobile TeleHealth approach to emergency response, your agency can measurably improve the quality of healthcare that your citizens receive.

To find out more about Cisco Jabber, visit:

<http://www.cisco.com/web/products/voice/jabber.htm>