

The University of Louisville uses BlueJeans by Verizon to welcome students into the operating room.

Case study

“How do you think this patient got here?” asks a surgeon performing open heart surgery in the operating theater at the University of Louisville (UofL) Jewish Hospital.

“Smoking!” one middle-schooler calls out.

“Genetics?” asks another.

“Very good,” answers the surgeon, wrist deep in her patient’s chest cavity. “Excellent answers.”

Generally speaking, operating rooms aren’t the most kid-friendly of places. But 12 times a year, the UofL invites students from schools across America into the surgical theater via livestream video. By giving young people in grades 7 to 12 an up-close and personal look at healthcare in action, the Pulse of Surgery Program encourages them to consider pursuing careers in science, engineering, medicine and technology.

While the UofL has offered the program to students in Louisville since 2011, it recently deployed BlueJeans by Verizon to include students in rural areas and those participating in Kentucky’s Non-Traditional Instruction (NTI) programs due to COVID-19. And as the state went into lockdown early this year, the UofL’s healthcare providers also started using BlueJeans to deliver convenient, secure telehealth consultations to patients in need.

Education without limits

As a public research university, the UofL trains more than 1,200 students in its medical, nursing, dental and social work schools. Its School of Medicine’s strong commitment to educating the healthcare workers of tomorrow makes its partnership with the Kentucky Science Center, which facilitates the Pulse of Surgery program, a no-brainer.

Since 2011, these institutions have worked together to give school students an unbridled view into the operating theater of a fast-paced hospital. Initially, footage from the surgery would be livestreamed to students sitting in one of the Kentucky Science Center’s three theaters. But the program’s designers soon recognized that not all students could afford the bus fare to the Louisville center. Before long, they found an answer in video conferencing.

University of Louisville School of Medicine

Industry

Healthcare

Challenges

- Enable students to participate in the Pulse of Surgery program during COVID-19 lockdowns
- Need a secure and efficient way to deliver care remotely in lockdown

Solutions

- Surgeons adopted BlueJeans to livestream open heart surgery to students
- Healthcare providers across five hospitals and more than 250 clinics rolled out telehealth using BlueJeans Meetings

Results

- Students can view open heart surgery and ask surgeons questions throughout
- Clinicians provide easy-to-access, any-device telehealth consultations while protecting patient privacy and data to comply with HIPAA

“Since we’ve been using BlueJeans, we haven’t needed to have the school students, especially those based in rural Kentucky, drive for hours to come onsite to the Science Center,” says Tim Bickel, Telehealth Director at the UofL. Today, it isn’t just Kentucky students who can tune in from rural locations. Students from Tennessee and Montana are joining in the Pulse of Surgery program too, with Bickel expecting its reach to continue growing.

An immersive experience

In any Pulse of Surgery livestream, three cameras sit in the UofL Jewish Hospital's operating room. One captures a bird's-eye view of the theater. Another sits above the patient, enabling students to see what the surgeons are doing. But the camera the students tend to follow the most closely is fixed to the surgeon's scope. Footage from this camera lets students travel—quite literally—to the heart of the operation, while BlueJeans' high-definition video and immersive Dolby® audio enhance the spectacle.

"I knew that they would show the heart and stuff," says Julia Pate, a senior from Castle High, Indiana. "But I didn't really know ... I've never seen it beating inside the chest."

A chance to pick a surgeon's brain

Aside from what they're seeing and hearing, one of the things students like most about Pulse of Surgery is the interactivity of the program. Because video conferencing enables a two-way conversation, clinicians can answer students' questions in real time: How did you do in school? Why did you become a doctor? What's the most dangerous part of surgery? If you weren't doing this procedure, would the patient have a heart attack? Do you ever get nervous?

With thousands of procedures under their belts, the UofL Jewish Hospital's heart surgeons are relaxed enough to field these and many other questions from students, who they can see on BlueJeans via a monitor set up in the operating theater.

Imparting a love of learning

Often, surgeons will pose their own questions to the students, quizzing them on subjects like health sciences and biology. "You can tell who's done their homework ... as opposed to somebody who's got a family member who's maybe had a cardiac disease," says Mark Slaughter, Professor at the UofL's Department of Cardiovascular and Thoracic Surgery and a long-time participant in the Pulse of Surgery program.

Slaughter likes to tell students about his own path to surgery, in the hopes of encouraging adolescents from different walks of life to consider a career in medicine: "I wasn't your typical 'I knew when I was five I wanted to be a doctor.' ... I had a bit of a circuitous journey. The main lesson through all of it, though, is as long as you become a lifelong student—do well, work hard—anything's possible."

From middle school to medical school

As well as using BlueJeans to engage young science enthusiasts, UofL also uses the video conferencing platform to connect urban professors with regional fellows, residents and students through its livestreamed Grand Rounds program.

Initially, UofL clinicians used Grand Rounds to save travel time and money when teaching students at the Baptist Health Madisonville regional campus in Kentucky. Today, however, students, researchers and clinicians from around the globe tune in to BlueJeans weekly to hear some of healthcare's brightest minds speak on topics from machine learning in medicine to emerging concepts in multiple sclerosis.

Connecting with patients in uncertain times

This year, the UofL isn't just using BlueJeans to broaden the scope of its educational programs. As Kentucky entered lockdown in March 2020, healthcare providers at the UofL's 250-plus clinics, four medical centers and five hospitals needed to keep delivering care to patients. But they had to do it in a way that would protect their own health and conserve their valuable stores of personal protective equipment (PPE).

They found a solution in BlueJeans Meetings, which enables remote healthcare consultations while enforcing enterprise-grade security controls that comply with HIPAA.

BlueJeans Meetings allows UofL staff members to give each patient their own meeting room, protecting patient privacy and ensuring that their information is secure. "One of the reasons we're using BlueJeans here at the UofL is because of the encryption and security embedded into the system," says Bickel.

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Telehealth made simple

"The transition to telehealth has been a steep learning curve," Bickel says. Providers, administrators, clinic managers, coders, records managers, compliance experts and legal professionals have had to collaborate to implement protocols and processes to accommodate the new normal of our socially distanced world.

But while telehealth is complex and requires more steps than in-person care—such as obtaining patient consent before commencing a remote consultation and implementing a different billing system—Bickel appreciates that the actual consultations have been seamless, thanks to BlueJeans.

"It's simple and intuitive," he says. "Patients can join really quickly, even those who are a little more technically challenged. In fact, older patients are just as savvy as younger patients, because they're now so used to using video conferencing to keep in touch with their friends and family. Grandkids are a great educator!"

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What's next for the UofL?

The success of telehealth at the UofL's clinics and hospitals has been twofold. As well as keeping staff members and patients safe, the efficiency of the system and the BlueJeans platform has relieved pressure on doctors and nurses in a time of unprecedented clinical demand. So what advice does Bickel have for other healthcare organizations that might be struggling with the transition to virtual health?

"Keep it simple," he says. "If the technology is getting in the way of the patient experience, you're doing it wrong."

About the School of Medicine at the University of Louisville

The UofL was founded as a public research university in 1798. Its School of Medicine has been training tomorrow's healthcare workers since 1837 across five teaching hospitals and over two dozen clinics. The School of Medicine aims to improve the health of its patients and communities through excellence and leadership in education, clinical care, research and community engagement, and to bring the discoveries of its scientists to patient bedsides.

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