And it was a year, as always, where we continued to streamline our strategic directives, tighten our protection efforts, and reinforce our culture through new advanced training opportunities and collaboration strategies. All of these accomplishments and many others are detailed in the pages that follow.

But it was also a year when, at times, our technology wasn’t there for those who needed it when they needed it. This revealed, as never before, how vitally our company depends on our information, technology, and services to take care of our physicians and patients. It forced us to recommit to high availability and to make it an organizational imperative for next year and every year after. It reminded us of the need to go back to basics.

In 2016, through our trials and triumphs, we again recognized that above all else we must be singularly committed to the care and improvement of human life. It is our organization’s privilege to develop and support solutions and technologies that serve employees, patients, and caregivers in more than 160 hospitals with the capacity to care for over 43,000 people every day. What an honor and a privilege to be trusted with work that touches so many. I’m pleased with outcomes from 2016, and I know we’re ready to make the most of 2017—which will see even greater focus and expanded effort in high availability, nursing workflow, care coordination, data quality and governance, and other critical areas of impact.

Marty Paslick
Senior Vice President, CIO, HCA
President, HCA IT&S

Message to the Stakeholders

In many ways in 2016, we went back to basics. We streamlined our project portfolio, placing more focus on the needs that mattered most to our customers and business partners. Instead of churning out an overload of new technologies, we tightened the basic building blocks—fine-tuning our infrastructure and system performance, while also helping drive adoption. We listened carefully to our stakeholders, and even some outside consulting, to find the best ways to make our current technologies rock-solid and fully operational.

Of course, even in the midst of this time of scaling back and sharpening focus, we were still able to bring to fruition a number of long-gestating achievements.

It was, for instance, a year of great progress with mobility. Among other strides, we deployed Orbit, IT&S’s first ever internally developed enterprise iOS application. This mobile rounding app saves nursing valuable time and allows patients a stronger voice and better experience.

With our acquisition of Mobile Heartbeat and continued work with PatientKeeper, we matured partnerships that will further transform our physician and patient experience through the use of mobility. Bringing a broad and diversified set of capabilities to the phone or tablet establishes a new direction and more efficient workflow.

We saw exciting new developments in our data and analytics space. Using the powerful potential of Knowledge Based Planning and Natural Language Processing, we were able to accelerate and advance the care of our cancer patients.

And it was a year, as always, where we continued to streamline our strategic directives, tighten our protection efforts, and reinforce our culture through new advanced training opportunities and collaboration strategies. All of these accomplishments and many others are detailed in the pages that follow.

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2016 Portfolio Allocations by Business Unit

**Hours**
- CSG
- Financial Systems
- HealthTrust
- Supply Chain
- HR & Patient Experience
- Information Protection
- IT&S
- OSG &SCRI
- Other
- Parallon
- BPG
- PSG

**Capital**

**Operating**

**Diversified Mix of Facilities and Services**

**Acute Care**
- Active Medical Staff: 35K
- Licensed Beds: 44K
- Hospitals: 169
- Physician Clinics: 830

**Ambulatory Services**
- Urgent Care Centers: 70
- GI Centers: 16
- Freestanding ERs: 56

**Access Centers**
- ASCs: 117
- URGENT CARE CENTERS: 70

**Projects in Portfolio**
- Approved Projects: 400
- Corporate: 2,403
- Field: 2,658
- Employees: 5,061

This information represents Discretionary Project data for all of Corporate IT&S (including Parallon BPG, PWS, and HealthTrust) as of December 31, 2016.
Strategy & Accomplishments

How we measure our year’s success is simple: what did we set out to do, and how well did we deliver? As seen from the pages that follow, our ambitions were high in 2016, but our achievements were even higher. With an eye toward improving the experience of our patients as well as the work of our physicians, nurses, and other caregivers, we made critical improvements on existing solutions (MyHealthOne, eCW, Epic) while also initiating and unleashing new technologies (EBCD, ePrescribe, Inpatient Rehab). Meanwhile, the immensity of our data and the sophistication of our analytics allowed us to explore exciting new applications of technology, especially in key initiatives for improving cancer diagnosis and care. Of course, our accomplishments are merely the expected results of our expert teams, our committed employees, and our Healthcare Inspired focus, which all starts with strategy.

Strategy

For the IT&S Strategy team, 2016 was a year of researching, communicating, and advising to build, uphold, and share this group’s growing strategic competency. They fulfilled their role as trusted advisors for key strategy-making bodies, such as the 2017 Strategic Planning Committee; Care, Performance, and Referral Management; and Strategic Innovation teams—as well as engaging with key influencers including Parallon, the Physician Services Group (PSG), and HCA’s Strategic Pricing and Analytics organization (SP&A).

IDENTIFYING AND SUPPORTING DIFFERENTIATORS

Much of the energy and expertise of the IT&S Strategy Team was directed at pursuing HCA’s differentiators and cost-saving opportunities to create new market space and demand for existing solutions. To that end, they worked to participate in various professional organizations, form relationships with key vendors, and study industry concepts and developments relevant to the articulation of strategic direction for solutions and lines of business serviced by IT&S.

CREATING MEANINGFUL ALLIANCES

The effort to support a thorough vision for the scope and scale that is HCA’s requires the IT&S Strategy Team to factor in the perspective of influential partners at a company level (Parallon, PSG, SP&A, etc.) in addition to expertise and awareness of those at the field IT level. That interaction comes in the form of topic based workgroups, monthly collaboration sessions, strategy design sessions and more with chief division leadership including Chief Medical Information Officers and division Chief Information Officers. This time together reveals consistent commitment at all levels to physician, nursing, and patient solutions and, therefore, Healthcare Inspired solutions that coordinate with workflow and address needs in a way that serves and engages and enables these important beneficiaries.
FOCUSED ON DELIVERY
Backed by a keen awareness of differentiators and opportunities and informed by influencers and experts who know the issues and possibilities best, the IT&S Strategy team is able to focus on delivery of guidance for the most significant and impactful solutions for HCA. Secure Patient Messaging, Performance Management, and Referral Management are among the initiatives most directly impacted by the strategy research, consulting, and vision articulated for 2016 and beyond.

PLANNING FOR TRANSFORMATIONS WITH BENEFICIARIES IN MIND
Great responsibility comes with determining the technology direction of an organization like HCA, specifically an obligation to the physicians, nurses, and patients depending on HCA for healthcare technology with the power to transform. This team is ever mindful of the ultimate beneficiaries and stays cognizant of the reasons and ways transformations can happen to result in a current day portfolio that feeds into a long term strategy that eventually changes everything in healthcare for the better.

2016 Industry Trends
Our strong portfolio and 2016 strategies were focused on new and existing capabilities related to these trends:

- **Improve Asset Utilization**
  Are we doing the most with what we have? Let’s focus on maximizing the usage of our existing enterprise platforms such as Health Information Exchange (HIE), MyHealthOne (MHO), PatientKeeper, and Clinical Data Management (CDM).

- **Continue Value-Based Care Initiatives**
  Whether it’s bundled payments, increased interest in ACOs, or continued demand for data exchange, our continuum of care is growing.

- **Leverage and Learn from Our Data**
  Data is power, and now, thanks to CDM, Natural Language Processing (NLP), and Data Science, it’s time to derive the insights we think can change healthcare.

- **Optimize Our Portfolio**
  With current financial and labor constraints, there’s no better time to focus on opportunities to integrate, consolidate, and prioritize our activities.
Integration between MyHealthOne and facility websites has been key to over 6,000 appointments being scheduled online in 2016, because patients who are actively looking for a physician online can also quickly and easily make an appointment. Integration work will continue to be significant in 2017 as MyHealthOne integrates with eClinicalWorks—making MyHealthOne the online portal for facilities and provider clinics.

The focus of 2016 revolved around enterprise implementation, and product adoption of MyHealthOne has been organic. Now that rollout is complete, 2017 will look to increase usage with marketing plans to help prospective HCA patients become more aware of all that MyHealthOne has to offer.

MyHealthOne
Providing a Portal for Patients

MyHealthOne, HCA’s online patient portal, is now widely available in all divisions and free-standing emergency rooms. Currently, over 122,000 patients and potential patients who have established an account are enjoying a single access point to the ecosphere of HCA’s products and services. This strategic investment in the digital experience of our patients has been a massive, three-year internal development effort that is providing patients a number of features to help them manage their own healthcare services from the convenience of their mobile device or computer. Patients can presently use MyHealthOne to:

- View, download, and transmit clinical information
- Pre-register for a visit
- Schedule an appointment
- Register for classes and events
- Pay their bill

Two Noel Williams Award of Excellence winners have emerged from the MyHealthOne team: Valerie Wilson (2016) and Tommy Ratton (2015).
Healthcare Unified Technology (HUT)

Standardizing the Online Experience

Healthcare Unified Technology (HUT) is the standardized platform that gives our consumers an integrated, scalable, and responsive online experience. Marketing directors and website administrators across the enterprise maintain an expansive catalog of approximately 1,200 websites through this flexible tool that supports entity branding, propagates syndicated content, displays time-sensitive information like ER wait times, and centralizes information about HCA services for patients.

Designed with HCA’s scale in mind, pre-built modular app-stacks are easily deployed and upgraded in real-time, creating unique, customizable websites that support a fully branded and consistent experience through all digital touchpoints that a user, consumer, or patient has across HCA.

Integrations with CareLink, MyHealthOne, and numerous other applications provide features that easily adapt to the online needs of multiple business units, including websites for hospitals, physician offices, ambulatory surgery centers, urgent care centers, and various corporate and service lines. Core HUT product features will be expanded in 2017 to include integration with additional systems such as campaign management, Sharecare, and the next phase of secure forms and entity branding.

ePrescribe

Improving Patient Safety

No longer will patients be handed a paper prescription when discharged from a facility. ePrescribe gives providers the ability to send prescriptions electronically to participating pharmacies—even controlled substances. Through integrations between DrFirst and MEDITECH, prescriptions can be checked in real time for insurance eligibility and formulary, saving patients time and trouble.

ePrescribe is expected to create a huge boost in patient satisfaction and will further protect their safety—when prescriptions are sent electronically with ePrescribe, structured messages are sent to the receiving pharmacies with exact Rx specifications. A dual authentication for controlled substances adds an extra layer of security currently not in place to help further ensure those medications are used appropriately.

ePrescribe also fulfills Meaningful Use requirements, but beyond Meaningful Use requirements, ePrescribing is a growing expectation of both the provider and patient community. Patients expect the seamless transmission of prescriptions both as an outpatient and an inpatient. It’s the right thing to do for regulatory compliance and for our patients and their families.
COST AND IMPACT EVALUATION. Among the assessment’s findings was this: High Availability decisions had long been determined when architecting solutions based on Application Impact Analysis documents, Non-Functional Requirements, and general Business Requirements, merely to determine an appropriate level of expenditure necessary to accommodate the business needs in the event of a serious failure. Now, with technology resident throughout the clinical care environment, impact on one system is no longer limited in scope, making even technologies that had once been considered an end system now core, forcing a focus on limiting the impact of outages—all outages—to establish an environment that can withstand failure where possible and that can limit the impact of failures in the event they are unavoidable. It’s clear that high availability impacting decisions can no longer be based on the same criteria that has sufficed previously.

High Availability remains a key initiative for 2017 and beyond. During the reviews, many strengths and opportunities were identified, all focused on ensuring the best possible outcome for patients, nurses, physicians, and staff. As the digital healthcare environment increases its reach, systems and processes must be engineered for resilience and availability. There is no better backup than a functioning, resilient system.

High Availability Made High Priority

IT&S had many shining moments in 2016, proving the value and potential of technology at HCA. But the year also saw times when our technology wasn’t there for those who needed it when they needed it. This revealed, as never before, how vitally our company depends on our information, technology, and services to take care of our clinicians and patients. It forced us to recommit to High Availability and to make it an organizational imperative for 2017 and every year after.

To conduct a thorough, unbiased study of our current philosophies, processes, tools, and standards, we enlisted the help of Deloitte. They delivered an assessment of our infrastructure and processes, gave us clarity around our current state, and showed how we should position our organization for the future. Over 30 people from 20 departments were interviewed during this exercise, which was an effort to understand risks and to minimize future disruptions.

AVAILABILITY DISCUSSED AND REPRIORITIZED. The report also helped define a focus on an organizational culture that holds availability as a continuous topic of discussion, making it an ever present priority and consideration. We have always held availability dear, but other priorities have competed. Circumstances in and out of our control have dictated decisions that worked at the time but created reasons for needing to pivot in a different direction now.

ITIL AS A GUIDE, NOT A RULE. ITIL is an approach to IT service management that is widely accepted by businesses worldwide. This assessment has led many to believe we should follow a form of ITIL codified specifically for considerations relevant to healthcare and HCA and our own delivery model. That is, we should use ITIL as a guiding principle, and not follow it to the letter. More thought is being given to the idea, and special coursework is planned for those who are most involved.

REVISIT RESILIENCY. It’s obvious we can’t buy two of everything in every environment. We must engineer and spend appropriately, so resiliency plans make sense and meet patient safety, information protection, and business needs. Resiliency will be a key model for any future implementations.

REVISIT SERVICE LEVELS. Service levels are defined and should be followed, evaluated, updated, and enforced. Our service levels and governance around them need to be revisited with High Availability focus in mind to ensure opportunities to promote High Availability are all addressed.

DOCUMENT CURRENT STRENGTHS. Another charge of Deloitte’s assessment was to identify strong infrastructure and availability-related processes in IT&S. Their findings spoke highly of knowledge, commitment, and camaraderie here in IT&S. The assessment was not a revelation of poor decisions. In fact, the assessment team reported strong approaches especially related to our configuration management database (CMDB) which is an essential component of managing availability.
A Healthcare Inspired Story
from Chris Milam, Senior Systems Engineer

His son was born in an HCA facility in 2015. “I was dazed from a lack of sleep, bewildered by this new life I was holding.” For Chris, it was one of the most powerful moments of his life, made even more special by the way his own work had supported it. “Everything in the facility operated flawlessly.” He was living the results of our Healthcare Inspired mission. “My wife received the medicine she needed, the room was stocked with the requisite equipment, and all health monitoring systems—our systems—were networked and functional. I have never been more thankful for the hard work of my peers in IT&S.”

Evidence Based Clinical Documentation (EBCD)
Streamlining Screens and Saving Time

Many of the technologies that improve the patient experience improve the nurse and physician experience as well. One that was a great success with nurses in 2016: Evidence Based Clinical Documentation (EBCD), which is simplifying how we document care by streamlining 1,200 MEDITECH screens and eliminating duplicate and unnecessary documentation. Nurses at Doctors Hospital of Augusta (Capital Division) have been piloting EBCD and are raving over the time it saves. Instead of spending 30 to 45 minutes per patient, a nurse can perform an assessment in 5 to 10 minutes. The ripple effect of this timesaving has already made a difference in patient satisfaction.

Going forward, nurses working at newly acquired facilities will perform charting and documentation using EBCD because these screens have already been incorporated into the new facility setup process. Demonstrating such success has other service lines interested in streamlining screens, and projections estimate EBCD screens could grow to more than 1,500.
Nurse Call

Enhancing Communication

Nurses, of course, need new innovations to increase efficiency, improve communication, and enable better mobility, and a foundational technology that will achieve all of this will be our nurse call system, which will enable integration with other technology on the facility unit and will further the vision of connected care. Equipment and devices once sufficed as a standalone solution; now they are all expected to be so much more. Because many current nurse call systems are nearing end of life and are greatly varied, making integration difficult, this is a critical area that offers great potential for a huge technology uplift.

Nurse call technology will play an integral role in the nursing strategy for years to come. Much planning and assessment occurred this year, and it has prepared us well to move ahead with a solid playbook for 2017. Funded with a three-and-a-half year implementation plan, nurse call requires software and hardware upgrades and will operate with a framework similar to projects like PACS and OneVoice.

eClinicalWorks (eCW)

Bringing Consistency to Physician Practices

The electronic medical record (EMR) used in HCA physician practices, eClinicalWorks (eCW) has been establishing a consistent platform and technology experience for providers for the past six years, and this year, implementations resulted in over 700 providers using eCW in their physician offices. These implementations are ongoing, and training on functionality is routine (on average, 625 providers are trained each year, and the rate isn't expected to decrease in 2017).

To proactively monitor and improve system performance, a performance dashboard was made available to all divisions in 2016. In 2017, an initiative will begin transitioning providers who are currently using non-standard EMRs to the eCW, adding 250 providers to the user base in the process. However, the long-term goal is to limit non-standard acquisitions and implementations, reducing this operational area of concern.
In an effort to address some perceptions that additional features are available in Epic that could be beneficial to clinicians, HCA is participating in Epic’s STARS program, which helps organizations evaluate their usage of the product. The program maps the features installed; categorizes them as core, optimized, or cutting edge features; and then assigns a score.

On core features, HCA scored well, and optimization efforts in that category will continue to ensure we are receiving maximum benefit from the product. Plans for 2017 include exploring and evaluating additional features that could fit into the HCA model and mapping out delivery of such features in order to leverage as much of the product as possible.

Epic
Optimizing Foundational Technology

Hours upon hours of work were devoted to EMR upgrades this year, but the Epic upgrade was specifically significant for two reasons: it was the first Epic upgrade for our organization, and we were upgrading two versions. The result, however, was a quiet upgrade.

Inpatient Rehab
Developing Internal Solutions

Built for less than $2 million (versus $10 million quoted by an external vendor for the cost of software), Inpatient Rehab is an example of another of our great products and unique solutions that was developed internally. Built on MEDITECH point-and-click technology, Inpatient Rehab standardizes rehab unit documentation screens and interfaces, simplifying and streamlining work for HCA Inpatient Rehab Facility physicians, nurses, and therapists. The solution also contains “smart” technology (sometimes referred to as MEDITECH skip logic), meaning the system only asks for information that pertains to the situation.

This year, we worked toward extremely aggressive timelines and implemented Inpatient Rehab in over 60 rehab inpatient facilities within an eight month period. 2017 will take a slower approach, moving forward with the next wave then re-evaluating the pace as well as rolling this functionality out for Epic. Anticipated system updates will include regulatory changes from CMS and enhancements to address business needs.
Urgent Care

Advancing Key Strategies

Urgent care continues to emerge as a significant component in the HCA growth strategy, providing care to patients across the care continuum through a broad healthcare delivery system, branded as CareNow, that includes 71 urgent care centers nationwide. In 2016, the Practice Velocity project began establishing a consistent technology foundation for CareNow centers with the implementation of VelociDoc, the electronic medical record (EMR) and practice management software designed specifically for the urgent care setting.

VelociDoc not only aids the transition from paper charts to an EMR but also offers a number of benefits inherent to installing an EMR: drug-to-drug interactions, allergy cross references, and ease of access (charts can be shared among urgent care practices in VelociDoc and to all other facilities through the longitudinal patient record). VelociDoc has been implemented at urgent care centers in Dallas, Las Vegas, Kansas City, and Nashville. In addition to the EMR rollout, all urgent care websites have been fully integrated into the Healthcare Unified Technology (HUT) platform, enabling a strong digital presence. To date over 1,500 incidents have been reported since late July, and 88 percent of those surveyed about the new support model rated their experience as “Very Satisfied.”

VelociDoc implementation is slated to continue at 40 additional urgent care centers, expanding to new divisions in the coming year. Working closely with Practice Velocity to build a product roadmap, our teams are planning EMR enhancements that include web check-in, provider schedules, and operation dashboards to help drive efficiencies in urgent care locations.

A Healthcare Inspired Story

from Karl Skollingsberg, Senior Clinical Analyst, Mountain Division

Karl was rounding on the medical/surgical unit when he heard the patient alarm sounding. The charge nurse went to check. Oxygen levels were low. Moments passed, the alarm continued, and so Karl went to see how he could help. He opened the door to find the nurse giving chest compressions on the patient. Without hesitation, Karl suited up (it was a no contact room) and immediately took over the compressions until the code blue team arrived. Thirty minutes later, while continuing his rounds, Karl heard the patient had been revived and was doing well. His quick, far-beyond-his-job-description action helped save the patient’s life.
Health Information Exchange (HIE)
Making Patient Records Accessible

HIE allows physicians, nurses, pharmacists, and other healthcare providers and patients to appropriately access and securely share a patient’s vital medical information electronically. For physicians, access to a patient’s clinical information within the HIE repository can help them better understand current medications and medical history. For the patient, they receive more effective, efficient care, because redundant tests are eliminated, and less time is spent gathering duplicative information.

Efforts in 2016 have focused on the dbMotion Agent, the dbMotion upgrade, and the HIE expansion projects.

**DB MOTION AGENT:** The dbMotion Agent solution enables viewing of patient information across the enterprise for implemented facilities and EMRs. This solution also has potential to track and support the Meaningful Use Stage 3 (MU3) requirement of provider reconciliation for allergies, medications, and problems. With providers, nurses, and clinical specialists in mind, this year’s progress marks achievement toward the expansion of the Care Management technology framework through these milestones:

- **Initial Proof of Concept (POC):** Kicked off mid-October with the TriStar Horizon Medical Center including targeted end-users.
- **Pilot:** Planning to pilot nine additional TriStar facilities upon success of the initial POC.
- **Enterprise Rollout:** Targeting enterprise deployment of the dbMotion Agent solution for 2017.

**DB MOTION APPLICATION UPGRADE:** The dbMotion upgrade to version 6.5 was completed in Q2 2016. This upgrade enables optimized processing and posting of patient information to the dbMotion Document Repository and offers additional application functionality necessary to support future expansion of the HIE platform.

**HIE EXPANSION:** Currently, the HIE Document Repository includes only internal HCA facility patient information; however, there is a 2018 MU3 requirement to support Transition of Care from external facilities. This additional data will be available for providers, nurses, and clinical specialists via our current Clinical Viewer solution and/or dbMotion Agent solution, further extending patient care and expanding upon the data management area of the Care Management framework.

Work in 2016 to deploy the foundational architecture to support the HIE Document Repository capture of Inbound Summary of Care (SOC) information has readied the project for pilots in 2017.

- **INBOUND SOC PILOT:** Currently underway with Three Rivers Hospital, an external facility that currently transitions care to the TriStar Horizon Medical Center. Target for production implementation is Q1 2017.
- **OUTBOUND SOC PILOT:** Sending data from an HCA facility back to the external facility for the transitioned patient is targeted for pilot Q1 2017.
- **ONGOING:** As facilities are acquired, data flow of patient information into the HIE Document Repository is enabled.
Reducing variation is the perfect challenge for a process improvement team, and so the green belt project examined the question: Can data help guide the planning process for radiology oncology treatment plans and in turn reduce treatment variability and potentially reduce patient’s exposure to too much radiation?

Using data and what it can tell us about patients with similar anatomies and the knowledge and expertise of treatment planners, Knowledge Based Planning (KBP) emerged as a new approach to radiation oncology treatment planning. By upgrading the Eclipse treatment planning system to include Varian’s KBP software, RapidPlan, prior expert experience is used to guide the planning process for new plans, reducing variability, improving plan quality, and increasing efficiency. These treatment plans allow patients to receive a more pinpointed dose of radiation causing less damage to surrounding tissues and organs by up to 13%.

To date, over 350 patients have been treated using the RapidPlan technology, with disease sites that include the prostate, head-and-neck, and lung. Implemented in Nashville, RapidPlan has experienced an 85% adoption rate. By the end of 2017, 40% of Sarah Cannon radiation oncology facilities will be utilizing RapidPlan.

Nearly two-thirds of all cancer patients will receive radiation therapy during their illness. Ultimately, the goal of radiation oncology treatment planning is to design an arrangement of radiation beams and beam intensity profiles that deliver the prescribed radiation dose to the target while minimizing the dose to surrounding healthy tissue. Radiation oncology treatment plans are different for each patient, which is as it should be because the anatomy of each patient is different. However, variation also exists in treatment plans because of the differences in skill, experience, and knowledge of treatment planners.

Knowledge Based Planning (KBP)

Reducing Radiology Exposure

Advancements in Data & Analytics

Data Quality Program
In 2016, IT&S launched the Data Quality Program, investing in data quality and data governance tools to assist our company in understanding the quality of our information. With these tools, HCA is able to develop the business rules to ensure our information is always maintaining high quality standards. Executing these rules daily against our data warehouse allows us monitor the data coming from our source systems and report any data integrity issues quickly for remediation, giving us the ability to manage data as an information asset, required in today’s fast paced information highway.

Big Data
IT&S is also benefitting from new technologies driven by the Big Data era. Our Enterprise Data Hub is now processing unstructured documents and parsing them into information that can be reported and aggregated. These processes are uncovering insights into our company that were previously locked away in important documents and reports. This technology is key to delivering our latest innovations in data science and advanced analytics.

Enterprise Data Warehouse (EDW)
Our data warehouse continues to add subject areas, and this year a large focus was placed in the HR & Payroll area. The ability to consolidate data from many sources is helping drive workforce process improvements and assist in improving our patient experience.

The 90 Day Challenge
In the second half of 2016, both National and American Group leadership challenged each of their divisions to use the EDW in order to discover and answer clinical and operational questions. Dubbed the 90 Day Challenge, each division was given 90 days to identify, develop, and submit their use cases. Group leadership will be awarding a total of two million dollars of capital to the divisions with winning use cases.

Tableau
Tableau, a self-service BI tool, has grown from several hundred users to over 8,000 in just the last 24 months. This represents by far the fastest adoption we’ve had with any tools, a reflection of how easy and useful the product is. Tableau has enabled thousands of new users to take advantage of the EDW and other data sources to improve the company’s analytical capabilities.

Disaster Recovery
In 2016, we performed the first full disaster recovery test using the Atlanta Sunguard facility and recovered the entire EDW (all 26 subject areas), performed catch-up batch processing, and tested a selection of downstream applications covering every toolset.
Natural Language Processing (NLP)

Identifying Cancer Patients

Cancer registrars follow the health and progress of every diagnosed cancer patient and report on their cancer journey to the residing state each year. Cancer navigators provide care coordination for cancer patients, beginning at the point of diagnosis. Traditionally, cancer navigators and registrars have relied on manual processes to identify diagnosed cancer patients. Each year, HCA diagnoses about 150,000 cancer patients, and approximately 15,000 cancer patients are actively navigated by our cancer navigators today. Identifying patients manually is inefficient and less than timely, which often results in poor care coordination and patients looking for care outside of the HCA healthcare system.

However, a solution using the natural language processing (NLP) tool is notifying cancer navigators when a patient is newly diagnosed with cancer so that follow up and care coordination can begin right away. The goals of the Patient Identification project are to accomplish the following:

• Real-time streaming of all pathology (PATH) reports within the Enterprise Data Warehouse.
• Building a patient identification application to enable validation of all identified cancer patients.
• Installing the patient identification technology within the Big Data Hadoop platform.
• Developing machine learning natural language processing models to identify cancer patients.
• Establishing the cancer data model in the Enterprise Data Warehouse for future data sharing and analytics purposes.

In December, the Patient Identification application kicked off a pilot in Kansas City, Nashville, and Austin. Cancer registrars will validate all positively identified PATH reports in the three pilot markets using the Patient Identification application. The PATH reports will then be passed downstream to the appropriate cancer navigators and registrars.

In 2017, enterprise deployment of the Patient Identification application will begin with the 155 total facilities that diagnose cancer and are required to provide cancer registry services. Additional plans include the following:

• Extending the cancer data model to the remaining oncology systems to enable analytics on a patient’s full cancer journey, such as Genomics, Medical Oncology, and Radiation Oncology.
• Integrating iNavigate and Metriq with the cancer data model to eliminate data redundancy between the systems and enable workflow efficiencies across both domains.
• Building additional Digital Reasoning machine learning models to expand the predicted tumor site identification capability.
As always, a major part of advancing the solutions we provide to our facilities starts with improving the technologies and capabilities we use ourselves. Our dedicated Infrastructure Services & Operations teams made key accomplishments in 2016, allowing IT&S itself to operate more productively and powerfully.

**CLIENT SUPPORT SERVICES** led IT&S in emergency preparedness with 3 operations disaster events and 38 major critical response events. They also enhanced the customer experience with new tools and features including iSpeak, an interactive voice recognition system, and a new CSS mobile application. The support team led the 5.6.7 MEDITECH upgrade, added 68 new applications to eSAF (Electronic Security Access Form), and upgraded employees to Office 2013. Client Support Services also now supports 41 Urgent Care Clinics nationwide.

**THE REMOTE ACCESS TEAM** made big SRA (Simplified Remote Access) improvements due to the consistent scrutiny of potentially impactful changes across the enterprise. There were also considerable improvements on network change management as well as the uptime for the authentication component of accessing both VDI (Virtual Desktop Infrastructure) and SRA.

**THE WINTEL TEAM** upgraded 451 hosts to the latest vSphere 6.0 version. They made patching improvements, nearly doubling the amount of targets per month to 7,500 with a 95% success rate. The Storage Team successfully executed the Orlando MEDITECH VMAX installation, configuration, and application back from the Atlanta Disaster Recovery Regional Data Center, with minimal downtime to the business. They also made improvements to Data Protection for the enterprise, including lifecycle maintenance across the storage footprint, backup and recovery process, and equipment improvements.

**CLOUD AND ENDPOINT SERVICES** migrated approximately 10,400 users to Exchange Online. The team implemented domain blocking which resulted in the stripping of more than 30,000 documents containing macros and 2.1 million messages from restricted top-level domains. The team also migrated Mountain, Continental, and Gulf Coast Divisions into the corporate SharePoint farm.

**THE MAINFRAME, UNIX, AS400, MIDDLEWARE SERVICE AND OPERATIONAL ASSURANCE TEAM** successfully replaced both mainframes. They increased capacity in all areas including MIPS, AS400, UNIX, and Datapower and expanded the mainframe virtual tape library.

**THE CLINICAL SERVICES TEAM** built infrastructure to support the ePrescribe application as well as Vitals monitoring that integrates with MEDITECH. The team designed a new MEDITECH, PatientKeeper, and eClinicalWorks infrastructure for the Salt Lake City co-location, bringing these applications closer to the clinicians geographically, a move that should improve the performance of the tools. Clinical Services is also standardizing the infrastructure for Nurse Call systems and has refreshed all of the HCA PatientKeeper infrastructures to support the rollout of Advanced Clinicals across the organization.
Alliances

IT&S prides itself on its partnerships, fellow HCA-owned organizations working on healthcare IT solutions, who match their Healthcare Inspired commitment to the people and the companies they serve. For years, IT&S has enjoyed fruitful collaboration with Parallon, HealthTrust, and PatientKeeper. Now Mobile Heartbeat joins the family, adding dimension with their mobile technology platform that will keep HCA at the forefront of innovation and availability. These partnerships allow IT&S to have a stronger, more far-reaching influence and impact, as we are all able to leverage HCA’s boundless expertise and homegrown innovations to offer healthcare solutions for facilities, physicians, and other customers throughout the industry.

PatientKeeper

Celebrating the two-year anniversary of their purchase by HCA, along with a ten-year working relationship, PatientKeeper continued to thrive in 2016, making significant infrastructure investments, increasing the size of their Research and Development team, and receiving their highest employee engagement scores yet. They launched their own version of the Healthcare Connection program, allowing PatientKeeper employees to spend time in hospitals studying technology’s use in patient care.

While much of their focus has been on HCA, they continue to serve existing customers and even take on new ones. Balancing these needs has been challenging at times, but it has allowed powerful opportunities as well: in early 2017, PatientKeeper will be providing existing customers with a release that includes the features they have been working on with HCA.

ADVANCED CLINICALS

PatientKeeper achieved important progress in their Advanced Clinicals pilot program at JFK Medical Center (East Florida Division) and Summit Medical Center (TriStar Division), as physicians are now able to work fully within PatientKeeper, completing their documentation, ordering, and notes without toggling between PatientKeeper and MEDITECH.

Since 2014, the primary goal for PatientKeeper has been to improve the physician experience, bringing together disparate workflows into a single, intuitive system to help physicians deliver better care. More than 100 physicians at JFK and 30 physicians at Summit are currently using Advanced Clinicals features, which are designed for how physicians really work—so they can make timely, highly informed clinical decisions at the point of care. In early 2017, Advanced Clinicals implementation will continue rollout at pilot facilities for the rest of the physician community and will extend to one additional site to validate functionality, expanding as soon as appropriate.
MOBILITY: PK8
More and more providers across the country began using PatientKeeper’s mobility product PK8 in 2016, with engagement growing at two times the rate from a year ago. Due to this explosion of use, efforts are ramping up to develop and deploy mobile capabilities for imaging, secure messaging, and non-med orders. Currently PK8 is only available for Apple (iOS) devices, but support for Android devices is planned in an upcoming release. The product adoption strategy is this: engage providers with the PK8 app first, proving value through its “anytime, anywhere” access to patient clinical information, then introduce them to desktop functionality to continue the expansion of product usage overall.

MOBILE IMAGE VIEWING
Using PK8, providers have access to view clinical images associated with radiology reports. With GE’s Mobile Image Viewing integrated into PK8, PACS images are within view and can be manipulated with just a few taps on a mobile device. While this initial feature release offers convenience and a number of benefits, work is underway to standardize image viewing gestures and to increase image download speed.

VIEW-ONLY PROVIDER PORTAL
Equipped with the latest PatientKeeper software and upgraded infrastructure, physicians across the enterprise are logging into the view-only Provider Portal and enjoying improved system performance as well as enhancements in the way vitals display on the Patient List and in Clinical Review. Known by several names, such as “physician portal” or “hCare portal,” and previously branded as hCare, the view-only portal will change its name and logo and be known by what it truly is: PatientKeeper.

NOTEWRITER
Another strategy employed this year to deliver PatientKeeper functionality to physicians was through the Notewriter deployment at Medical City Dallas Hospital and West Florida Hospital. Eighteen providers have been using Notewriter to create immediately accessible, legible electronic notes instead of paper documentation. They are also able to dictate notes using voice recognition, free text typing, and personalized templates.

Plans for 2017
For the year ahead, PK product development teams will look for ways to decrease operational costs, especially in pharmacy inefficiencies and nursing transcription costs, and to deliver critical capabilities in upcoming releases. Plans for software releases versions 8.2 and 8.3 are slated to include functionality for ePrescribing (eRx), messaging, and other provider enhancements. Product development work in the coming year will prepare the way for functionality needed in 2018, specifically for eRx with Controlled Substances. With many HCA hospitals expanding pediatric services through new children’s hospitals or substantial pediatric units, PatientKeeper will ramp up design for pediatric computerized physician order entry (CPOE) capability.

Future implementation plans will begin with evaluating high value capabilities that can be delivered to all divisions, such as the following:

- PACS image viewer
- Mobile for nursing
- Notewriter deployment (piloting Notewriter with Co-Sig)
- Focused non-med mobile orders
- Messaging integration with Mobile Heartbeat
- Charge capture for affiliates
This past year, the Parallon Business Performance Group launched a promising new program called Revenue Cycle Transformation, an enterprise-wide initiative to unify disparate processes and systems into an integrated approach driven by data science. The project is divided into three pillars of work:

**FORCE MULTIPLIER:** We released the executive management workflow platform used for monitoring, alerting, and data science with root cause analysis for resolution. The focus for 2016 was Denial Prevention and Inventory Management with an emphasis on detecting shifts in inventory that impact net revenue and creating a mechanism for recording action and resolution. In 2017, we will continue our work in the denials space, and Force Multiplier will expand to include various metrics used by Patient Access leadership across the enterprise.

**BUSINESS PROCESS AUTOMATION (BPA):** In early 2016, we built the Business Process Automation platform with the capability to broker connections to multiple data stores and automate existing manual processes. The primary focus for the BPA pillar this year was to improve the quality of our appeal letters and automate the compilation of low-dollar appeals and associated activities. So far this work has led to $1.7 million in productivity savings and net revenue increases. In 2017, we will continue to expand the automated appeals process and begin leveraging data science and natural language processing to suggest the most effective language and appeal template to use when responding to denials.

**DENIAL PROBABILITY:** In 2016, our data science team built several prediction models targeted to identify the probability of accounts being denied for no authorization and determining the optimal point of intervention or action to prevent denials. Output of the denial probability predictions has been incorporated into the Prebill Denial Review Tool and will be leveraged by that team to better manage their inventory. In 2017, data science models will be developed for additional payers, denial reasons, and patient types, and we will also expand to provide more prescriptive approaches for addressing denials.

**REVENUE CYCLE POINT SOLUTIONS (RCPS)**

Revenue Cycle Point Solutions (RCPS) has had another busy year of integrating legacy systems into the HCA network and data center, standardizing processes and technology that leverage best practices from IT&S, and continuing to build a unified team and strong culture among our employees.

Notable examples of our continued assimilation efforts to the HCA network in 2016 include: the migration of our business intelligence platform to the Crossings Data Center, the conversion of our legacy data circuits to HCA standards, and the migration of the remaining users from the legacy TOG network to HCA. In 2016, we also implemented a centralized help desk, continued to expand our work from home user base, and successfully delivered on numerous compliance and regulatory initiatives.

For 2017, we will move into the final stage of our acquisition integration efforts by migrating our primary collections application, Debt Manager, out of the legacy TOG St. Louis co-location and into the Crossings Data Center. By migrating this system, we will enable RCPS to finalize the process of becoming PCI compliant. This move will also allow for completely vacating the legacy data center and the eventual shutdown of the TOG network.
PARALLON PATIENT EXPERIENCE

In today’s world, consumers are constantly surrounded by self-service experiences in their daily lives. We want to ensure our facilities offer the same experiences when possible. That’s why we’ve developed the Parallon Patient Experience program.

The objective of this program is to “modernize” our Patient Access space by introducing new technology and innovative solutions and offer self-service functionality at multiple patient touch points. The flagship product is the Express Registration check-in tablet where patients can check themselves in on an iPad in the registration area. Not only does this alert the registration staff that a patient has arrived, but it also allows the patient to sign their consent of admission form and make a payment on the tablet through HPS and our new PCI compliant card swipe devices.

A second part of the program provides registrars a tracker application that they can use to monitor the check-ins at the tablet. With this, registrars can manage their incoming flow of patients, whether walk-ins or scheduled patients, and ensure they have signed and paid. They also have access to a new tool called eCapture that allows them to manage all patient forms. The third part of the program offers electronic forms and self-service payment at the patient bedside with our iPad solution and new card swipe devices. Once again, this ensures an efficient registration process and a secure payment option for our patients.

From registration to payment, we are the first and the last point of contact with our patients, so their experience with us truly matters. We believe that Express Registration, eCapture, and the ability for patients to pay with their credit cards themselves gives them a quicker, more secure, and more satisfying patient experience.

PAYMENT CARD INDUSTRY (PCI)

On November 2, 2016, HCA/Parallon completed and celebrated a huge milestone by being certified for meeting Payment Card Industry (PCI) Standard 3.1 for Data Security Standards. PCI Security Standards are technical and operational requirements set by the PCI Security Standards Council to protect our patients’ cardholder data. The standards apply to all HCA hospitals, Shared Service Centers, and NPAS locations that store, process, or transmit cardholder data—with requirements for our applications and devices used in those transactions.

As we celebrate this big accomplishment, the work has already begun to meet the next audit. HCA/Parallon’s next PCI Report on Compliance will be due on October 31, 2017, with compliance needed for the new PCI 3.2 requirements.

A Healthcare Inspired Story
from Sandy Burton, Clinical Applications Manager, North Florida Division

Sandy works closely with the teams in our emergency departments. She’s seen a lot. “I saw a father carry his unconscious, unresponsive 16-month old son,” she recalls. “The child had drowned.” It was amidst the flurry of activity, though, that she saw how much technology touched this event. “Portable, digital x-ray machines allowed the physician to view the chest x-ray in the room. Phones facilitated communication between the ED, Respiratory Therapy, Imaging, and Pharmacy. The cardiac monitor tracked the baby’s vital signs. There are lots of ways what we do touched this event. But what we should all remember is simple: what we do does save lives.”
HealthTrust

HealthTrust is the supply chain and group purchasing arm of HCA that additionally serves nearly 25% of the US healthcare market. In 2016, HealthTrust Technology Innovation (HTTI) delivered key transformational capabilities, significantly enhanced back office client systems, and supported the onboarding of new GPO members representing nearly $5 billion in incremental purchasing power. The transformational capabilities focused on contract process flow, warehouse management, and procurement applications to more effectively manage over $30 billion in spend. Back office systems were enhanced in supply chain, data management, and analytics for better overall total spend management of over 22,000 sites of care. The partnership with HealthTrust sales and member services enabled rapid system integration of HealthTrust’s new clients, which provided HCA and other HealthTrust members with multi-million dollar contract savings months earlier than expected.

HealthTrust grew about 20 percent organizationally in 2016 with new staff and vendor partnerships to support their continued growth. One of the most significant organizational milestones was the refinement of our portfolio planning and VP steering committees to better manage demand coming from the growing business lines of HealthTrust. The VP steering group built tight bonds of communication between the Technology Innovation team and the business leadership, as well as improved focus throughout all levels of the organization. It has been a win-win relationship for all parties and has established an organizational and technical foundation to be built upon for even greater advances in 2017.

• **VIM:** Vendor Mastering is enabling HealthTrust to be able to manage thousands of vendor relationships with more accuracy and efficiency. This provides exponentially better data management capabilities and analytical functionality. The tooling creates master vendors that do not automatically flow to SMART to protect Supply Chain from potential at-risk vendors or inaccurate vendor data, and better support spend analytics with cleaner vendor records that represent true legal entities (our master vendors).

• **WMS UPGRADE:** HealthTrust implemented an upgrade of Infor’s warehouse management software (WMS), a critical effort due to the end of life for SQL 2000 & Windows 2003. Thirteen Warehouse sites were upgraded, including multiple CSC (Consolidated Service Center) and CDC (Consolidated Distribution Center) locations.

• **CLM (CONTRACT LIFECYCLE MANAGEMENT):** Contracting, Sourcing, and Supplier modules from iValua were developed and implemented in 2016, enabling HealthTrust to offer a more accurate and effective process for managing contracts and refresh efforts. The sourcing and supplier processes were also incorporated with a sourcing module to allow HealthTrust to better manage the sourcing process and enhance the supplier experience.
HOME: HealthTrust’s platform for managing member rostering data, HOME received a major overhaul in 2016 to aid in user experience efficiencies and reporting. It was integrated into the HealthTrust authentication platform, PASS, to enable access based on user roles and to allow the business to be better able to control access.

INSIGHT DASHBOARD BUILDER (iDB): The iDB tool is an addition to the current inSight MedSurg Analytics Platform that allows users to access all of their IDN’s MedSurg data in an intuitive user interface. The iDB gives users the ability to customize high level executive summaries, detailed line item reports, and interactive dashboards.

MEMBER ACTION PLAN AND COMPLIANCE DASHBOARD: The HealthTrust Member Action Plan (MAP) is designed to aid account directors and managers in communicating the value of HealthTrust by highlighting existing savings and future opportunities. In 2016, MAP was enhanced to include a Compliance and a Conversion dashboard. Both user-friendly dashboards provide visualizations and summaries that allow account directors and managers to provide a consistent value proposition to HealthTrust members.

DISASTER RECOVERY: HealthTrust dedicated much of their 2016 engineering and platform efforts to building out disaster recovery (DR) infrastructure at HCA’s dedicated DR site in Atlanta, Georgia. Joining with the HCA DR team in November, HealthTrust successfully executed a full platform failover test, effectively establishing the ability to recover in the face of a disaster scenario. Full application failover testing is planned for 2017.

SUPPLY EXPENSE KPIs: Developed by Supply Chain Analytics, the enhanced reporting application iSC (inSight Supply Chain) captures all existing Supply Chain reporting areas and provides users with a single source of truth, as well as an interactive reporting platform, to provide actionable data across the Supply Chain Management spectrum. Also built in: new consistencies between SMART and the EDW which provide more accurate reporting and efficiencies between user groups, saving weeks of time for calculations and reporting.

E-PROCUREMENT: A web-based overlay to SMART that can process various types of requisitions, a process today which requires users to access multiple systems, this custom application has been well received by over 9,000 field users. As further enhancements are incorporated, the total user base will exceed 20,000.

HealthTrust Workforce Solutions

Formerly known as Parallon Workforce Solutions (PWS), HealthTrust Workforce Solutions (HTWS) implemented a number of performance-improving tools in 2016, including the Workload Forecast Tool, which optimizes the labor budgeting process, and Facility Scheduler. Chief among achievements, however, was the deployment of Workforce 2.0, or eRecruit, which went live on June 5.

An industry leading recruiting and candidate management tool, Workforce 2.0 centralizes management of all HTWS contract labor, replacing 20 legacy PWS systems. With 190,000 clinical hours processed per week, Workforce 2.0 provides facility self-service (such as shift requisition, credential and certification visibility, and reporting), nurse self-service (including credential management, time and expense submittal), and automated vendor engagement (with order distribution and candidate submittal).
In September of 2016, HCA acquired Mobile Heartbeat, a leading developer of smartphone applications designed to improve clinical workflow and team communications. Mobile Heartbeat and IT&S teams immediately began working on mobile technology solutions for clinicians and for collaboration with HCA’s clinical community. They sought to better understand the communication challenges care teams face, and how a smartphone platform could better facilitate the communication needed for patient care.

Mobile Heartbeat, located outside Boston (in fact, not far from PatientKeeper and MEDITECH), employs approximately thirty experts in mobile clinical communication and, similar to PatientKeeper, works closely with the IT&S Clinical Informatics department. The nature of the clinical communication and collaboration space is nascent and dynamic, requiring frequent reviews of technology strategy and product roadmaps in order to assess trends in healthcare and technology and changes with integration partners. Still, the opportunity for greater involvement in HCA’s nursing strategy and integration with other clinical technologies, such as PatientKeeper and Nurse Call, hold the promise of many benefits for HCA’s patient care teams.

Mobile Heartbeat Clinical Urgent Response (MH-CURE) is a smartphone application that modernizes and transforms communication between care team members. Connecting devices, systems, and data with nurses and physicians at the point of care is a powerful advancement, informing their critical, time-sensitive decisions as never before.

MH-CURE is a set of hardware and software modules installed on servers and smartphones that provides an enterprise mobile communication platform, supporting advanced clinical collaboration through these current features:

- **Unified Communications:** Text (HIPAA compliant and secure), voice over IP (VoIP), broadcast, presence, paging, alerts and notifications, and dynamic role.
- **Collaboration with Context:** Dynamic care team and patient information.
- **Application Integration:** Electronic medical record (EMR)/admit, discharge, transfer (ADT), lab results, nurse call, middleware, notification engine.
- **Reporting:** Pre-defined analytics.

A multi-disciplinary team is determining options for lifecycle management of mobile devices and will be developing the approach for how we will manage smartphones, including refresh recommendations, long term costs for the initiative, and processes for ongoing upgrades and maintenance.

Upcoming releases in 2017 will include scalability, multi-unit support, PatientKeeper integration, and security enhancements to name a few. Implementation will continue with a next wave of facilities.

Today, the MH-CURE product is a nursing, hospital-centric application, but extending the mobile experience to support clinical workflows and connect care teams beyond the acute care setting could enable more effective and efficient care coordination in the future.
They’re one of the largest organizations within IT&S—thousands of dedicated employees, tirelessly working in hundreds of locations throughout the United States and the United Kingdom. They’re our frontline experts, providing strategy, support, and application development services to the entire HCA enterprise. They are the Field Operations team, resourceful and devoted professionals who deliver innovation and high-quality healthcare IT every day across HCA’s 15 divisions. Their boldness, vision, and tenacity contributed even more creative energy and constructive disruption to our dynamic digital environment in 2016, as they challenged health IT boundaries and unlocked new opportunities for growth and patient care excellence.

**Other Notable Activities:**

**SETTING STANDARDS IN PATIENT SAFETY.** Developed in the Capital Division, IV Guardian facilitated new patient safety standards for patient IV protocols. This technology, piloted at Johnston-Willis Medical Center’s Telemetry Unit, validated IV settings against physician orders and provided issue alerts and notifications. The short-term pilot alerted care staff to hundreds of rate mismatches, potential drug interactions, low battery power, and more than 1,000 line blockages.

**USING DATA TO SAVE LIVES.** The Capital team took advantage of HCA’s vast clinical data warehouse in 2016, pairing physician order set data with sepsis infection trends. The Sepsis Order Set Utilization Report, developed by the team, created meaningful alerts and relevant patient care paths for physicians and clinicians. The report contributed to earlier identification of sepsis infections and promoted a 20% decrease in overall sepsis patient mortality in the division.

The Capital Division team led divisions among Simplify IT initiatives, realizing $4.1 million in savings this past year. Experts at driving a culture of efficiency and continuous improvement, team members were empowered by division leadership to capitalize on their knowledge, establish new standards, and develop better solutions through strategy and process improvement workshops, in addition to the first divisional Green Belt training, delivered by the corporate Process Improvement team. The Capital team now has a robust foundation in place for new idea generation and continued process improvement that will undoubtedly contribute further to division and company success.
Central & West Texas Division
Supporting Division Growth

In 2016, St. David’s HealthCare opened St. David’s Surgical Hospital, a campus of St. David’s North Austin Medical Center. The new 146,000 square foot destination hospital and adjacent 80,000 square foot medical office building increased access to innovative and technology-rich healthcare across a wide range of surgical specialties. Integral to the successful launch of the new hospital, the IT&S team outfitted 40 inpatient rooms, 10 operating room suites, 11 pre-op bays, 19 post-anesthesia care unit (PACU) bays, an intensive care unit (ICU), and the imaging, pharmacy, and lab service departments, all with the newest equipment and technologies. This massive installation effort further contributed to the high marks in patient care excellence and experience the division is known for.

Other Notable Activities:

**THE EASY BUTTON.** The Central & West Texas team grew technology offerings in 2016, enhancing the IT service provided to customers with NotifyIT!, an easy button attached to workstations with automatic queuing of service requests. This resulted in healthy improvements in the resolution of provider reported issues, shaving nearly 15 hours off the previous average resolution times. Feedback from providers has been overwhelmingly positive, and because of its success, the application has been uplifted to the corporate development team for potential expansion and enterprise rollout.

**A NEW HEALTHCARE EXCHANGE NETWORK.** The Central & West Texas development team created a Craigslist-type application that allows hospitals to exchange supplies. This application not only streamlined supply chain processes but also lowered overall costs by allowing facilities to sell unused equipment and supplies to other HCA facilities instead of purchasing them from an external vendor. The first departments to pilot this new technology completed over 200 transactions of Robotics and OR supplies, totaling over $150,000.

**IN 2016, ST. DAVID’S HEALTHCARE OPENED ST. DAVID’S SURGICAL HOSPITAL, A CAMPUS OF ST. DAVID’S NORTH AUSTIN MEDICAL CENTER. THE NEW 146,000 SQUARE FOOT DESTINATION HOSPITAL AND ADJACENT 80,000 SQUARE FOOT MEDICAL OFFICE BUILDING INCREASED ACCESS TO INNOVATIVE AND TECHNOLOGY-RICH HEALTHCARE ACROSS A WIDE RANGE OF SURGICAL SPECIALTIES. INTEGRAL TO THE SUCCESSFUL LAUNCH OF THE NEW HOSPITAL, THE IT&S TEAM OUTFITTED 40 INPATIENT ROOMS, 10 OPERATING ROOM SUITES, 11 PRE-OP BAYS, 19 POST-ANESTHESIA CARE UNIT (PACU) BAYS, AN INTENSIVE CARE UNIT (ICU), AND THE IMAGING, PHARMACY, AND LAB SERVICE DEPARTMENTS, ALL WITH THE NEWEST EQUIPMENT AND TECHNOLOGIES. THIS MASSIVE INSTALLATION EFFORT FURTHER CONTRIBUTED TO THE HIGH MARKS IN PATIENT CARE EXCELLENCE AND EXPERIENCE THE DIVISION IS KNOWN FOR.**

Continental Division
Innovation in Cardiovascular Care

Building on already robust initiatives in the division, the Continental team forged new ground in cardiovascular care with an information system co-developed with GE. With a foundation for the interoperable system in place, 2017 is expected to bring great gains in enhanced patient care, optimized staff productivity, improved revenue cycle efficiencies, and streamlined physician documentation. This comprehensive information system, developed in-house, is expected to benefit all hospitals throughout the division.

**Other Notable Activities:**

**EMPOWERING PATIENTS THROUGH MYHEALTHONE.** Customers were able to get more connected and more involved in their care in the Continental Division through innovative MyHealthOne online pre-procedure and mammography pre-registration pilots at Rose Medical Center. Working closely with Parallon and the MyHealthOne teams, this transformational technology contributed to great strides in patient care efficiency and satisfaction in 2016.

**MORE MOBILE MODULES.** Another key focus this past year was to provide physicians with relevant tools to streamline workflows, increase efficiency, and improve the access and delivery of healthcare information. Leading the development of mobile modules for PatientKeeper, including mobile ordering, viewing of PACS images, and consultant messages, the Continental team made great strides in physician and clinician satisfaction through its pilots, laying the groundwork for future use across the enterprise.
In 2016, the East Florida team set its sights on enhancing mobile communication through its use of innovative notification technologies to optimize and enhance clinical initiatives and patient care. By using the Blue Wave notification platform developed by IT&S, patients throughout the East Florida system are able to retrieve ED wait times for nearby facility emergency rooms. They can also enroll in text message programs that provide updates during emergency room stays and family member operating room procedures. The Blue Wave platform is foundational for East Florida’s division notifications and will be leveraged for other alerting functions in 2017.

**Other Notable Activities:**

**BETTER COMMUNICATION FOR BETTER CARE.** In 2016, East Florida Division rolled out enhanced PatientKeeper (PK) tools through a pilot at JFK Medical Center. Adding to an already highly-used mobile and web-based read-only system, physicians gained access to new EHR functionality via the pilot that helped streamline patient care reporting, including the entry of clinical notes, patient orders, and medication reconciliation. The PatientKeeper pilot helped physicians efficiently leverage mobile phones, tablets, and other web-enabled devices for patient care and allowed referring providers to retrieve information seamlessly on-the-go from a secure internet connection.

**CONNECTING CARE - HOSPITAL OF THE FUTURE.** Technology installations of a designated group of applications, including MyCare, Advanced Nurse Call, VisiMobile, and hand hygiene and asset tracking, which were tied to location services at Northwest Medical Center, earned the facility a Hospital of the Future designation. The integrations contributed to gains in patient and clinician experience ratings and provided automation to manual processes performed by clinicians, contributing to more time spent at the bedside.

In 2016, the Las Vegas area saw a go-live of its first free-standing emergency room. The new 10,000+ square foot state-of-the-art ER at The Lakes facility allows faster and more convenient access to medical care for thousands of southern Nevadans through full-service emergency and critical care services. An enormous IT project for the Far West team, the facility is equipped to provide emergent and urgent care, in addition to ancillary services. The facility offers a fully functional lab and blood bank, a pharmacy, and a full spectrum of radiology services, including CT scan, X-ray, and ultrasound.

**Other Notable Activities:**

**COORDINATED AND CONNECTED PATIENT CARE.** With laser focus on communication between patients and clinicians, the division partnered with nursing leaders to create a staged vision and project plan for the deployment of advanced nurse call technology in all patient rooms over the next five years. Featuring automated call routing, escalation and notification features, and mobile integration, this foundational technology continues to contribute significantly to clinician efficiency and positive patient care experiences.

**A FOCUS ON PHYSICIAN EDUCATION.** Graduate Medical Education (GME) took center stage in the Far West Division in 2016 with program introductions at multiple facilities. Working collaboratively with the Physician Services Group and MountainView and Riverside Community Hospital leadership, the IT&S team developed infrastructure support and training workflows that further promoted HCA’s robust and growing GME programs to current and future physicians.
Gulf Coast Division
Simplifying the Management of Surgery

Surgery management and workflow took center stage in the Gulf Coast Division this past year with the launch of the Surgical Symphony application. Developed by the division for the HCA enterprise, Surgical Symphony brings together scheduling, materials management, clinical documentation, real-time location, and communication technology into one application. It manages hospital operating rooms with maximum efficiency, providing real-time documentation of OR events and the streamlining of work flows in OR, Cath Lab, and Endo spaces.

Other Notable Activities:

COMPASSIONATE CONNECTIVITY. In an effort to enhance connections and engagement between patients and care teams, the Gulf Coast division developed and launched Nestling Note, a secure texting application to deliver care updates from NICU staff to discharged parents of newborns. Since its deployment, feedback has been overwhelmingly positive, contributing to positive patient experience ratings.

MAKING CARE MOBILE. The Gulf Coast team took the lead with on-the-go healthcare technology in 2016, deploying iMobile at Clear Lake Regional Medical Center, the largest facility in the division. The successful launch of iMobile technology put more than 600 iPhones in the hands of nursing and ancillary staff, empowering them to quickly respond to patient requests and communicate in real-time within care teams.

HCA International
A Year of Transformational Investments

Building on foundational technology and infrastructure developed by the team in 2015, the International Division spent 2016 architecting, implementing, realigning, and expanding (with staff growing by 50%) to further enhance the service provided to the business and the care provided to patients. Significant milestones included a substantial network upgrade that contributed to meaningful improvements in performance, reliability, and security initiatives. They also placed a renewed focus on service that dramatically improved service desk response times: from 15-40 minutes in 2014 to under 50 seconds in 2016.

Other Notable Activities:

HI-DEF IMAGING AND STREAMING. The International Division took advanced healthcare imaging and video streaming to new levels in 2016 with a suite of capabilities that allowed high definition images and live stream video to be safely shared within care teams and with external consultants. Offering preeminent visualization capabilities for enhanced diagnostic care, the technology contributed substantially to successful patient care outcomes and advancements in clinical and patient communication.

EXPANDING TELEHEALTH. Pioneers when it comes to using leading edge technologies, the International team forged new ground in the telemedicine field with the launch of a telehealth mobile app, giving more power to the patient. The app provides a range of capabilities, including online appointment scheduling and patient/physician video consults, and contributed significantly to positive patient experiences.
The MidAmerica team harnessed their innovative thinking and knowledge to create a comprehensive patient engagement platform called Halo. This single platform connects OneView (Patient Engagement and Interface), CenTrak (RTLS), Rauland (Nurse Call), and Compurtrition (Food and Nutrition) to provide a seamless communication platform between our patients, their families, and their care team. In Halo’s first four months of operation, the MidAmerica Division experienced a dramatic 50% increase in key HCAPS related metrics, and a sustained 16 point increase in overall patient satisfaction.

Other Notable Activities:

REDUCING RE-HOSPITALIZATION. In an effort to determine high-risk patients in need of additional monitoring due to an increased risk of readmission/death, the MidAmerica team implemented a LACE application to score patients on length of stay, acuity, comorbidities, and ED visits. Through its introductory work of this technology in 2016, the division achieved a measurable reduction in readmission rates and expects that number to increase in 2017.

INSTALLING CPOE. The MidAmerica Division saw the first self-install of Computerized Physician Order Entry (CPOE) across the HCA enterprise. The highly successful project, conducted at Belton Regional Medical Center in Belton, Missouri, contributed to overall positive feedback and substantial increases in provider and nursing satisfaction.

Our physicians, clinical specialist teams, and behavioral health patients in the Mountain Division enjoyed connectivity on a new scale through the integration of an innovative tele-behavioral health application with its access/transfer center. The integration, which connects patients to healthcare experts virtually using video and telephone, contributed to faster placement patients into beds and facilitated innovative methodologies and future roadmaps for collaboration and consultation. A model for HCA in terms of integration, more than 6,000 assessments were conducted in 2016.

Other Notable Activities:

HARNESSING DATA AND ANALYTICS. The Mountain Division took advantage of HCA’s clinical data warehouse and analytic tools to create efficiency and improve patient safety and satisfaction in 2016. Using real-time division data to identify clinical issues related to mortality, infections, and other complications, the Mountain team made great strides in physician performance, ventilator management, restraint monitoring/reduction, and post-op pain control for patients.

SERVICE DESK EXCELLENCE. Leveraging the scale, relevance, and knowledge of a combined Mountain/East Florida/Far West service desk model, the team substantially enhanced and improved its service desk ratings in 2016 while also achieving the lowest unit cost per call and per ticket across the enterprise, shaving more than one dollar off of each statistic per instance.
North Florida Division
The Future of Patient Care

The North Florida team forged new ground in 2016 through its Hospital of the Future work and designation at Capital Regional Medical Center. Among the first to implement the Hospital of the Future initiative for HCA’s National Group, the team utilized state-of-the-art technology including Advanced Nurse Call, Awareness Technology (RTLS), MyCare, and iMobile to create a comprehensive connected care environment for patients and caregivers. This collaborative technology improves the coordination and management of administrative and clinical functions, enhances clinician and patient communication, and contributes significantly to positive patient experiences, laying the foundation for 2017 Hospital of the Future rollouts.

Other Notable Activities:

ENGAGING PATIENTS THROUGH MYCARE. In 2016, the North Florida Division broadened its use of MyCare electronic dashboards, which provide patients access to enhanced information about their care, expanding the technology to ER patient rooms. This strategic and meaningful growth of the MyCare technology further contributed to the high marks in patient care and satisfaction consistently earned by their dedicated team.

A CULTURE OF SERVICE EXCELLENCE. The North Florida Division took enhanced support to a new level in 2016, operationalizing its service and patient-first culture with a formal curriculum, training resources, and an employee pin recognition program. The success of its Service Excellence initiative in 2016 was profound: more than one thousand customer compliments were earned and shared division-wide, hundreds of recognition pins were awarded, and the resources developed by the team have been adopted and implemented by additional IT&S division groups.

North Texas Division
Turning Data into Decisions

Experts at propelling HCA towards more efficient processes, the North Texas IT&S team took advantage of Teradata and other relevant business applications to develop a Referral Management Dashboard for the division business team. The comprehensive report, which pulls meaningful and relevant data from multiple sources about physician preferences, helped executives make informed decisions about referral patterns, from primary care physicians to specialists. This ultimately affected the processes of patient evaluation, treatment, continuity of care, and clinical outcomes in a highly competitive North Texas market.

Other Notable Activities:

CONNECTING FAMILIES THROUGH NICVIEW. The North Texas Division helped families bond with their newborns by introducing the NICVIEW webcam system at Medical City Las Colinas. An unobtrusive camera mounted close to the bed streams real-time, 24/7 video of each infant in the NICU. Families can log onto the secure system and watch live video of their baby from any device with internet access. Patient feedback has been overwhelmingly positive, and plans are underway to implement the technology across the division.

PROACTIVE IT ROUNDING. A key component of North Texas’s support strategy in 2016 was its Partner Focus program, which encouraged a community approach to high availability. A highly successful endeavor, the North Texas team proactively rounded on patient floors to replace equipment, reset access, and engage with training on a monthly basis. This program increased clinician productivity, improved employee satisfaction, reduced calls to the service desk, and all in all gave time back to our caregivers to spend with patients.
The San Antonio Division invested heavily in technology infrastructure in 2016, providing a solid foundation from which all applications and initiatives operated securely, reliably, and with redundancy. Through network core refresh, WLAN refresh, data closet upgrades, and the rebuild of phone systems across multiple facilities, the division enjoyed higher performing, more reliable, and more scalable connectivity. The San Antonio Division had many infrastructure successes in 2016 and is confidently positioned to support the rollout of key applications in 2017, including Radiology and Cardiology Imaging, Patient Monitoring, PatientKeeper, and iMobile efforts.

**Other Notable Activities:**

**MEDS ON-DEMAND.** In 2016, the San Antonio team introduced ePrescribe technology that further aligned the continuum of patient care with electronic prescriptions for discharged patients, making medications immediately available at participating pharmacies. Featuring real-time insurance eligibility and formulary checking within MEDITECH, this solution enhanced both patient and physician satisfaction and will enable achievement of Meaningful Use Stage 3.

**RADIOLOGIST PEER REVIEW.** Working to offer the finest care to their patients, the San Antonio team implemented an enhanced radiology peer review process that provided physicians and clinicians with automatic tools for peer radiologist current case review. This initiative increased radiologist compliance in 2016 and also contributed to the timely reporting of opportunities to improve patient diagnoses.

2016 was a year of monumental growth for the South Atlantic Division with multimillion dollar facility announcements and expansions and go-lives of a new freestanding ED and leading specialty center. Each new construction and implementation required succinct planning and state-of-the-art technology delivery. Summerville Medical Center’s $53 million expansion plans include 30 new beds, new procedure rooms, and advanced monitoring and imaging equipment. The $13.5 million expansion at Trident Medical Center brings expanded and renovated ED and post-anesthesia units, additional ORs, and new CT scan imaging technology.

**South Atlantic Division**

**Enabling Division Expansion**

**Other Notable Activities:**

**LEADERS IN PATIENTKEEPER ADOPTION.** Working collaboratively with clinical staff and physicians, the South Atlantic team led the pack in 2016 with PatientKeeper adoption, contributing to positive increases in both patient and physician satisfaction. More than 2,000 patients were accessed daily by providers in the division through the PatientKeeper Portal and PK8 mobile app.

**THE LAUNCHPAD FOR EBCD.** The South Atlantic Division implemented the first MEDITECH Evidenced Based Clinical Documentation (EBCD) pilot, a powerful new solution that enhances EHR documentation workflow. As a result of this pilot, conducted at the Doctors Hospital of Augusta, the enterprise has a best practice roadmap to simplify how we document care, improve user satisfaction and patient care delivery, increase nursing satisfaction, and have access to relevant trends on how to allow caregivers to spend more time at the bedside.
Known for the preeminent support provided to their patient care teams, as well as their record-breaking resolution statistics, the TriStar customer support team built on their unrivaled success in 2016 with the transition of all tier-one physician support from TriStar Physician Services to the TriStar Service Desk. Now, physician calls transition to a first call answer, and first call resolution has dramatically improved. The successful transition contributed to meaningful gains in physician and patient satisfaction, increased staff efficiency, and improved coordination and management of administrative functions.

Other Notable Activities:

GOING LIVE WITH EBCD. The TriStar Division took a leadership role in 2016, being one of the first divisions to launch EBCD (going live in three hospitals). As a direct result of the new workflows, nurses have gained anywhere from thirty minutes to two hours per shift to spend at the bedside, providing care instead of documentation.

IMPROVING PATIENT ENGAGEMENT. TriStar Health implemented Bioscape and Patient Call Manager, which have contributed to improved patient engagement through the delivery of tablets and patient call backs from clinicians. Both have been huge successes and have helped patients better understand procedures, test and care instructions, and follow-up appointment needs, while enabling real time service recovery.

In August 2016, a lighting strike from Hurricane Hermine created a catastrophic power loss at Regional Medical Center Bayonet Point. The IT&S team sprung into action and mobilized on-site and virtually, responding with both technical and clinical expertise to assist in a complete patient evacuation, the recovery of hospital operations, and a restart of all imaging systems for the market. Through the dedication, resilience, servant leadership, and Healthcare Inspired efforts of the West Florida team, all patients were safely transported to supporting facilities, and IT systems were up and running in record time, the day after power was restored to facilities.

Other Notable Activities:

BIG DATA FOR HEALTHY HEARTS. The West Florida Division forged new ground in cardiovascular care with the development of a patient navigation and tracking tool to flag high-risk patients for further healthcare evaluation and intervention. Contributing to excellence in care and an increase in successful patient outcomes in the division, West Florida’s Structural Heart Dashboard application was uplifted to the corporate development team for expansion and enterprise rollout.

KEEPING PATIENTS SAFE. Focusing on improved safety for patients at risk for falls, the West Florida team introduced a comprehensive patient monitoring application with motion detection technology at its core. Through the use of the Careview system of cameras, invisible motion-sensitive borders in and around beds, and immediate nursing notification technologies, the team saw triple-digit percentage decreases in patient falls.
Cyberattacks on medical data have been on the rise for years and continue to grow more sophisticated and more dangerous, expanding to threaten the integrity and availability of medical devices. In fact, cybercriminals take aim at healthcare more than any other industry. Their tactics and tools change constantly, but Information Protection & Security’s intrepid, assured, and successful response remains the same. IPS remains focused on protecting our patients, our business, and our facilities despite the constant threat and ever-evolving challenges. IPS has continued to strengthen our protective measures across the entire company by focusing on the fundamentals, working with every HCA hospital division and business unit to keep our patient data safe and secure.

Information Protection & Security’s efforts adhere to the Framework for Improving Critical Infrastructure Cybersecurity, released by the National Institute of Standards and Technology (NIST). This framework is a nationally recognized set of industry standards and best practices for managing cybersecurity risks, and it establishes a structure for all of their enterprise-wide efforts. Using this framework, the Information Protection & Security team focused on the following areas in 2016.

Identification of Our Assets and Our Risks

Once Information Protection & Security understands what information they need to protect and what risks our organization faces, they prioritize efforts and resources to make risk-based decisions that are consistent with business needs.

Key accomplishments in 2016

- Creating a functional “Risk Register” in the Governance Risk & Compliance (GRC) Portal, mapped to the NIST Cybersecurity Framework
- Providing internal penetration testing to identify weaknesses in both physical and network security, enabling HCA to remediate findings before incidents occur
- Using SAPortal to aggregate data from internal and external sources to provide a “state of the technical attack surface” report that gives decision-makers a view into our risk posture
- Improving vendor assessments to raise awareness of cybersecurity risks to our enterprise system, making purchase decisions risk-based rather than cost-based
- Completing a comprehensive IT&S HIPAA Security Risk Analysis
Information Protection & Security works to ensure the confidentiality, integrity, and availability of all HCA data. They therefore implement safeguards that focus on strong user access controls, awareness and training of the workforce, data security, processes and procedures, and protective technology.

**Key accomplishments in 2016**

- Continuing efforts across the enterprise to reengineer business processes and systems to reduce the use of Social Security Numbers
- Working with CSG Nursing Informatics to allow employed RNs improved access in MEDITECH 5.6
- Implementing physical and virtual firewalls, as well as other intrusion prevention systems and network segmentation to protect the company’s most critical business assets
- Assigning training to all workforce members as well as an additional course for managers
- Spreading workforce behavior awareness through monthly blog posts, posters, in-person events, and presentations to targeted audiences
- Improving the security architecture of key internally developed software solutions (such as MyHealthOne, PatientKeeper, and iMobile) via the Software Security Initiative (SSI)

Due to the size and nature of our information, HCA is the target of external threats such as nation states, cybercriminals, and hacktivists. HCA also faces internal threats, like dishonest insiders, or even honest staff members who make errors or decisions out of expediency. Information Protection & Security is vigilantly on the lookout for potential threats to our company.

**Key accomplishments in 2016**

- Deploying Data Loss Prevention (DLP) across the enterprise, which proactively blocked several million SSNs from leaving the company or being printed
- Automatically disabling inactive Horizon Patient Folder and MEDITECH 5.6 user accounts
- Blocking more than 2 million potentially malicious external emails after stripping macros-enabled and Rich Text Format (.RTF) documents, and blocking typo-squatted domains
- Developing a Cyber Defense Center to provide business resilience and to rapidly eradicate any threat actor on the network that may pose a risk to patient safety or confidential information
- Using Expanded Vulnerability Scanning to monitor databases for malicious behavior
- Stopping about 2,000 ransomware-related malwares from being downloaded each month
A Healthcare Inspired Story
from Ivan Van Der Merwe, Architect,
IS Information Security

“When I attended the IT Healthcare Connection, it became very apparent to me how close to the bedside technology really is,” says Ivan Van Der Merwe. During the one-week program, he was shadowing a nurse in the ICU when an error in the code impeded the process for how patient vitals flows to the EHR system. The nurse was forced to enter the record manually. “I witnessed firsthand how every moment a nurse is spending time on such a manual process, she’s not able to provide vital care to the patient. That was a pivotal moment for me. I’ve never been more passionate about improving patient care services and delivering the benefits derived from our technology.”

Response to and Recovery from Potential Threats and Incidents

Responding to potential threats in a timely manner is vital to limit or contain the impact of incidents. Information Protection & Security built on previous initiatives to further prepare ourselves for the ever-present possibility of danger.

Key accomplishments in 2016

- Responding to breaches and meeting reporting obligations
- Balancing the patient experience while complying with regulatory requirements
- Performing incident response test exercises to identify opportunities for improvement
- Ensuring records are maintained appropriately to support quality patient healthcare
Our Culture

In IT&S, culture is key. And in 2016, our Healthcare Inspired culture of compassion and expertise made its mark in powerful and far-reaching new ways. We expanded and enriched our technical education through new training opportunities. We watched the boundaries of time and place further disappear through new focus on digital collaboration. And we engaged with our colleagues, our mission, and the health IT industry in record numbers. We have, just like every year, looked beyond our screens, our work, and our skills to embrace what HCA IT&S is all about: helping our physicians, nurses, and patients get the tools they need to help heal and be healed, all through our ever-flourishing commitment and innovation.

We never stop learning.

Professional development is a top priority for IT&S, and it begins with our continued commitment to the IT Healthcare Connection program. First introduced in 2010, this weeklong immersion program places IT employees into various healthcare settings, where the impact of technology is made strikingly apparent. Since the program’s inception, 590 employees have participated in this program, with 96 graduating this year. The Centennial Connect program has proven invaluabley informative and inspirational as well, offering a one-day version of the same immersive experience.

IT&S is also committed to the development of its future leaders, featuring programs such as Emerging Leaders and Aspiring Managers, which are devoted to nurturing and elevating trailblazers in their respective fields. Since it began in 2011, 45 employees have graduated from the prestigious Emerging Leaders program, and in just three years, the Aspiring Managers program has graduated 140 employees. The Advanced Technology Program was launched this year, with 15 inaugural members participating to develop their knowledge and guide important enterprise-wide strategic decisions.

And in 2016, all IT&S employees were invited to take part in HCA Training Days, a three-day mass training event presented as a joint effort with the HCA Leadership Institute. Thirteen hundred employees came to classes ranging from Advanced SQL server training to the use of “Music in Technology,” and another 1,778 attended virtually from across the enterprise.

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<th>Program</th>
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We know how to collaborate, beyond traditional boundaries.

Digital collaboration—the use of various technology to communicate, share knowledge, manage information, and contribute content to communities of people regardless of time or place—became a defining focus of 2016.

With employees working across the country and the UK, effective collaboration has become a vital part of our ability to learn from each other and create meaningful solutions for our partners. In the middle of what some are calling the fourth industrial revolution, an innovatory force within today’s businesses that gives individuals and groups the ability to collaborate on an unrivaled digital scale, IT&S is staying ahead of the curve and adopting a new collaborative landscape to streamline our workflows and processes.

With the ultimate goal of creating an integrated, secure digital environment that meets the collaborative demands of the organization, we conducted dozens of focus groups, heard from hundreds of employees and technical experts on their ideal collaborative environment, and are currently putting in place a new strategy that will change the way we interact with each other. Our new digital collaboration strategies are sure to be a driving force of our continued success beyond 2016.

The Learning Solutions team continued its focus on meeting learners at their moment of need and increased a number of enterprise capabilities in 2016. Of particular note is their work with the video management tool MediaConnect, which has provided more visual learning capabilities to the enterprise while tripling engagement since the start of the year.

This success was capped off with the honor of receiving an Excellence in Technology Award from the Brandon Hall Group. The Learning Solutions team was recognized for “Best Advance in Unique Learning Technology” for their advances in video learning, most notably through their strong collaborative work with Sarah Cannon.

Of course, HealthStream continues to be a key tool for HCA, and course completions are projected to exceed 8.3 million enterprise-wide for the year. The HealthStream Learning Management System (LMS) is the most-used single sign-on application at HCA and in 2016 reached a milestone of 1 million successful logins in a single month. The HealthStream LMS also received a user-interface facelift this past year, and since implementation has seen almost 100,000 mobile access users for HealthStream—eight times more than before the interface was deployed.

877,404  Views in 2016
12,276  Unique Viewers per Month
2,113  Entries Viewed per Month
581  New Contributions per Month
We don’t just do our job, we engage with our mission.

There’s nothing more important to our organization than its people. Our workforce, above all our solutions, our advancements, and our accolades, is our most vital asset. Ensuring that our employees are not just satisfied with their workplace, but so satisfied that they consider themselves HCA “lifers,” is why we put such great emphasis on empowering and strengthening them with the resources, continued education, programs, recognition, and opportunities to engage with each other, our leadership, and our work in a momentous way.

Our employee engagement surveys have shown year after year that IT&S employees make up a team engaged with its work and the company’s values. 2016’s results proved, once again, that we’re not just technology experts; we’re technology experts on a mission. With an overall favorable rating of 84%, we have great direction on what practices to continue and what kind of culture to create, while also identifying a number of areas for improvement.

Our leadership is most proud of scores earned in the general outcomes category where employees indicate if they would recommend our workplace as a great place to work (89% said they would), if they plan to work for IT&S in one year (93% said yes), if they are proud to work for this company (94% say yes), and if they would recommend HCA facilities to family and friends for medical care (90% would). IT&S scored higher than the overall company percentages on every question in these categories. Having employees say they would recommend our company to others for their employment and/or care is, in fact, the highest compliment we could receive.

With 90% of employees reporting their work gives them a feeling of accomplishment and 91% saying they are willing to contribute more than what is expected of them in their job, it’s clear the people of our organization take our “Healthcare Inspired” mission to heart.

Awards of Excellence

The Noel Williams Award of Excellence winners were announced during the 2016 All Hands event. This award is the highest employee honor in IT&S with only about 25 people nominated each year and just two winners, one from corporate and one from the field.

The field honoree for 2016 was Anne Theaker, Manager of Clinical Application Services from the East Florida Division. Using her diverse experience, including an early stint in nursing, Anne has an uncanny ability to identify clinician struggles and has made it her mission to find resolutions through templates and education, scripts, documentation, and especially personal interaction. The corporate award went to Valerie Wilson, Senior Consulting Product Analyst in Customer Engagement, whose focus, detailed analysis, and commitment to HCA and our patients contributed to certification of MyHealthOne as a Meaningful Use portal and led to enterprise deployment success.

Both honorees represent themselves and their teams as shining examples of IT&S’s talent and tenacity, accomplishing great things through their humble commitment to the company’s mission.

Phil Patton Award

One of IT&S’s own, Jeremiah Weeden-Wright was named the 2016 winner of the Phil Patton Award, HCA’s highest honor for employee dedication to community service. Jeremiah, a CRM Development Application Engineer, has focused his community work on the Nashville Food Project, where he also serves as a board member. Jeremiah has led three HCA Community Days with the Nashville Food Project as well as a Hack for the Community IT development project, bringing together dozens of employees to help with technology needs in addition to efforts to grow food, prepare nutritious meals, and deliver this necessity to people in need.
The All Hands event is the one time of year when IT&S employees (at least the majority of those based in Nashville) are all under one roof, listening to the same message from leadership. It’s a culture-shaper, our company-wide pep rally. The title of this year’s event was “Back to Basics.” The theme: the eighties. IT&S was nominally formed in 1986, and on this 30th anniversary, it was the opportune time to acknowledge our origins and celebrate our legacy.

The event featured throwback 8-bit video games and 80s-inspired music and videos, but the heart of the experience was the slate of presentations. HCA CEO Milton Johnson spoke about the legacy of HCA Leadership. CIO Marty Paslick talked about employees’ critical role in making sure IT solutions are flawlessly available for physicians in their time of need. And keynote Scott Hamilton, Olympic medalist and two-time cancer survivor, offered a message of positive perseverance that was profoundly inspirational—made all the more meaningful because of his collaborative engagement with our very own Sarah Cannon organization.

We know when to go back to basics.
We continually strive to learn more about our colleagues, our industry, and our company.

With a rotating roster of stories from leadership, subject matter experts, employee spotlights, and news on our company’s many successes, the IT&S News page on Atlas Connect saw unprecedented growth in quality content and readership in 2016, with 14% more stories and 61% more views than the previous year.

The field and corporate Healthcare Inspired message boards saw a 453% jump in submissions and viewers, offering compelling employee insights into their personal connection with our mission that poured in from all 15 divisions.

On the HealthcareInspired.com blog, launched in March, more than 54,000 readers visited to read about our unique stories and insights into the healthcare technology industry. And the newly-revamped HealthcareInspired.com brought more than 300 applicants to IT&S open positions in a matter of months since the site began focusing on attracting top IT talent.

The greatest impact made to online engagement, however, was through social media. Employees engaged on social media on an unrivaled scale in 2016, using the #healthcareinspired hashtag an average of 20 times per day. The hashtag drew nearly double the impressions than the previous year, thanks to an engaged employee base willing to share their personal insights into what makes IT&S such a unique place to work.

We’re recognized as industry leaders.

Placing higher on the list than ever before, IT&S ranked on Computerworld’s 100 Best Places to Work in IT for the eighth year in a row. This recognition highlights the satisfaction and morale among more than 4,500 technology employees across corporate headquarters and 168 hospitals in the states and the UK. Also, for the sixth straight year, IT&S was named to the celebrated list of Most Wired companies, the leading industry award for measuring IT adoption in US hospitals and health systems. For an individual hospital to achieve this honor, with its stringent standards, is remarkable; for an organization as vast and far-reaching as HCA, exceeding those Most Wired standards across all of its 160+ hospitals, it is a marvel—and something for which all IT&S employees can be very proud.
About IT&S

Our mind is focused on technology, but our heart is committed to healthcare.

HCA Mission & Values

Above all else, we are committed to the care and improvement of human life. In recognition of this commitment, we strive to deliver high quality, cost effective healthcare in the communities we serve. In pursuit of our mission, we believe the following value statements are essential and timeless.

- We recognize and affirm the unique and intrinsic worth of each individual.
- We treat all those we serve with compassion and kindness.
- We act with absolute honesty, integrity, and fairness in the way we conduct our business and the way we live our lives.
- We trust our colleagues as valuable members of our healthcare team and pledge to treat one another with loyalty, respect, and dignity.

IT&S Mission

Our mission is to help transform healthcare by delivering information technology and solutions that dramatically improve patient care and business operations.
As employees of IT&S, we could apply our technical skills anywhere, but we choose to employ them toward the noble cause of improving healthcare. That’s why we say we are “Healthcare Inspired,” which serves as a guiding vision for our purpose and culture. Healthcare will be inspired by our technology solutions. Our solutions will be inspired by our uniquely talented team of experts. And we should all be inspired by the meaningful work we do.

Healthcare Inspired

We believe in IT&S’s powerful impact on the lives of others

We know our unique expertise plays a crucial role in the care given in our hospitals

IT&S Guiding Principles

Because we are Healthcare Inspired we will:

Be Innovative and Resourceful
Leveraging HCA’s powerful influence, we will use our unique expertise to transform healthcare with original IT solutions.

Deliver on Our Commitments
Nothing is more urgent than advancing healthcare IT, so we must deliver the highest quality capabilities on time and within budget.

Eliminate Inefficiencies
Discovering ways to conserve time, save money, and streamline processes is essential for delivering quality care.

Protect Our Information
We must always safeguard our most precious asset, protecting the information of our patients, our people, and our business.

Listen, Learn, and Lead
To thrive as an organization, it is critical that we creatively collaborate with each other, constantly improve our own skills, and look to lead when necessary.