



2018

# HITS YEAR IN REVIEW

2019



HEALTH INFORMATION  
TECHNOLOGY & SERVICES



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# Message from the CIO

**B**reakthroughs in technology and medicine increasingly come from diverse teams. By bringing together a multitude of different perspectives, experiences, and identities, we foster an environment where people are free to share their ideas and work together to find creative solutions.

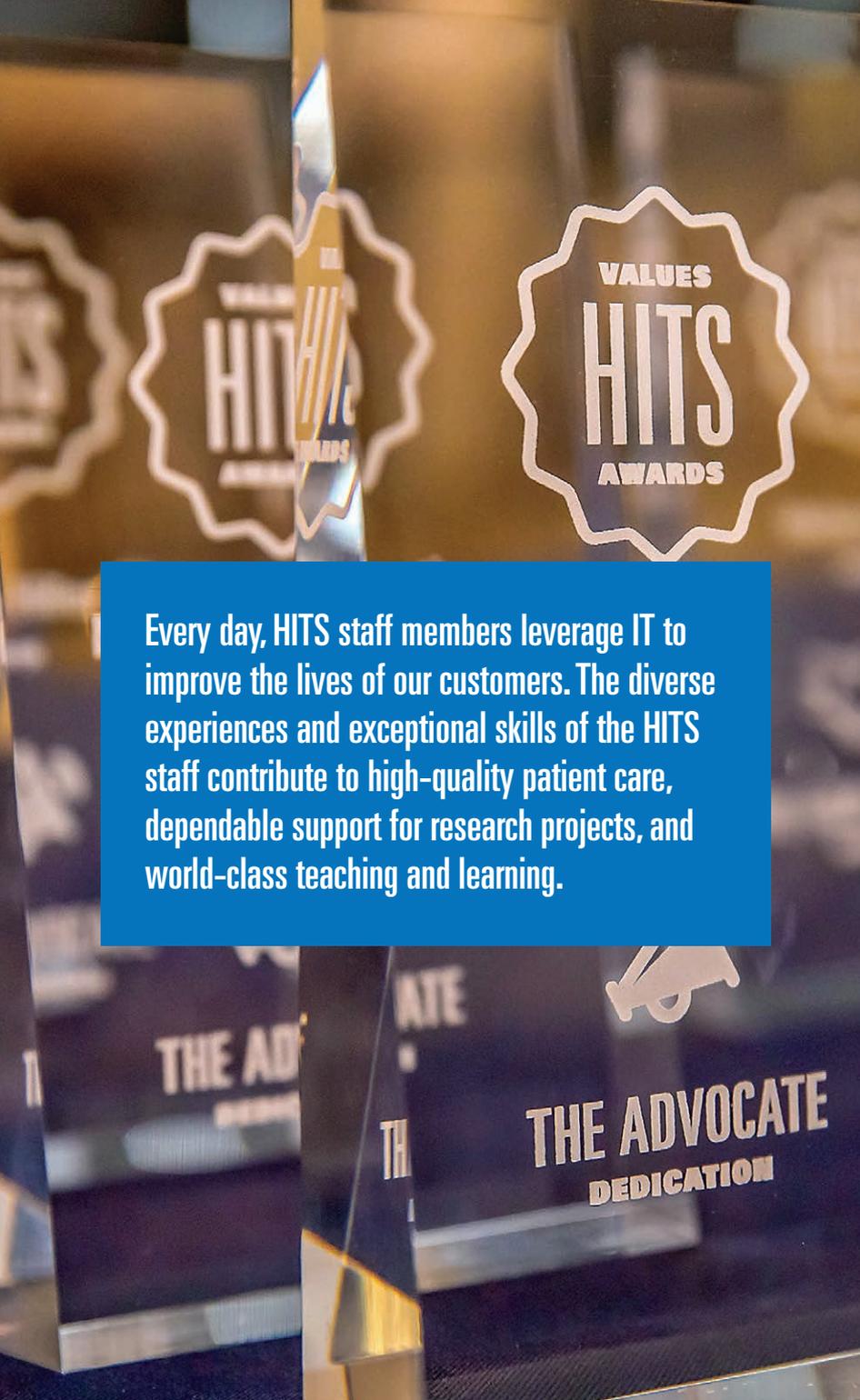
Our combined efforts are enabling the continuation and further development of Michigan Medicine's research, education, and patient care mission.

Through our partnerships with clinicians, researchers, students, and staff, Michigan Medicine now uses technology to identify young patients at risk for sepsis (p.12), match researchers with collaborators and funding (p.18), and ensure curriculum is accessible for all medical students (p.20).

While there are countless examples of collaboration between HITS and the greater Michigan Medicine community, the stories collected here truly encompass the dedication and excellence of our teams. By leveraging one another's unique strengths and capabilities, we instill a sense of unity, collective pride, and strengthened optimism.

**Andrew Rosenberg, M.D.**

Michigan Medicine Chief Information Officer



Every day, HITS staff members leverage IT to improve the lives of our customers. The diverse experiences and exceptional skills of the HITS staff contribute to high-quality patient care, dependable support for research projects, and world-class teaching and learning.

## Staff spotlights



**Dana Ciocoiu**

Application Systems Analyst / Programmer, Lead

My favorite thing about my job is being part of an amazing team. As Cogito Admins, we administer existing tools like Radar dashboards, Reporting Workbench, SlicerDicer, and the Epic databases (Clarity and Caboodle); implement new ones; and in various ways strive to have our voices heard by software vendors. I think I speak for the entire team when I say we give everything to our jobs, especially knowing that data, reporting, and analytics are essential for most users.



**Jamie Croy**

Business Systems Analyst, Learning Management Team Lead

For me, the BSA role tends to be a lot like detective work, searching for clues in order to solve a problem by interviewing people, recreating the problem, or digging into documentation to find answers. I enjoy working with customers to understand a problem and the requirements needed to solve that problem, and then discovering a more effective solution. I love it when I am able to help make a customer's job easier or more efficient.

# Staff spotlights



**Jill Fogg, JD**  
Contract Administrator Lead

I spent 18 years in the private sector practicing law, negotiating defense and healthcare contracts, and developing contract management organizations within world-class companies. Since holding previous staff positions in Sponsored Programs and Business and Industrial Assistance, I've been committed to creating contract processes to the standard of excellence needed to fully support Michigan Medicine. I enjoy finding consensus among parties with competing interests and memorializing the agreement in a contract vehicle.



**Heidi Konopka**  
End User Computing Specialist

I've been working in IT at the university for 34 years. As a responder for the Service Desk, I'm constantly talking to people...and I love it. I take pride in helping people. Working for HITS makes me feel like I'm part of a family, and I couldn't imagine myself working anywhere else. My daughter now works here, making her the fourth generation of my family to be a part of University of Michigan's staff!



**Evan "Buzz" Nau**  
Manager of Service Operations Support

Early on, I knew that IT would be a natural fit for me because of my personal interest in computers and my military training. I've been working in IT for 32 years, and I'm the happiest I've ever been as the manager of Service Operations Support. Working with my staff, department, and customers is what I enjoy most. I love making those connections, and I'm proud to work in a department that doesn't fear change and continues to improve.



**Niraj Shah**  
Data Security Analyst

Computers fascinate me. From the Apple IIc that we had before I was born, to the PC running Windows 3.1, learning about and tinkering with computers has been a passion. I'm thankful to be able to take the joy I find working with computers and apply it to my career. Every day represents an opportunity to make a difference by solving a problem or improving a process, which I am able to do on the Identity & Access Management Services team.



## Javan Thompson

Research IT Technical Lead

Because research is so diverse, it requires context and understanding, not just of the research itself, but of the processes and workflows being used. Each interaction with researchers is unique, fresh, and personalized. The ability to be creative and leverage other services within HITS allows my team and I to work with researchers to provide complex and expanding solutions efficiently. I'm proud that we can design more holistic solutions that impact an entire lab or a department.



## Imani Williams

Information Assurance Program Coordinator

With my role as cybersecurity program coordinator, I get to pair the best of both worlds — technology and people. I love being able to talk with Michigan Medicine employees and help them better understand their role in protecting the institution, all while making cybersecurity a more approachable topic. The field is constantly evolving, so I appreciate the many professional development opportunities that I can expose myself to as my interests grow.



## Eric Wolf

Network Architect, Systems Researcher

My work is at the intersection of IT, communications, and the physical environment. There is real satisfaction in having thousands of people use my technical creations. I enjoy working with colleagues who are deeply dedicated to making healthcare succeed. U-M is in my bones: As a teen in the 1970s building and programming computers for my father's campus lab and in the '80s and '90s at the Engineering School building networks, computer labs, developing Unix systems, and advancing visualization platforms.



## Barb Zimdars, MPA, PMP

Business Analyst, Team Lead

The work we do matters; whether it's helping with patient care or meeting business operational objectives and efficiencies, our work helps others. The strategic planning I've done and projects I have been involved with have improved patient care, helped workflow efficiencies, increased revenue, ensured we met regulatory requirements and institutional policies, and secured the integrity of the medical record.

# App helps connect Michigan providers with U-M mental health experts

**M**ichigan, like most of the country, is in desperate need of more child psychiatrists.

More than 100,000 Michigan children have been diagnosed with depression, anxiety, or ADHD. Yet, fewer than 250 psychiatrists are trained to treat children in the state. The shortage means pediatricians and other primary care providers often end up treating adolescent mental health issues.

“Primary care providers are not trained in treating complex behavioral health disorders and often feel at a loss to prescribe or make treatment recommendations,” said Anne Kramer, program



manager of the Michigan Child Collaborative Care Program (MC3), a statewide initiative that provides psychiatry and behavioral health consultation to primary care providers. “Our goal is to support primary care providers who are treating children and perinatal women by providing same-day guidance on medications and therapies.”

More than 2,200 providers are signed up for the program. When providers initiate a consultation, the MC3 team of behavioral health consultants use a software application called CollabCare to input case information for review by consulting psychiatrists who then follow up with the provider on recommended treatment plans.

“We use the software to facilitate communication between our behavioral health consultants and psychiatrists. This allows us to measure call volume and adjust scheduling, document treatment recommendations, and conduct program evaluations,” Kramer said.

Created in 2012, HITS recently relaunched the CollabCare application after extensive usability testing. The new app offers enhanced security and a modern interface.

“The previous version wasn’t as streamlined. It’s now easier to report on the data we’re capturing,” Kramer said.



While CollabCare was initially created specifically for the MC3 team, Fred Bayoff, a HITS software engineer, said another driver for the redesign was to scale the app so it could be used by other Michigan Medicine programs.

“The software was designed to easily adapt to other collaborative-care solutions. That is the goal behind a lot of the software we write — to build it so it can be used in multiple ways across Michigan Medicine.”

For example, the Michigan Opioid Collaborative (MOC) also uses CollabCare to facilitate same-day consultations. Providers enrolled in the program and using the application are supported by U-M physicians with specialty addiction training.

“The software is so well architected that we believe you could set up other groups pretty quickly to use it for their own purposes,” Bayoff said. “New programs can be set up in days using the app instead of the many months needed to build custom software.”

The ability to help programs like MC3 and MOC is a source of pride for the HITS Software Delivery team.

“We’re delivering value that is way beyond just writing software for people,” said Elliott Richards, a HITS software engineer. “Supporting our mission with programs like CollabCare is literally why I work here. Our work is important to the state, university, and community. You can see that you’re helping to make a difference.”

**100,000**

Michigan children  
diagnosed annually  
with a mental  
disorder



# Building research IT services and partnerships

**T**he relationship between research and IT is complex. Erin Dietrich, HITS senior director, and her team are on a mission to strengthen the relationship between researchers and HITS, improve the customer experience, and raise awareness of IT services.

“In developing a strategy and vision for research IT, we have focused on defining the services needed to support innovative research at Michigan Medicine. We want to design for what researchers need: from consultation on grant applications, to storage resources, to integrating data and applications with institutional resources,” Dietrich said.



For the past year, research engagement has been a priority, and HITS has worked directly with many groups, including key stakeholders, multiple divisions within HITS, and senior leaders in Research IT at Michigan Medicine. They are focused on finding the right support for research services, aligning strategic objectives with Michigan Medicine Research IT, deepening relationships with customers, being accountable when things go wrong, and advocating for customers.

To that end, Dietrich introduced the Research Liaison Pilot Program. The program team of five liaisons navigates IT solutions so faculty can focus on their science. The liaisons provide personalized recommendations and guidance for existing services, identify gaps in research support, aggregate needs across departments, and advocate for new and improved services.

“By establishing a regular presence in research departments, including office hours, attending

faculty meetings, and conducting one-on-one discussions with investigators, research liaisons achieve a deeper understanding of research needs and align IT to enable groundbreaking research,” said John Herlocher, interim manager, Research Engagement.

“Faculty and staff are reaching out during liaison office hours. Our liaisons, Ryan Echlin and Amy Yamasaki, are helping with navigating and leveraging resources, including any follow-up, which reduces the related effort that I spend on IT. And they help with communication, which increases efficiencies in the labs,” said Karen Lang, chief department administrator, Cell and Developmental Biology.

Sherry Cogswell, chief department administrator, Biological Chemistry, likes the changes. “We’ve particularly benefited from the onsite office hours with research liaisons Einor Jacobsen and Debra McCaffrey. They’ve given the faculty members knowledgeable help, saving time and frustration, while building relationships and understanding.”

The Research Liaison Pilot ran through the end of June 2019, and will roll out across all departments at Michigan Medicine.

5

RAAC program  
liaisons

750

Research  
devices

Data storage was another priority for Dietrich, who hired Dan St. Pierre, director, Research Technical Services, to lead a team to address storage capacity shortages and a large backlog of requests that were taking months to fulfill.

Overall, this team is responsible for research computing, data services, devices and engineering, and programming and innovation. The team works with the Michigan Medicine research community to identify gaps in service and grow and expand HITS technical services.

Working with the HITS enterprise storage team, they were able to free up additional data storage capacity to continue fulfilling outstanding requests and procure additional capacity. While attending to the immediate storage needs of our researchers, HITS continues to plan and develop a more sustainable service model for research storage.

“In the course of bringing resolution to long-standing issues, we learned a lot. Now that we understand the problem, we can build new processes and bring greater transparency,” said St. Pierre. “We’re doing a lot of positive work in this area now that we understand the problems and need.”



Together, research liaisons and the technical services teams collaborate with other U-M departments to provide seamless, high-performance computing services. They consult and recommend the best platform and software tools for research projects (including cloud), assist with workflow optimization, and evaluate emerging technologies and services.

“As machine-learning practices and demand on high-performance computing continue to grow, investing in and expanding these services becomes more important. Establishing strategic partnerships with U-M departments further enables and strengthens the computing services we can offer to our researchers,” said St. Pierre.

Dietrich and her team are also collaborating with other HITS divisions, like Architecture and Operations Management. These partnerships have developed roles and responsibilities for

research device support to ensure consistency, availability, and compatibility for installation, troubleshooting, virus remediation, driver resolution, and network share access. HITS can also help with customer order placement and tracking, repairs, data-center consolidation, and legacy operating system consultation and remediation. Research experiments sometimes run for days or weeks and cannot be interrupted. The coordinated support these HITS divisions provide is vital to achieve success.

“We’ve been working really hard to build a strong foundation for providing a more holistic support model for research at Michigan Medicine,” explained Dietrich. “It takes time to build a strong foundation. That’s what this past year has been about. Now we will begin to focus on how we can better support research innovation at Michigan Medicine.”

# Michigan Medicine uses EHR to identify pediatric sepsis patients

**W**hile anyone can get an infection, infants and young children are often more susceptible to sepsis — the body's extreme response to an infection. Nearly 5,000 U.S. children die from sepsis each year, with an economic cost estimated at \$5 billion.

“Sepsis is a leading cause of death in all patients, but particularly pediatric patients, and it's completely preventable,” said Kera Luckritz DO, assistant professor of pediatrics. “If we can identify and treat patients sooner, we can prevent sepsis from turning severe or into septic shock. If we catch patients earlier in the disease progression, we can make a difference.”

No specific test exists for diagnosing sepsis, and its symptoms often mimic a fever or disorientation, making it difficult to diagnose. Because it spreads so rapidly in children's small bodies, detecting the disease early and starting immediate treatment is often the difference between life and death.

“For every hour a septic patient isn't treated, their risk of mortality increases by eight percent,” Luckritz said.

From October 2015 through September 2016, sepsis tripled the length of stay for patients and, even more concerning, 36 percent of C.S. Mott Children's Hospital patient deaths involved a sepsis diagnosis.

With a goal to reduce sepsis mortality and hospital-onset severe sepsis by 75 percent by 2020, a team of Michigan Medicine providers partnered with HITS to create a sepsis early warning system in the electronic medical record.

“This tool shows the power and potential when IT and care providers come together.”

**MARIE PHILLIPS**

“This was, by far, the most integrated project I've ever worked on,” said Marie Phillips, HITS application coordinator. “We brought clinical and IT teams together to talk about how the system could work. Our team

took that feedback and delivered a predictive analytics model that combined objective and subjective data to help identify potential sepsis patients.”

Using a weighted scoring system, the predictive alert continuously monitors patient vital signs, like heart rate, respiratory rate, temperature, and blood pressure. When values fall within a

predefined threshold, the system triggers an assessment for nurses to gauge their patients' mental state, breathing, perfusions, and family concerns. Nurses who suspect sepsis can use the sepsis trigger tool to page a Rapid Response Team to the patient's bedside.

“Because sepsis patients do not present the same, we designed the tool to leverage both vitals and RN expertise. If intuition says something is wrong, a nurse can immediately bring a team together to complete an evaluation,” Phillips said. “The Rapid Response Team can review the information to determine whether to treat for sepsis as fast as possible.”

The predictive model is currently being used on four general-care floors in Mott, the Pediatric Intensive Care Unit, and the Pediatric Cardiothoracic Intensive Care, with plans to use it in Neonatal Intensive Care. Since it became available in April 2018, 61 huddles have been initiated with 51 patients subsequently treated for sepsis.

“We're continuing to learn from the data we're collecting. There is a lot we can discover from the charts of the 51 patients who were treated,” Phillips said. “This tool shows the power and potential when IT and care providers come together.”



**5,000**

U.S. children  
die from sepsis  
annually

# A bright start: HITS helps open new specialty care facility

**M**ichigan Medicine expanded access to its health-care services by opening the Brighton Center for Specialty Care (BCSC) in September 2018. The nearly 300,000-square-foot facility houses more than 50 adult and pediatric specialty services, including orthopaedic surgery, MRIs, and cancer and cardiovascular care.

“We are now able to provide many of the extraordinary services currently offered in Ann Arbor, but in a much more convenient location for those who live near Brighton,” said John Wei, M.D., medical director of the BCSC.

BCSC goes a long way in helping Michigan Medicine reach its goal of impacting more than 3.5 million lives across the state of Michigan.

“We’re constantly looking for ways to bring our patients the healthcare services and patient care they desire in their local community,” said David A. Spahlinger, M.D., president of the U-M Health System and executive vice dean for clinical affairs of the U-M Medical School. “In addition, we’re also proud to contribute to the local economy, as the new facility brings approximately 450 jobs to the area.”

It took hundreds of people to make certain BCSC met its grand-opening date. Among them, nearly 150 HITS staff members — many who worked over Labor Day weekend — ensured the

equipment, infrastructure, and clinical systems were ready when the first patients arrived.

“Seeing everything come together after years of planning is very rewarding for our whole team,” said Marcia Farris, IT project manager and member of the HITS Connected Real Estate Team. Her team coordinates the IT planning, design, activation, and ongoing support for new Michigan Medicine buildings and renovations.



BCSC comprises 153 exam rooms, 33 treatment rooms, six short stay rooms, and four operating rooms for outpatient procedures. The combination of both specialty and outpatient care provides patients with a one-stop option to see their doctor, have tests performed, and get prescriptions filled.

“HITS teams were involved at the very start of this project, helping to ensure BCSC was built to support a robust IT infrastructure and the state-of-the-art equipment used in its specialty areas,” said Farris.

Farris' team has been busy. HITS recently completed the renovation of four buildings in the North Campus Research Complex, consolidating Pathology teams from several disparate locations across Ann Arbor. HITS Connected Real Estate is currently supporting additional renovations in NCRC, University Hospital, and UH South. The team is also involved in the planning and design phases for several new buildings, including the Clinical Inpatient Tower, and renovation of several floors of the 777 Building.





# Home for Dinner: Reducing physician burnout

Last year, HITS instituted a program called Home for Dinner, to help physicians use MiChart more efficiently.

Provider exhaustion is a significant issue across the medical community. While MiChart, the electronic health record (EHR) at Michigan Medicine, can enhance coordination and quality of care, it can also have unintended negative consequences.

Michigan Medicine providers are spending significant time catching up on data entry during off-hours, which contributes to record levels of burnout and lower job satisfaction. Data from the MiChart vendor, Epic, indicates that Michigan Medicine providers spend more time per appointment than 75-to-90 percent of peer institutions, and over one-third of physicians experience stress related to using MiChart.

The two-day Home for Dinner program teaches providers new ways to streamline their efforts and maximize MiChart features like customized workspaces, clinical review, In Basket, and notes. Learners are given hands-on support from highly proficient trainers and physicians and

can practice using these tools in the actual EHR (instead of in a test record). This method has the added bonus of making customizations available immediately after the class is over. Participants can receive up to 15 continuing medical education (CME) credits upon completion.

All of the U-M providers who participated in Home for Dinner reported improved proficiency with MiChart and said they would recommend the class to colleagues.

“Home for Dinner training is a huge help. It increases efficiency and cuts down time to document,” said John Allen, M.D., professor of internal medicine.

Marie Baldwin, director, HITS Learning Design and Delivery, said this about Home for Dinner, “We want to make our customers’ lives easier. HITS has the skill, expertise, and desire to positively impact our customers. MiChart can be complicated. This program teaches providers how to focus on the patient without creating significant after-hours work. We hope to use the momentum from the success of this program to gain support for other similar clinician programs at Michigan Medicine.”

“We want to make our customers’ lives easier. HITS has the skill, expertise, and desire to positively impact our customers.”

MARIE BALDWIN

2 IN 5

Michigan Medicine physicians experience burnout

9 IN 10

Providers recommend Home for Dinner course

# Website matches researchers with collaborators and funding

**I**n an increasingly competitive environment, new tools for funding can be the edge a researcher needs to successfully win that next grant or reach an agreement with a new industry partner.

HITS helped the Medical School Office of Research launch Michigan Research Experts, a searchable, web-based database that goes beyond journal publications. The tool showcases researcher expertise, discovers collaborators and mentors, identifies potential reviewers, and explores publication networks.

Michigan Research Experts monitors hundreds of different channels, providing the latest information from books, conferences, grants, patents, and even clinical trials.

Profiles of faculty from across U-M, including the Medical School, College of Engineering, Nursing, and LSA, are included in Michigan Research Experts, along with linked activities of researchers across the globe.

“To ensure Michigan Research Experts provides the most current and accurate information about our faculty, we established continuous data

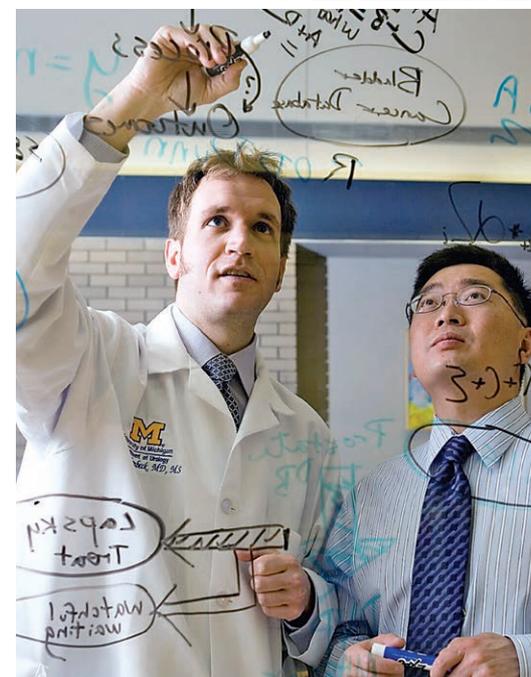
feeds from systems that ensure research grants, institute and center memberships, and university affiliation data are kept up to date,” said Michael Sheppard, HITS director of Data Foundations.

Michigan Research Experts identifies funding organizations and award amounts, offering a view into possible funding sources for new projects.

“I can view grant awards data on a particular area of interest from over 300 funding organizations,” noted John Cristiano, director of Research Development and Sponsored Program Administration, U-M Dearborn. “For instance, I can search ‘diabetes’ and see who is publishing and their sponsors, opening new avenues for possible collaboration or sources of funding.”

Steve Kunkel, Ph.D., Medical School senior associate dean for research, explained that the UMMS Office of Research invested in the development of Michigan Research Experts on behalf of the entire research community.

“Office of Research team members and stakeholders from across campus worked in partnership with our vendor, and we’re confident it will prove a valuable resource for all our research faculty and staff.”





# Multi-unit partnership makes Medical School experience seamless

**F**irst-year medical student Jacob Lowy has moderate-to-severe hearing loss in his right ear.

“I’ve learned to advocate for myself every day. But I’m constantly thinking about it, adjusting to the situation, finding the nerve to say something. Sometimes I’m reluctant to advocate for myself because people don’t always take it seriously,” Lowy reflected.

He also realizes that when something isn’t visible, it’s not always easy to understand.

“I was a little afraid to reach out to Services for Students with Disabilities (SSD). I was concerned that asking for accommodations would impact my future and my professional goals, so I didn’t

disclose my hearing loss when I applied to medical school.”

Eventually he did reach out. And everything fell into place quickly.

“SSD put me in touch with key Medical School faculty, got me an augmented stethoscope so I can turn up the volume to hear heart and lung sounds, and contacted HITS for captioning the lecture videos. SSD also helped me set up realtime captioning (CART) during lectures so I can catch everything that’s happening on my laptop. Videos shown during lecture are captioned before I even get there,” Lowy said.

**15%**  
American adults report some hearing loss

**4**  
U-M units provide hearing-impaired classroom support

Lowy says that once he made the decision to reach out for accommodations, everything has been seamless.

Behind the scenes, several teams rose to the occasion to ensure Lowy received everything he needed to be successful.

In HITS, A/V support supervisor Caleb Newman has known that captioning lectures and CART can benefit many students. He’s found resources, developed repeatable and streamlined workflows, and conducted testing with excellent results.

As for the efforts to assist Lowy, Newman remarked, “In the course of just doing our jobs, we can make things better for folks. This is an example of U-M providing support to a new generation of medical students.”

Charlotte O’Connor, M.Ed., coordinates disability services in the Medical School. She is proud of this work.

“The U-M Medical School has a firm commitment to diversity, equity, and inclusion,” says O’Connor.



“The way the technology works for me is seamless.”

JACOB LOWY

“Hidden disability is most definitely an important element in the diversity equation. The inclusion of medical students and doctors with disabilities on our campus serves to enrich us all. It shows the importance of representation and what’s possible.”

The CART tool, formally known as “communication access realtime translation,” helps Lowy understand everything that’s happening in the classroom. The system works like court stenographer equipment, and medical terminology can be added to the dictionary.

“CART providers type 250 words per minute. They capture everything that is said in class, whether it’s about medical school or the weekend, football games, pizza parties — anything. It’s all there. This really helps Jacob feel included in the medical school experience and reduces social isolation, in addition to helping him learn,” explained Jill Rice, SSD’s Coordinator of Services for Deaf and Hard of Hearing Students, who worked to get CART into the classroom.

Of the experience, Lowy said, “At first I was anxious because I had to give a special mic to every single faculty member, every single time. But this experience has changed my outlook on what I deal with, and how I deal with it. I feel stronger, more able and willing to ask for accommodations. I was not expecting that.”

The technology behind the classroom recordings at the Medical School is Mediasite. It can integrate with other third-party vendors, like Kaltura REACH (which powers MiVideo, the university’s streaming media service), to add captions to lecture videos.

Melinda Kraft, ITS service manager, oversees MiVideo. “We strongly encourage captions because you really don’t know who’s watching the videos. And with 15 percent of Americans reporting some type of hearing loss, we really need the captions to enable a level playing field for everyone.”

The process boasts an incredible 48-hour turnaround time between when the lecture is recorded and its return to the Medical School. And errors are easy to fix. As a bonus, a medical glossary can be uploaded to make the videos even more accurate.

“The way that Michigan has treated me has changed my life. My experience here has made me less afraid to ask for accommodations,” said Lowy.

As to what lies ahead for Lowy after medical school, he’s playing it by ear.



# Cybersecurity excursion shows career in IA is attainable

**T**he Information Assurance: Michigan Medicine (IA) team was awarded a Diversity, Equity and Inclusion Innovation Mini-Grant from the Office for Health Equity and Inclusion. With the goal of spreading awareness of the field of cybersecurity and available job opportunities, the IA team developed a two-hour interactive introduction to the field of information assurance. Participants learned about the role that IA plays in keeping Michigan Medicine secure and showcased the many possible opportunities and career paths that this field offers.

“The grant from OHEI gave us the time and resources to develop a strong format. We could potentially use this as a model for other types of learning experiences,” said Maggie Lin, project manager for IA.

Some research cites that women comprise about 11 percent of the cybersecurity workforce and minorities comprise about 26 percent. Within the industry, there is an awareness of the lack of diversity, but women especially have reported not knowing how to break into cybersecurity. The result is a self-perpetuating cycle: the field



is composed largely of white men; women and minorities do not see individuals they can relate to in IT security roles. Women and minorities redirect their efforts and attention to more “realizable” or “attainable” fields; and the status quo is maintained.

Jack Kufahl, chief information security officer (CISO) at Michigan Medicine, pointed out two reasons these stats are significant.

“The demand for cybersecurity professionals is increasing at a rate that outpaces the talent pool — there are more jobs than there are available people with training in cybersecurity.”

He also mentioned that cybersecurity threats are becoming more creative and sophisticated, which means the solutions have to be more creative and more sophisticated. Creative thinking requires diverse perspectives, and team diversity often fosters creative thinking and inventive solutions.





# Faculty workforce planning at the touch of a button

**T**he Medical School Finance team had a major challenge: Find a better way to accurately and effectively track data related to new faculty hires, departures, promotions, and salary across the Medical School's 29 departments. Through collaboration

with HITS, Faculty Affairs, Space Planning, and the departments, an innovative solution was born.

"Our previous solution was to send a spreadsheet template to contacts in every department and ask them to manually complete it," said Tyler

Hughes, financial intermediate manager. "The spreadsheets were clunky and hard to update. The process was very laborious for both us and the departments. We knew there had to be a better way."

Hughes and his team approached HITS Software Delivery for a solution. The two teams partnered to create the Faculty Workforce Planning app, which provides summary information about each department's faculty in the Medical School and the ability to track planned changes.

"The app enables departments to track changes and more effectively plan for the future," Hughes said. "It sparks conversations around how we can grow as an organization and the downstream effects."

HITS Software Delivery met with the Medical School Finance team regularly to review the software tool as it was being built. In fact, the two teams collaborated on the app name — Meridian.

"Having Med Finance heavily involved with the construction of the app was beneficial for both of our teams," said Matt Dull, HITS senior user experience analyst. "I really enjoyed working with them because they were excited about what we were building and they appreciated our level of engagement."

The app will eventually link up with the faculty hiring process, which itself is undergoing a major upgrade by Software Delivery. Today, the planning and hiring processes are completely separate. Linking the two will create more opportunity for improved decision-making.

"There's a lot of great potential for this to be even more powerful," Dull said. "We are looking to build out more functionality, including dashboards and reporting, for easier access to real-time results."



# HITS offers apprenticeship program for aspiring IT professionals

**A**pprenticeships are typically associated with the skilled trades, for example plumbers, electricians, and welders. But that convention is changing. The HITS Service Desk Apprenticeship Program, created by HITS and Washtenaw Community College to help attract and train aspiring information technology professionals, is broadening the application of apprenticeships.

The program pays entry-level candidates to serve a one-year apprenticeship in front-line technology support, receiving extensive on-the-job training and formal technical coursework at WCC in the process.

At the end of the program, apprentices receive a U.S.

Department of Labor journeyman's card, earn a 16-credit Computer Systems Technology certificate from WCC, and emerge with a deeper knowledge of the IT architecture of a world-renowned medical center. The WCC coursework is paid for by the program.

"Apprenticeship has been a proven model for hundreds of years," said Jarrod Sandel, manager of the HITS Service Desk. "This is not a new concept. It's just a novel approach to a more modern job."

The HITS Service Desk receives 250,000 calls, online submissions, and walk-ins each year while operating in an industry that averages 40-percent annual turnover.

Lousayni Benson is a recent apprentice who was hired full-time from the program.

"I wanted to complete my education, but I also needed a job," Benson said. "When I saw this job placement at Michigan Medicine, it was basically like going back to school and having it paid for. Finishing this program was a great accomplishment."

Sandel said career advancement opportunities are likely for apprentices.

“It was basically like going back to school and having it paid for.”

LOUSAYNI BENSON

"Keeping people is difficult because they become familiar with a broad collection of technology and become super attractive to hire, both in my IT department and across southeast Michigan," Sandel said. "Creating this program was the right choice for us and the right choice for the organization. We're excited to see where we go from here."





2,237

Staff use MiCME

**M**  
University of Michigan  
School of Medicine and Rehabilitation  
John A. Fran 760, MD

# MiCME enables providers to stay current

**B**eginning in 2016, and continuing with a major effort in 2018, the Office of Continuing Medical Education and Lifelong Learning (OCME&LL) worked with several groups within HITS to retire and replace the old system for tracking continuing medical education (CME). Known as eCat or Orange Card, the old system was replaced with a more streamlined, electronic service called MiCME.

eCat / Orange Card had its challenges. It was paper-based, non-compliant with financial regulations, had a poorly understood “disclosure process” for conflicts of interest, and provided limited data for demonstrating educational value.

The new MiCME system is a “one stop shop” platform for continuing medical education collection, management, and planning. The service makes claiming CME credits more efficient for faculty and decreases the amount of staff time spent on manual labor.

Monitoring CME is now much easier. Beginning with no more paper to file and store, MiCME supports financial compliance, meeting registration capability, credit claiming, and transcripts. There is a QR code capability, a dashboard and credit center for easy, at-a-glance summaries, a robust conflict-of-interest identifier, and the ability to process credit card payments.

Most of these options were not previously available.

In all, MiCME positively affects nearly 8,000 combined faculty physicians and staff who plan, present, coordinate, track, or support faculty.

The CME requirement, and the effort associated with it, advances the education and clinical practice of physicians at the University of Michigan Health System and those who participate in learning programs.

“I am very appreciative of the great work HITS did and how integral it was to a successful rollout. Each staff member from HITS who worked on this, from training, to technology, to documentation, to marketing and communications, did such great work on the project,” remarked David Healy, M.D., assistant dean for OCME&LL. “Working with HITS was brilliant.”

The volume of CME activity reporting has increased significantly, which indicates that information is being captured more effectively.

Healy is pleased with the usage statistics. “This system is achieving its goal of ensuring CME-related compliance for our providers. MiCME makes it easier for everyone to track CME activity.”

“I am very appreciative of the great work HITS did and how integral it was to a successful rollout. Working with HITS was brilliant.”

DAVID HEALY, M.D.

David Sweetman, Ph.D., senior director, HITS Education and Training, is proud of this HITS work. “To me, one of the greatest compliments we can receive is when our stakeholders talk with their peers about the great work HITS has done with them. The successful

implementation of MiCME to manage provider continuing education was a significant undertaking. I’m thrilled that the CME community is realizing such great benefit from MiCME.”

In 2019, the MiCME work continues with stabilizing the system to ensure smooth operation. Between November 2018 and April 2019, over 55,000 CME credits were logged using MiCME.

# HITS highlights



## BIOSPECIMEN MANAGEMENT TEAMS UP WITH PRECISION HEALTH

**P**recision Health (PH) at U-M takes a multidisciplinary approach to prevention, implementation, and community health and is a key HITS collaborator. PH studies are tracked within LabVantage, a lab information management system that supports study protocols and designs, follows a chain of custody process for samples, and creates an audit trail.

PH studies comprise 70,000 patients. Using data pulled from LabVantage, the HITS Biospecimen Management team was able to assist PH by creating a report using data about patient enrollments, withdrawals, declines, and samples collected. This report enables PH to easily gauge the number of enrollments, withdrawals, and declines per study, per month, and per year.

PH is also now able to determine which patients consented, which did not have a sample taken, or whether the patient's DNA yield was low. Equipped with this information, PH can approach those patients again to request another DNA sample, or in the case of low yield, a second DNA sample. Previously, PH had to determine this information patient-by-patient.

## A HELPFUL WAY TO AVOID GETTING "HOOKED"

**P**hishing is a method of identity theft that involves criminals trying to trick people, by email, into providing personal data, such as passwords, credit card numbers, and banking details. Victims are typically asked to click a link in an email that seems completely legitimate but may contain malware or give scammers access to personal data.

Information Assurance: Michigan Medicine (IA) introduced a "Report Phishing" button on the Outlook email Home ribbon. The button is a handy way to report, quickly and efficiently, any email that seems a little "phishy." Pressing the button will automatically delete the questionable email, send an alert to IA, and generate a ServiceNow ticket.

Additional education efforts were rolled out to staff members, including a simulated phishing email campaign, educational videos, and tips for identifying suspicious email.



## MICHART MIGRATES TO SEMI-ANNUAL UPGRADES

MiChart users now receive new usability improvements twice a year. Smaller, more frequent releases reduce system downtime duration and minimize disruption to the organization.

“We are trying to make [the upgrades] low impact with higher value. A shorter downtime is better for our clinicians and patients,” said Beth Bertels, IT project manager.

The most recent upgrade, in April 2019, occurred within the standard Sunday morning maintenance window and resulted in 24 percent fewer incidents than the previous upgrade.

An additional opportunity for education and testing was introduced in the form of Clinician User Experience Labs. MiChart end users ran their day-to-day workflows in an upgraded practice environment where they previewed new features and training materials. Through these labs, end users were able to experience the changes and provide feedback before the upgrade so they could better understand and plan for the impact to their teams.



## MICHART UPDATES IMPROVE GENDER INCLUSIVITY

A recent MiChart upgrade included an important advancement for gender identity: the addition of preferred names and pronouns. Clinicians now see if a patient has indicated a preferred name. This feature is especially important for transgender or nonbinary patients.

Using preferred names and pronouns is a sign of respect that all patients deserve and is an essential part of Michigan Medicine’s commitment to patient-centered care and a culture of inclusivity.

More than 1,500 patients have filled out the form. This means, for example, that a patient whose legal sex is female but who has registered preferred pronouns of “he/him/his” will receive letters, visit reminder calls, and after-visit summaries using those male pronouns.

“Anecdotally, I have heard that these changes have made a tremendous difference for patients and families,” said Haley Haddad, Telehealth project manager. “That said, we are by no means finished. There is a lot of great work ahead.”



## HITS BECOMING SOLE PROVIDER FOR MICHIGAN MEDICINE TELEPHONE SERVICE

HITS is transitioning landline telephones to VoIP, the Michigan Medicine Enterprise Voice service.

“Moving Michigan Medicine telephones to a single service provider means more seamless support and better consistency of service,” said Chuck Singer, HITS director. “We also estimate an annual cost savings of \$400,000 as a result of our negotiated AT&T contract.”

The effort aims to modernize 1,500 existing Medical School phones to VoIP — technology that uses the HITS data network as the voice transmission medium rather than traditional circuit transmission. Medical School telephone services were historically serviced by Information and Technology Services.

“We are committed to completing the phone migrations with minimal disruptions,” said Singer. “Our team works directly with those users affected to gather any specific customer details so we can minimize any impact from the transition.”



## BACKPACK CHALLENGE HAS ITS WINNER — THE KIDS!

**U**-M Information and Technology Services (ITS) issued a friendly challenge to HITS last summer. The goal: donate 100 backpacks filled with school supplies to local students.

The challenge results far exceeded that goal; ITS and HITS donated 160 fully loaded backpacks to local grade-school and middle-school students. A total of 7,391 individual items and \$1,855 in cash donations was collected.

“We had fun working with ITS, and we were proud of each department for their generosity that will benefit so many,” said Sue Boucher, HITS Project Manager. “We were able to deliver fully stocked backpacks to local organizations that serve families struggling economically in the Ann Arbor area.”

Propelled by the success of the first challenge, HITS and ITS committed to making the Backpack Challenge an annual event. Special thanks to the many staff members who donate items or funds and the ITS and HITS leadership teams for supporting the friendly competition.



## MICHIGAN MEDICINE PICKS BD PYXIS

**M**ichigan Medicine is upgrading its automated medication dispensing cabinets across the health system and ambulatory care sites. BD Pyxis will replace Omnicell, a tool used for nearly 20 years.

“Nurses will receive more data through the medication management process, which will improve efficiency and safety,” said Carleen Penozza, chief nursing informatics officer.

Nearly 230 automated dispensing cabinets, 24 anesthesia workstations, and five central pharmacy carousels will be replaced.

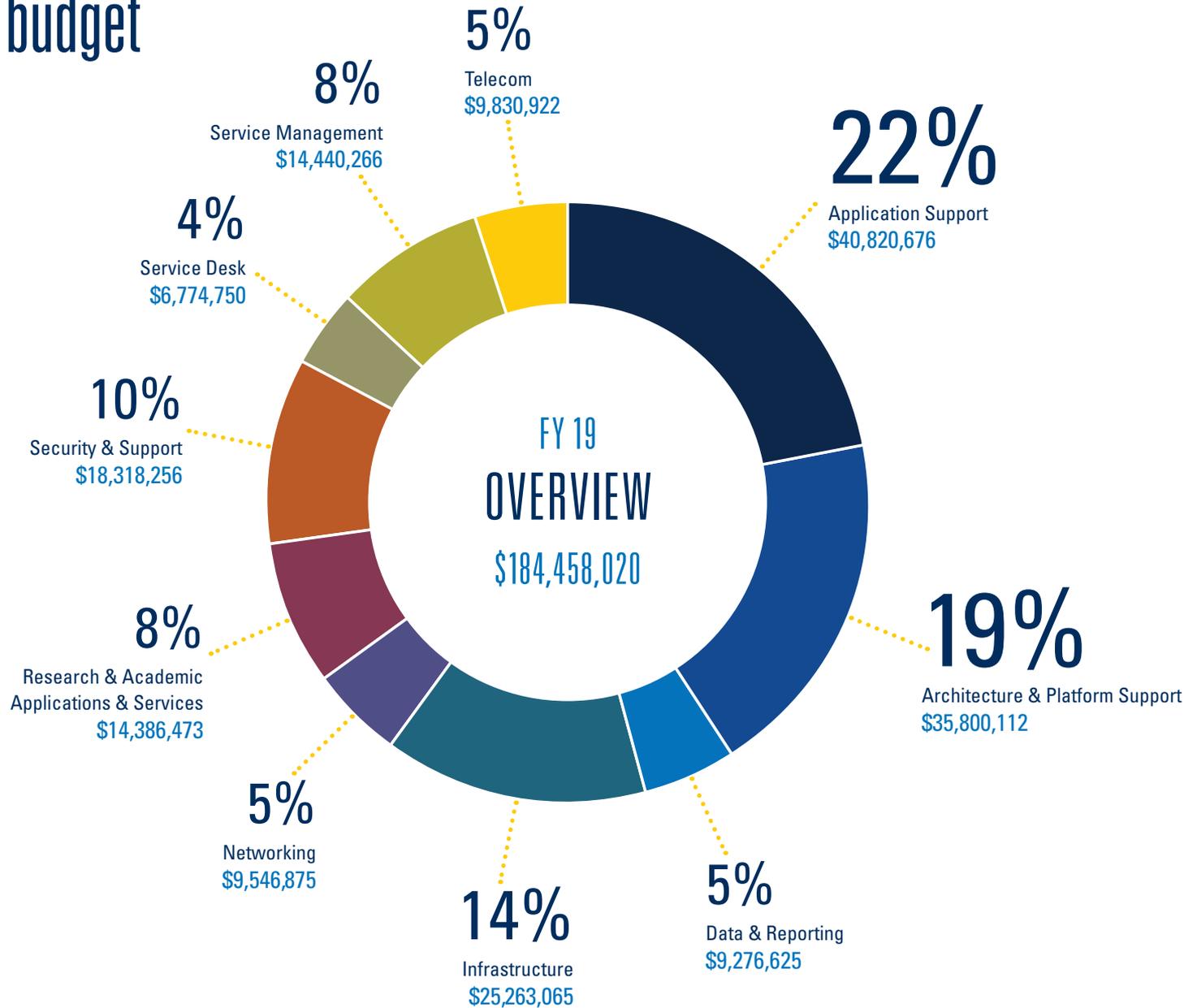
“This is a huge initiative requiring an amazing amount of coordination between pharmacy, nursing, construction services, facilities, planning and development, and HITS,” Penozza said.

Anesthesiology will begin using the new automated storage cabinets next year.

“The new anesthesia workstations will support more efficient patient care in the OR and improved management of controlled substances,” Penozza said.



# Annual budget



# HEALTH INFORMATION TECHNOLOGY & SERVICES

[hits.medicine.umich.edu](https://hits.medicine.umich.edu)

