

Baptist Health Hardin

Enhancing emergency department workflows with hands-free communication

Organization overview

As of 2023, Baptist Health Hardin is an integrated system of providers and facilities serving approximately 400,000 residents in central Kentucky. The 300-bed hospital in Elizabethtown, Kentucky includes 270 acute care, 15 psychiatric and 15 skilled nursing beds. Additionally, Baptist Health Hardin includes more than 50 outpatient facilities across the service area including a Cancer Care Center and Outpatient Surgical Center. There are over 445 physicians and advanced practice clinicians in over 40 specialties and primary care.

Challenges

- Keep staff connected and protected in a new, much larger ED
- Improve clinical workflows, throughput and patient care
- Provide staff with a hands-free communication solution for the fast-paced ED

Vocera solution

- Vocera hands-free communication devices
- Vocera mobile app

Results*

- **62.4% improvement** in antibiotic timing for ED sepsis cases
- **63.3% improvement** in door-to-room ED throughput times
- **71.4% improvement** in left without being seen rates
- **42.2% improvement** in ED lab turnaround times

Victims of a multiple-car accident arrived in the new emergency department (ED) at Baptist Health Hardin. They were rushed into several different rooms where teams of clinicians provided critical care.

While providing hands-on care to a trauma patient in one room, a physician was asked to help treat a second critical patient in a room down the hall – at the same time. Around his neck he wore a Vocera device with which he could communicate hands-free. Speaking into the Vocera communication device, the doctor provided clinical guidance to the second patient’s nurse while continuing to resuscitate the first patient. The fast communication and effective collaboration between clinicians is credited for both patients’ survival.

Challenges

In 2018, Hardin Memorial Health, now Baptist Health Hardin, doubled its emergency department (ED) square footage and increased the number of exam rooms from 27 to 65. Hospital leaders needed a solution to keep staff connected and safe in the much larger ED, while improving workflow efficiencies.

“The ED is a hospital within a hospital,” explained Steve White, Assistant Vice President of Operations at Baptist Health Hardin. “With our expansion, people became more dispersed and shoulder-to-shoulder clinical communication went away. We also became one of the busiest EDs in the Commonwealth of Kentucky.”

Leadership knew smartphones were not the answer because ED clinicians had already tried using a smartphone app, and adoption was low.

“A cumbersome smartphone is not conducive to a fast-paced environment like the ED,” said Deanna Parker, MBA, MHA, BSN, RN, Assistant Vice President of Emergency Services at Baptist Health Hardin. “Our clinicians cannot afford to text and wait or spend valuable time looking for one another.”

Vocera solution

After evaluating the Vocera system, hospital leaders knew it was the communication solution the ED staff needed. Using Vocera hands-free communication devices, which are wearable, voice-controlled devices, staff can quickly connect with individuals by name or role, using simple voice commands like “Call Respiratory Therapist.” They can also use the hands-free communication device to activate specific emergency teams by using commands like, “Call Code Blue.” Each person assigned to those specific teams receives the call on their Vocera device and can act immediately.

Vocera technology enables staff to prepare for incoming trauma patients. When emergency medical service (EMS) providers call to notify the ED of an incoming patient, the team member receiving the notification can broadcast a message to the right response group via the Vocera system. Each team member assigned to that code group receives the notification on their Vocera device and can quickly assemble to the right trauma room with the right supplies, so everything is ready when the patient arrives.

Baptist Health Hardin uses Vocera technology as part of their sepsis surveillance workflow. Care team members receive a notification on their Vocera device if a patient shows an indication for sepsis based on temperature, heart rate and respiratory rate. The notification helps staff quickly initiate the right sepsis antibiotics which can improve patient outcomes.

Because all ancillary departments that support the ED use the Vocera system, including

laboratory and radiology, ED staff can quickly and efficiently receive patients' diagnostic results. This supports throughput and helps reduce patient wait times associated with completing diagnostic testing, like labs and X-rays.

When COVID-19 hit in 2020, the ED was well-prepared to communicate quickly and safely because their Vocera devices work under personal protective equipment (PPE), which helped the team preserve this valuable resource and streamline communication in isolation environments.

"Care team members can exchange vital information with each other or request help without stopping care delivery or leaving the patient's bedside," Parker said. "We do not have to worry about gaps in communication while wearing PPE."

In emergency situations, staff can reach help right away using the Vocera panic feature. If a nurse is in a room with an aggressive patient, for example, the nurse can quickly and discreetly double-tap their Vocera communication device to summon help from security staff.

"EDs have a lot of safety risks," Parker said. "Vocera technology provides our staff with an additional safety net, which helps them feel more safe and secure at work."

Staff who do not provide hands-on care, but still need to stay connected, use the Vocera app. Leadership can easily send and receive messages and see who is on-call via the Vocera mobile app or desktop web console.

"The beauty of Vocera technology is that it truly allows you to choose the device that makes the most sense for your role," explained Parker. "While smartphones don't have a place in the ED clinical care setting, the Vocera app is a great option for those of us not directly delivering patient care. We can easily stay in the loop."

"Hands-free communication has been a game changer for us," Parker said. "It has helped us improve clinician collaboration and satisfaction as well as elevate patient care, safety and experience."

Impact at a glance*

- **62.4% improvement** in antibiotic timing for ED sepsis cases (from 141 to 53 minutes)
- **71.4% improvement** in left without being seen (LWBS) rates (from 5.6% to 1.6%)
- **66.7% improvement** in door-to-triage ED throughput times (from 18 to 6 minutes)
- **63.3% improvement** in door-to-room ED throughput times (from 49 to 18 minutes)
- **42.2% improvement** in ED lab turnaround times for Complete Blood Count (from 45 to 26 minutes)
- **29.3% improvement** in ED lab turnaround times for Urinalysis (from 82 to 58 minutes)
- **27.3% improvement** in ED lab turnaround times for Comprehensive Metabolic Panel (from 66 to 48 minutes)
- **21.7% improvement** in ED lab turnaround times for Rapid Strep (from 46 to 36 minutes)
- **15.8% improvement** in ED lab turnaround times for Troponin T (from 57 to 48 minutes)
- **12.9% improvement** in ED lab turnaround times for Lactic Acid (from 62 to 54 minutes)
- **47-point improvement** in ED HCAHPS scores related to patient experience with nurses (from 33 to 80)
- **36-point improvement** in ED HCAHPS scores related to patient experience with doctors (from 47 to 83)
- **36-point improvement** in ED HCAHPS scores related to overall rating of care (from 34 to 70)
- **31.9-point improvement** in ED HCAHPS scores related to being informed about delays in the ED (from 40.8 to 72.7)
- **24.1-point improvement** in ED HCAHPS scores related to nurse courtesy (from 71.4 to 95.5)
- **21.2-point improvement** in ED HCAHPS scores related to overall patient experience (from 61.1 to 82.3)
- **16.7-point improvement** in ED HCAHPS scores related to doctor courtesy (from 69.7 to 86.4)

* In addition to Vocera technology, the facility's results may reflect the additional training, policies, procedures and specific configuration parameters implemented by the facility. The results are not necessarily representative of what another facility may experience.

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"To ensure staff remain connected, we looked at a variety of solutions like nurse call, overhead paging, smartphone apps and more. They each addressed little pockets of communication, but not anything near what Vocera technology can do."

— **Steve White**

Assistant Vice President of Operations
Baptist Health Hardin



"Clinicians go into healthcare wanting to provide exceptional patient care. Not having the right communication tools impedes their ability to communicate effectively, and subsequently impacts patient experience. Since implementing Vocera technology, we have seen tremendous improvement in communication, which has had a positive impact on patients, families and staff."

— **Deanna Parker, MBA, MHA, BSN, RN**

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