



**BHS  
System**

**Information Services, Information Technology &  
Integrated Data Analytics**

# QUARTERLY BUSINESS REPORT

Q2 2022

# BHSH System

## A Message from the Chief Digital and Information Officer

The BHSH System information services (IS), information technology (IT) and integrated data analytics (IDA) teams are successfully integrating and combining services, as well as identifying, and harvesting synergies across the system. A key focus is the multi-year Enterprise Technology Plan that will leverage modern, integrated digital and information technology capabilities as an enabling foundation for the strategy. A large driver over the next few years is the technology integration activities required by the organizational integration of Beaumont Health and Spectrum Health. This also includes unified business platforms and clinical and revenue cycle platforms – a very big step in maximizing our operational capabilities as one system.

I am excited by what is to come, and what our teams will accomplish. Even this early in the integration, I am proud to share tangible examples of how our teams are driving our vision forward collectively.

Also in this issue:

- Our strategic imperative and guiding principles
- Integration process
- Dashboard tracks

My hope is that you find this information valuable as we move towards a digitally enabled future.



**Jason Joseph**

Chief Digital and Information Officer

# People First:

People are the heart of everything we do.

## Strategic Imperative and Guiding Principles

Our new strategic imperative and guiding principles are an extremely important piece of coming together as one organization, team, and department. The faster pace of business in an increasingly-digital world has led to an emphasis on agility and responsiveness, which in turn is driving an increased focus on integration. Our imperative, "Integrate to Transform," views integration as the technical underpinning of innovation and the path to converting digital insights into real-world business action. To improve business outcomes, we must adhere to the following guiding principles:



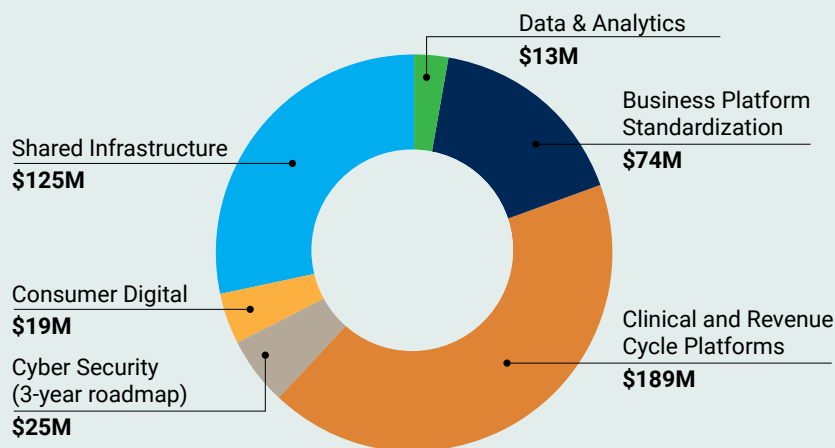
# Technology and Strategy:

IS function in alignment with BSHS system strategy. Enterprise technology strategy and architecture supporting all BSHS divisions.

## BSHS Integration Process

Our IS and IT teams have had a productive quarter, in preparation for the overall BSHS System integration initiative. Recent accomplishments include the creation of detailed project charters, initiation of early program initiatives, and completion of additional quick wins. BSHS System is committed to achieving synergies through the alignment of applications, tools and processes that will drive efficiency and enhance the experience for our patients, health plan members, communities, and teams. To that end, the BSHS System board has approved the overall IS/IT integration approach, which encompasses numerous projects totaling \$445M, over the course of three years.

## Investment



Following the creation of extensive business cases and detailed financials, we are also excited to share that two IS/IT workstreams have received endorsement from the finance committee and approval from the Board of Directors to advance. These approved workstreams will drive efficiency and simplicity for our teams and help achieve the goal of enabling foundation:

- Unified Business Platforms, which encompasses a common enterprise resource planning platform (Workday), digital collaboration tools (Microsoft 365), and core corporate workflow and automation systems.
- Unified Clinical and Revenue Cycle Platforms, which focuses on a single, standardized instance of Epic and third-party systems, across all care delivery divisions.

Both workstreams have been initiated. The unified business platform team has had great successes with their project leadership kickoff, which included the launch of the program governance and associated project milestones and timelines. ERP functional design sessions are well underway for all areas with a target for design signoff in September.

## Technology and Strategy continued

The clinical and revenue cycle integration team has been focused on establishing its governance and program structures. The structures will provide a mechanism for effective and efficient decision-making and collaboration. Program leadership has been diligently working on a resource plan that identifies all the required project roles and associated team member assignments.

One early win associated with the integration program was the implementation of Cloud Video Interop (CVI) for Microsoft Teams to help optimize the onsite meeting collaboration between Beaumont Health and Spectrum Health. CVI is a Microsoft third-party solution that enables traditional teleconference equipment to join Microsoft Teams meetings.

Prior to the CVI implementation, Beaumont Health team members were unable to join Microsoft Teams meetings using their Cisco video conferencing room technology, when the meeting was scheduled by a Spectrum Health team member.

By implementing this new technology, our team now has enhanced the cross-divisional meeting experience for the BSHS system, which allows us to interact together for meaningful collaboration, while fully utilizing our conference room technology.



# Care Delivery Applications:

Applications and platforms supporting the care delivery divisions of BSHS. Responsible for the delivery of applications and digital capabilities to align with divisional and organizational strategies.

## Livonia Outpatient Campus Opens

Beaumont Health opened its newest outpatient campus in Livonia on June 1. This campus provides patients in Southeast Michigan with access to Beaumont Health services including imaging, cardiology, laboratory, infusion center, rehab therapy, retail pharmacy, and physician practices, both employed and independent, along with a free-standing emergency center. In addition to the current services being offered, an ambulatory surgical center is planned to go live on-site in the future.



## Beaumont Sterile Processing Microsystem Deployment and Epic Integration

The sterile processing microsystem (SPM) project successfully upgraded the Royal Oak, Troy, Gross Pointe, Farmington Hills and Dearborn campuses to the latest SPM version, and old SPM instances were retired. SPM uses barcode technology to track the location and movement of instrument sets from prep/pack to sterilization to dispatch to surgery. SPM also provides proactive sterilization quality assurance, instrument usage analysis, and staff productivity measures to enable performance improvement. All five sites also received a bi-directional EPIC interface that facilitates improved instrument tracking and usage, elimination of instrument printout sheets and allows for scheduled cases and instrument needs to auto-populate into the SPM system. This upgrade provides full visibility of instruments across the enterprise, consolidates performance data pulled from one source, and decreased sterile processing team member time by three hours per day/ per site, among other benefits.

“This has helped with throughput and team satisfaction in all areas of CPD as well as case cart and data accuracy. The case cart team now has direct access to the instrument needs versus pulling a report for each case. The instrument needs now pre-populate when the barcode is scanned from the sheet. From a workflow standpoint, this has drastically improved the case-picking process.”

**Debra A. Guido-Allen, Chief Operating Officer**

“When I’m building the case cart in SPM, there’s a barcode that I scan and that automatically puts the information into the system, it really saves me time.”

**Anonymous team member**

### Digital Wallet Integration for myBeaumont Chart

Two new payment methods are available for patients to pay their health care bills online in myBeaumont Chart, using Apple Pay and Google Pay on their devices. This integration gives patients a convenient payment experience and offers an opportunity to pay their balance in seconds instead of waiting to receive a statement in the mail. These new payment methods were added to the existing credit/debit card and bank account options patients have today.



### Using Epic for Earlier Diagnosis and Faster Treatment

The Epic lung cancer screening module went live on June 14. This module helps identify patients who are eligible for lung cancer screening, allowing for early detection of lung cancers or nodules. It also provides tools to monitor and care for patients, that we can use to identify patients who are eligible for lung cancer screening based on the result of the screening exam, discretely document an assessment, send result letters, track needed follow-ups, automatically close recommendations when they're resolved, document pathology results, and use this information to generate quality statistics for submission to the American College of Radiology's lung cancer screening registry.



### Lakeshore Advanced Primary Care Expansion – Holland and Muskegon

Lakeshore Advanced Primary Care (APC) offers a solution to two key problems for seniors: competitive differentiation to drive growth among patients aged 65+ and effective management of this population to drive risk contract performance. Patients who do not receive needed intensive primary and preventive care often seek avoidable or unnecessary acute care services. They also struggle to find high quality and low-cost care options, and to develop consistent habits that drive chronic disease mitigation and/or cannot access consistent support from a primary care team who can dedicate the time needed. These two clinics will support this critical need.



### Optimizing Allergen Immunotherapy

Adult and pediatric allergy offices implemented the Allergy Rosch software and equipment that interfaces with Epic. This solution manages and mixes serum, increasing patient safety and decreasing accidental harm. The device scans vials and then documents dosage and date given in Epic.

# Enterprise Applications & Automation:

Applications and platforms supporting the corporate and enterprise services of BSH. Responsible for supporting the Enterprise Resource Planning suite and leading the Enterprise Automation Program.

## New Hire Account Creation at the Speed of Business

Through recurring cross-functional collaboration, a process change was implemented that provisions network accounts within hours for Spectrum Health new hires. In what used to take days or weeks, the updated process now provides all data required at offer letter acceptance to then allow for automated network account creation. This then enables follow-on system access activities to occur.

In one example, an information service manager's new hire had an account created just over two hours after offer acceptance in Workday!

## OnBase Upgrade to EP5 Release

The Hyland OnBase application was recently upgraded to the EP5 release, which is the most current version of the OnBase software. The EP5 upgrade allows the enterprise content management team to complete two future projects in the Epic WebBlob passthrough and Epic Hyperdrive implementations. The WebBlob passthrough is essential for the consistency of document storage throughout our Epic platform. The OnBase Hyperdrive updates are required to maintain our integrations with Epic, as we move into the Q4 Epic Hyperdrive upgrade.



Enterprise automation continues to be a key focus and the following two implementations support our advances in automation.

## Spend Analytics Launched

In a partnership between sourcing and the enterprise business systems team, Suplari Spend Analytics was launched. "Suplari provides sourcing with the ability to identify cost reduction opportunities, drive spend compliance, strategically manage the supply base, and allows for the tracking of supplier diversity spend and metrics," said Andrea Pouloupoulos, senior director of procurement. Used by direct, indirect and IS Spectrum Health sourcing teams, the Priority Health sourcing team and business stakeholders across the system, users will have access to a single data source with automated insights, predictive analytics, and an intuitive spend taxonomy, providing a more effective way to manage costs and cash flow. Over \$3M in savings is expected within the next five years using the tool.



## Legal Invoicing and Matter Management Automation

Automation of legal matter management and invoice capabilities using the Legal Tracker application, went live in early July 2022. Prior to implementation the legal team relied on several tedious manual processes to conduct invoicing, legal budgeting, and matter management and now have a consolidated way to view and track all system legal matters. Legal Tracker's invoice auditing functionality furthers our automation goals through enforcement of billing guidelines and automatic identification of invoice inconsistencies with agreed upon terms. Integrated with Workday, the electronic billing and payment function optimizes the payment process, ensuring expenses are recognized in the correct year. Additionally, Legal Tracker offers real-time reporting on the total dollar amount of disputed invoices.





# Health Plan Applications:

Priority Health continues to be the fastest growing health plan in Michigan. We're a nationally recognized nonpro it health benefits company focused on improving the health and lives of over one million members across Michigan.

## Priority Health Completes Facets Upgrade

In May the Priority Health team successfully upgraded Facets from v5.7 to v5.9. This is a jump of two major releases and now puts us in line with the Cognizant Facets release schedule to avoid extended support fees, while also delivering business functionality that was not previously available. The upgrade team worked tirelessly on the upgrade plan and execution to limit downtime to Saturday and Sunday, eliminating a full business day that was historically necessary and also included two additional environments, Config and Gold, as part of the production upgrade.



## Priority Health Releases Salesforce Live Agent

For the first time, Priority Health has a live agent chat for our telesales teams across Medicare and Individual lines of business, to enable real-time conversations for prospective members, as they consider enrolling with Priority Health for January 1, 2022, and beyond. Sales Live Chat was implemented just in time for 2022/2023 annual enrollment period (AEP and open enrollment period (OEP. Prospective members are routed to the relevant sales representatives, based on the shopping page they were viewing and the plan they selected. To meet Priority Health security standards, we implemented Google reCAPTCHA, which helps to avoid any bot-based or malware-based chat requests.

The screenshot displays three Medicare plans side-by-side, each with a table of costs and a live chat window overlaid on the right.

Plan	Monthly Premium	Key Feature	In-network deductible	Annual Out-of-pocket max	Primary care physician (PCP) visit	Specialist visit	Part D prescription drug deductible (Tiers 1-5)	Inpatient hospital visit per day
PriorityMedicare Key	\$0	Most popular	\$0	\$5,000	\$0	\$45	\$0	\$325 (days 1-6)
PriorityMedicare Vital	\$0	\$30 monthly Part B credit	\$0	\$4,700	\$0	20% Coinsurance	\$0	\$435 (days 1-4)
PriorityMedicare Edge	\$0	Best Selling Plan	\$0	\$5	\$0	\$4	\$0	\$3 (days 1-5)

The live chat window is titled "PriorityHealth" and contains a form with fields for First Name, Last Name, Email, and Phone. It also includes a reCAPTCHA "I'm not a robot" checkbox and a "Start Chatting" button.

## Priority Health Transparency in Coverage Compliance

Priority Health successfully completed the first stage of compliance for the Centers for Medicare & Medicaid Services (CMS) Transparency in Coverage rule. This initial stage required health plans to publish machine-readable files (MRFs) containing rates for all covered items and services in network and allowed amounts for out-of-network services. The production of the MRFs required a complex, scalable solution that could efficiently evaluate over 700 million unique plan/provider/procedure combinations to assemble the required files.

# Divisional Updates:

## Spectrum Health Lakeland

### Rover Implemented for Nursing, Environmental Services and Patient Transport

Over the past year, our patient flow team has been overseeing a pilot of Epic Rover for nursing, environmental services (EVS), and transport teams. Currently, Epic workflows must be completed using a computer. Epic Rover is a mobile app that allows clinicians to record documentation and conduct barcode validation at the point of care. One of the key benefits of this new technology is the ability to utilize a mobile platform that supports numerous Epic workflows. The two project teams worked with clinical and operational staff to build the nursing, EVS mobile and transport mobile modules. The nursing pilot began in December 2021 with a plan to fully implement across Niles and St. Joseph medical/surgical units, as well as ICU/CCU. In addition, a pilot started in St. Joseph for both EVS and transport in May 2022. The Rover application will be installed on iPhones utilized by nursing, environmental services and patient transport teams. The ability to perform these tasks using a mobile device will be a major efficiency improvement.

## Beaumont Health

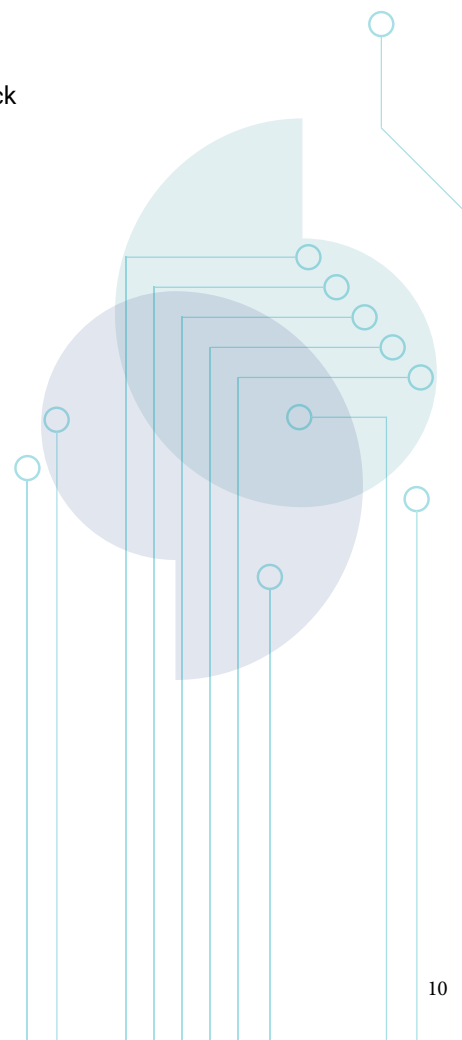
### Precision Health Program Live

Beaumont's Precision Health Program (in partnership with Harvard Medical and Brigham and Women's Hospital) officially went live with a soft launch in a four-provider practice on June 20. Out of an initial 30 patients invited to participate, 11 patients completed the consent process, seven specimens were returned to the lab, and the first result came back on June 30. What's surprising, the very first result came back positive with the patient identified to be a carrier of alpha-1 antitrypsin deficiency. Despite no symptoms present, the team has been able to identify this early and will be able to explore family studies to see who else is carrying this variant and provide the appropriate genetic counseling and care. Getting the pilot launched required close IT collaboration and quick delivery of lab integration, Epic workflow changes, MyChart enhancements, custom web development, and physician services support.

### Communication Tools and Improvements

New communication tools and improvements were designed and deployed to allow for more effective and user-friendly touchpoints, both within IT, as well as to our business partners. Examples include:

- User interface enhancements to the IT bulletin template allows the reader to quickly understand which bulletins are critical vs. informative.
- Development of a project ideation request form to be utilized by business and operations for pre-project submission.
- Embedding links to the Beaumont help desk within IT communications.
- Rollout of "7 Items or Less" bi-weekly mini updates for Beaumont IT team members.



# Information Security:

Ensuring the confidentiality, integrity and availability of BSHH systems and data by reducing the probability of a material impact to the organization as a result of a cyber event, maintaining compliance with legal and regulatory obligations and meeting the needs, expectations and contractual commitments of our patients, members and community partners.

## Remote Access Security Improvements

Improvements to our remote access security were achieved through the implementation of multi-factor authentication for many applications in the BSHH Beaumont division. Our incident response teams collaborated to share best practices for rapid response to threats we see everyday. They also shared threat intelligence to help our collective team have the best possible visibility to the current threats we are facing as a combined organization.

## Payment Card Industry Compliance

Significant effort is underway to improve our Payment Card Industry (PCI) compliance in the BSHH Beaumont division. This is very important to our overall technology integration plan.

## Integration Projects Launched

We have also launched foundational integration projects related to identity and our Security Operations Center/Security Logging integration. These efforts are part of the broader enterprise technology plan and are key dependencies early in the timeline for other important integration activities, including Office365, Workday, and ServiceNow.

## 2022 Phishing Stats

**Q1:** 40.75% click rate

**Q2:** 4.27% click rate

Q1 data represents SH legacy and is for January and February only. No educational phishing was completed in March due to the new tool configuration.

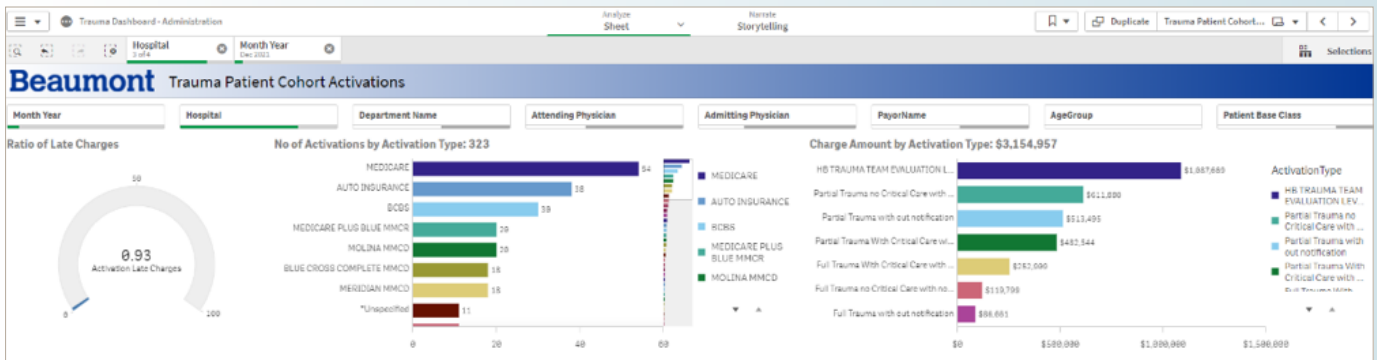
Q2 data represents BSHH combined. At this time, the level of difficulty in the educational phishing emails varies between divisions which shows up in the large decrease in the click rate. For the quarter 3 period, they will be more closely aligned.





## Trauma Dashboard Tracks Beaumont Admissions, Claims Outcomes

The Beaumont Health IT Enterprise Information Management team created a Qlik Sense trauma dashboard allowing clinical care partners to explore more than 8,000 trauma activations. The key metrics include activation type, trauma admissions, and patient demographics. Clinical care partners at all eight hospitals can track charges, including late charges, lag days, and denials. The dashboard drills into denied charges so care teams can monitor the number of denials, the type of denials, and denial areas, such as coding or registration. The trauma team retrospectively reviews the charges and denials looking for opportunities to share with other teams to increase efficiency and revenue.



# Cloud Operations & Service Management:

Delivery of IS cloud service management used to enable business capabilities and services across the BSHH enterprise.

## Solutions for Sideways Work

The SQL and Oracle database administration teams identified the sources of work coming in outside the SAFe process and collaborated with the trains to eradicate sideways work. The SQL team worked with core infrastructure and applications and enterprise identity management, while the Oracle team worked with the enterprise application management team. By embedding themselves into these trains, the database administrators were able to prioritize work effectively and cut out countless hours of meetings, and free up time for product managers and scrum masters. The customers, the core infrastructure and applications team, enterprise identity management team and enterprise application management teams, are thrilled with this creative and collaborative solution.



## Relief for an Over-Full System

COVID-related vendor delays had the Isilon storage array in less-than-optimal shape. It was about 90% full so the enterprise storage team had to continually shift, adjust, and move storage space. After six months of delays, the new storage array was installed in March 2022. The new array has 30% more space to allow for future growth, flash drives for massively increased performance, and better control software for managing audit logs, searching snapshots, and general management. After overcoming the difficulties with hardware and migration issues, we now have four access zones moved and the last two are scheduled for August.



## Success Despite Staffing Challenges

The enterprise storage team has been working hard to continue delivering high-quality work to which the organization has grown accustomed, despite staffing challenges. Several months ago, the team gracefully took the news of two of their colleagues moving into different roles. They were proud of their team members' accomplishments and happy for their success. The three remaining engineers powered through the next nine (9) months; "keeping the lights on" while the search for a new team member has been underway. A fourth engineer has recently been hired, and once trained, will provide some much-needed relief to the hard-working storage team.



## Beaumont Tech Debt Remediation

Dearborn ported 6,232 telephone numbers, which moves most call traffic from the public switched telephone network to our corporate solution and will allow us to disconnect legacy circuits. We also eliminated approximately 2,500 pagers from our monthly billing cycle in the first half of 2022, and removed a 30-year-old Nortel System and secondary telecom equipment, which was hindering the completion of Farmington Hills' corporate telephone refresh that started three years ago and is now complete.