Dedication. Focus. Responsibility.

Everyone at IT@JH is committed to our mission: supporting and enhancing research, teaching, and patient care at Johns Hopkins through effective use of excellent information technology resources, products, and services.

We have been working with a sense of urgency and enthusiasm, toward meeting our goals and accomplishing milestones in all areas of IT@JH. New partnerships have arisen this year, and these partnerships help define us. Collaboration with our IT and business partners across Johns Hopkins strengthens our value to the enterprise. Our trust and respect for one another has paved the way to our many accomplishments and our great work. We are accountable to each other and to Johns Hopkins as a whole.

The past year has been challenging but successful. This year's report highlights some of the advances made and projects completed by our diverse, talented team of staff and leaders. We appreciate, value, and need our team members and leaders. As a team, IT@JH is involved and engaged; we have learned that employee engagement is another key to our success now, and in the future.

And our future looks bright! The year that lies ahead holds promise and excitement. We move forward with a sense of optimism and pride--we believe the work we do has important implications. We are grateful for the opportunity to work in a place like Johns Hopkins, a place with such a meaningful mission. We appreciate your interest in learning more about IT@JH.

Warmly,
Steph
Stephanie Reel, CIO & Vice Provost for Information Technologies, Johns Hopkins University
Vice President & CIO, Johns Hopkins Medicine

GUIDING PRINCIPLES

VISION:
We envision IT@JH as "Enterprise IT for the future."

CORE VALUES:
Quality – We strive to excel and exceed expectations in everything we do. Customer service excellence is key. Outstanding performance is recognized and celebrated.
Learning – Our team members are encouraged to participate in opportunities for continuing education, professional development, and personal growth.
Listening – Collaboration with colleagues and customers provide us with new perspectives and different points of view.
Informing – We share important information on a regular basis through a variety of communication channels.
Participating – Every team member's opinion counts. Consensus building and inclusiveness factor in decision-making.
Respect – We are respectful, responsible, prepared, and courteous.
Fun – We encourage humor, imagination, and new ideas. Life is short, so we want to enjoy what we do.

Science – IT@JH provides infrastructure and support for research laboratories and collaborates with Hopkins scientists on projects with IT-related objectives.

Safety –IT@JH plays an important role in the institution-wide effort to promote patient safety. Many new systems are being deployed for the sole purpose of improving patient safety.

Service Excellence – Our first commitment is to our customers: patients, students, faculty, and staff of Johns Hopkins. IT@JH is committed to providing the best possible service consistent with enterprise goals and strategies.

Staff Development and Stakeholder Satisfaction – We evaluate ourselves first by the quality of the service provided to our customers. We also pay heed to all of our stakeholders, including our workforce, staff, and partners. We hire and motivate a strong, diverse, and experienced staff.

Security – Protecting integrity and availability of network and systems is a challenge for "open" environments like ours. The focus on security has become more pressing as we enhance protections for private information.

Simplicity –IT@JH emphasizes the need for IT to standardize and simplify rather than complicate business, clinical, teaching, and research processes.

Savings – IT@JH works within resource constraints by leveraging investments across multiple sites and emphasizing established technologies.

Sustainability – IT @ JH recognizes the need for "greener" practices to improve Hopkins' waste reduction and energy conservation programs.

ACCOMPLISHMENTS

The following items are just some of the past year's many accomplishments. This list is representative of our initiatives and projects in multiple areas, and is not intended to be comprehensive.

EFFICIENCIES

Server Virtualization

Server virtualization improves efficiency by reducing use of power, space, and cooling resources. The virtual infrastructure maintains high availability and eliminates downtime even during maintenance. The virtual server infrastructure is home to more than 1,500 virtual servers. Our adoption rate of 71% indicates leadership in virtualization among our peers. Departments can lease space in a centrally managed virtual server "farm," thus reducing the need to purchase servers and maintain data centers.

Data Centers

Improvements and equipment refreshes continued in the major data centers (1830 Building and Mt. Washington). A project to expand the uninterruptible power supply (UPS) capacity at Mt. Washington is underway. Upgrades to the network components are in progress, which will support higher throughput and more reliable service.

Desktop Virtualization

Desktop virtualization allows users to access their full Windows desktop, housed securely inside a data center, from nearly any type of computing device (including iPads, tablets, netbooks, and legacy PCs). This solution provides a roaming desktop session across any number of devices, even outside of the Johns Hopkins network. More than 5,800 virtual desktops are deployed to customers, primarily in clinical areas.

Wireless Infrastructure

The "JHaccess" wireless network has been developed for wireless medical equipment. Its encryption method will provide enterprise-level security and a better approach to authenticating users and devices. An extensive public key infrastructure (PKI) has been deployed throughout the network. We are in the process of removing the older style WEP (Wired Equivalent Privacy) encryption from the wireless network and transitioning to a more robust form of encryption (WPA ; Wi-Fi Protected Access). We are also implementing new and inventive ways to remotely monitor and manage the ever increasing scope of the wireless network.

Enterprise Single Sign-On (ESSO)

ESSO enables one-time authentication (using JHED ID and Password) to streamline access to participating applications. ESSO is available for Windows-based applications, including many client-server systems, and requires the installation of a software client. The system has more than 16,825 enrolled individuals.

ISIS:

" It is my opinion that ISIS represents a 100% improvement over the systems we previously used for student billing. ISIS is a major step forward for School of Medicine students, administrators, and especially the Office of Financial Affairs. The automated features allow us to provide a comprehensive service to our students and to get our work completed more quickly, efficiently, and accurately."

-***Clif Williams***, *Associate Director of Finance, School of Medicine*

PLANNING FOR THE FUTURE

SAP

The past year was focused on stabilization after the upgrade in May 2010, including lingering migrations and updates, and providing additional user support in areas that saw the most change (purchasing). In addition, considerable efforts were put towards improvements in data quality and building confidence in SAP data—this included work to formally establish SAP as the system of record for faculty data. Focus was also placed on improving system performance, particularly in the Business Warehouse (BW). Leveraging our Governance Risk & Compliance (GRC) product, considerable progress was made in reducing risk and conflict of duties violations. Segregation of duties risks were reduced by 85% and pairs of conflicting transactions were refaced by 99%.We have also begun foundational work to provide new and different avenues to access SAP data for reporting and interfacing with other systems, including our acquisition of the SAP BusinessObjects Business Intelligence platform.

ISIS

ISIS is the system of records for data on all university applicants and enrolled students. School of Medicine admissions, records and registration, and doctoral board data were migrated into ISIS and will be maintained there going forward. Having achieved a higher level of integration of student data in ISIS paves the way for new and different analytical capabilities, including the construction of a student data warehouse. We also automated generation of temporary social security numbers for registration, replacing a manual, time-consuming process.

Data-Driven Decisions (D3)

IT@JH continues efforts to produce actionable information in usable formats to many customers. A particular focus over the past year has been on improving the quality of student and faculty data in order to answer important questions about these populations. Data aggregation and analysis across applications, datasets, and organizations occurs through SAP (faculty data), ISIS (student data), and other systems. Working with divisions to validate and close gaps in faculty data, SAP has been established as the system of record for faculty data. ISIS is now the system of record for all university applicant and enrolled student data.

Student Data Warehouse

This past year, a student data warehouse was developed that combines a robust data model, acquired from the leading vendor of data warehouses for higher education, with local adaption to JHU systems, data structures, and processes. It presently contains 66 dimensions and measures related to enrolled students and 70 dimensions and measures related to student applicants. The warehouse continues to expand through additional metrics obtained via ISIS that are important to institutional and divisional decision making.

Digital Measures

This faculty activity reporting system was expanded to the School of Nursing and SAIS. The system allows users to build reports regarding the research, teaching, and service activities of faculty members. The system is already in use at the Carey Business School and the School of Education, and piloted at the Krieger School of Arts & Sciences.

Degree Audit System

Students can monitor their progress towards degree completion using this system that tracks program requirements. Pilots are underway for multiple degree objectives serving over 4,000 students in the Krieger School of Arts & Sciences (undergraduates and Advanced Academic Programs), the Whiting School of Engineering (undergraduates and Engineering for Professionals), the Carey Business School, and SAIS.

Epic

Complex information systems have contributed to increased costs, inadequate coordination of care, and operational inefficiencies. An integrated, enterprise-wide information technology strategy is necessary. The need for and feasibility of such a strategy has been vetted through countless hours of research and discussion by collaborative, interdisciplinary working groups. The integrated system will allow for coordinated care through a shared patient record, data standardization and sharing across care settings and functions via a modern user interface. The system provides simplified reporting of metrics, a common workflow and rules engine, and a platform for innovation. It was determined that Epic was the best fit for the unique needs of Johns Hopkins Medicine. While much of the year was spent analyzing our needs and the capabilities of Epic, we also developed a strong foundation from which we can move forward with our investment and deployment plans.

EPR 2020

EPR2020 is built on the Amalga Platform and serves as a longitudinal repository, including all of the existing EPR data from JHH and JHBMC. These data include 4.5 M patient records, 400+M lab results, and tens of millions of documents, problems, allergies, and medications. EPR 2020 has been deployed for use in clinical research, providing users with analytic and query capabilities and the ability to link systems, improving patient care. The time required to access laboratory results for research study patients has been reduced. Investigators can determine whether patients are enrolled in a clinical trial, and access clinical case review data discovery tools.

caTissue Tracking System

This electronic tool enhances researchers' ability to track tissue specimens. The system features customizable roles and privileges structures to support multiple repositories within a single caTissue instance, a fully annotated Collection Protocol to facilitate automated data entry, and an Advanced Query interface with the ability to save queries, add specimens to a shopping cart, and export. Specimens can be processed, ordered, and distributed; additionally, labels and barcodes can be generated and printed. The system has been piloted in three tissue banks initially, with plans for enterprise-wide availability later this calendar year.

Budgeting, Financial Planning, and IT Grand Plan

The most recent IT@JH 10-year financial plan ended in FY11. We developed a new 10-year plan, beginning in FY12, to include the initiatives that relate to the implementation of Epic, as well as other information technology-related changes we anticipate as a result of Health Care Reform, meaningful use, and ICD-10. Systems unrelated to patient care are also a part of our financial planning and budgeting processes. The 10-year plan ensures we move forward in a fiscally responsible manner, and ties into our Grand Plan.

The Grand Plan is a review of all IT projects with an eye on prioritizing the many projects we currently are working on to match the strategic and financial goals of Johns Hopkins Medicine and the University. We look at the projects with their IT owners and functional champions, and determine a priority based on meeting the successful opening of the NCB, Government Regulations, the anticipated impact of Health Care Reform, the implementation of Epic, academic support needs, along with the continued build out of and improvements in IT infrastructure to support these initiatives. Starting with a very granular list of hundreds of individual projects, we work with IT and JH leadership to prioritize them and develop plans that match the planned resources and goals of the institutions that we serve. We then link them to each other to determine the effect each project has on other projects for the same resources, to ensure we plan adequately to meet the desired time frames.

Applications Security

A growing number of clinical and patient financial services system applications are supported by the Applications Security team. Security analysts continue to support the Legal Department, Medical Records Departments, and the Privacy Officer researching history access logs for potential privacy violations. The Security team evaluated current access request processes to streamline wherever possible, while maintaining or improving basic audit trails required for regulatory and audit compliance. We also set up and maintained access to clinical systems for incoming nursing students and medical residents.

Disaster Recovery

We continued to take advantage of advancing technologies to improve our recovery timelines for applications, and our recovery points for data. Virtualization provides system availability to our customers in much shorter timeframes, but also provides the opportunity to include more applications in our regular test windows. These shorter recovery timelines also allow us to do more comprehensive testing including having applications interface with each other, providing message transmission from application to application, and making available system utilities such label and wrist band printing. Improved data recovery techniques (such as Site Recovery Manager and Point to Point Remote Copy), where replicated data is presented to recovered systems, ensure that data will be as current as technically feasible, usually within minutes (as opposed to traditional data restore techniques which could take hours). We have also done more in-house recoveries with our larger midrange environments. This strategy allows us to drastically improve our recovery times on those environments as well.

Disaster Recovery:

"I had the opportunity to participate in the Disaster recovery testing of the Vision nutrition ordering system. I found the testing to be well organized. When I arrived on site, a computer had been designated for my use and the test scripts were available. The process went smoothly and I was able to complete my testing in a minimal amount of time. The recovery testing provided me with a sense of security that should there be a major failure, my system, which is important for the feeding of the patients, could be efficiently brought back on line."

- ***Helen Mullan, MBA, RD, LDN****, Clinical Nutrition Manager, The Johns Hopkins Hospital*

Compliance

Efforts continued toward building a comprehensive compliance framework to cover information classification, data governance, security, meaningful use, and privacy. We now have technologies to monitor and filter servers and devices better than before. The Information Security Advisory Committee and Incident Review and Systems Assurance Committee provide policies, procedures, and governance over these efforts and types of technologies.

Johns Hopkins Emergency Alerts (JHEA)

This service enables subscribers to receive emergency text alerts on their mobile phones. After the September 2010 shooting event on the East Baltimore campus, all faculty, staff, and students were encouraged to sign up for the service, and almost immediately JHEA experienced a 100% increase in enrollment. In early December, the student registration system began posting a notice to students registering for classes, reminding them to subscribe.

IT Recycling

Free collection and secure, certified data destruction services continued via the IT Recycling Program. Efforts have increased to get hard drives magnetically erased and physically crushed prior to the computers leaving the campus. Dozens of recycled computers were refurbished and used to update Baltimore City Public School computer labs.

INVENTING THE FUTURE

New Clinical Buildings (NCB)

The technologies to be implemented in the NCB are focused on patient-centered care and evidence-based design. The new hospital buildings will be paperless, filmless, and wireless, with a goal toward reduced manual effort and improved communications and accuracy. Work continues around the clock to ensure these technologies will be tested and functioning properly in advance of the opening next year. The goal is to avoid introducing new technology as the moves into the building occur. Over 28,000 data drops and over 50 network closets have been provisioned to accommodate all of the required high-end technology that is slated for the facility. In addition to hard wired cabling, wireless technology will play a major role and therefore robust wireless coverage is being engineered with the allocation of over 768 access points. The infrastructure in the NCB is so advanced that for the first time in Hopkins history, fiber optics will be integrated into each elevator cab to enable the use of advanced technologies such as digital signage and improved wireless coverage.

High Performance Computing (HPC)

Working with Facilities and the Department of Physics & Astronomy, we were successfully awarded a National Science Foundation (NSF) grant to provide facilities and network infrastructure upgrades for a high performance computer room on the Homewood campus. We are also reviewing the availability of both cooling and power in various locations that could support HPC clusters. HPC capabilities continue to be vital to attracting and retaining faculty.

Video Technologies

The number of live webcasts (1-way) and videoconferences (2-way) increased tremendously this year. Webcasts are important tools used in educational settings. Videoconferences allow for secure local, national, and international connections with our affiliates and colleagues in the US and abroad while reducing travel time and costs. We even supported a videoconference between a physician and her sibling, an astronaut at the International Space Station. The newest version of Office Communicator Services (Lync) will enable more widespread desktop videoconferencing, with better security and quality.

Technology Classrooms

Over 100 technology classrooms have been upgraded on the Homewood campus and tech support continues for faculty and students. Faculty members may receive in-person tech support at the touch of a help button within the classroom (between 7 a.m.-10 p.m., 6 days/week).

Blackboard and Blackboard Mobile

Blackboard is the online course management system used for fully online and supplemental course materials by students and faculty in some or all parts of the Krieger School of Arts & Sciences, Carey Business School, the Whiting School of Engineering, the School of Medicine, the School of Nursing, Peabody, and SAIS. Significant improvements were made for faculty with the implementation of version 9.1, including a new content collection system and the ability to import final grades from Blackboard into ISIS. Sites for all courses are automatically provisioned within Blackboard. Pilot efforts are underway to deliver Blackboard content to faculty and students on select mobile devices.

POE and ClinDoc :

"The Johns Hopkins Hospital achieved 100% compliance for influenza and pneumococcal vaccinations for both January and February, 2011…accomplished by adjusting work flow and understanding different patient populations by faculty, nursing, pharmacy, and staff. This effort was enabled through the use of Sunrise Provider Order Entry and Clinical Documentation."

-Terry Nelson, RN, MSN, NEA-BC,
Assistant Director of Nursing, Department of Medicine

SERVING THE USER

Solutions Center

The IT Help Desk is evolving into a 'solutions-driven' organization--providing one place for faculty, staff, and students to go for provisioning of services, tools, and assistance with IT-related issues. The Solutions Center will provide transparent, easy access to the technology that each user requires to perform his or her job. Software/hardware ordering, tech support, access to downloadable files, and tools to set up a new employee are among the services planned to be accessible through the Solutions Center. The Service Management system currently includes incident management and change management. This system will soon bring additional solutions closer to the end user through self-service ticketing, service catalog, and a knowledge base that will provide consolidated self-help tools. The Solutions Center's goal is for the end user to more easily resolve problems via these self-help resources and tools.

Sunrise Clinical Documentation (ClinDoc)

The ClinDoc multidisciplinary electronic documentation system provides a clear, legible account of an in- or outpatient visit. Key documents include History and Physicals, Daily Progress Notes, Consult Notes, Handoff Notes, and full nursing documentation and flow sheets. The system is currently deployed on 95% of our nursing units, and will be fully deployed by the end of 2011. The widespread use of ClinDoc has resulted in reductions in paperwork, improvement in patient safety relative to sentinel events, and improvement in best practices related to standardized order sets and provider and nursing documentation.

My JH Portal

The portal is used by faculty, staff, and students to access a number of applications, including email, instant messaging, and the virtual private network (via JHConnect). Portal use has grown significantly this year, experiencing a 42% increase in the number of visits.

PING

PING is a web-based text messaging platform that provides a quick way to find and text people, services, and consults. The system offers new features, frequent updates, and continuous improvements including multi-step message forwarding, out of office messages, larger recipient limits, extended session lengths, and device level reply from a 2-way pager. Customer feedback helped generate many of these enhancements. PING went into production in late March 2011. PING usage steadily increased as the retirement of PagerBox approached and then occurred.

CareFusion

The use of CareFusion system for specimen collection and verification has improved the quality, efficiency, and safety of patient care. Patient wristbands are scanned with a handheld device to confirm the patient, and specimen labels are printed on demand at the bedside prior to specimen collection. The reduction in mislabeled specimens has been significant (64% reduction in the ED alone), contributing to increases in patient safety.

CareFusion:

"Patient identification at the time of the procedure improves accuracy and patient safety. The system streamlines the specimen collection process and helps improve communication between disciplines. On-demand label printing has been the biggest improvement we have seen with the use of CareFusion. Our users no longer have to wade through massive piles of printed labels to find the ones they need, and mislabeled specimen rates have decreased as a result."

*-**Heather Gardner, RN**, Systems Development Manager*

Patient Management and Billing Systems

The IT@CPA developed Compass, an automated accounts receivable follow-up system, for the School of Medicine CPA Physicians Billing Service. Compass creates an electronic A/R work list, and provides enhanced documentation and reporting features which contributed to AR days being reduced from 40 to 37. The application was successfully piloted first in summer 2010 and then rolled out throughout the CPA. The CPA and Johns Hopkins Community Physicians (JHCP) remittance processes transitioned from Highmark to RealMed for Medicare claims. The CPA, JHCP, and JHMCIS contracted with the Medibase company to clean-up duplicate accounts required to implement Quadramed at JHCP sites. Also with JHCP, the 270/271 EDI transaction set for eligibility checking was successfully implemented. An outbound interface to Allscripts was created to support e-Prescribing. CPA and Johns Hopkins Health Care (JHHC) successfully implemented the changes required by the DOD to provide a point of service benefit option for the Tricare members. Finally, with the Keane Team, CPA tested Keane EZ admission/discharge/transfer (ADT) to replace SMS ADT. The Keane system for inpatient ADT was successfully deployed. The Epic application was integrated with Emdeon, a more cost-effective tool for checking patient insurance eligibility. The Electronic Bed Board (EBB) was integrated with Sunrise to allow for Provider Updates when the provider for a patient, or group of patients, changes.

CRMS:
"CRMS is a wonderful tool. Not only can we store our data in CRMS, but we can easily retrieve it to run reports for individuals, programs, and the Cancer Center. It consolidates much of the information necessary to running a protocol and puts it in one place. Regulatory, sponsor, financial, accrual, and patient information is available through CRMS. It can replace the spreadsheets that we kept for years to track our accruals…Because other systems like EPR and eIRB are connected to CRMS, we can import existing data directly saving valuable time. We are delighted with this easy-to-use system."
-Janet Heussner, MA, Assistant Director, Oncology Clinical Research

Clinical Research Management System (CRMS)

The use of this system continued to expand this year; currently more than 4,283 studies with 53,900 enrolled study participants are included. Data from CRMS are interfaced with EPR2020. Each Study Team has a specialized view of their study cohort, and users can export data from EPR 2020 to Excel for additional analysis. Newly added capabilities include electronic study and patient calendars and electronic case report forms, facilitating efficient study operations and secure data handling.

JShare

Jshare is a web-based utility that provides students, faculty, and staff with a personal, easy-to-use interface to upload, download, and share files to/with users inside and outside of the Institution. All new and existing JShare accounts are now provisioned with 5GB of storage space. This increased capacity should meet most users' needs. For those users still needing additional storage, fee-based incremental storage upgrades of 50GB, 100GB, and 500GB are available.

Sharepoint

Sharepoint collaboration software underwent its first hardware refresh and application upgrade since 2007. The new version provides many new features, including the ability to upload PowerPoint themes as SharePoint site themes, Visio document viewer, enhanced browser support (IE 7/8, Firefox and Safari), cleaner and more open collaborative space, and enhanced integration with Microsoft Office 2010 and Microsoft Exchange Server.

Technology Store

The technology store located in Krieger Hall on the Homewood campus provides convenient access to discounted Apple and Dell products, accessories, and authorized warranty services for business and personal purchases by students, faculty, and staff of all Johns Hopkins institutions. The store is staffed entirely by student employees who have achieved Apple and Dell technical and sales certifications. Customers may purchase "recommended systems" from Apple and Dell with additional discounts not available from other sources. The first year's estimated sales were $160,000, but actual sales were close to $1.5M. Surplus revenue from the store's first year of operation funded start-up costs for other student computing initiatives such as a new virtual lab environment and renovation of the primary student computing lab at Homewood.

DID YOU KNOW?
One of the Technology Store's student employees, Bob Huang, won the JHU Student Employee of the Year Award, as well as a Regional (MD/DC/VA) Student Employee of the Year Award from the National Student Employment Association.

JOHNS HOPKINS MEDICINE AFFILIATES

All of the JHM affiliates continue working together on improvements related to patient- and family-centered care. Here are some highlights of their work over the past year.

All Childrens Hospital (ACH)

The institution continued to make substantial progress toward its goal of an all electronic patient medical record. Over the past year, ACH migrated to an integrated patient access (scheduling and registration) system, and implemented a centralized Patient Access and Service Center. Efforts continue toward complete server virtualization for the most critical non-vendor supported systems. Single sign-on was implemented in the main hospital and over 600 computers (including mobile wireless devices and PCs in patient rooms and nursing units) and 700 employees have been enrolled in the system.

Howard County General Hospital (HCGH)

A top priority at HCGH has been to encourage independent physicians to use the computer systems to enter the majority of their orders. Through the efforts of the Clinical Informatics department, Provider Order Management Advisory Committee, and numerous staff, physicians are now entering over 80% of their orders electronically. The success of this effort has increased patient safety, enhanced interdepartmental communications and positively impacted the efficiency of ancillary services. Enhancements were made to the network and the Citrix server farm was refreshed. Major work was provided to support the completion of the Campus Development Plan (CDP) this year including fiber connectivity, departmental moves and wireless infrastructure enhancements. Network security was enhanced to support new applications and work was done to provide further encryption for outgoing emails. Outside calls for patient information are now being answered by Telecommunications staff, allowing information desk staff to spend more time directly interacting with the public and thereby increasing satisfaction.

eNICQ Database at Bayview:

"Thank you for coming by my office and working through the problems encountered when the eNICQ database version came online. We participate in an international NICU database for infants born too small. Every year our Bayview NICU takes care of about 80 babies who weigh between 14 oz. and 3.3 lbs when they're born. eNICQ collects data from over 10,000 of these tiny persons throughout the US and around the world. Yearly the data are analyzed. These babies still have a very difficult early life – many spend their first 6 months in intensive care. The knowledge we have gained helps not only to improve the survival of these fragile babies but also improves their ability to function in this world. You played a part in getting our data out to be analyzed."

-***Catherine H. Jones MD, PhD***
Johns Hopkins Children's Center & Johns Hopkins Bayview Medical Center

Johns Hopkins Bayview

The GE Centricity electronic medical record (EMR) was implemented at the Hopkins Bayview General Internal Medicine clinic, giving clinicians access to an EMR that helps them provide more efficient and effective care of their patients. In FY11, the desktop team closed 96% of help desk calls within 8 hours, exceeding their service level standard for the third year in a row. They also reduced the number of help desk tickets by 17%. The team upgraded Meditech to a version certified for Meaningful Use, Stage 1. As of June 30, 2011, all inpatient H&Ps, consults, progress notes, and procedure notes are now in Meditech.

Johns Hopkins Community Physicians (JHCP)

A patient portal was rolled out to all JHCP sites, with additional functionality to transmit lab letters to the portal, in preparation for meeting Meaningful Use requirements. Electronic medical record (EMR) upgrades (version 9.5) were completed, including upgrades to Citrix, operating system, and all levels of application for EMR and all interfacing 3rd party products. Medical records can now export EMR upon patient request. National Capital Region site openings and EMR implementations included North Bethesda, Sibley, Downtown Bethesda, and the Surgery Outpatient medical center. EMR was also implemented at the JHCP Bayview General Internal Medicine clinic. The New User access request process was streamlined through on line forms using SharePoint, and a new Sharepoint-based Intranet site for JHCP was implemented.

Johns Hopkins HealthCare (JHHC)

JHHC supports 740 employees and three major health plans including JHM EHP (54,000 members), Priority Partners Medicaid (208,000 members), and US Family Health Plan (34,000 members). A population management database was developed and implemented that facilitated data collection and workflow for our case managers and won praise from National Committee for Quality Assurance (NCQA) auditors. The Decision Support area produced reports outlining emergency room use and hospital readmission rates that have been used collaboratively with JHM to reduce cost and improve the quality of patient services. JHHC remains at the forefront of plans for the new Federal regulations requiring the implementation of the ICD10 code set by October 1, 2013. An assessment of remediation efforts required both for IT and the business was completed. IT is at least 80% complete in its implementation of the 5010 standard, currently working with its trading partners in the final phase of testing the new electronic data interchange (EDI) standards. Additionally, through year-round collaboration with IT@CPA and portal vendor, HealthTrio, JHHC maintains its accredited security status by once again achieving an Authority to Operate its USFHP (US Family Health Plan) contract in support of retired military and active duty families.

Johns Hopkins Home Care

The Johns Hopkins Home Care team migrated all applications to a virtual server environment, rolled out virtual desktop to over 50 users, adopted the single sign on for all users, and upgraded the Durable Medical and Home Health Services application. Additionally, Wound Advisor was deployed. This point of care application is used by clinical staff to document patient wounds for management. Cardiocom, a health tele-monitoring application used to remotely monitor the health status of at-home patients, was also implemented.

Sibley Memorial Hospital

The implementation of the Ironport encryption and data loss prevention tool allows the institution to encrypt all messages containing sensitive information. A new telephone system was installed as well as a unified communication system that integrates with our telemetry system. Virtualization efforts continue as well. The team is working to support the IT needs for a new oncology center under construction, and a new hospital and Emergency Room in the planning stages. The Bar Coding Medication Administration project is also underway, which will automate the medication refilling process and use bar code scanning technology to help catch and resolve errors early. A new system(Provation Order Sets) was launched to provide an evidence-based foundation for the development of order sets. This system will allow for an easier transition to CPOE in the future.

Suburban Hospital

McKesson was successfully implemented for a comprehensive electronic health record (EHR) and an automated medication management system. This work represented the culmination of 20 months of concerted effort and over 60,000 hours of work by Suburban staff. When the core clinical systems deployed, 880 staff members had been trained (98% of targeted staff). The following modules were included in the core clinical systems deployment: laboratory, blood bank, anatomic pathology, radiology, pharmacy, Bar Code Medication Administration, interdisciplinary documentation, order entry, and the Emergency Department. The physician portal was upgraded to pull data from all of the new clinical systems. The Suburban Hospital Information Portal (SHIP), based on Microsoft SharePoint, continued to expand, with over 412 distinct sites and applications in production.

PLANS FOR FY12

Innovation

We look forward to the opening of the NCB and the initial "Ambulatory First" Epic deployment. Our efforts continue toward electronically enhanced education. We foster an environment of discovery and originality. Our innovation will be seen in other areas, too, including the following:

Enterprise Architecture

Johns Hopkins continues to grow and to increase the integration of its processes and organizations. These changes will be reflected in the development of a comprehensive Enterprise Architecture, which will be actively used in planning and managing the future. Architecture development is an iterative process which uses business strategy to drive the evolution of the enterprise's technology and information infrastructures with the primary goal of leveraging enterprise information assets to achieve competitive advantage, process agility, and quality improvement.. This activity will begin with education and high level modeling of the three major component of an Enterprise Architecture: Business Architecture, Information Architecture, and Technology Architecture.

HPC

Our "standards-based "network core is 10 Gig, and we are implementing a second 10G "overlay" network for research. Plans are underway for a 100 Gig connection funded by NSF for research. 100G speed involves transmitting TWICE the information contained in all of the books in the average library in one second!

CareFusion

CareFusion's transfusion verification system will be implemented following the NCB opening. The system will allow users to scan patient ID, blood unit ID, and blood product code with a handheld device. The system prompts and documents transfusion information at the point of care.

Coordination, Collaboration, and Consolidation of Services

We constantly strive to streamline our processes and services in order to better serve our users. The goal of "One University" is in our sights. Integrating SAP across the Community Division and developing service and solution centers will help in that regard. Other ways we hope to improve our services include:

Enhancing Patient/Provider Communications

As our reliance on electronic communications (email, text) and social networking platforms grows,we must be ready to provide the framework to support these technologies for our user communities. Secure, encrypted email is requisite not only for providers communicating with patients, but for communicating about patients with other specialists/consulting physicians. Patient and enhanced physician portals continue to be developed and refined. Policies and procedures are being implemented to guide communications made through social networking platforms.

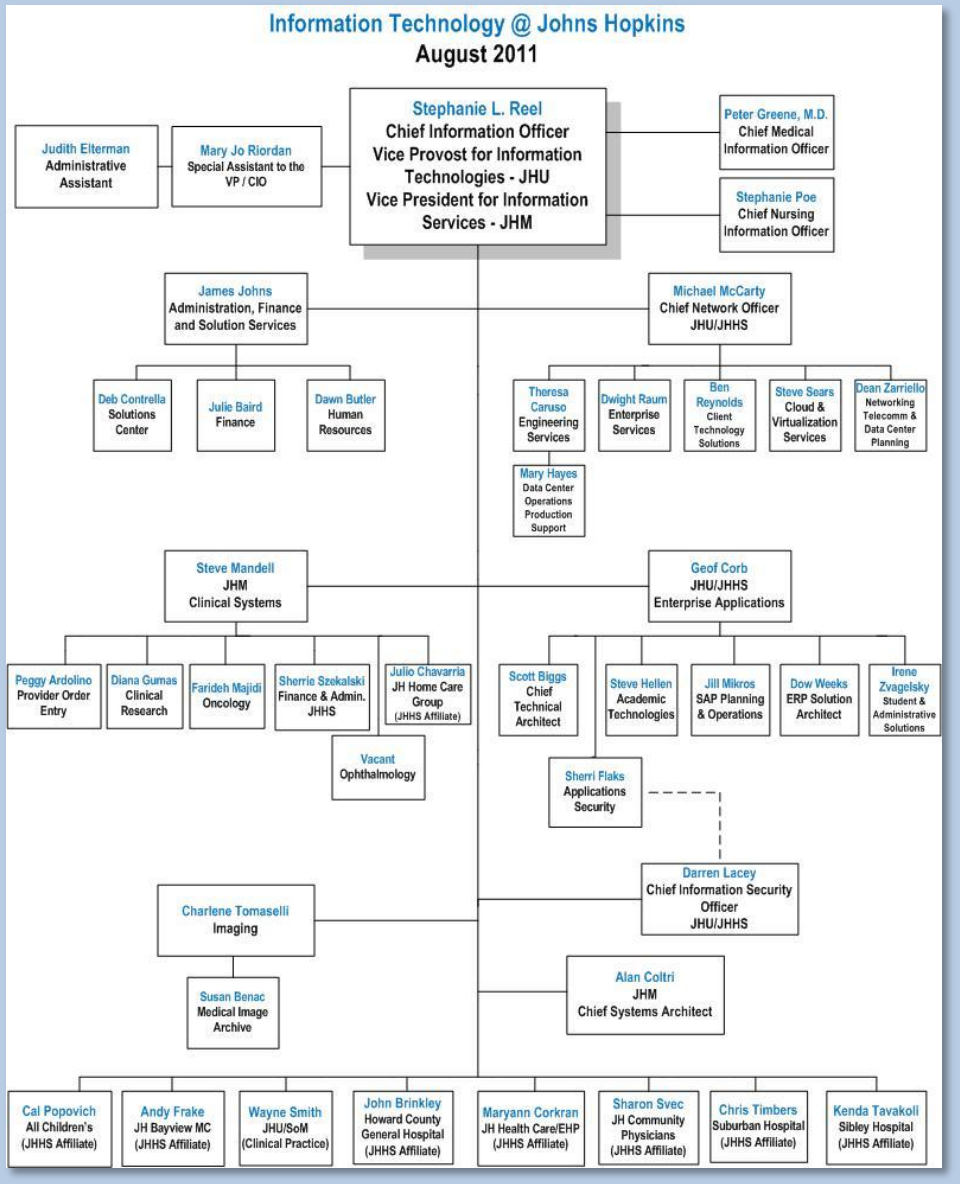
Armstrong Institute for Patient Safety and Quality

The Armstrong Institute will oversee all of the current patient safety and quality efforts throughout Johns Hopkins Medicine. IT@JH will work to develop the systems and tools needed for clinical analytics efforts. These analytics are necessary to rigorously apply scientific principles to the study of safety for the benefit of all patients.

Diversity and Respect

The results of this year's Employee Engagement survey will once again be used to further ensure our community remains cohesive yet respectful of our differences. Our employees are our biggest asset.

IT@JH ORGANIZATION CHART



IT@JH BY THE NUMBERS

1,100,000,000,000,000 bytes data managed 1.1 PB
16,000,000,000 DNS lookups per month
400,000,000 lab results in EPR 2020
189,000,000 SAP transactions
107,627,664 messages processed by the interface engine in May 2011
57,000,000 page views in the ISIS self-service application
46,353,970 total number of orders entered in Sunrise (since June 2004)
36,400,694 documents in the Electronic Document Management System
32,000,000 patient visits in EPR2020
29,554,440 page views of myJH
21,000,000 million web hits per month
13,710,107 times EPR has been used to view a list of patient documents
8,500,000 Radiology reports in EPR 2020
8,443,785 visits to myJH
4,737,376 patients in the JHHS Master Patient Database
4,052,724 patient documents edited in EPR
2,500,000 enrollment records in ISIS
1,800,000 person records in ISIS
900,553 calls to the JHH/JHU operators
475,000 immunizations recorded in EPR2020
428,885 page views PING (June 1, 2011 – Present)
420,000 students in ISIS
173,216 calls to the help desk
155,061 secure electronic file transfers using MoveIT SFTP application
104,890 PING visits (June 1-9, 2011)
77,306 JHH average daily patient bills
72,581 Application Security Access transactions (adds, delete, changes)
67,700 degree award records in the student data warehouse
56,758 undergraduate enrollments for the Spring 2011 Term
55,849 research participants in the Clinical Research Management System
55,560 applicants in ISIS
55,398 patients using self-service registration at a kiosk this fiscal year
48,375 average unique visitors per month to myJH
47,000 concurrent active DHCP IP addresses assigned daily
41,709 specimen collections using CareFusion in its first month of use
38,500 JShare user licenses
36,260 password resets and assists
27,500 average unique Sharepoint users per month
23,402 Authorization Groups in the Enterprise AD environment
22,580 square feet of data center floor space
15,966 student enrollments during the first 5 minutes of Spring 2011 enrollment period
15,249 student, staff, and faculty records in iHopkins system
10,060 student enrollments during the first 60 seconds of the Spring 2011 enrollment period
10,000 SharePoint Web Sites
5,249 videoconference calls for a total of 3,516 hours
5,243 patients registered in the Emergency Department in May 2011
4,288 webcast presentations served to 130,016 viewers
1,524 Windows virtual servers
1,000 unique web sites hosted in our free hosting environment
580 physical servers
400+ sites currently protected by SiteMinder
239 interfaces in the interface engine
95 reports scheduled through Meditech's report scheduler at Bayview
35 telephone switches managed as part of enterprise telephony system
3 A/R days reduced by Clinical Practice Association
1 Solutions Center providing technical and phone support to JH institutions