



○ ● 2022 IT@JH ANNUAL REPORT

Collaborating & Connecting

to Serve the Enterprise



JOHNS HOPKINS
UNIVERSITY & MEDICINE



CONTENTS

2

MISSION

3

FEATURES

Delivering IT Services to the Enterprise

- 04 Managing Academic Journeys with DXP Student Dashboard
- 05 Tracking and Reporting with Dashboards
- 06 Helping Tell More Stories with a New WordPress Theme
- 07 Health IT: Expanding Self Service and Increasing Automation
- 09 Improving User Experience with the OPEN Launchpad Tool
- 10 Transitioning to Canvas: A New Learning Management System
- 11 Ensuring Outstanding Customer Service
- 12 Continuity of Operations and Reliable Systems

13

FINANCE

Stewarding IT@JH's Finances

15

HR

Staffing our Teams

17

WINS

Added Wins for Big Impact

21

AWARDS

Achieving Excellence

OUR MISSION

IT@JH supports and enhances **research, teaching, and patient care** at Johns Hopkins through effective use of excellent information technology resources, products, and services.

DISCLAIMER:

This report is a snapshot of our wide-ranging work and accomplishments over the last year. Although it features some of our achievements and successes, IT@JH has great pride in all of its exceptional teamwork across Johns Hopkins.

Delivering New IT Services to the Enterprise



Managing Academic Journeys with DXP Student Dashboard

The Student Services Excellence Initiative (SSEI) launched a dashboard to help students manage their academic journey at Johns Hopkins in one mobile-friendly place.

The Student Dashboard represents the initial step toward creating the Digital Experience Platform (DXP) and was developed by the University Information Systems team using extensive student feedback with design support from the Technology Innovation Center. DXP represents more than just a student-facing dashboard; it includes student experience, student data, evaluation of a new student information system, and a student success portal tool for staff/advisors. The goal of DXP is to standardize the student experience across the numerous technical platforms that students leverage to complete their studies.

“

We can weave student feedback into our process as we develop new features. We are getting away from the business of speaking for the student. It takes longer, but the value add at the end is more accurate.”

NICOLE PENNINGTON, IT Project Manager



89%

found what they were looking for on the dashboard

The dashboard gives students a personalized view of their:



Course schedule



Alerts



Advisor & instructor contacts



Support cases



Financial aid info



Billing summary

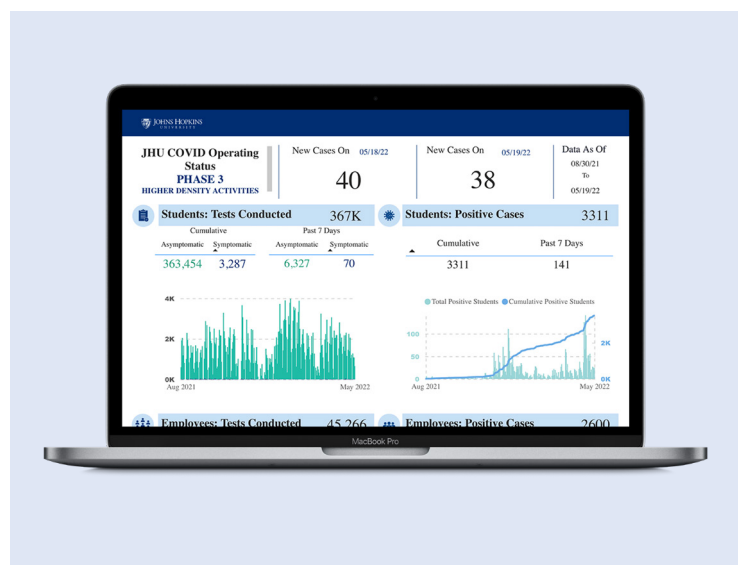


JCard information

Tracking & Reporting with Dashboards

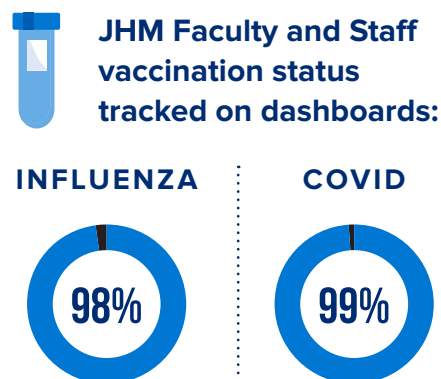
How do you gather information from disparate information systems to paint a complete picture of health?

The Technology Innovation Center Analytics team scaled its dashboard creation in 2022 to help manage vaccine health at Johns Hopkins and promote precision medicine tracking for Johns Hopkins patients.



The Vaccine Management System (VMS) drives compliance at the University and Health System. Human Resources and departmental leadership use VMS dashboards to track influenza, COVID vaccine, and COVID booster vaccine compliance across the enterprise.

The Precision Medicine Centers of Excellence (PMCOE) operational research dashboards standardize reporting, use projection data, and allow leadership to make decisions by measuring and tracking the growth and success of cohorts. These dashboards also provide a lens into Precision Medicine operations, all with the goal of improving patient care.



“

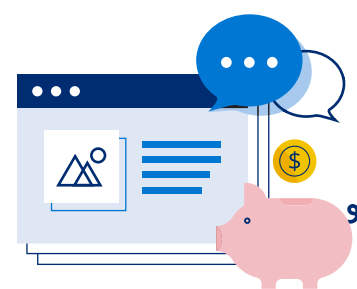
“The ability to track our student body’s compliance with COVID and flu vaccines in one centralized, easy-to-use system has proved to be efficient. VMS is highly customizable with the ability to meet our current needs and in supporting our efforts to keep JHU students healthy.”

SHAHERBANO KHALID, Public Health Officer, Student Health & Well-Being

Helping Tell More Stories with a New WordPress Theme

Johns Hopkins’ many groups, services, and initiatives need websites to tell their digital stories, but communications teams cannot support every website. Previously, these groups spent money externally with website development vendors or did not tell their story at all.

The IT@JH web services team identified this need. They partnered with the Technology Innovation Center (to build) as well as University Communications to offer a Universal WordPress Theme, a website content management service providing a flexible, brand-compliant, and accessible website framework for approved teams to create WordPress websites. The sites are delivered by IT@JH web services through multisite environments and remain a free offering, replacing the expensive and time-consuming management of external web projects.



\$120,000*

saved in external website expenses on 24 websites on the theme

(*estimated \$5000 custom website development – does not include hosting and security management costs)

“*In the past, website owners hosted on JHU.edu had limited experience and options in website design and development, repeatedly hiring costly external partners that didn’t design within the university’s brand guidelines. By committing Johns Hopkins resources to the execution of this strategic endeavor, the university now has a scalable, flexible brand solution and website owners are eager to get on board.*”

LAUREN CUSTER
Web Administrator, University Communications

Health IT: Expanding Self Service and Increasing Automation



In 2022, self-service options enabled patients to complete more scheduling and billing tasks online.

Expansion of automated processes also saved time and money while simplifying workflows.

Online Appointment Scheduling

Patients now have increased access to online scheduling for 20 additional specialties and subspecialties through MyChart, saving time for patients and staff.

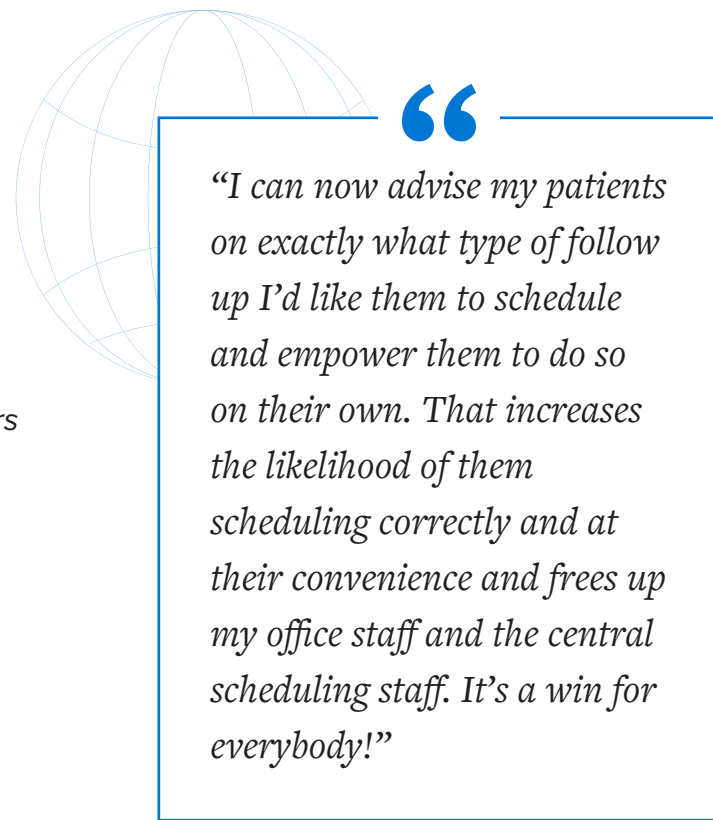
 **36%**

increase in non-COVID appointments scheduled online from 2021 to 2022

456,000 appointments = 38,000 hours saved on patient scheduling calls

 **75,000**

hours saved on patient scheduling calls for online scheduled appointments including COVID vaccines and testing



“*I can now advise my patients on exactly what type of follow up I'd like them to schedule and empower them to do so on their own. That increases the likelihood of them scheduling correctly and at their convenience and frees up my office staff and the central scheduling staff. It's a win for everybody!***”**

HOWARD LEVY, MD
Associate Professor of Medicine

13,000

estimates generated by patients with and without a MyChart login

\$285,000

saved with paperless statements (\$1 per paperless statement)

\$367,000

saved annually in reduction of paper forms, storage, and reprinting

41% TO 82%,

usage increased, saving 981 hours per week using SVC

\$22,000

additional saved each month on contract coders

Patient Financial Services and Paperless Statements

Adding more financial capabilities to MyChart allows patients to complete copays during eCheck-in, create payment plans, and view estimates for visits. Shifting patient statements from paper to electronic versions saved staff time and printing costs. Patients can create estimates online to determine potential costs prior to scheduling a visit.

Forms on Demand

Forms on Demand (FOD) is an enterprise-wide standardized forms and label repository of reviewed and approved clinical/patient care documents. FOD went live at all six hospitals in 2022 and is integrated with Epic to easily and accurately capture patient information to populate the forms and labels. During downtime events, the forms libraries with weekly refreshes are available.

Simple Visit Coding

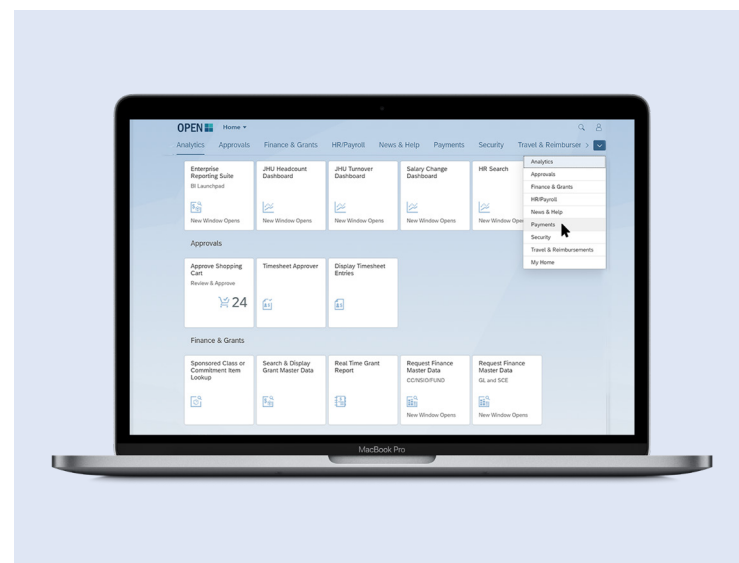
The Health IT team doubled its use of Simple Visit Coding (SVC) in 2022. SVC is coding for straightforward visits based on rules. For example, a flu shot or well-child visit has a predictable standard of care, and likely does not need a coder to review it. Leveraging SVC can help reduce the time to get the bill out the door, gets Johns Hopkins paid faster, and fewer humans need to work on it.

Improving User Experience with the OPEN Launchpad Tool

The Launchpad for SAP gives participants personalized access to task-based business apps. In 2022, Enterprise Business Solutions (EBS) leveraged the OPEN Launchpad and worked with users and business partners to improve user experience across business processes. One process, Payment Request, went from taking over 6 minutes to under 3 minutes using a new application available from the OPEN Launchpad.

“I actually like to pay invoices now—it’s quick and easy. I just click click click and it can take me under two minutes. I am loving the application.”

KELLY HAGIN Inventory Manager, Cardiac Interventional Laboratory



The new Payment Request app combines the

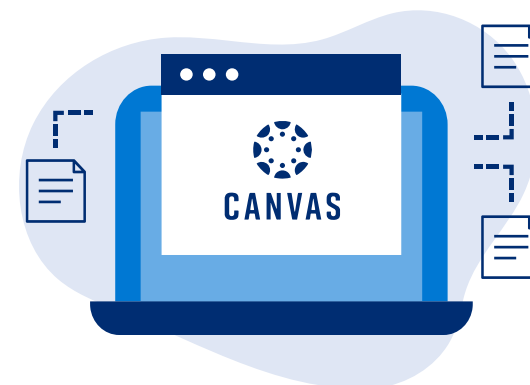
transaction with its SAP workflow information and banking information, giving the users a single view into this complex process. The new app simplifies each transaction, unifies the information around it, and makes it much more visually appealing.

PAYMENT REQUEST APP

500% usage increase resulting in 153,000 payment requests processed

Transitioning to Canvas: A New Learning Management System

The retirement of the enterprise version of Blackboard Learning Management System allowed the university to explore modern, cloud-based systems to better meet the institution’s needs. Thousands of faculty, staff, and students shared their feedback along with an in-depth review by IT@JH, Student Disabilities Services (SDS), and the divisions’ teaching and learning centers. Canvas best met the University’s requirements while providing a user-friendly, flexible, and streamlined interface that users enjoyed.



By Fall 2022, 10 divisions fully transitioned to Canvas and nearly 10,000 courses were running successfully. Effective December 1, 2022, Blackboard is no longer available to users, and all university courses are housed on Canvas except School of Public Health courses, which will continue to use CoursePlus.

“Thanks to the hard work and diligent planning of an outstanding team, the approach to the selection, implementation, and launch of Canvas serves as a model for complex university-wide projects.”

STEPHEN GANGE, PHD
Executive Vice Provost for Academic Affairs

TRANSITION TO CANVAS

28,000
users

100,000
enrollments

9,450
course sites

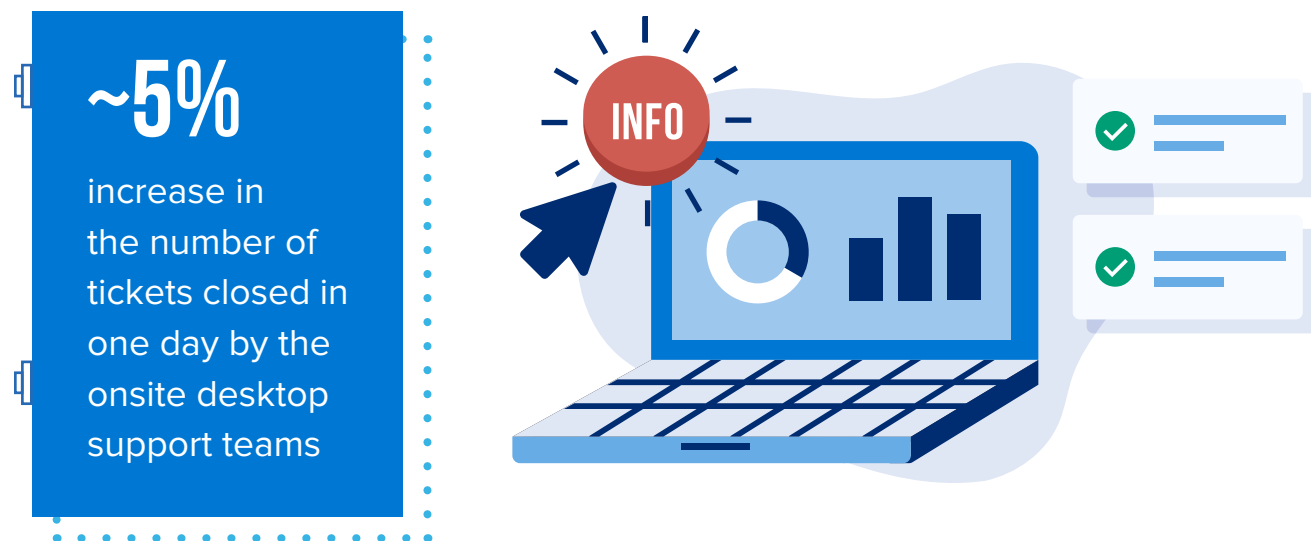
Ensuring Outstanding Customer Service

As many Johns Hopkins Medicine IT organizations consolidated into central IT@JH, the Client Technology Solutions (CTS) team initiated multiple processes to ensure a smooth transition and excellent customer service. The desktop Hopkins IT Info button takes users to the CTS Customer Information site containing key information and resources. Newly developed dashboards monitor multiple key performance initiatives (KPIs), including time to close an incident ticket.

This KPI allows leaders and managers to compare staff performance as well as support team performance. Since implementing the dashboard, the percentage of tickets closed in a day increased, meaning resolution time is decreasing. Customer service surveys consistently demonstrate a high level of customer satisfaction with the remote support team, who are always available.

“Our staff know-how, combined with focus on communication and data-driven analytics, ensure we are consistently providing excellent customer service while also allowing us to monitor our support staff’s performance.”

RYAN REITZ, IT Senior Project Administrator, Client Technology Solutions

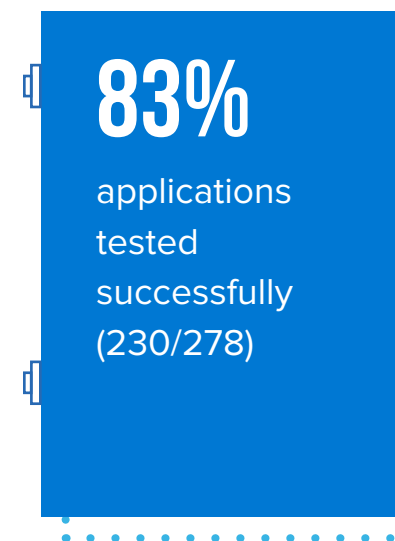


Continuity of Operations and Reliable Systems

This year’s Continuity of Operations test included a totally remote scenario, allowing inclusion of all community hospital sites. The team within Engineering Services conducted testing on critical applications and successfully proved that in an actual disaster, the technical, application, and customer teams could ensure recovery of the critical applications listing.

The team identified opportunities and single points of failure that can be addressed next year for an easier and more thorough testing process. IT@JH always keeps critical systems available with minimal unplanned downtime.

For example, in 2022, SAP had one hour of unplanned downtime in the entire year (99.99% uptime).



“When a core clinical system stops working, it impacts our patients and providers immediately. The IT@JH team does an amazing job at ensuring high availability and responding immediately to system or network events. IT reliability is a vital foundation for our clinical care processes.”

PETER GREENE, MD
Chief Medical Information Officer,
Johns Hopkins Medicine

STEWARDING IT@JH'S FINANCES

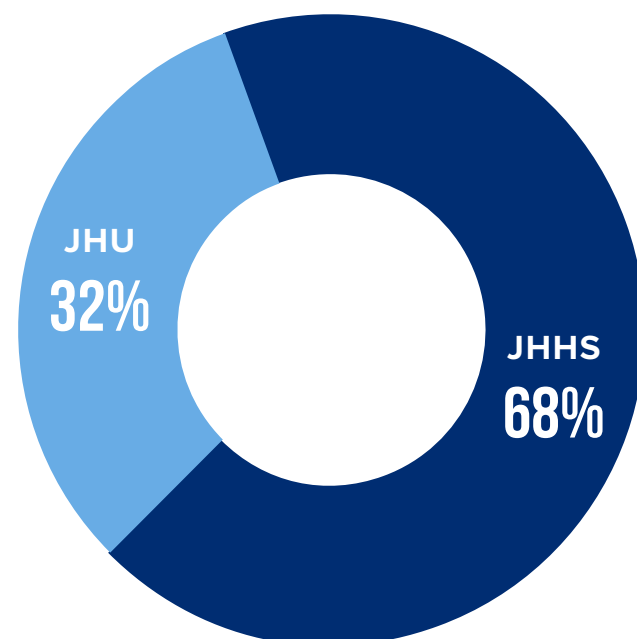
In FY22, a continuous focus on process enhancement and automation helped IT meet the financial goals set forth by leadership. In budgetary spending, a positive margin of \$15.5M (5.3%) was achieved, with the largest surplus in the Epic allocation (\$4.2M savings from debt & interest, \$2.3M from operations).



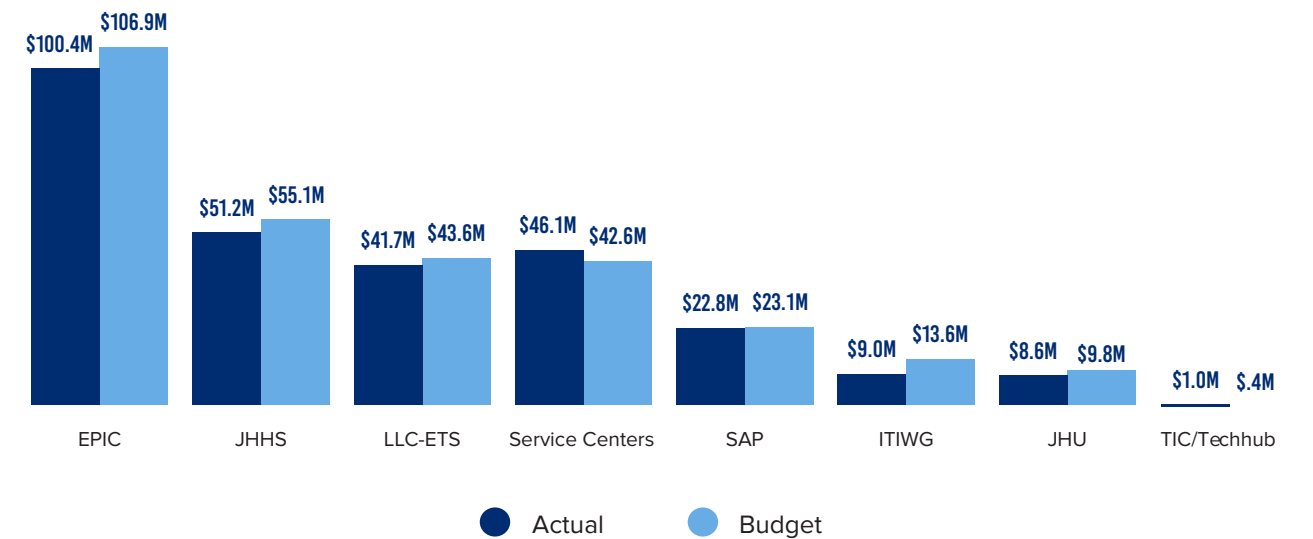
As always, maintaining partnerships with key JHU and JHHS business and financial leaders is a top priority as IT@JH seek to provide total transparency.

Who Pays for IT

The following charts showcase how our finances support Johns Hopkins University and Medicine.



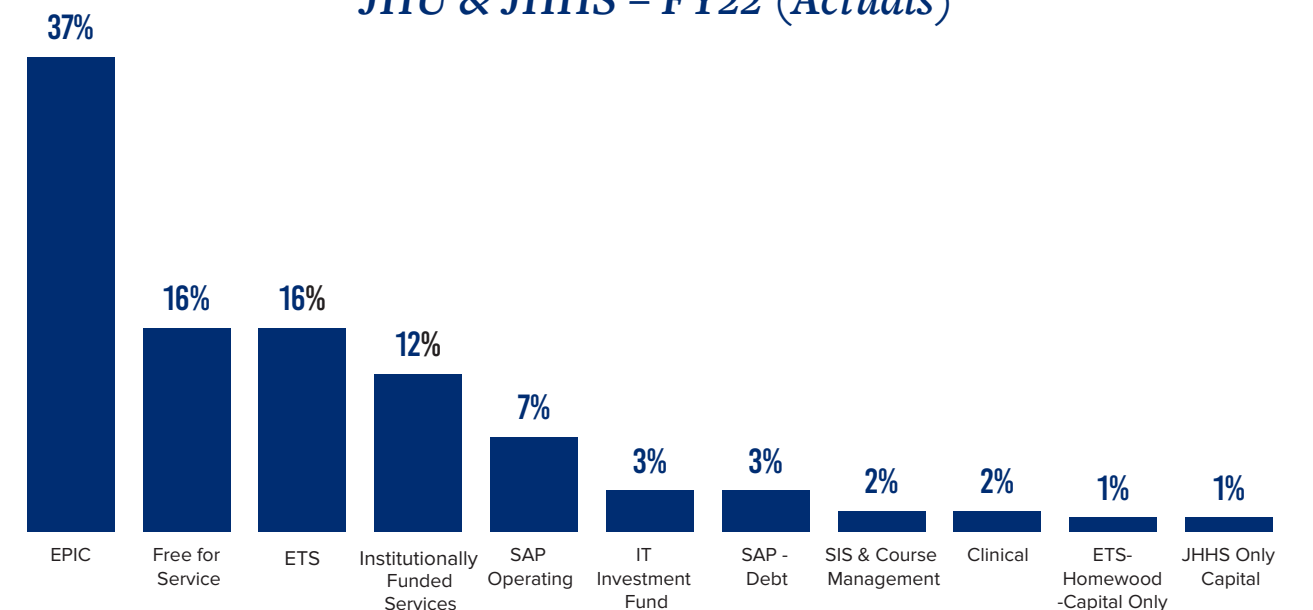
Actual vs. Budget



Notes: Epic favorable variance was largely due to depreciation and interest. Revenue growth in Service Centers covers the overages to the expense budget.

Funding for Central IT Costs

JHU & JHHS – FY22 (Actuals)



Staffing Our Teams

Driving Employee Engagement with Stay Interviews

IT@JH is proud to have a talented, diverse workforce. The team routinely conducts stay interviews in addition to exit interviews to better understand how employees feel about working at IT@JH.

The top answers to questions like, “What do you like most about this place? What keeps you here?” are:

Challenging, interesting work

Ability to learn, grow, move around within IT@JH

Great colleagues, friendly/collaborative work environment

Ability to work with new, cutting-edge technology

Family first, work/life balance

Plenty of work to do, stability/security

Meaningful work, pride in Johns Hopkins mission

Benefits



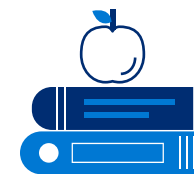
Enhancing Connections through Skip Level Meetings

Over the past year, IT@JH expanded the number of participants in skip-level meetings, where directors meet 1:1 with the direct reports of their various managers. Staff hear about strategic priorities, ask questions, provide feedback, share new ideas, and connect on a human level with their “boss’s boss” at these meetings. Skip-level meetings build engagement by surfacing information to improve the positives and minimize/eliminate the negatives in the work environment.



Removing Barriers to Employment with IT@JH

For JHHS positions, IT@JH began working with Central HR and Compensation to review job descriptions with an eye toward removing unnecessary education requirements. For example, a position that required a minimum of an associate’s degree or bachelor’s degree in the past might now only require a high school diploma.



Building Local Talent via Internship Program

IT@JH added a high school internship program, creating pathways to employment at Johns Hopkins and supporting local vocational schools. These internship positions provide individuals with no or limited work experience an opportunity to develop valuable work skills (technical skills and soft skills) while completing a high school diploma or GED. Internships help build a local talent pipeline for future full-time vacancies.



Returning Employees Add Value

IT@JH has 7 former employees who retired or moved away and then came back to IT@JH to work as part-time, casual workers. These arrangements are a win-win. IT@JH gets to hang onto the skills and institutional knowledge these employees gained over the years working at Johns Hopkins, and they get a rewarding part-time retirement job doing meaningful work with talented people they enjoy working with.

ADDED WINS FOR BIG IMPACT

Promoting Diversity, Development, and inclusion (DDI)

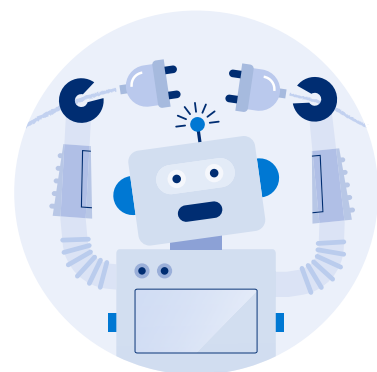
The IT@JH DDI Council created the IT Staff Composition Dashboard, which displays staff demographics across IT@JH by race/ethnicity and gender. Reviewers can perform year-over-year analysis of IT@JH's diversity, equity, and inclusion (DEI) efforts. The council also identified potential equity barriers in recruiting via focus groups, evaluation of processes and systems, and expanding DEI recruitment channels. The council continued supporting the growth of community impact programs by increasing opportunities for [Year Up](#) students and high school students, and spearheading efforts to raise over \$18,000 in IT@JH donations for United Way of Central Maryland.

Simplifying Personal Purchases at the Tech Hub

The East Baltimore [Tech Hub](#) now offers a direct link for personal purchases, a convenient way for Johns Hopkins affiliates to purchase their own products and devices. The Tech Hub carries Apple products/devices/accessories and Microsoft Surface tablets and offers discounts on Apple products to Johns Hopkins employees, students, and alumni.

Designing Friendly Error Messaging

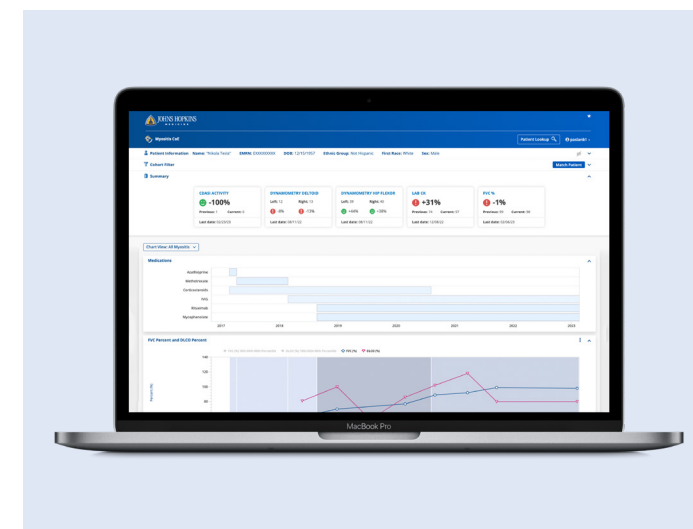
The Technology Innovation Center (TIC) Design Team created, and IT@JH web services implemented, a more friendly error message for users encountering unavailable pages (also known as a 404 error).



Accelerating Clinical Research with OMOP

The Observational Medical Outcomes Partnership (OMOP) dataset represents the largest, most updated, curated representation of patients receiving care at Johns Hopkins Medicine. The OMOP Common Data Model (CDM) enables Johns Hopkins researchers access to Johns Hopkins data using PMAP (the discovery and delivery platform for Precision Medicine). It can also quickly scale to larger research studies since it uses standardized cohort definitions and clinical terminologies. Johns Hopkins researchers can now submit grants via an accelerator using Observational Health Data Sciences and Informatics (OHDSI) methods. This accelerator has been successful, with nearly \$5.5M in grant funding awarded in 2022.

3,073,265,427 rows of patient data generated from 11 Common Data Models



Scaling Data into Clinical Care

The Precision Medicine Analytics Platform (PMAP) can now deliver standardized Epic data to researchers in one day once their IRB protocol is approved. Research teams can get up to 100 times more data than by using traditional methods, all within 8 hours. The data can be analyzed using various software packages hosted on one of several IT-managed computational environments.

Consolidating for Security, Resiliency, and Efficiency

Following a Johns Hopkins Health System (JHHS) directive to improve cybersecurity, ransomware resiliency, and operational efficiency, central IT systematically consolidated clinical departments operating quasi-independent IT organizations. This consolidation effort has resulted in the management of an additional 13,792 workstations, 1 Petabyte of storage, and 384 servers since 2021. To support the additional IT devices, 50 IT professionals transitioned from clinical department IT organizations to central IT. Standardization of IT infrastructure devices allows IT@JH to respond more quickly to cybersecurity threats and extend institutional investments in cybersecurity to all parts of the health system.

Improving HR Functions with SAP Tools

The Organizational Management Tool (OMT) streamlines the position creation process in both SAP and SuccessFactors. JHU is currently using the tool, and it has been piloted at JHBMC on behalf of the Health System. Including OMT functionality as part of the hiring process reduced the time between initiation of the position request in SAP to final approval from an average of 7.0 days to 1.6 days. Usage of the Employee Actions app (covering Bonus/Supplements, Salary Changes, Terminations/Retirements, Temp Inactive, and Leave of Absences) expanded this year by over 30%. The app reduces the time from initiation to finalized in SAP from an average of 5 days to 1.25 days.

8,000
servers enrolled
in server
vulnerability
management



Expanding Security for Users and Systems

Multi-factor authentication (MFA) expanded across nearly all user populations and applications, enhancing security for systems and users. The MFA team implemented more sophisticated context-based authentication for remote users to further improve security for that group. They also integrated enterprise-wide server vulnerability management (SVM) dashboards, giving systems administrators context to evaluate potential vulnerabilities both internally (in Johns Hopkins' configuration practices) and externally (threats beyond the walls of Johns Hopkins).



Surveying with Qualtrics

Qualtrics is a cloud-based survey management platform. The tool is used by research teams, and for web forms and university surveys. In 2022, the University Information Systems team (UIS) consolidated Qualtrics licenses from 18 separate teams into a single central license. The centrally supported instance of Qualtrics is available to all faculty, staff, and students. UIS worked with existing Qualtrics license holders to migrate users and projects to the central Qualtrics instance where they can take advantage of new features and capabilities like Tableau integration, API access, and text sentiment analysis.

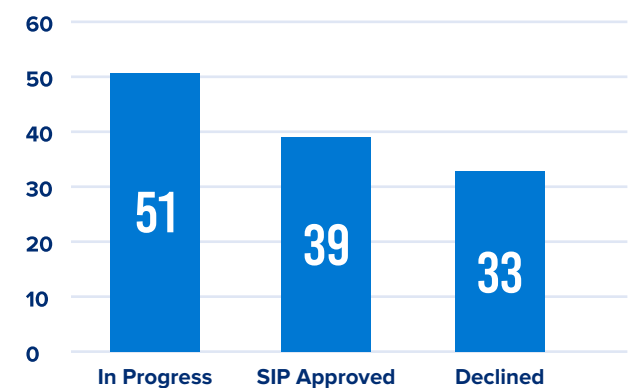
Enhancing eCheck-In for Video Visits

For patient to provider video visits, eCheck-In now includes a step for testing the video prior to joining the call. Patients can now familiarize themselves with the hardware ahead of their visit.

Augmenting Software Intake Process (SIP) for Increased Transparency

In 2022, IT@JH introduced the [Software Intake Process](#), a streamlined, single-entry point to collect software-based solution requests for Johns Hopkins Medicine*. The SIP team guides requestors from intake through implementation. Leadership reviews each proposed solution to ensure it is the right solution, a sound investment, and compliant with Johns Hopkins technology standards for safety. This standardized approach increases transparency and harmonization across the enterprise by connecting legal, supply chain, finance, IT, and leadership.

123 SIP Submissions Mar-Dec 2022



In Progress (projects that are newly submitted, going through RFP, IT Risk review, or awaiting prioritization and budget approval)

SIP Approved (projects that are in contracting or implementing, as well as those live and stable)

(*JHM entities and departments — including individuals from The Johns Hopkins Health System Corporation, affiliated hospitals, joint ventures, and the Johns Hopkins University School of Medicine.)

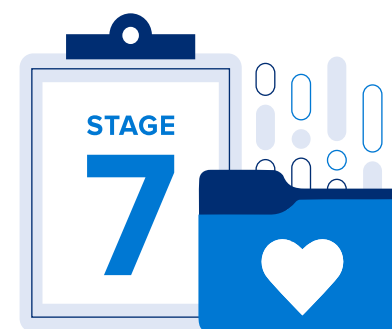


Best Place to Work in IT for 8th year in a row

IT@JH was named as a Best Place to Work in Information Technology for the eighth consecutive year! IT@JH was ranked number 21 among large organizations on the Best Places to Work in IT list. Selection is based on the quality and excellence of the IT workplace. IT@JH is proud to have a spot on the list again this year, especially after the challenges of the past two years.

Health Information Management Systems Society (HIMSS) Stage 7 for Clinician Use of EMR Technology

Johns Hopkins Health System (all hospitals and outpatient areas) achieved Stage 7 status this year – the highest level an organization can achieve. Only about 10% of U.S. hospitals and clinics have achieved Stage 7, and Johns Hopkins was the first to do so under the new model released in 2022. Stage 7 measures clinical outcomes, patient engagement, and clinician use of EMR technology to strengthen organizational performance and health outcomes across patient populations. The higher an organization's certification, the better the health outcomes for patients.



CHIME's Most Wired: Digital Health Certified Level 9

The College of Healthcare Information Management Executives' (CHIME) Digital Health Most Wired survey and recognition program serves as a comprehensive digital health check-up for healthcare organizations across the world. Johns Hopkins Health System achieved level 9 status (out of 10) for acute care and ambulatory care.

Among the more than 38,000 organizations surveyed by CHIME, only about 100 achieved level 9 or 10 for acute care, and only about 70 achieved level 9 of 10 for ambulatory care. The survey assessed the adoption, integration, and impact of technologies in health care organizations at all stages of development, from early development to industry leading.