OUR ENVIRONMENT OF CARE

Texas Health Resources’ leaders are responsible for guiding the execution of our Mission, Vision, Values and The THR Promise™ so that we can maintain organizational and financial sustainability.

Each year, our leaders develop strategic plans, operationalize business objectives, engage employees and patients on key issues, evaluate performance and track continuous improvement to strengthen our health system.

2015 HIGHLIGHTS

Reduced electricity use 16% since 2011, saving $11.2 million

Reduced water consumption 5.6%

Recycled 52 tons of electronic waste

SAVED $80.3 MILLION ON SUPPLY EXPENSES SINCE 2012

Formalized a robust and comprehensive emergency management plan, strategy and training program

Spent nearly $24 million with minority and women-owned enterprises

Created a Code Silver Active Shooter Policy and delivered training to educate employees on how to respond to persons with weapons

Strengthened technologies, processes and security awareness training to address ransomware and phishing threats

Renewed three-year Joint Commission accreditation in 100% of hospitals
PHYSICAL ENVIRONMENT

Texas Health’s physical environment encompasses systemwide campuses and facilities, hospitals, clinics, corporate and administrative offices, and surgical, health and imaging centers.

How we manage

Management programs comply with Texas Health’s stringent building and operations standards, as well as those set by The Joint Commission (TJC), Occupational Health and Safety Administration (OSHA) and National Fire Protection Association. In 2015, 100 percent of our hospitals renewed their three-year TJC accreditation, which certifies they are delivering safe and effective care of the highest quality and value. System representatives also serve on our:

- Physical Environment Workgroup, which meets monthly to discuss physical environment safety concerns and action plans, and to share best practices across all Texas Health facilities.
- Environmental Tours Program, which includes an annual onsite-focused survey that addresses emerging issues at each building.

In 2015, workgroup members implemented a non-violent crisis intervention program and began rolling out training to help caregivers safely defuse anxious, hostile or violent behavior. Also during the year, Texas Health began using new software – Joint Commission Resources’ Accreditation Manager Plus® – to more effectively help our taskforce assess, manage and track environment of care compliance in accordance with TJC standards. It is helping us to quickly identify areas needing improvement and create targeted plans for resolution. For example, we identified ways to strengthen our hazardous waste management program and implemented strategies systemwide.

How we secure

Each Texas Health hospital has a multidisciplinary threat management team that annually assesses and identifies potentially hazardous conditions related to physical building security or workplace violence. Based on their findings, we implement security controls and train employees to reduce potential risks.

In response to increasing workplace violence across the country, Texas Health implemented a Code Silver Active Shooter Policy in 2015 and delivered active shooter training to educate employees and physicians working in high-risk areas regarding how to respond to persons with weapons. We trained more than 23,000 people during the year to help them know how to respond should a shooting occur. Training is refreshed annually.

As part of our efforts to systemize security management in 2016, a Director of Physical Security has joined Texas Health to drive systemwide alignment and standardization of our safety protocols.
ENVIRONMENTAL MANAGEMENT

Texas Health’s environmental management systems allow the system to maintain compliance, reduce operational risks and provide the best possible environment for our patients and guests. To be environmentally responsible, we also:

- Improve building efficiencies when constructing or renovating facilities using tools and guidance from best-in-class energy efficiency protocols, such as the U.S. Environmental Protection Agency’s ENERGY STAR® program.
- Install and upgrade existing environmental controls and systems to monitor and reduce water waste, energy consumption and air emissions.
- Reduce or eliminate exposure to medical, toxic, pharmaceutical and hazardous wastes and chemicals.
- Use more efficient or sustainable materials and equipment.
- Reduce, recycle and responsibly dispose of waste.

We evaluate the effectiveness of our programs and capital investments through goal setting and progress reporting; cost savings realized; reduced energy, water and waste; and alignment between our facilities and the communities they are designed to serve. In 2016, Texas Health plans to create a sustainability report card to indicate what steps have been taken by the system to reduce the impact on the environment.

SNAPSHOT: Energy Roundup Competition

Texas Health participates in an annual statewide competition between hospital and medical offices to save energy and improve the utility budget bottom line. In 2015, the following hospitals earned:

3rd Place

★ Texas Health Presbyterian Hospital Kaufman

Honorable Mentions

★ Texas Health Arlington Memorial
★ Texas Health Harris Methodist Hospital Fort Worth
★ Texas Health Harris Methodist Hospital Cleburne
★ Texas Health Harris Methodist Hospital Dallas
SNAPSHOT: Energy-Efficient Boiler Cuts Natural Gas Use by Nearly Half

When a 37-year-old 125-horsepower hydronic boiler began to fail at Texas Health Presbyterian Hospital Kaufman, it was time to replace it. After evaluating various options, Texas Health determined the most energy-efficient approach would be to replace it with condensing hydronic hot water boiler. The water could be used for heating and for the hospital’s domestic hot water system. Steam generators are being used to produce steam for sterilizers.

The new boiler—and the replacement of a steam coil in one air handler—enabled the hospital to generate steam only when needed, instead of storing steam for 168 hours a week when only 20 to 35 hours of steam were needed for sterilization. This alone has reduced natural gas consumption by more than 40 percent over the last 12 months.

Texas Health has reduced electricity use 16% since 2011, saving $11.2 million

The following sections explain our investments in critical areas:

Energy

Texas Health has invested millions of dollars in energy efficiency projects to reduce costs and greenhouse gas emissions associated with powering, heating and cooling our facilities. For some hospitals, we purchase renewable energy certificates, which are used to purchase a portion of electricity from renewable energy sources (e.g., wind or sun).

In 2015, we spent about $8 million in building system upgrades and completed 37 efficiency projects in an effort to reduce energy consumption systemwide. While overall electricity use increased 1 percent due to unavoidable delays in full implementation of some large projects and the addition of more square footage, natural gas use decreased 5.7 percent.

Late in the year, we began installing new software to regulate how much energy, water and natural gas we supply to all facilities. We also began work on thermal storage projects and continued optimizing or eliminating steam boilers.

Water

As the state of Texas faces ongoing risk of drought and low water supply and rates continue to rise, consumers must use water wisely to preserve this finite resource. Texas Health implements a number of initiatives to reduce water use and save money, including installing water-efficient irrigation and plumbing, and incorporating Xeriscape practices into landscape design. Texas Health also co-owns the award-winning North Texas Health Care Laundry

ENERGY CONSUMPTION

Texas Health has reduced electricity use 16% since 2011, saving $11.2 million
Cooperative with other health systems, which enables participants to reuse wastewater, reclaim heat and reduce chemicals needed to clean hospital linens. This is a cost-effective and environmentally conscious way of combining strengths to process laundry.

In 2015, we installed an enhancement that uses less water in a cooling tower and evaluated alternative water sources. Systemwide, we reduced water consumption 5.6 percent, exceeding our 3 percent goal. In the coming year, we plan to:

- Conduct a water system audit to identify areas of high use and methods to reduce water use.
- Initiate a water conservation program.
- Use low-maintenance plant materials and dig water wells at some facilities to irrigate.
- Reduce the number of water meters and fees, as water rates increased more than 16 percent this year.

Waste management

Hospitals produce more than 5.9 million tons of waste annually¹, which often ends up in landfills or is incinerated where legally allowed. Texas Health reduces or recycles waste where feasible, carefully manages waste to comply with regulations and protect human health and the environment, and to reduce costs. Our stringent waste management policies, protocols and training enable us to handle waste responsibly.

Texas Health manages a variety of waste streams including:

- **Medical and hazardous waste** – We contract with a national waste disposal company that delivers waste-handling training, and removes hazardous chemicals, pharmaceuticals and waste directly from our facilities.
- **Office waste** – We transitioned to an electronic work environment, and recycle paper, boxes, plastic, aluminum, packaging and steel. We host community document shredding events, and recycle or reuse furnishings rather than disposing them into a landfill. Additionally, Texas Health stores and distributes older furniture and medical equipment to smaller clinics in need.
- **Electronic waste** – We recycle computer components, medical equipment, telephones, printers, servers and other electronics after they are no longer needed.
- **Laundry waste** – We reduce patient linen weight to reduce water, energy and costs.

<table>
<thead>
<tr>
<th>Waste Type</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>Pounds of paper shredded/recycled</td>
<td>2.5 million</td>
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<tr>
<td>Trees saved</td>
<td>21,139</td>
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<tr>
<td>Gallons of water preserved</td>
<td>34.5 million</td>
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<tr>
<td>Electronic waste recycled</td>
<td>52 tons</td>
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<tr>
<td>Corrugated materials recycled</td>
<td>36,900 pounds</td>
</tr>
<tr>
<td>Metal material recycled</td>
<td>11 tons</td>
</tr>
</tbody>
</table>

¹ 2015 Health Facilities Management Sustainable Operations Survey
Air quality

As a large health care system, we understand the impact our operations can have on carbon emissions and other compounds that can aggravate health conditions linked to poor air quality, like asthma and cardiovascular disease. We implement regulated controls, monitor emissions and ship medical waste off-site for incineration. In 2015, we continued to comply with all local, state and federal air quality regulations.

Building design and refurbishing

Texas Health designs, builds and retrofits hospitals and facilities to improve efficiency while reducing negative environmental impacts, as required by local building codes. In 2015, expansions of Texas Health Plano and Texas Health Stephenville incorporated more efficient infrastructure design. We also used more efficient construction techniques and installed energy-efficient systems, such as LED lighting, when renovating a number of building interiors throughout the system.

SNAPSHOT:

Innovative Warming Blankets May Improve Patient Comfort, Lower Costs

Under the standard warming protocol that operating rooms follow, surgical patients may receive several blankets (typically nine to 15) to keep them warm after surgery. In 2015, Texas Health Harris Methodist Hospital Southwest Fort Worth piloted using Thermoflect® blankets, which contain heat-reflective technology.

These innovative blankets could reduce the number needed per patient to just one regular 2-lb. blanket and one 1-lb, which would significantly curtail procurement and laundry expenses. While the trial went well with positive patient feedback, some mentally required the weight of the blankets to have a feeling of warmth. The hospital intends to purchase additional Thermoflect blankets for future use.
SUPPLY CHAIN MANAGEMENT

Supply costs are the second-largest expense after labor, making it critical that Texas Health conscientiously manage procurement processes to maintain competitiveness, financial viability and operational efficiency. We do this while also selecting the highest quality of materials and services to deliver outstanding patient care.

Similar to other organizations of our size and scope, we face the following risks to our supply chain:

- Extreme weather and/or other unforeseen events that may delay or interrupt supply delivery.
- Escalating costs for high-end or high-tech medical technologies, equipment and other related products and services.
- Sourcing from manufacturers that outsource production in countries that may have additional political, social, health or weather risks.
- Underperforming or unethical contractors.

We designed our business practices and performance management systems to monitor and reduce these risks, as well as maintain compliance with federal and state laws and regulations.

Procurement strategies

To effectively and responsibly procure materials, equipment and services, we deploy the following key strategies:

- **Responsible purchasing** – We purchase products and services that are healthy and better for the environment when financially feasible.
- **Buy green and buy local** – We procure environmentally friendly and recycled materials when it is cost-effective. We also purchase services and products locally, which helps create jobs and sustain local economic growth in the communities we serve.
- **Harness buying power** – We are an owner of Premier Inc., a national group purchasing organization that leverages members’ purchasing power to source quality products at a lower price.
- **Test quality prior to purchasing** – We assess if manufacturers’ clinical innovations meet our high standards by having our clinical teams test them for alignment, safety and satisfaction.
- **Require ethical business practices** – Vendors must conduct business in accordance with our Code of Business Ethics and our System Compliance Program, as well as all aspects of our written policies and procedures on the federal False Claims Act, whistle-blower provisions and fraud detection and prevention programs.

SNAPSHOT: Chemical Reduction

Texas Health was the first health system in North Texas to achieve level-one “Clean Zone” certification.

Clean Zone is designed to reduce the negative impact of harmful equipment and products on health and environment. Certification requires a commitment to use green cleaning products, equipment, processes and management practices.
Controlling costs

Texas Health engages suppliers to determine ways to reduce costs within supply chain processes and programs, as well as how to standardize best practices related to the purchasing, storage and distribution of materials. We have achieved bulk pricing and cost reductions in physician usage of special-ordered items, which has reduced supply expenses per net patient service revenue since 2009.

In 2015, we embarked on a multiyear Focus on Fundaments project, which is designed to help us reduce variation of supplies and use, while keeping our quality and patient outcomes high. Our goal was to reduce costs by $24 million, which we exceeded by achieving a $26.8 million reduction in expenses. In 2016, we are hoping to save another $28 million by reducing acquisition costs as well as reducing the quantity of supplies being used.

Supporting minority businesses

Doing business with enterprises owned by women, minorities and veterans can provide cost-effective products and services to our organization. By contracting with these organizations, we help sustain their companies, which in turn, help strengthen the local economy. While we do not have specific targets for annual spending with minority suppliers, we spent nearly $24 million with these companies in 2015.

Monitoring performance

Texas Health’s supplier contracts are designed to reduce costs, establish quality and performance expectations, and comply with its ethics and compliance policies. We evaluate key vendors’ performance using a quantitative tool based on approximately 30 criteria, including cost, quality, responsiveness and assurance of supply on an annual basis.

We also discuss what vendors are doing to reduce their own environmental and social impacts, as well as what business they do with their diverse suppliers. We meet with underperforming suppliers to establish improvement plans if needed. If sufficient progress is not made and we see little change in resolving issues, a contract may be terminated.
SNAPSHOT: Sharing Savings, Reducing Costs: THSCS Offers a Trifecta of Benefits

Ambulatory and outpatient clinics, rehabilitation facilities, physicians’ offices and other non-acute care providers often lack the resources, technology and size to efficiently and cost-effectively manage their supply chains. It can take years for them to afford powerful inventory management software or to receive sizable discounts from suppliers, which charge less per unit when large volumes of materials are procured.

After recognizing this challenge, Texas Health’s non-acute supply chain management team came up with an innovative way to help: offer access to its purchasing contracts, robust materials management information system and operational expertise for a small monthly licensing fee. This idea led to the creation of Texas Health’s for-profit subsidiary, Texas Health Supply Chain Services (THSCS). THSCS empowers non-acute care providers by offering supply chain solutions that lower supply costs, increase operating efficiencies and add revenue throughout the care continuum without compromising quality of care.

Here is what THSCS’ clients – which currently include Texas Health Physicians Group’s network of more than 250 physician practices, joint venture non-acute facilities and other external care providers — receive:

• **Immediate savings of 15-20%**: As a member of Premier’s exclusive Committed Contracting Group (CCG), Texas Health has access to more than 2,300 discounted group purchasing contracts in various product and service categories. Premier is one of the largest group purchasing organizations, and CCG companies save about 17% annually on procurement expenses. THSCS also has its own contract portfolio of services and products that augment Premier’s, providing additional savings opportunities for its affiliates. Clients of THSCS benefit from these extensive discounts, like Texas Health Physicians Group did by saving $4.4 million since the inception of the program.

• **A web-based, robust materials management information system**: Clients can remotely manage critical supply chain functions – from purchase orders and approvals to receiving to inventory control – more efficiently. This eliminates the cost, labor and expertise needed to implement this type of solution on their own. The technology also helps organizes reduce financial and operational risk, increase contract compliance and provide a line-of-sight to all non-acute spending.

• **Exceptional support**: Clients can tap Texas Health’s supply chain experience, supplier relationships, and both its technological and operational expertise to draw on for support when needed.

Sharing contract savings and procurement technology is a key way Texas Health can help other care providers streamline supply chain management and reduce costs — helping to financially sustain not only those organizations, but also our own.
BUSINESS CONTINUITY

Texas Health’s ability to continuously maintain business functions is critical to protecting the health and well-being of its patients, managing business risks, and preserving its reputation and long-term sustainability. We designed our business continuity plans to minimize the impacts of unexpected events and execute a quick recovery in case of a natural or manmade disaster, delayed shipment of supplies, technology outages or other unforeseeable factors.

Emergency Management

Preparing for continued operation during a disaster is a key responsibility to our community. The North Central Texas Trauma Regional Advisory Council coordinates the Regional Healthcare Coalition’s preparedness activities, communication and collaboration of resources during disaster events. We also leverage the robust National Incident Management System, which includes the Hospital Incident Command System to maximize patient and staff safety when activated.

Management strategies

Texas Health participates in a variety of exercises, including functional exercises with our respective local jurisdiction and health care coalition partners, internal code pink drills, and communication exercises with area hospitals, local and regional emergency responders and other authorities. Additionally, each Texas Health hospital:

- Completes a hazard vulnerability analysis annually to proactively identify areas that could impact operations or nearby communities.
- Regularly reviews and updates its emergency operations plan to confirm disaster preparedness, response, recovery and mitigation activities are consistent and swift. We test the plan twice a year, with one drill that includes local and regional partners.
- Trains select staff on emergency response and communications.
- Conducts ongoing risk surveillance and reporting.
- Prepares for natural or manmade disasters so it can continue delivering care during unexpected business interruptions.
- Reviews its emergency management program annually for regularly compliance.
- Leverages lessons learned through drills and reviews real-time emergencies to improve surge capacity, fire response, communication, decontamination, patient tracking, evacuation and business continuity processes and infrastructure.

Progress being made

In 2015, Texas Health became one of the few health systems in the nation to create a robust and comprehensive emergency management plan with standardized processes and procedures for disaster and emergency preparedness. Along with the plan, we formed a multidisciplinary group of representatives across the system to oversee emergency management and business continuity programs, as well as appointed a System Emergency Management Cabinet. As part of our effort to become a High Reliability Organization, we also:

- Completed business interruption assessments for all of our system services departments.
- Conducted a half-day tabletop drill with executive leaders and other select staff to increase awareness of potential risks and how to manage them.
- Developed an incident command system training program using the Federal Emergency Management Agency’s online training curriculum.

Also during the year, all hospitals assessed and updated their emergency operations plans, and completed a hazard vulnerability analysis. Texas Health’s System Incident Teams updated their roles and responsibilities and tested these during a tabletop exercise as well.

In 2016, Texas Health Physicians Group and all of our hospitals will complete business interruption assessments, and all staff will conduct a functional drill to identify opportunities for improvement systemwide.
Information protection

To combat the growing number of computer-based threats and other vulnerabilities, Texas Health protects operational and patient health information and intellectual property using a combination of technology, processes and controls.

Management and security

Texas Health’s comprehensive communications network includes electronic health records, robust Internet and intranet sites, department-specific portals and a web-based emergency notification system. We must protect and preserve information exchanged through these channels to operate legally and responsibly. Additionally, we must enable executives, clinicians and other employees to distribute and receive timely and accurate health and operational data to guide their decisions and improve their effectiveness.

To secure and maximize the reliability of information, we deploy proven technologies, monitor all alerts and address all possible breaches and potential threats in a coordinated and responsible manner. For example, we install firewalls, intrusion detection tools, email monitoring and filtering capabilities; encrypt health information and credit card data; automate security patches; and limit access to information based on employees’ roles. We also collaborate with industry peers and the U.S. Food & Drug Administration to help ensure medical devices are protected from advanced threats.

We evaluate the effectiveness of network security by conducting internal audits as well as contracting with independent specialists, who regularly assess multiple security controls, test vulnerabilities inside and outside the network, and ensure technical responsibilities and compliance are being met. When we discover deficiencies, we develop and implement plans to address them.

In 2015, Texas Health began enhancing our technologies, processes and security awareness training to address ransomware threats. This effort included continually updating security controls, launching an anti-phishing program to reduce the risk of employees clicking on a malicious email link, and installing ransomware detection technology. No significant data breaches occurred. In the coming year, we will adapt security controls to evolving and emerging threats, and implement an advanced threat prevention project focused on preventing targeted attacks.
Backup and recovery

Texas Health’s information technology solutions disaster recovery program delivers uninterrupted access to data that could impact operations or patient care. In the event a facility’s direct network connection is not available, users can securely access critical systems from any location with Internet access. We also have backup power supplies, data centers and alternative telecommunications channels in place.

In 2015, we made significant improvements in both the resiliency and availability of our information systems. All of our most critical technologies and applications that support clinical services or critical business functions are fully redundant and designed to meet our business continuity needs. Additionally, we continued our multyear data center transformation project to provide additional offsite backup so that if one system fails, users will automatically be switched to another – with zero downtime or interruption.

Next year, we will continue improving the resiliency and reliability of systems by strengthening our data center operations into a high reliability, best-in-class operation that safeguards the protection, resiliency and availability of systems for years to come.

SNAPSHOT: Reducing risks before they occur

According to IBM’s 2015 Cyber Security Intelligence Index, 95 percent of all security failures are caused by human error. Users inadvertently share sensitive information through phone calls, phishing emails and other techniques. While many organizations have strong security measures, they do a relatively poor job of educating employees to recognize possible threats. Texas Health is working to change that.

In 2015, we began an anti-phishing campaign for all employees in order to help us identify high-risk users. As part of this campaign, the Information Security team sent deceptive emails or “phishing emails.” Employees who clicked the link were taken immediately to a screen that explained their error and how to recognize possible phishing methods.

To drive continuous improvement and awareness, we are executing a quarterly phishing campaign to all employees and a monthly campaign to identified high-risk users. In addition to this quick training, we also provide mandatory information security training systemwide to build awareness of phishing techniques and to remind employees to adhere to our acceptable workstation use policy.