Lessons Learned From COVID-19 for Digital Health
Where We’ve Been and Where We Go Next

Nothing has illustrated quite so directly as the COVID-19 pandemic that the future of digital health is already here.

At UAMS, for example, the virtual urgent care service UAMS HealthNow launched in January. This was a big undertaking in and of itself, but as the COVID-19 pandemic began to swirl, HealthNow had to shift to become a screening tool for COVID-19 (it has since shifted back to serve both goals). This effort alone, not to mention shifting dozens of clinics from in-person to digital, was a herculean effort, underpinned by staff hours and creative thinking.

UAMS was lucky to have such a service available and the Institute for Digital Health & Innovation to back it up. But rural providers across the state? They faced a steep learning curve.

“We have seen an exponential growth in requests for our services,” said Hari Eswaran, Ph.D., director of the South Central Telehealth Resource Center. “We serve everyone from the rural physician who is trying to provide digital health for the first time, to the seasoned digital health provider trying to navigate the many regulatory changes during the COVID-19 pandemic. By a number of measures, our work has doubled or tripled.”

The center is housed within the UAMS Institute for Digital Health & Innovation and is part of a nationwide collective of centers that provide digital health training and one-on-one troubleshooting for health care providers. The center serves Arkansas, Tennessee and Mississippi.

The Institute for Digital Health & Innovation also houses an education and training division that saw a huge uptick in demand, said Curtis L. Lowery Jr., M.D., director of the institute.

Fueling those numbers were scores of health care providers who faced a universal “now or never” moment.

“We’ve had this debate about digital health for decades – are we going to use it, if so how are we going to use it – and then all of a sudden, it’s like, ‘oh, we don’t have a choice. We’re going to do it, and we’re going to do it tomorrow,’” Lowery said.

Around us as other industries readily embraced digital technologies, Lowery said, health care stood like the proverbial traveler with one foot on the shore and one foot in the canoe – never making a firm decision about which direction to take. With the coronavirus, for the safety of patients and health care providers alike, the industry was forced to jump into the canoe, not knowing the best technique for paddling, Lowery said. We got through it, and the health care providers and patients rapidly adapted to embrace the technologies.

“Now the question is, are we going to paddle back to shore or are we going to continue on our journey? Are we just going to go back to the way things were? I don’t think that’s likely to happen,” Lowery said. “What is more likely is that we are going to go in a positive direction and explore just how much technology has the potential to improve health care and re-shape quality of life for Arkansans for years to come.”

By that, Lowery believes video conferencing will replace many in-person visits, yes, but he means even more than that. Inexpensive new devices can be used to continuously monitor blood glucose levels. We can send patients home with wearable technology to keep an eye on congestive heart failure, for example, preventing expensive and preventable emergency room visits through aggressive treatment at home. We can harness
Lowery is already thinking about COVID-19 pandemic in Arkansas, during the initial spring of the environment, Lowery said. Be delivered in the patient’s home, look for more and more care to techniques of monitoring patients. Of the surgery as we develop newer with the patients going home the day performed in these surgery centers, setting. Many procedures are now performed in these surgery centers, with the patients going home the day of the surgery as we develop newer techniques of monitoring patients. Look for more and more care to be delivered in the patient’s home environment, Lowery said.

While everyone learned a lot during the initial spring of the COVID-19 pandemic in Arkansas, Lowery is already thinking about what comes next. His roadmap for the future:

- Preventive medicine – Digital health needs to become a driving force behind improving preventive medicine. Through new monitoring techniques, can we predict pandemics? And through personalized medicine, will we be able to predict those individuals destined to develop chronic diseases such as diabetes or hypertension? Once diagnosed, will we be able to improve our treatment through new techniques and monitoring and early interventions?
- Teaching future physicians – Many physicians discovered there was more to be learned than just the technology for video conferencing, such as how to interact with patients differently given the medium. Technology can be used to better assist the physician and take away much of the drudgery of recordkeeping, allowing the physician to focus on the interpersonal interactions with patients. Both the tech and digital health “bedside” skills should become a fundamental part of how future physicians are trained, Lowery said.
- Continuing to invest in connectivity – Arkansas has done much to expand its rural broadband network over the last 10 years, but more needs to be done. Broadband and connectivity are paramount to the health care delivery of the 21st century. Without continuous improvements in our infrastructure, our patients and providers will be left behind.

One thing isn’t in question: Digital health is here to stay. At least one artificial intelligence model flagged COVID-19 as having the potential for pandemic proportions, Lowery pointed out. AI has the potential to give us a predictive edge in a number of areas of health. In addition, providing better health care digitally to all corners of rural Arkansas could literally change the way people live.

“Everyone talks about why rural America is losing population, but what if those areas were digitally connected well enough that work, health care, entertainment, shopping – all of it were available?” Lowery said. “Investing in these digital infrastructures could be the catalyst for a rebirth in rural America.

“I say, since we’re already in this canoe, let’s keep rowing. The current is with us.”

For more information and digital health resources, visit:
- learntelehealth.org
- telehealthresourcecenter.org/sctrc
- idhi.uams.edu/providers
- patientslearn.uams.edu
- learnondemand.org/ims/home

June 2020
Message from Dr. Seupaul

Dear Colleagues,

I’d like to begin by acknowledging that these are unprecedented times.

Over the last several months, I am sure we have all had moments of fear and uncertainty, balanced by moments of grit, determination and hard work. Watching the Arkansas health care community’s response to the COVID-19 pandemic has demonstrated to me more than ever before that we are united in one goal: serving patients. I thought that before, but now I know it for sure.

It’s been a pleasure to work beside you during this fight. Thank you.

Secondly, I agree with our cover story: digital tools and innovative approaches to health care are important now more than ever. At UAMS, our HealthNow virtual urgent care service became key for screening COVID-19 patients at home. Now it is also able to serve its original purpose as a 24-hour digital health tool, providing convenient, real-time access to UAMS medical providers via smartphone, tablet or computer.

HealthNow is an excellent means of assessing and treating conditions like COVID-19, flu and respiratory issues, as well as eye, skin and gastrointestinal conditions.

Visit UAMShealth.com/healthnow to check it out.

If you are working to develop or expand your own digital health tools, reach out to the UAMS Institute for Digital Health & Innovation. We’re all in this together to harness the power of technology to better serve patients.

Sincerely,

Rawle A. Seupaul, M.D.
Chief Clinical Officer
UAMS Medical Center
Stanley E. Reed Professor & Chair
Department of Emergency Medicine
UAMS College of Medicine
UAMS HealthNow Resumes Virtual Urgent Care Visits

UAMS HealthNow has resumed taking virtual urgent care visits from Arkansas patients in addition to still offering free screenings for all Arkansans who have questions about whether they may have the coronavirus that causes COVID-19.

UAMS HealthNow is the 24-hour digital connection to health professionals who can assess and treat conditions involving the nose and throat, respiratory, eye, skin, and gastrointestinal systems as well as cold and flu.

When patients visit UAMSHealth.com/healthnow, they can access the COVID-19 screening tool for free or choose an urgent care visit for a charge. This service is available 24 hours a day, seven days a week to Arkansas adults and children and can be accessed from a smartphone, tablet, laptop or computer with video capabilities.

UAMS HealthNow accepts health insurance via photos of the insurance card and driver’s license. Self-pay patients will pay about $63 for a new patient visit or about $43 if an established UAMS patient.

AR-Connect Offers Telephone, Tele-Video Care for Mental Health

UAMS AR-Connect provides Arkansans with prompt and secure mental health consultations and care via telephone and tele-video virtual visits.

Once screened by specially trained nurses, patients are contacted by a mental health professional within 24 business hours by phone. If clinical treatment is recommended, patients will connect with their care team by phone or by video.

AR-Connect is designed to provide short-term care and eventually connect patients with services they need in their local community. Health insurance is not required to access AR-Connect’s mental-health professionals and patients will not be responsible for any payments outside of what is covered by their insurance plan.

The AR-Connect call center is available 24 hours a day, seven days a week, at 501-526-3563 or toll-free at 1-800-482-9921. For more information, contact AR-Connect at arconnect@uams.edu or visit psychiatry.uams.edu/arconnect.

UAMS Medical Center Recognized as Center of Excellence for Placenta Accreta Spectrum

The Maternal Safety Foundation has named UAMS Medical Center an Accreta Center of Excellence, recognizing its superior care for the life-threatening childbirth complication placenta accreta spectrum disorder.

UAMS Medical Center is the first hospital in the nation to receive the designation.

The Maternal-Fetal Medicine Program at UAMS features the most highly trained and experienced specialists in treating high-risk pregnancy in Arkansas. The program has more board-certified maternal-fetal specialist staff, more statewide coverage through UAMS-initiated advances in digital health, and more maternal-fetal physician experience than any other institution in the state.

Women who have had a previous cesarean section birth are at risk for placenta accreta, which occurs when the placenta grows too deeply into the uterine wall and is unable to detach after childbirth.

Gonzalez, M.D., & Khan, M.D., Join Kidney Transplant Team

Manuel E. Gonzalez, M.D., and Nasir Khan, M.D., have joined the Department of Internal Medicine as transplant nephrologists.

UAMS is the only center in Arkansas that offers adult liver and kidney transplantation.

Gonzalez completed a rotary internship in general medicine specialties at the Zacamil National Hospital in San Salvador, El Salvador. He furthered his training with a residency and fellowship in nephrology and fellowship in transplant nephrology at

CONSULT Quiz of the Month

QUESTION

A patient has elevated serum anion gap and elevated osmolal gap. Urine shows oxalate crystals. Does this suggest ethylene glycol toxicity?

ANSWER

Glycol is a possible differential diagnosis for this clinical presentation. The patient

(Continued on page 4)
the Ochsner Clinic Foundation in New Orleans.

Gonzalez is fluent in Spanish and one of his goals is to expand awareness, education and outreach about treatments for kidney failure among the Spanish-speaking community statewide. Gonzalez will provide a twice-monthly transplant clinic at the UAMS Northwest Arkansas Regional Campus so patients do not have to travel to Little Rock for care.

Khan completed his internal medicine residency at St. Barnabas Medical Center in Livingston, New Jersey. He then went on to complete his fellowship in nephrology at Yale University in New Haven, Connecticut, and transplant nephrology at the Cleveland Clinic in Cleveland, Ohio. To make a referral, call 501-686-6640.

Fellowship-trained Hematologist Oncologist Anuradha Kunther, M.D., Joins Cancer Institute

Hematologist oncologist Anuradha Kunther, M.D., has joined the UAMS Winthrop P. Rockefeller Cancer Institute, focusing on gastrointestinal malignancies and genitourinary malignancies.

Kunther served her residency at the North Division of Montefiore Medical Center in New York City. She completed UAMS’ Hematology/Oncology Fellowship program in 2011 and has served as a staff physician at the Central Arkansas Veterans Healthcare System since that time. She is also involved in teaching medical students, residents and oncology fellows.

To make a referral, call 501-296-1200.

Larry Balle II, M.D., M.P.H., Joins UAMS Health Orthopaedics and Sports Medicine in Fayetteville

Larry Balle II, M.D., M.P.H., has joined UAMS Health Orthopaedics and Sports Medicine at 201 W. Van Asche Loop, Fayetteville, as a primary care sports medicine physician.

Balle most recently served as the primary care sports medicine team physician and chief medical officer for University of Arkansas Athletics and as a primary care sports medicine and non-operative musculoskeletal medicine physician at Advanced Orthopaedic Specialists in Fayetteville.

Over the past several years, he has provided sports medicine care for all University of Arkansas Razorback athletics and Shiloh Christian, Springdale, Har-Ber and Fayetteville high schools and several local sporting events.

Balle completed his residency in family and community medicine at Baylor College of Medicine in Houston, Texas, and a fellowship in primary care sports medicine at UAMS Northwest Regional Campus.

To make an appointment, call 479-966-4491.

Academic Appointments

James Graham, M.D., a longtime educational leader in the UAMS College of Medicine, has been named the college’s executive associate dean for academic affairs.

Daniel E. Voth, Ph.D., has been appointed chair of the Department of Microbiology and Immunology in the College of Medicine.

UAMS PHYSICIAN RECRUITMENT & PROVIDER PLACEMENT PROGRAM

The UAMS Physician Recruitment & Provider Placement Program has a team of placement specialists dedicated to serving the recruitment needs of our partner communities, UAMS Regional Campuses and UAMS faculty. Physician/provider opportunities are available in all specialties throughout Arkansas.

FEATURED JOBS

Family Medicine Residency Faculty Opportunities: Interested in academic family medicine? Visit MedJobArkansas to view faculty opportunities at our Regional Campuses throughout Arkansas.

Specialty Opportunities: New opportunities in gastroenterology, otolaryngology, neurology, radiation oncology and rheumatology available.

Transplant Hepatologist Opportunity: We have a transplant hepatologist opportunity available for the Liver Transplant Program.

Recruitment services contact: Carla Alexander: 501-686-7934 or carla@uams.edu

For a complete listing of job descriptions and opportunities, visit: MedJobArkansas.com

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FRITS VAN RHEE, M.D., PH.D.
Clinical Director of the UAMS Myeloma Center

What inspired you to become a hematologist?

When I was a medical school student, my father died of an aggressive form of lymphoma and that drew my attention to the blood cancers.

What do you like most about your specialty?

I like that you really are able to help your patients. Many of the blood cancers in myeloma can be treated really well and in turn, the patients do very well. I also like that I get to know my patients and there is a personal connection. It is not like working in the emergency room, where you only see them one time. Instead, I get to know my patients over time and develop a relationship. I like the human aspect of it.

What makes you unique among your peers?

I think I am approachable and I try to pay attention to the person and not just focus on the disease.

Why did you come to UAMS?

I was drawn by the excellent reputation of the myeloma program.

What are your clinical specialties?

Myeloma and related disorders such as Waldenstrom’s macroglobulinemia. My other interests are Castleman disease and POEMS syndrome.

How can physicians make a referral?

1-888-MYELOMA or call my cell phone at 501-804-7020.

Say Goodbye to Faxing with EpicCare Link

EpicCare Link is a secure, web-based portal for referring providers to track patient progress and treatment while at UAMS and provides secure messaging for electronic consults. You can grant your staff access as well. First Access allows users to add patients to their accounts. Account expiration has been updated from 90 days to 180 days to make it more user-friendly.

How to register:

• Log onto www.uamshealth.com/md
• Complete the EpicCare Link access request form
• UAMS IT will email your user name and password

Questions? Melanie Meyer
melanie@uams.edu or 501-686-8206

Alexander Burnett, M.D., is one of a handful of gynecologic surgeons in the world working to perfect the emerging techniques of transvaginal laparoscopy hysterectomy.

“I’m always interested in pushing the envelope,” said Burnett, who is a gynecologic oncologist and professor in the Department of Obstetrics and Gynecology in the UAMS College of Medicine. “I think transvaginal laparoscopy combines the best of vaginal hysterectomy and single-incision laparoscopy. I would anticipate — and hope — that in five years, it will be standard.”

Burnett was the first surgeon from the United States to train in Total Vaginal Natural Orifice Transluminal Endoscopic Surgery (V-NOTES) hysterectomy with Jan Baekelandt, M.D., a surgeon in Belgium who developed the approach and has completed over 1,000 cases.

Burnett has completed over 100 procedures to date and all have been successful. There are no scars, and patient pain and downtime are minimal.

The surgery uses a GelPOINT laparoscopic port called a vPath. It begins like a standard vaginal hysterectomy. Burnett makes an incision around the cervix and opens the anterior and posterior cul-de-sac. He places the vPath into the peritoneal cavity between the anterior and posterior cul-de-sac. The uterus is in between. Burnett then can insufflate, visualize and use laparoscopic instruments inserted through the port sites to remove the uterus, along with the fallopian tubes and ovaries, if indicated. The upper abdomen can be explored, and Burnett has utilized this technique to remove the appendix and the omentum when warranted.

“Anything I was doing through single-incision laparoscopy through the bellybutton, I can also do through transvaginal laparoscopy,” Burnett said. “I work with a lot of endometrial cancer, and this is a great technique for that, but it is also excellent for benign conditions. Any patient we would have considered for laparoscopic hysterectomy — with a couple of caveats, like patients with prior rectal surgery or patients with very high BMI — is a good fit for this approach.”

To make a referral, call the Gynecologic Oncology Clinic at 501-296-1200. Fax 501-603-1550.
INITIAL CONTACT
A male in his 20s presented to the UAMS Head and Neck Cancer Clinic in November 2019 with a large neck tumor. The patient had declined surgical intervention for over 5 years and reported symptom progression. The tumor, increasing in size, had begun to compress his airway and affect his swallowing. Because of this, the patient also reported dysphagia, malnutrition, hoarseness, muffled voice and weight loss.

ASSESSMENT
The tumor’s massive size was clear from his initial consultation. Upon examination, head and neck surgeon Mauricio A. Moreno, M.D., found the patient had a paralyzed vocal cord. Fasciculations of the left tongue suggested involvement of the left hypoglossal nerve.

Moreno discussed with the patient that the tumor was likely either a schwannoma or paraganglioma, both typically benign. Biopsies were deferred given that the tumor was very vascular.

The patient underwent imaging. The CT angiogram showed massive displacement of the common carotid artery, external and internal carotid arteries and likely involvement of the jugular vein, as well as erosion of the skull base. Because of the location of the tumor, Moreno requested consults from vascular and skull-base surgeons, along with interventional neuroradiology.

Vascular surgeon Mohammed M. Moursi, M.D., assessed the patient and was on surgical standby in case the carotid artery was sacrificed and needed to be reconstructed. Neurosurgeon T.W. Morris III, M.D., was involved in the case for any potential skull base needs.

PROCEDURES
Radiologist Mary E. “Mollie” Meek, M.D., inserted a gastrostomy tube to improve the patient’s nutrition about a month before surgery.

About a week prior to surgery, interventional neuroradiologist Martin G. Radvany, M.D., performed a balloon occlusion test. The procedure determined there was adequate collateral blood flow from the contralateral carotid artery and that the left carotid artery could be sacrificed during the surgery, without putting the patient at risk for stroke.

The day before the main surgery, Moreno performed an awake tracheostomy. Once the airway was secure, Radvany embolized the tumor. Moreno performed the surgery the next day, with Moursi and Morris on surgical standby.

The surgery was done through a large trifurcate surgical incision with a midline mandibulotomy for access. Important structures were then identified. Due to the patient’s distorted anatomy, advanced CT angiography was helpful as Moreno could not simply rely on the usual anatomical landmarks. For example, the carotid artery was not only pushed out of place by the tumor, it was also rotated.

The structures immediately surrounding the tumor were released from the capsule of the tumor. The tumor encased the sternocleidomastoid muscle, internal jugular vein, the vagus nerve and the hypoglossal nerve. Because of this, the sternocleidomastoid muscle had to be partially resected.

Moreno obtained vascular control inferiorly, isolating the internal jugular vein as well as the common carotid artery, placing vascular loops around them in case of any major bleeding.

The tumor was dissected off the surrounding structures in an inferior-to-superior fashion. As Moreno approached the skull base, he had to release the tumor from the mandible and the marginal nerve. Part of the parotid gland was removed to identify the facial nerve in order to preserve facial movement.

Moreno exposed the infratemporal fossa and skull base. This was the most difficult part of the dissection, because the tumor was invading into the skull base. Moreno ligated the external carotid artery, which allowed him more mobility, and then dissected the internal carotid artery up to the skull base and essentially separated it from the tumor. This part of the surgery was laborious and time-consuming, and had the greatest potential for damage to the carotid artery, but the procedure was completed without incident.

The superior part of the tumor was attached to the skull base, and the sheer mass of the lesion inhibited visualization. Therefore, Moreno transected the tumor, leaving a small stump, then performed a piecemeal resection of the residual mass. This remaining stump encased the vagus nerve and the distal internal jugular vein. Resection in this area caused significant bleeding as there was not enough stump of jugular vein to ligate it. Moreno had to apply pressure to slow the bleeding, then release and resect more tumor, then apply pressure again, and did so in a step-by-step process until he removed all of the tumor. This left the stump of the jugular vein was open at the skull base. Moreno applied gel foam and thrombin along with some surrounding sutures that prevented further bleeding.

To close, Moreno performed an open reduction internal fixation (ORIF) of the mandible using titanium plates. He used the residual sternocleidomastoid muscle to cover the common and internal carotid and closed the skin.

The final resected tumor was more than 15 cm in diameter.

The entire surgery took about five hours.

FOLLOW UP
The patient had a good postoperative course. He did experience tongue weakness and a “breathy” voice postoperative as expected. There were no complications.

He was able to resume an oral diet within a few days of the procedure.

Pathology returned a diagnosis of a vagal schwannoma.

To make a referral, call the Head and Neck Clinic at 501-686-8224.
The surgical site is marked, with the massive size of the tumor clearly visible.

Moreno performed a paramedian mandibulotomy for access to the surgical site. Important structures were marked, including the internal carotid artery, which is seen over a blue background.

The final resected tumor was more than 15 cm in diameter.
All classes now FREE!

A resource of the UAMS Institute for Digital Health & Innovation, the LearnOnDemand.org web portal offers health care professionals the flexibility of earning continuing education (CE) on their own schedule, through an expanded array of teleconferences and online courses.

- Track all educational hours and credits earned inside or outside the program
- Ensure compliance with the CE requirements for the national accrediting organizations for physicians and nurses
- Earn certificates of attendance for a variety of other disciplines

LearnOnDemand.org
For information on LearnOnDemand, contact: cdheducation@uams.edu or 1-855-234-3348.

To request speakers or topics or to learn more about how the UAMS Physician Relations & Strategic Development team can help you, visit UAMShealth.com/MD

JULY 7
Reflux Update
Benjamin Tharian, M.D.
Division of Gastroenterology and Hepatology

June 14
Use of Marijuana for Pain
George Masil, M.D.
Department of Geriatrics

JULY 21
Medication Management for Children with ASD
Jaimie Flor, M.D., FAAP
Department of Pediatrics Section of Developmental Behavioral Pediatrics

JULY 28
COVID-19
Gretchen Napier, MHSA, CMC
Medical Practice Specialist SVMIC

AUG. 4
Recognizing and Responding to Suffering
George Masil, M.D.
Department of Geriatrics

AUG. 11
Practicing Via TeleVideo: Practical and Mindset Tips for Clinicians
Melissa Zielinski, Ph.D.
Department of Psychiatry

AUG. 18
Screening Measures for ASD/DD
Brandi Whitaker, Ph.D.
Department of Pediatrics Section of Pediatric Psychology

AUG. 25
Ethical Care of Patients with Disabilities
Laura Guidry-Grimes, Ph.D.
Department of Medical Humanities and Bioethics

SEPT. 1
Managing Patient Stress and Traumatic Stress
Sacha McBain, M.D. and Riley Lipschitz, M.D.
Departments of Psychiatry and Surgery
Department of Internal Medicine

SEPT. 15
Panel Discussion: How to Set Up Your Office to Routinely Screen and Bill for ASD Screening Measures
Karen Young, M.D.; Casey Stewart, M.D.; Gwen White, M.D.; Ron Beckel, M.D.
Department of Pediatrics

SEPT. 22
Sickle Cell Update
Leigh Ann Wilson, LCSW

SEPT. 29
Professional Development Employment Contracts
Jenny Teeter, J.D.
Gill Ragon Owen, P.A.