2013 Sustainability Report

Inova Health System

INOVA

Environmental Mission Statement

Inova Health System is committed to establishing
an environment that is safer and healthier for
our patients, employees and community.

Sustainability is saving money by wasting less, so we can invest more in research and patient care.

Sustainability is capitalizing on technology to maximize health outcomes and increase operational efficiency.

Sustainability is preserving our resources now so we are able to extend our mission into the future.

Sustainability is selecting our products and services thoughtfully to reduce chemical exposure and eliminate waste.

Sustainability is serving fresher, more nutritious foods to help our patients heal and our cafeteria customers stay well.

Sustainability is supporting alternative transportation in order to minimize local air pollution and its negative health impacts.

Sustainability is creating healing environments that don't contain harmful chemicals.

Sustainability is preparing today for tomorrow's challenges.

Sustainability is health.

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From Inova's CEO

As CEO of Inova, I am often asked about our commitment to sustainability and environmental stewardship. Why, in a time of great upheaval within the healthcare industry, is this something that is important to us? Shouldn't Inova's efforts be geared towards delivering great value and exceptional outcomes for our patients? Towards driving revenue and investing in research and human capital? Towards truly making our organization the best that it can be?

In response, I often answer these questions with a question of my own: Given these priorities, how could sustainability not be a concern?

The principles of environmental sustainability are intrinsic in all we do at Inova. They drive improvements across our entire value chain. They reduce risk and increase organizational resiliency. They create safer, healthier environments in which our patients can heal more quickly. And they demonstrate to our community that Inova is taking active steps to be a thoughtful neighbor and true partner in health.

In 2013, Inova achieved significant progress towards our sustainability goals, and we are proud to share our journey in the following pages. But we must also acknowledge that the environment-related health issues our world faces are of enormous gravity, and that it will take efforts greater than our own to tackle such significant and widespread challenges.

We must continue working to define, track and manage our environmental impacts, and to promote healthy behaviors whenever and wherever possible. We must continue integrating sustainability principles into the core culture and fabric of our organization. We must continue working with our business partners to track data across our operational impact areas, and with our employees to spread the knowledge that sustainability equals health. Because we simply cannot afford to wait.

Sustainability is right at the heart of what we do, both theoretically and conceptually. But it's also a very practical piece of what Inova needs to do and be in order to achieve our goals of maximizing the health of each and every person – of creating a great place to work and being a good partner to the community. Being a leader in sustainability is not just the right thing to do, but for Inova it's the smart thing to do as well.

Sincerely,

J. Knox Singleton
CEO, Inova Health System

INOVA

Inova Going Green
Making an Impact for the Future

From Inova's COO

Inova's patients come to us looking for the highest quality experience, the best clinical outcomes and the most affordable care. They come seeking value. At a time where the healthcare industry is increasingly competitive – where we fight for every single patient, and every last dollar of revenue – Inova must seize every opportunity we encounter to distinguish ourselves and increase the value we provide to our customers and community.

Inova has developed a range of strategies to ensure continued excellence and growth in the face of this competition, as well as the many other challenges and changes confronting the healthcare industry. Environmental sustainability is a key driver of these efforts, and plays a large role in helping Inova meet the growing demand for high-value, broad-reaching healthcare services.

When members of Inova's community consider whom they want to provide their healthcare services, our efforts to truly 'walk the walk' in terms of health differentiate us from our competition. Our sustainability achievements over the years, including the elimination of harmful chemicals, the minimization of air and water pollution, the reduction of waste, the preparation of healthier foods, and the expansion of community health programming, show prospective patients that Inova is not just a place to receive treatment, but also a partner in maintaining and maximizing health.

Sustainability also has great potential to impact the experiences of our patients and their families while within our care. Patient experience and satisfaction, in turn, impact Inova's financial performance, as patient survey results are increasingly connected to the healthcare industry's financial structure. Any opportunity to raise patient satisfaction scores, even just a small amount, creates a chance for hospitals to improve financial performance in the long run.

Inova uses targeted sustainability strategies to influence our patients' experiences at many points throughout their visits. These strategies are described in detail in the 'Managing Our Impacts' section of this Report, and include efforts such as preparing from-scratch food, using less-irritating cleaning chemicals, making recycling containers readily available, and providing access to healing gardens. Every small effort counts and, though these efforts may not be directly noticeable by the patient, we know that they combine together with other factors to create the experience of excellence our patients have come to expect from Inova.

The interactions of patients and their visitors with Inova's doctors, nurses and support team also significantly impact patient experience and satisfaction. We know that the attitudes, knowledge and dedication of our team are what make the difference for our patients, and we have integrated a range of employee benefits and ongoing development programs to attract the best, brightest and most passionate professionals in the industry.

Inova's sustainability program helps attract such high-quality team members because, at its core, the program's mission is the same as theirs: to protect health. Inova team members see value in our efforts to reduce hazardous waste, harmful chemicals and pollution because they know it makes their families, friends, patients and themselves healthier. Environmental sustainability creates meaningful work environments that allow them to actively contribute to health and wellness. And when our team is more actively engaged and excited about its work, our patients can tell.

And finally, Inova's sustainability efforts contribute to financial savings that allow us to create greater value within our community by expanding care into new neighborhoods and service lines, increasing charity care and reducing the cost of health. By developing more efficient, cost-effective processes and identifying and eliminating waste, our sustainability efforts create financial savings that are directly channeled back into improved outreach and patient care. And, unlike the investment required to bring in additional revenue, it often costs nothing to engage in sustainability strategies that lead to financial savings, such as energy conservation and recycling.

Inova's 2013 Sustainability Report shares more about the sustainability strategies I have just described, as well as the many additional benefits these efforts bring to our organization and community. I invite you to read on to learn more about how Inova uses sustainability as a tool to optimize the health and well-being of each individual we serve, to truly shape the future of health.

Sincerely,

J. Knox Singleton
CEO, Inova Health System

Understanding Our Responsibilities

The Quadruple Bottom Line

The concept of sustainability revolves around a so-called *triple bottom line*, which indicates that in order for a strategy to be truly sustainable in the long run, it must be financially viable, environmentally conscious and socially responsible.

The triple bottom line emphasizes that long-term economic success is only achievable if an organization maintains goodwill within its community and works within the environment's natural constraints. If companies deplete the resources they need to produce their product or service, or upset a key stakeholder group through their actions, their financial performance will be negatively affected. No one factor can be considered alone – all must be considered simultaneously in order to achieve the maximum outcomes.

In the field of healthcare, this strategy is made more complex by the fact that the patient must be placed at the core of everything hospitals do. As Inova works to make our operations more sustainable, we face not a triple but a quadruple bottom line of people, planet, profits *and patients.*

Every action we take must result in an outcome that provides equal or improved care and value for our patients, in addition to being economically, environmentally and socially sustainable.

This 2013 Sustainability Report focuses primarily on exploring the impacts and achievements of Inova's environmental programming, in the context of how they affect Inova's goals of superior patient care, extensive community engagement, minimal environmental impact and outstanding financial performance.

Throughout the following sections, the terms 'sustainability' and 'environmental sustainability' are used interchangeably, and refer primarily to Inova's environmental efforts and programming unless otherwise specified. Associated information related to Inova's economic and social impacts is available in the final sections of this report, as well as in Inova's 2013 Report to the Community.

People • Planet • Profits

PATIENTS

Patient Experience

Freshly prepared meals made with high-quality ingredients

Air without irritating chemicals

Unobtrusive cleaning practices

Availability of waste containers and recycling opportunities

Knowledgeable staff

Ease of transportation to and from facility

Patient Access

No money, no mission: Every dollar saved is one invested back into patient care and research

Financial savings from sustainability are used to expand Inova's care network

Costs significantly more to earn one new dollar of revenue than to achieve one new dollar in savings

Patient Outcomes

Optimal building design to impact healing time (single-patient rooms, views of nature, access to sunlight)

Chemical avoidance in medical products and building materials

Healthy, nutritious foods

Addressing antibiotic resistance through meat purchasing strategies

Connecting Environment & Health

Humans rely on our environment for survival. Every part of our existence depends either directly or indirectly on the world around us, from the air we breathe to the water we drink, the food we eat, and the natural resources that sustain our lives and drive our economies.

So when we pollute our environment with harmful chemicals, overuse our natural resources and upset the balance of our life-supporting natural ecosystems, we also endanger our very existence on this planet. If humankind's environmental impacts continue at current levels, we risk not only our own health, but also the ability of future generations to thrive.

Inova and other healthcare organizations are entrusted to manage the long-term health consequences of these negative environmental impacts. Our environmental footprint directly influences the health of our petients, employees and community.

Did You Know?

The metro-DC area, including the District of Columbia and certain counties in Virginia and Maryland, has been consistently rated by the American Lung Association as one of the worst areas in the nation in terms of ozone pollution.

Air Pollution

Several significant health risks related to air quality and pollution exist within Inova's local community:

- Ground-level ozone damages lung tissue, reduces lung function and inflames airways, contributing to increased school and work absences, medication use, doctor and ER visits, and hospital admissions.
- Air emissions from fossil fuels burned locally pollute the air we breathe with gases and particulate matter. This includes fine particulate matter, which is small enough to penetrate deep into the lungs and cause serious health problems including irregular heartbeat, aggravated asthma, decreased lung function, increased respiratory symptoms, nonfatal heart attacks and premature death in people with heart or lung disease.

All these pollution-related health impacts contribute to the proportionally high total of our nation's GDP that is spent on healthcare, compared to other developed nations.

Chemical Pollution

Man-made chemicals are now ubiquitous throughout the natural environment, with certain non-natural compounds now found in even the most remote corners of the globe. These chemicals enter the environment through air emissions, improper waste disposal, water runoff, and intentional dispersion into the environment (i.e. pesticides), and humans are exposed through the air we breathe, the water we drink and the food we eat.

There is also significant potential for chemical exposure through the products we use and the environments inhabit. Clothes, furniture, electronics, vehicles, personal care products, cleaning products and home improvement products all contain man-made chemicals that are frequently found in humans.

Many of these chemicals are harmful to human health, persist in the environment for long periods of time, and can bioaccumulate up the food chain until ingested by humans. Very few of them have been closely studied to identify toxicity and health risks, and even fewer have been examined for potentially harmful interactions with other chemicals commonly found in humans.

Unhealthy Food Systems

The modern U.S. food system contributes to public health risks in a variety of ways, which Inova has grouped into three key categories. Additional details about each are available in the Sustainable Foods section of this Report.

- *Nutrition.* The U.S. food supply is laden with calories, fat, salt, sweeteners and meat/dairy products, yet sparse on vegetables and whole grains.
- *Production impacts.* Pesticide drift, field dust, waste burning, toxic gases from degrading manure, and exhaust from production, storage and transport are all factors of food production that contribute to air pollution. Large industrial farms also use a staggering amount of water, and pollute local waterways with animal waste, commercial fertilizer and pesticides
- *Antibiotic resistance.* A growing body of evidence links the non-therapeutic use of antibiotics for livestock production to the concerning emergence of antibiotic-resistant bacteria, which leads to reduced effectiveness of related antibiotics in the treatment of humans.

2013

Impacts

15.3 MILLION
pounds of waste created
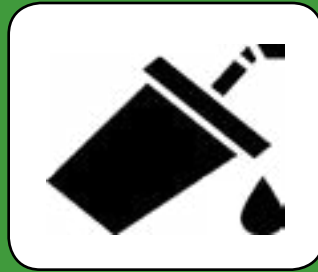
71,258
pounds of sugar served
in beverages alone
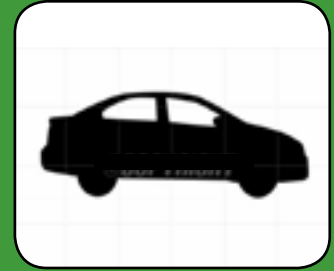
1,597,708
fleet miles logged
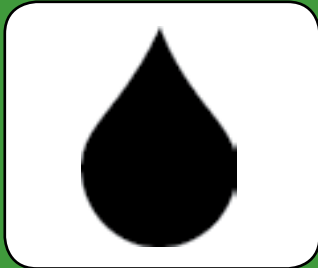
243,954,000
gallons of water used

1.2 TRILLION
KBTUs of energy used
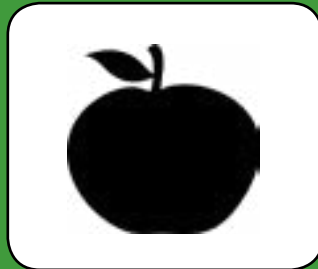
Outcomes

$207,000
spent on local and
sustainable foods

293,479
pounds of paper reduced with
electronic medical records

3,226,314
pounds of materials recycled

90.3%
of cleaning products are
Green Seal Certified

$4,416,982
spent on EPEAT-rated
electronic equipment

2013 Performance Against Goals

Goal 1: Expand upon existing communication forums and create new two-way communication mechanisms facing employees, patients and our local community.

Progress: Internally, Inova developed a Sustainability Advisory Board, increased in-services and huddle trainings, developed an Employee Sustainability Handbook, updated content on our employee intranet, and increased visibility around our gogreen@inova.org email address. Externally, we hosted the JustOne campaign, Intersections Sustainability Symposium, and EPP Supplier Roundtable, in addition to expanding our content on Inova's public website and producing Inova's first GRI sustainability report.

**Goal 2: Focus on waste management, with a special emphasis on a OneInova standardized waste stream management plan implemented at all Inova hospitals.**

Progress: Inova created a variety of department-specific waste guides, distributed them across the System, and held trainings on request for units that required additional attention. We also worked with our waste vendors to conduct monthly audits at each facility, providing tailored feedback and photographs to department managers at directors' meetings. Inova additionally continued efforts to standardize waste containers across the system, and to ensure the proper equipment and processes were in place.

Goal 3: Focus on energy management through job description prioritization and a OneInova standardized management plan across all Inova hospitals.

Progress: Hired an Energy Manager to improve and centralize energy efforts and strategies across the System. This individual worked closely with the Inova Facilities Management Department to analyze energy performance and develop management strategies for each hospital, resulting in the development of a Strategic Energy Management Plan (SEMP) spanning all of Inova's hospitals.

Goal 4: Focus on achieving progress in HHI food planks, signing the Healthy Food in Healthcare pledge and releasing *Sustainable Foods, Healthy Lives Cookbook*.

Progress: Inova formed a close partnership with a local food aggregator, more than doubling our local produce purchases from the previous year. We worked closely with our Food & Nutrition Services team and vendors to develop data collection and reporting process for the Healthier Hospitals Initiative's Local/Sustainable Foods, Healthy Beverages and Balanced Menus Challenges, reporting data for each category. Inova additionally signed the Healthy Food in Health Care Pledge at all hospitals and released the *Sustainable Foods, Healthy Lives Cookbook* and accompanying *Local Ingredients Guide* in Summer and Fall 2013.

Goal 5: Update Inova's sustainability management structure with the development of a Sustainability Advisory Board to guide the vision of Inova's sustainability program.

Progress: Formally created a Sustainability Advisory Board (SAB) consisting of high-level representatives from all departments across the System. SAB members participated in initial visioning session and follow-up meetings focused on deeper discussion of priorities identified during this activity, including establishing strategic priorities for the Office of Sustainability to pursue.

2014 Goals

Establish a data collection system with reporting accountability for HHI Healthier Foods metrics.

Further build sustainability into strategic organizational priorities including patient experience, wellness and brand.

Further engage Supply Chain and GPO teams in planning and implementation of environmental purchasing strategies.

Expand Strategic Energy Management Plan to establish energy efficiency goals and provide details on employee education.

Foster increased employee ownership of sustainability program by creating new opportunities for engagement and education.

A Note on Climate Change

What is Climate Change?

Climate change is any significant change in measures of climate, such as temperature, precipitation and wind patterns, over several decades or longer. Climate change happens slowly over time and is different than weather, which changes frequently. It occurs naturally in up-and-down cycles that last approximately 10,000 years. Modern human activity has significantly affected the rate and magnitude of this natural climate change, primarily through the consumption of fossil fuels.

When fossil fuels are burned, they release carbon dioxide and other heat-trapping gases into the atmosphere. These "greenhouse gases" change the atmosphere's natural composition and cause the planet to retain additional heat, which impacts things like sea level, ocean currents, atmospheric humidity and Arctic ice coverage. These factors significantly influence long-term changes in the temperature, precipitation, and wind patterns on Earth, and create what is known as *anthropogenic*, or man-made, climate change.

Why is Climate Change Relevant?

The consequences of these man-made climate shifts have left global leaders in business and government scrambling to prepare their organizations for the onslaught of related impacts – some of which are already occurring across the U.S. and beyond. As Earth's climate continues to shift, healthcare organizations will be faced with the management of more extreme and widespread patient and public health issues including:

- Longer-lasting heat waves of increased severity, leading to more deaths related to heat stroke and dehydration
- More frequent and severe weather events such as hurricanes, floods and tornadoes occurring over a broader geographic range and creating physical risks for patients, employees and community
- More intense and widespread droughts will lead to increased food costs and shortages, increasing the prevalence of hunger and malnutrition across the globe
- Hotter, wetter climates will expand the habitable zone for disease-carrying vectors such as mosquitoes and ticks, allowing for the northward spread of tropical diseases into regions unprepared to manage them
- Reduced air quality, particularly in urban areas, leading to increased incidence of respiratory illnesses and associated health consequences in at-risk populations, as well as longer spring pollen seasons and more severe allergy symptoms

Inova's environmental sustainability program is increasingly focused on exploring these consequences, and on implementing thoughtful strategies to minimize our own contribution to their detrimental long-term impacts. Specific strategies for managing these and other environment-related risks are included in the Addressing Our Impacts section of this Report.

Climate Risk: Physical Infrastructure

Severe weather spurred by a warmer, wetter climate is already putting the healthcare industry's physical infrastructure – the facilities, transport systems and supply chains we rely on to care for our patients – at risk. It will continue to do so as the climate continues to shift.

Each year, hurricanes, tornadoes, wildfires and flooding cause significant damage to hospitals across the U.S. As the range, volatility and severity of these extreme weather events grows, so will the physical risks to medical facilities within affected regions. Inova and other healthcare organizations must prepare for increased physical threats to their facilities, operations and supply chains caused by these risks.

Climate Risk: Insurance Costs

As the risk of damage to healthcare's infrastructure rises, so does the cost of insuring these physical assets. Healthcare organizations will likely see higher property insurance premiums as the physical risks to their facilities grow over time due to higher likelihood and expanding geographic range of extreme weather events and other associated threats.

Healthcare organizations will also likely face higher employee health insurance costs as the true tolls of environmental contamination and climate change are realized. Poor air quality, exposure to harmful chemicals, the spread of disease and the physical risk to employees during extreme weather events will all contribute to an employee population with increasingly acute and chronic health problems.

Climate Risk: Emergency Preparedness

Hospitals are anchor institutions within their communities. In the face of disaster, when everything else in a community is destroyed or shut down, hospitals are where community members turn for help, and for answers. As Earth's climate shifts, healthcare organizations will face the challenge of preparing their facilities and employees to respond to an increasingly volatile mix of climate-related emergency events. From hurricanes to tornadoes, floods, heat waves and disease outbreaks, hospitals will be challenged with maintaining continuous operations in the face of unexpected and potentially dangerous circumstances. Emergency preparedness plans must be reconsidered and adjusted accordingly, with full consideration for the climate-related challenges that a facility's physical location may present.

Climate Risk: Energy Availability & Costs

As the finite resources of our world become more constrained, Inova will likely face rising energy costs and potentially limited availability of energy. And as governments strive to manage and reduce the long-term impacts of climate change, countries and businesses worldwide face the possibility of legal restrictions on fossil fuel-based energy usage in order to minimize the rate of climate change.

Higher energy prices will also affect more than Inova's monthly power bill. Energy is required to manufacture products, transport deliveries and provide other necessary resources such as water. As energy prices rise in the future, Inova will likely see secondary cost increases in the goods, services and utilities we purchase.

Climate Risk: Community Health

In order to maintain our status as a non-profit organization, Inova must demonstrate that we are fulfilling our mission to protect the health of our community. The growing number of climate-related health risks our world faces – both now and looking forward – makes this challenge considerably more difficult by adding a range of new and complex factors to consider. Identifying the climate risks specific to our geographic region, understanding how they impact health within our local community, and developing a plan to minimize these impacts will require a significant additional amount of work for Inova in the years to come.

Managing Our Impacts

Sustainability Management Approach

Highlighting Our Successes

Acknowledging Our Challenges

Establishing a Sustainability Structure

Focus Area Subsections

Waste Management
Energy Management
Water Management
Environmentally Preferable Purchasing
Sustainable Foods
Alternative Transportation
Green Building

Sustainability Management Approach

Inova's environmental sustainability program is designed to manage and minimize the health impacts of the resources we use, the products we purchase and the waste we create. These efforts not only improve our patients' experiences and outcomes while at Inova, but also help keep patients out of our facilities in the first place by making our community a healthier place to live.

This section explores the seven specific sustainability focus areas that comprise Inova's environmental sustainability program: Waste, Energy, Water, Purchasing, Food, Transportation and Building. Each of these areas presents specific risks and opportunities for our organization, and has been identified as a priority by Inova's stakeholders and Sustainability Advisory Board based on its potential to impact organizational strategy, competitive position, financial performance, and patient, employee and community health.

Inova's sustainability goals, programming and policies are established based on industry best management standards as indicated by organizations such as Practice Greenhealth, the Healthier Hospitals Initiative, Health Care Without Harm and other healthcare and sustainability experts. We are committed to being a leader within this area, and go out of our way to promote new, innovative programs and processes for improving our sustainability efforts. Inova has additionally implemented a series of System-level policies regarding sustainability initiatives such as recycling, purchasing, single-use device reprocessing and the selection of building materials.

It should be mentioned that though these policies and strategies extend throughout all of Inova's hospitals and offsite facilities, the waste data and specific programming shared within this section apply only to Inova's five hospitals. These hospitals have historically been the focus of our efforts due to the sheer volume of the waste they produce and the magnitude of their financial and environmental impacts. As we continue to gain better control over our hospitals' waste profiles, we hope to start extending our reach into Inova's offsite facilities and begin developing a system to baseline current performance, streamline waste disposal practices and identify savings opportunities. However, it is significantly more difficult to track and manage environmental data for Inova's numerous offsite facilities than for our five hospitals, since we often do not own the buildings and/or are sharing utility meters with other companies.

Environmental Focus Areas

Highlighting Our Successes

In 2013, Inova achieved many successes within each of our sustainability focus areas. In addition to fulfilling all of the goals established for our program at the start of the year, we succeeded in implementing a range of new programs to minimize our environmental footprint and maximize our social impact.

These positive outcomes were made possible through the planning and coordination of the Office of Sustainability, the strategic oversight of the Sustainability Advisory Board, and the active participation of key Inova team members in departments across the System. Further engaging in active dialogue with all of our stakeholder groups was also essential in formulating the most effective, expansive program possible.

The charts, summaries, case studies and other information presented in the following section provide more specific detail into Inova's 2013 progress. As a commitment to transparent reporting, we have included information about both our current successes and the challenges we still face. Details on sustainability management mechanisms and performance against goals for each sustainability focus area are detailed in the following subsections.

Acknowledging Our Challenges

As with any significant operational strategy, Inova's environmental sustainability program experiences its share of management challenges, primarily including those listed below. These challenges impact each sustainability focus area in different ways, and greatly influence Inova's approach to the management of our environmental efforts.

Formulating project teams. Developing successful sustainability initiatives requires convening project teams to analyze the issues faced and formulate an implementation plan. It can be challenging to identify the correct members for these project teams, and to ensure that all the necessary individuals are together at the table during the planning process. Many departments operate behind the scenes to support the clinical setting and are not directly visible to the outside observer, which makes it more difficult to identify which individuals or departments could add the most value to the planning process. Precious planning time is spent working to identify and connect with key team members with the necessary background, knowledge and organizational influence to support the initiative.

Scheduling requirements. Scheduling for project team meetings is challenging due to competing time priorities within the organization, and scheduling issues alone can impede a project for months until all the right individuals and departments have been consulted. It is essential, however, to follow this process and get all key team members together at the table for at least the initial planning discussions. As Inova has learned through experience, leaving key team members out of initial discussions can lead to missed opportunities and, at times, the need to completely rework plans that have already been developed.

Pilot programs. The implementation of new, innovative programming often requires several rounds of pilots – and a fair amount of trial and error – before a full program rollout is possible. Process issues, availability of products, placement of equipment, staffing concerns and leadership approval, among other issues, must all be addressed during these pilots. This often means project teams must return to the planning process multiple times to make appropriate adjustments and recommend a new approach, consuming additional time and resources.

Maintaining efficiencies. The continued success of existing programs requires routine staff education and collection of feedback in order to ensure everything is functioning as intended. Even the best-planned programs can fail to achieve the desired outcomes if recommended processes aren't carried out correctly by the end-users. Regular feedback allows the project team to analyze the effectiveness of its program and to course-correct as necessary if performance starts to veer off course – an essential catch before the behavior becomes ingrained and the issue becomes larger and more difficult to fix.

Creating a culture. One of the largest obstacles Inova's sustainability program faces is building sustainability into our culture and helping our team members and stakeholders understand why these efforts are so important. So much operational work must be done that it can be difficult to balance planning and implementation with the necessary work of communication and engagement around these efforts. But if Inova is to become a sustainable organization, we must commit to establishing a culture of sustainability. In order to be truly effective, our team members must understand not only how to participate in our environmental programs, but also why their participation is necessary, how it supports health, and how they personally can contribute to these efforts at Inova.

Establishing a Sustainability Structure

Inova's sustainability program addresses the organizational risks and opportunities presented by the seven key environmental impact areas addressed in the following subsections. These areas have been targeted for their significant capacity to influence Inova's long-term performance and success in fulfilling our mission, as established by Inova's Sustainability and Leadership teams.

Inova's environmental efforts are primariliy managed by the Office of Sustainability, whose primary goal is the minimization of Inova's environmental footprint. The Office of Sustainability is also responsible for implementing associated stakeholder engagement and strategic planning efforts throughout the organization, and bases its environmental programming on best practices identified by our peers and industry experts.

Inova's broader sustainability vision is guided by our Sustainability Advisory Board. This advisory team, comprised of leadership from a range of functions within the organization, meets several times annually to review the Inova's broader goals and discuss how sustainability strategies can be used to help achieve them.

In 2013, executive ownership and oversight of Inova's Office of Sustainability was transferred from the Strategic Planning Department to the Human Resources Department. Throughout these transitions, Inova's Director of Sustainability continued to meet with leadership from both teams on a monthly basis to review past performance and upcoming initiatives. Environmental metrics and progress towards goals were also reviewed monthly by key members of the Sustainability Advisory Board, and annually by Board members and leadership teams at each operating unit. The team members within Inova's Office of Sustainability, as well key leadership team members at each operating unit, are held accountable by top leadership for achieving annual goals related to the organization's environmental performance.

Key Sustainability Players

Office of Sustainability
Oversees Inova's system-wide sustainability efforts, focusing on operational impacts, stakeholder engagement and strategic planning

Sustainability Advisory Board
Provides feedback on Inova's environmental strategy and connects it to broader mission, vision and long-term goals

Sustainability Executive Owner
Oversees monthly sustainability performance and facilitates the implementation of sustainability programs

Green Teams
Support the implementation of sustainability strategies, provide feedback on existing programs, and manage Going Green engagement events

Project Teams
Provide the subject expertise and departmental influence required to implement key programming (i.e. waste, OR, food, etc.)

Taking A Precautionary Approach to Our Environmental Impacts

The field of medicine relies on dependable data and rigorous methodology to ensure quality and consistency. But at times this information is unavailable, and strategic decisions must be made based on observations, intuition and logic. So is the case with Inova's environmental strategy.

Due to the rigorous requirements of the scientific method and a general lack of available data on the topic, it can take years to demonstrate scientific proof of negative health outcomes related to environmental contamination – even when the connection is apparent. For example, intuiting that air pollution negatively impacts health is very different than conducting a scientific study correlating changing levels of air pollution within a local community with their specific respiratory impacts on local citizens. This logic can be applied to a range of connected environmental and health impacts.

Inova recognizes that our environmental impacts contribute to negative impacts on community health, though we currently lack the resources to determine the exact scale or associated health outcomes of these impacts. For this reason, we follow the Precautionary Principle in support of our sustainability strategy. This principle indicates that "where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

Our commitment to protect the health of our patients, employees and community mandates that, rather than waiting to study the long-term negative outcomes of our environmental impacts, we must do all we can now to prevent them from occurring in the first place. We simply cannot wait for proof of the negative consequences of our environmental impacts – we know we must act today to address the health issues of tomorrow.

WASTE MANAGEMENT

Waste Background

Healthcare facilities produce huge amounts of waste, which is not only costly to dispose of, but also complex to manage. The improper management of certain types of hazardous waste can lead to significant fines, while the incorrect sorting of recyclables and trash into more expensive waste streams can additionally lead to waste disposal costs that are much higher than necessary. The healthcare industry also consumes massive quantities of products, which are the main source of its waste. Two key factors influence this dynamic:

- **Disposable products & packaging**. Hospitals are predominantly of a 'single-use' culture, in which disposable, individually packaged products are favored over comparable reusable ones. This has a twofold effect on the bottom line:

  1) Hospitals must pay to dispose of every pound of waste they produce. Increased packaging from single-use products means increased waste disposal costs, since hospitals must also pay to dispose of that extra material.

  2) Though the price tag of disposable products may be lower up-front, often times the cost of purchasing many units over time – and the additional associated disposal costs in the long run – are not considered during initial purchasing discussions. This can leave long-term purchasing and waste savings on the table, and is an area of financial opportunity for many hospitals.

- **Overproduction of waste**. The incorrect or unnecessary use of supplies plays a huge factor in the financial impacts of hospital waste streams. Hospitals pay for every product that enters their doors, and for every piece of trash that leaves as waste. Huge financial waste is created when these products aren't actually used in between – when they are, for example, brought into an operating room as part of a surgical supply pack but never used, or when a package of ten items is opened to obtain just one and the rest must be disposed of for infection control purposes. Significant savings potential exists for organizations that are able to address this waste of resources.

Waste is also an important issue because the energy required to treat and transport it creates negative health impacts within hospitals' local communities. The shipping of waste between hospitals and disposal centers produces air pollution, which negatively affects respiratory health within communities along the transport route. Meanwhile, higher-hazard waste requires extra treatment and transport to ensure safe disposal, consuming additional energy and compounding the associated impacts on local air quality. Waste prevention is a major opportunity for healthcare organizations to achieve financial savings while demonstrating that they are truly 'walking the walk' in fulfilling their mission to protect health.

Least Impact	Moderate Impact	Greatest Impact
Beneficial Reuse	**Universal Waste**	**Regulated Medical Waste (RMW)** Biohazardous Isolation Pathological
Donation	**General Trash**	
Recycling Single-Stream HIPAA Paper Electronics Specialized Materials C&D Debris	**Food Waste**	**Pathological Waste**
	Construction & Demolition Trash	**Chemotherapeutic Waste**
Reprocessing	**Sharps Waste** (recycled)	**Radioactive Waste**
Gas Cylinder Reuse		**Pharmaceutical Waste**

Waste Management Approach

Waste management is a crucial component of Inova's environmental sustainability program given its opportunity for financial and environmental impact, and is actively managed as a partnership between the Office of Sustainability, Environmental Services Department, Leadership teams and waste disposal partners. Members of these groups meet on a monthly basis – and more frequently when necessary – to closely monitor performance around Inova's key waste streams.

Waste data for municipal solid waste (MSW), recycling, regulated medical waste (RMW) and hazardous waste is tracked via monthly reports provided by Inova's waste disposal partners, some of whom also conduct monthly waste audits to help provide targeted, department-specific feedback. Internal waste audits are also performed by Inova team members during routine rounding, and as necessary based on department needs and requests.

This constant line of dialogue helps push the composition of Inova's waste stream towards industry best management levels (see next page for details), and allows us to respond quickly and effectively to any potential issues that are identified.

Goal:

Reuse and repurpose materials before disposal

2013 Progress:
- Single-use device reprocessing program
- Medical supply donation program
- Blue wrap repurposing
- Procurement of reusable products & materials

Goal:

Reduce amount of regulated medical waste

2013 Progress:
- Waste bin standardization
- Monthly RMW audits
- System-wide waste RMW trainings
- Oscar the Grouch awards for waste compliance
- Waste education resources for employees
- Leadership prioritization of RMW as cost-savings strategy, with associated push for internal visibility around reduction

Goal:

Divert waste from landfill through recycling, source reduction and other diversion activities

2013 Progress:
- Single-stream recycling program
- Specialized materials recycling programs
- Scrap metal reclamation program
- OR pack reformulation
- Reusable sterilizations cases

Municipal Solid Waste

MSW, or trash, is comprised of everything from non-recyclable office waste to kitchen and cafeteria waste, construction debris and non-infectious clinical waste. Our main efforts in this waste category aim to reduce cross-contamination with recyclables and to maximize the capture of non-infectious clinical wastes that often end up in more costly medical waste streams, such as gloves, face masks, hair nets, soft plastic product packaging and opened but unused supplies.

Recycling

Since 2008, Inova has offered a single-stream recycling program in public, office and clinical areas throughout our facilities. Paper, plastic, cardboard, metals and glass can all be recycled in publicly accessible recycling bins located throughout our facilities. We also offer specialized recycling programs for certain unique or department-specific materials, such as Styrofoam coolers and surgical blue wrap. Inova's waste management strategy aims to both maximize the total quantity recycled and broaden the range of materials that can be recycled through our program.
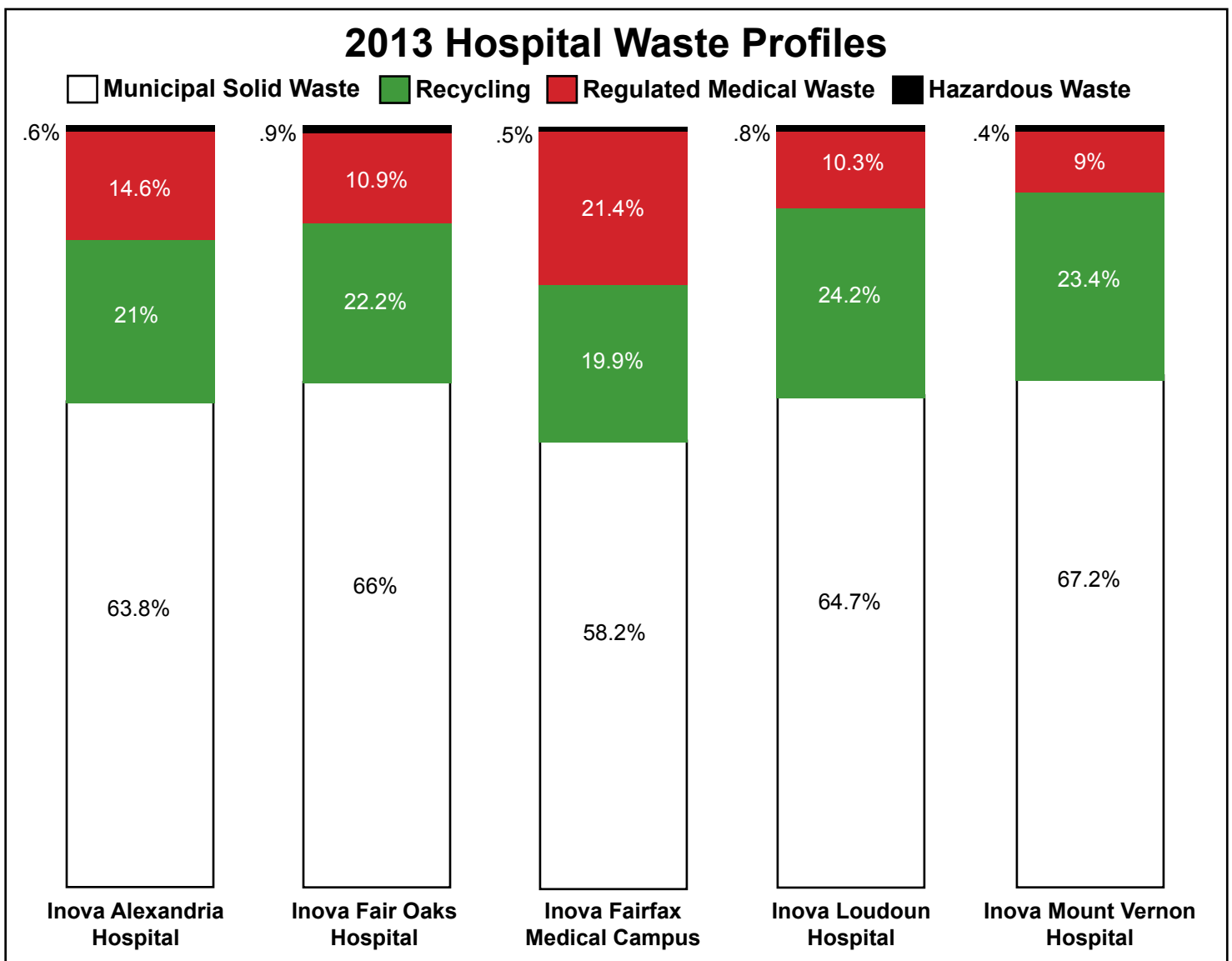
Regulated Medical Waste

RMW is considered biohazardous and has the potential to be infectious to others. It costs more to dispose of than trash because it requires special treatment to eliminate the health risks. Unfortunately, non-infectious trash and recyclables often end up in this stream due to improper sorting practices. Inova's main RMW goals revolve around removing non-infectious items such as packaging, gloves, paper towels, food containers, disposable gowns and other trash and recyclables to minimize the cost and environmental impacts of our RMW.

Hazardous Waste

Hazardous waste is dangerous or potentially harmful to human health or the environment. Hospitals produce different forms of hazardous waste, which requires special handling in order to store and dispose of it safely. Inova's goal is to ensure all hazardous wastes are properly disposed of and that all regulations are followed. Inova also manages certain types of hazardous waste as universal waste, reducing our environmental impact by sending common materials such as paint, motor oil, electronics and batteries to specialized recyclers.

2013 Waste Data

2011 - 2013 System Waste Profile

	2011 Total Lbs	2011 %	2012 Total Lbs	2012 %	2013 Total Lbs	2013 %	Target %
Recycling	3,091,738	18.2%	3,203,262	20.1%	3,226,314	21.1%	25 - 30%
Solid Waste	10,643,335	62.6%	9,735,115	61%	9,390,560	61.4%	60 - 65%
RMW	3,179,883	18.7%	2,942,348	18.4%	2,595,242	17%	8 - 10%
Hazardous Waste	90,271	.5%	76,983	.5%	89,477	.5%	.5 - 1%

2013 Hospital Waste Profiles

☐ Municipal Solid Waste ■ Recycling ■ Regulated Medical Waste ■ Hazardous Waste

	Inova Alexandria Hospital	Inova Fair Oaks Hospital	Inova Fairfax Medical Campus	Inova Loudoun Hospital	Inova Mount Vernon Hospital
Hazardous Waste	.6%	.9%	.5%	.8%	.4%
Regulated Medical Waste	14.6%	10.9%	21.4%	10.3%	9%
Recycling	21%	22.2%	19.9%	24.2%	23.4%
Municipal Solid Waste	63.8%	66%	58.2%	64.7%	67.2%

Waste Reduction Success Stories

Reducing OR Waste

Inova's Office of Sustainability works closely with our Supply Chain, Operating Room (OR) and Sterile Processing teams on waste reduction opportunities related to OR supplies and sterilization practices. These efforts include single-use device reprocessing, OR pack reformulation and the integration of reusable sterilization containers. They prevent thousands of pounds of waste and lead to millions of dollars in savings each year for Inova.

Medical Donations

Inova has traditionally donated medical supplies, equipment, furniture and other items to medical missions in the U.S. and beyond. In 2013, the Office of Sustainability worked with teams from the OR and Facilities Management to better understand the materials that could be donated rather than disposed of as trash. We then partnered with a foundation that collects and distributes medical donations to where they are most needed.

EMR Launch

In 2013, Inova implemented the Epic electronic medical records (EMR) system. Since its full implementation across all five hospitals in June, we have seen a 24.4% reduction in the amount of HIPAA paper waste – down from 1,200,000 total pounds in 2012 to 908,000 total pounds in 2013. We anticipate even greater savings in 2014 as we are able to assess the savings after a full year of implementation.

Waste Education

Waste education is a key component of Inova's waste management strategy. In 2013, we worked with our RMW disposal partner to conduct System-wide in-services on the proper sorting of RMW. We also added information on correct recycling and RMW sorting practices to the online education module required annually for all Inova employees, and produced a variety of new waste guides detailed to specific work areas - all available through our employee intranet.

RMW Audits

Inova worked closely with our RMW disposal partner in 2013 to conduct monthly waste stream audits, where bags from each department were set aside and their contents audited and photographed. Departments with the most compliant bags received recognition at monthly management meetings, while those whose bags contained mostly trash and recyclables were provided with audit photos and contacted for follow-up engagement around proper sorting practices.

Data Reporting

Inova is a proud member of the Healthier Hospitals Initiative (HHI), and is enrolled in its three waste-related Challenges: RMW Reduction, Recycling, and Construction & Demolition Diversion. In 2013, we reported data for all three Challenges, and either partially or fully achieved the goals associated with each. The data we shared, combined with that of other reporting participants, will help HHI spur the adoption of sustainable change across the healthcare industry.

Sharps Recycling

In 2013, Inova's sharps disposal partner initiated a program to recycle both the metals and plastics from our sharps waste. In addition to preventing over 150,000 pounds of material from entering the landfill through the use of reusable sharps containers, Inova was able to recycle 111,624 pounds of sharps last year. After several rounds of sterilization, shredding and grinding, these materials are separated and melted back into their original form for use in new products.

Electronics Recycling

In 2013, Inova recycled 92,674 pounds of electronics, including computers, monitors, carts, printers, scanners, routers, switches, phones, racks, fax machines and copiers. Some of these were refurbished for reuse, while others were scrapped for parts. Inova partners with responsible electronics disposal vendors in order to ensure that all data security requirements are met, and that end-of-life disposal does not lead to environmental harm in the U.S. or abroad.

Internal Reuse

In 2013, Inova developed and piloted our new EcoSwap Shop, an internal, Craigslist-style web platform that allows users from across the System to post and reserve gently used furniture, office supplies and other assorted items meant for disposal. Employees participating in the program are encouraged to visit the EcoSwap Shop first before ordering new supplies or disposing of old ones, reducing both physical and financial waste.

ENERGY MANAGEMENT

Energy Background

Hospitals use enormous quantities of energy to power the medical equipment and mechanical support systems that make lifesaving care available around the clock. In the U.S, the majority of this energy comes from non-renewable fuel sources that create air pollution during extraction, transport, storage and consumption. This air pollution can lead to a range of health issues, including decreased respiratory function and human exposure to toxic heavy metals such as mercury, arsenic and lead.

When hospitals use energy in the course of caring for their patients, they are simultaneously emitting air pollution that, in the long run, will bring new patients to their doors. Though the need for energy to manage imminent health risks is more immediate than the need to address long-term health risks associated with air pollution, healthcare organizations must still build these considerations into long-term energy and community health strategies.

Hospitals' reliance upon fossil fuels as a primary energy source also leaves a large portion of their operating costs prone to the fluctuating prices of the fossil fuels markets. This opens them up to financial risk in the long run as the prices of fossil fuel supplies rise due to limited availability and increasingly difficult extraction. The use of fossil fuel-based energy additionally poses a possible long-term risk for healthcare organizations due to the potential for future regulation and either limits to or taxes on emissions.

Energy management also provides significant opportunities for financial savings simply through fine-tuning building systems and targeting employee behavior change – efforts that require negligible financial investment, and for which immediate financial savings are realized. Even energy projects that do require initial capital investment are generally low-risk and yield a positive ROI within just a few years. These savings go directly to hospitals' bottom lines, reducing operating costs and increasing their ability to invest in patient care.

Energy Management Approach

Energy management ensures the delivery of sustainable, economical and reliable energy and utilities services to Inova's facilities in support of our mission to protect health. This mission is accomplished through conservation, efficiency, environmental stewardship and an appreciation for Earth's finite energy resources. Reducing Inova's overall emissions, improving efficiencies within our built environments, and promoting sustainable operations within our existing buildings allow us to positively impact health within our local and global communities.

Inova's energy management goals revolve around realizing measurable reductions in electricity, natural gas and water consumption, continuously optimizing our facilities, and becoming a leader in energy efficiency within the healthcare industry. Energy reduction methods include user education, technology improvements and upgrades, installation of building control systems, and engagement with other healthcare facilities, utilities and vendors to work together on identifying innovative solutions to our energy challenges. We aim to be open with regards to our activities, to measure and verify our progress with data, and to include Inova employees along the way. Various Inova teams work together in pursuit of these goals, including Facilities Management, Engineering, Design & Construction, Energy Management and Sustainability.

At the end of 2012, Inova hired an Energy Manager to coordinate energy efficiency, conservation and data management efforts across the System. In his first year, this individual worked to track and report on energy use within each Inova facility, and then analyze the data and audit the facilities to identify associated opportunities for improvement. His efforts were summarized in Inova's first Energy Report, which was released on April 29, 2013 and shared our Energy team's initial observations and recommendations alongside a draft energy reduction plan.

This Energy Report formed the basis for the beginning stages of Inova's first Strategic Energy Management Plan (SEMP), which was released later in 2013. The SEMP will be updated annually, and is an essential component of Inova's efforts to meet energy and sustainability goals moving forward.

Inova's Energy Roadmap

Step 1: Measure & Benchmark Current Energy Consumption

Inova utilizes the EPA's Energy Star Portfolio Manager tool to track monthly electriity, natural gas and water consumption. This allows us to compare our hospitals to others within our portfolio, as well as benchmark our facilities and observe overall trending in monthly intervals. Inova manages more than 50 utility accounts across the System on a monthly basis.

Step 2: Develop an Energy Use Profile

An energy use profile demonstrates how energy use is distributed among building systems (i.e. heating, water, lighting, office equipments). Inova worked with industry experts throughout 2013 to develop a submetering strategy, which will help us better track the performance of our energy-consuming systems and will allow for a more targeted approach to improving efficiency.

Step 3: Complete a Greenhouse Gas (GHG) Emissions Inventory

Inova published our first attempt at a GHG emissions inventory in our 2012 Sustainability Report, examining Scope 2 & 3 data from System-wide utilities consumption and transportation impacts. The implementation of a real-time metering and monitoring system will allow us to narrow our approach to GHG reduction by providing a detailed and instantaneous look at our largest energy impacts, so we can better understand how to minimize them.

Step 4: Build Teams

Inova has had active green teams since the initiation of our sustainability program in 2008. In 2013, we expanded this network by creating an Energy Management team comprised of representatives from a range of departments. Collaboration across these groups will help Inova improve our energy outcomes and make us a world-class leader in energy management and sustainability.

Step 5: Set Targets & Goals

Developing meaningful, achievable targets and goals for the short- and long-term is essential to successful energy management. These goals are currently being developed by Inova's Energy Management team, using data gathered from 2013 efforts to benchmark and update each hospital's energy use profiles.

Step 6: Develop Strategic Action Plan

Inova has actively implemented energy-saving strategies and equipment for years, but the 2013 addition of an Energy Manager has helped centralize, coordinate and establish accountability for these efforts. Performance improvement measures are currently being developed for building controls, lighting controls and other building systems that impact energy consumption.

Step 7: Adopt a Strategic Energy Management Plan (SEMP)

Inova's Energy team worked diligently throughout 2013 to produce our first SEMP. This plan includes an integrated approach to all aspects of energy management, including performance observations and short- and long-term reduction strategies. We will continue to update it as we hone our sustainability efforts.

Step 8: Implement Projects

Inova's Energy Management team develops energy efficiency projects based on proven technologies and analysis. In 2013, key efforts focused around areas of opportunity identified in initial audits conducted by Inova's Energy Manager.

Step 9: Track Progress

In addition to managing our monthly energy performance through Portfolio Manager, Inova actively measures every energy efficiency project we can feasibly track. The System-wide implementation of submetering capabilities over the coming several years will significantly improve our Energy team's tracking capabilities.

Step 10: Train, Educate & Celebrate

Engagement is key to the success of Inova's energy management efforts. We promote education and awareness around energy efficiency in a variety of ways, including through our annual Energy and Sustainability Reports, Energy and Sustainability intranet websites, internal messaging systems, presentations and employee engagement events.

2013 Energy Performance

Inova's energy use and cost both decreased in 2013, even while our total building area increased by nearly seven percent with the addition of the new South Patient Tower at Inova Fairfax Medical Campus. Inova's energy use decreased by six percent overall, with a twelve percent reduction in energy usage intensity (EUI). Across the System, electricity consumption increased slightly from 2012 levels due to the conversion of cooling fuels from natural gas to electricity, while natural gas use fell by eleven percent due to steam and hot water distribution improvements and the removal of several steam absorption chillers.

Total System-wide energy costs also decreased by three percent in 2013, yielding $433,618 in savings for Inova. Some of this cost reduction was due to natural gas contracts that went into effect in July 2012, while the rest is attributable to improvements in building and operations efficiency.

Inova's Energy team is currently focusing its efforts on the real-time metering of each facility's energy consumption and the investigation of technologies to improve efficiency and reduce energy consumption (lighting and HVAC controls, distributed generation, mechanical and HVAC equipment, building operations etc.). These continuous monitoring efforts allow Inova to better understand where, how and why energy is being used at each facility.

Additional broad-scale energy management efforts include fine-tuning building management systems (BMS), controlling energy-using equipment effectively, optimizing the sequence of operations for plant and HVAC equipment, and installing and operating energy-efficient chillers and associated pumping equipment. Inova has also pursued an aggressive natural gas and electricity purchasing strategy since mid-2012, yielding financial significant savings through decreased utilities prices.

Apart from energy efficiency and improvement efforts, a few key outside factors significantly influenced Inova's energy performance in 2013:

- **Epic electronic medical records.** Between the start of the year and mid-June, all five Inova hospitals installed the Epic electronic medical records system, adding a substantial energy load due to increased use of computer monitors in patient rooms and the addition of data servers that require year-round cooling. This cooling requirement is unaffected by weather and may permanently increase energy consumption moving forward. An analysis of Epic and its energy implications for Inova is currently being conducted by our Energy team and will be shared in future Reports.

- **Heating Degree Days.** There were seventeen percent more Heating Degree Days in 2013 than in 2012, meaning it was a colder year and more heating was required. Since natural gas is used by boilers to produce steam for heating, the year's colder temperatures increased the amount of natural gas required to maintain Inova's facilities at comfortable temperatures. At the same time, a more mild summer with fewer Cooling Degree Days than in 2012 helped lower the consumption of electricity for air conditioning.

What Are Degree Days?

Degree Days are used to show how much heating or cooling may be required based on outside air temperature, and are useful in comparing year-over-year energy trends. The number of degree days in a year is the sum of the average daily temperature difference from 65F, where an outside temperature below 65F is a Heating Degree Day, and one above 65F is a Cooling Degree Day. The year 2013 had fewer Cooling Degree Days than in 2013, but more Heating Degree Days.

Goal:
Track and understand energy performance

2013 Progress:
- Data tracking through Portfolio Manager
- Hiring of Energy Manager to coordinate efforts across the System
- Conduction of System-wide lighting and energy audits
- Development of Strategic Energy Management Plan

Goal:
Implement energy efficiency and conservation measures

2013 Progress:
- Retuning of building management systms
- Implementation of preventative maintenance strategies
- Participation in demand load response program
- Outdoor signage powered by solar panels
- Energy Star- and EPEAT-rated desktop electronics and other appliances

Goal:
Support new technologies which promote efficiency and conservation

2013 Progress:
- High-efficiency boilers, chillers & air handling units
- Efficiency analysis for purchase of new washers & dryers
- Motion and daylight sensors
- Lighting pilot programs, including LED and induction

2011 - 2013 System Energy Profile

	Electricity (kWh)	Natural Gas (therms)	Total Energy (KBTU)	Energy Use Intensity
2011	141,369,370	7,634,896	1,245,844,323	358
2012	142,921,609	8,215,233	1,309,173,953	376
2013	149,266,714	7,205,616	1,229,862,177	331
Change from 2012 to 2013	+6,345,105 (4.4%)	-1,009,617 (12.3%)	-79,311,776 (6.1%)	-45 (12%)

Note: Inova's 2013 hiring of an Energy Manager allowed us to review, complete and, in some cases, correct our energy data for the past several years. Due to this change, the 2011 and 2012 data below chart may differ slightly from numbers previously reported.

Inova Alexandria Hospital

- Replaced 18 air handling units with energy-efficient upgrades (including variable frequency drives for fan motors) as a result of Energy Manager's initial audits
- Initiated upgrades to boiler and chilled water systems
- Integrated improvements to building management systems (BMS) to improve the reliability, comfort and efficiency of existing building systems

Inova Fair Oaks Hospital

- Initiated a cooling tower replacement design in conjunction with chiller replacement plans in order to maximize operational efficiency
- Integrated building management system (BMS) improvements to increase HVAC operational efficiencies and reliability, including modular building controller field panel upgrades for enhanced control
- Started planning a chiller replacement for the upcoming year (2014)

Inova Fairfax Medical Campus

- Removed two older steam absorption chillers and replaced them with efficient electric centrifugal chillers which, combined with the optimization of chilled water loop control parameters, yielded $150,000 in avoided utility costs
- Conducted lighting projects, including LED studies and piloting digital astronomical clock in parking garage
- Selected energy-efficient washers & dryers with expected savings of $140K over product's ten-year life span

Inova Loudoun Hospital

- Initiated cooling tower updates and improved heat exchangers for increased system efficiency
- Used grant from Northern Virginia Hospital Alliance (NVHA) to install a whole-facility switch to allow full redundant electric service to the hospital using backup generators
- Implemented BMS upgrades and controls sequencing to allow for enhanced comfort through occupant control while also conserving energy with scheduling algorithms

Inova Mount Vernon Hospital

- Replaced three inefficient chillers with new, energy-efficient magnetic bearing chillers ("frictionless" chillers), running them for a full summer to achieve maximum savings
- Began process of replacing five air handling units with more efficient versions which include energy-efficient motors with Variable Speed Drives (VFDs)
- Installed boiler & burner upgrades, including new, efficient burners that reduce sulfur oxide emissions

WATER MANAGEMENT

Water Background

Hospitals are generally some of the largest users of water within their communities. While the high consumption of water is a necessity for the provision of medical treatment and the maintenance of healthcare facilities, it also has its own environmental and health impacts that make water management an important consideration for healthcare organizations pursuing sustainability goals.

Many aspects of hospital operations, such as sterilization, heating and cooling, and waste disposal, impact the safety and quality of local water supplies. Water quality and pollution directly affect human health, as humans are frequently exposed to the chemicals contained within the drinking water supply. Though most chemicals are found in low concentrations, some of them are unable to be eliminated by the body and can build up into more dangerous concentrations over time. Additionally, though a chemical may be studied and found to be safe for use in certain products at set quantities, safety regulations rarely consider the long-term safety of such chemicals as they build up in the human body over time.

Another concern with such chemical contamination is that, though many individual chemicals have been found safe for human exposure, there are very few studies on the interaction of many different chemicals within the human body. Hospitals have an opportunity to reduce chemical exposure within the general population by implementing programs to protect the water supply by disposing of waste properly, minimizing air pollution from transportation and fossil fuel consumption, supporting foods produced in a sustainable manner and integrating thoughtful building practices that minimize chemical usage and runoff.

Water consumption also contributes to air pollution and its associated health issues in one key way that is often overlooked: the massive amount of energy that is required to actually use it. Water must be treated, transported, and heated or cooled as necessary before it can be used by hospitals, and then transported again for treatment before it can be released back into the water supply. As water usage increases, so too does energy usage and its associated air pollution and health impacts. This 'hidden' energy footprint of water is half of what is known as the *energy-water nexus*, which highlights the interconnectedness of water and energy. The other half of the equation explores the water requirements for energy production and usage, which are also significant.

In its most simplified concept, the energy-water nexus explains that energy is required to use water, and water is required to produce energy. This means that consumption of one resource cannot rise without an associated rise in the other. As energy prices continue to increase in the coming years, water sewerage and treatment services may also become financially significant for healthcare organizations and other large consumers of water, even in areas of the country where water prices are currently negligible. Water management strategies offer a key way to hedge this risk in the long run.

Protecting Our Local Waterways

All of Fairfax County and parts of Loudoun County drain into the Potomac River and, eventually, the Chesapeake Bay. This Bay is the largest estuary in the U.S, and is estimated to contain more than 3,600 species of animals and plants. While this number may seem small compared to what can be found in tropical regions such as rainforests, the health of the entire Chesapeake Bay – and the millions of dollars in economic benefits it adds to local economies each year – depends on the delicate relationships between its plants and animals. In Maryland alone, 345 plants and 139 animals were listed by Maryland's Natural Heritage Program as endangered, threatened or in need of conservation in 2013.

Pollution from stormwater runoff is one of the major health threats to the Chesapeake Bay. None of Inova's hospitals are in locations identified as legally protected Chesapeake Bay Preservation Areas, but Virginia's Fairfax County and Loudoun County governments have each implemented their own watershed management plans to ensure the protection of this essential water resource. By following such plans and local guidelines, which provide guidance on water-friendly construction practices and responsible land development, Inova helps to ensure our continued expansion of care facilities has minimal impact on the health of our local waterways.

Water Management Approach

Goal:
Implement water efficiency and conservation measures

Goal:
Utilize grounds management practices which reduce water use

Goal:
Support new technologies which promote efficiency and conservation

2013 Progress:
- Motion sensor faucets
- Low-flow sanitary fixtures
- Retention pond at Inova Fairfax Medical Campus
- System-wide water audits

2013 Progress:
- Native planting and xeriscaping principles in landscaping
- Water-efficient irrigaiton practices, including watering at night (where necessary) and use of drip-irrigation bags for trees

2013 Progress:
- Water-efficient sterilization equipment
- Rain cistern and bioswales in South Patient Tower at Inova Fairfax Medical Campus
- Investigation of more efficient heating and cooling systems to reduce water use

In the mid-Atlantic region, clean water is available in plentiful supply and at very low costs. This makes the financial case for water management efforts much smaller than for drought-prone areas of the country where water conservation is of top priority.

Though water management is an essential component of Inova's sustainability program, initiatives in this area have advanced more slowly than those in focus areas such as waste and energy management, simply because they provide larger opportunities for creating sustainable impact. Given the limited time and financial resources Inova can dedicate to environmental sustainability, we must carefully select projects with the largest opportunity for economic, environmental and social return on investment.

Inova's Facilities Management and Engineering Departments work together to implement water conservation practices and efficient equipment wherever possible, but water management still has room to grow within the context of in our sustainability strategy. We believe water management will grow in priority in the future as our other environmental programs mature and as the broader costs of water become easily quantifiable.

In general, Inova's current water management efforts revolve around two general strategies:

- **Water conservation** entails adjusting practices and fine-tuning building systems to prevent additional water use.
- **Water efficiency** involves using water more effectively in order to achieve the same output using fewer water inputs.

Inova also continues to track our water consumption through the EPA's Energy Star Portfolio Manager. When we switched from in-house to contracted engineering services in mid-2012, this tracking system became disrupted and some of our data for the year was lost, meaning we were unable to report water usage in full in our 2012 Sustainability Report. Inova's Energy Manager worked throughout 2013 to update this tracking system, allowing us to fully report both our 2012 and 2013 water usage data in this Report.

Inova also strives to protect our local water supply, sourced from the Occoquan Reservoir and Potomac River, through efforts to reduce stormwater runoff and contamination. Green construction practices and the use of runoff-reduction measures such as bioswales and retention ponds help us preserve the safety of Northern Virginia's s drinking water.

2012 - 2013 System Water Profile

	Water (kGal)
2012	266,900
2013	230,500
Change from 2012 to 2013	-36,400 (13.6%)

2012 - 2013 Hospital Water Profiles

	2012	2013
Inova Alexandria Hospital	42,700	32,600
Inova Fair Oaks Hospital	31,000	32,400
Inova Fairfax Medical Campus	153,500	125,000
Inova Loudoun Hospital	19,000	20,900
Inova Mount Vernon Hospital	20,700	19,600

Case Study: Steam System Savings

Steam is the main source of heat for all Inova's hospitals, and is also used for various medical processes. Each hospital has a steam plant, where natural gas or fuel oil is combusted and heats water to steam. The steam then enters the building to distribute heat to air handling units. When the steam releases its heat, it condenses back into hot water and is returned to the steam plant as part of a closed-loop system.

In June 2013, Inova discovered a leak in this system at one hospital. Cooled steam was being drained to the sewer instead of returned back to the boiler plant. The correction of this inefficiency saved $3,841 in reduced water and sewerage fees and achieved $9,754 in natural gas cost avoidance.

ENVIRONMENTALLY PREFERABLE PURCHASING

Purchasing Background

Hospitals spend billions of dollars each year on the goods and services that help them fulfill their missions. These goods and services consume large amounts of energy and water, produce huge quantities of waste, and contain a range of chemicals that are harmful to human and environmental health. Significant amounts of money are also wasted on inefficient purchasing practices that fail to capture efficiency savings or choose short-term cost reductions over long-term savings.

Supply chain teams have a unique opportunity to positively impact all of these areas by implementing environmentally preferable purchasing strategies. They can also help their hospitals achieve long-term environmental and financial savings by working together with teams such as Engineering and Facilities Management, as well as supplier partners, to identify full equipment lifecycle costs and procure efficient equipment that will save money and conserve resources in the long run.

Hospitals must also pay to dispose of every single product – and piece of associated packaging – brought through their doors, making it essential to consider end-of-life impacts during the procurement process. This is generally done for capital equipment purchases but is rarely implemented for smaller medical products, which are often disposable and can add drastically to the size and cost of hospitals' waste streams. Single-use medical supplies can also add costs to waste bills if they are improperly sorted into more expensive waste streams. Untold pounds of packaging and non-infectious waste end up incorrectly sorted into the regulated medical waste (RMW) stream each year, foregoing millions of dollars that could otherwise be spent on improving and expanding access to patient care.

Another major environmental purchasing issue facing hospitals is the use of products that contain toxic or potentially harmful chemicals. Supplies like cleaning chemicals, interior furnishings and pest management products can expose workers, patients and visitors to irritating or harmful fumes, while certain medical products contain chemicals that workers or patients can be exposed to during use. Promoting products and equipment that contain safer chemicals and produce less-toxic waste helps hospitals fulfill their mission to protect health, and may also help reduce long-term employee health insurance costs by creating healthier work environments.

Hospital supply chain teams have an important opportunity to help shift the healthcare marketplace by using their organizations' purchasing power to demand safer, healthier, more environmentally preferable products from their supplier partners. Hospitals across the country, spurred by the efforts of groups such as the Healthier Hospitals Initiative and Practice Greenhealth, have joined together in adopting a common set of language and tools around environmentally preferable purchasing, and are combining their voices to create massive, industry-wide change.

The goal of these efforts is to push the healthcare supply chain to provide safer, healthier products that conserve resources, reduce waste, save money and minimize the use of harmful chemicals. At the same time, these efforts make the tracking of environmental data easier by establishing a universal metric to be used by all hospitals (rather than asking suppliers to respond to distinct data requests from each organization). This work has already led to changes in the availability and pricing of healthier, more sustainable products, and a continuing push from healthcare Supply Chain teams is essential in achieving these goals.

Goal:
Understand and minimize impacts of products used at Inova

2013 Progress:
- Integration of EPP into Supply Chain strategy
- Targeting of specific products to minimize lifecycle health impacts (mercury-containing equipment, cleaning products, plastic medical products, pest control services)

Goal:
Develop strategies to engage Supply Chain team in EPP

2013 Progress:
- Development of EPP strategy
- Creation of guides to help purchasers understand chemicals of concern
- Ongoing dialogue with suppliers to improve EPP identification and tracking
- Building of EPP principles into contracts

Goal:
Work with suppliers to support new EPP products and services

2013 Progress:
- October 2013 EPP Supplier Roundtable
- Year-round EPP meetings with suppliers
- Partnerships with suppliers to pilot new products and programs
- Presentations at local and national venues on Inova's EPP programs

Chemicals of Concern in Healthcare

Mercury

Mercury is a potent neurotoxin that can harm the brain, spinal cord, kidney and liver. It is used throughout healthcare in a variety of products including thermometers, dental amalgam, lab chemicals, and assorted electronic devices such as fluorescent lamps and computer equipment. The cumulative usage, spills, breakages and disposal of these products makes the healthcare sector a significant contributor of mercury pollution to the environment, particularly in developing regions where safe, proper disposal is either too costly or unavailable.

Polyvinyl Chloride (PVC)

PVC, also known as vinyl, is the most commonly used plastic in medical devices, found throughout the health-care setting in products such as IV bags, disposable gloves, curtains, flooring and many other plastic medical devices. The production and disposal of PVC – and particularly, its incineration – are major contributors to environmental dioxin pollution globally. Dioxins are highly toxic compounds that can cause reproductive and developmental problems, damage the immune system, interfere with hormones and cause cancer.

Phthalates/DEHP

Phthalates are a group of chemicals used to make plastics (especially PVC) more flexible and harder to break. DEHP (di-ethylhexyl phthalate) is a type of plasticizer that is commonly used to soften PVC medical plastics like IV bags and tubing, catheters and feeding tubes. Research has shown that DEHP can leach out of these products and into patients at different rates, depending on factors such as temperature and what type of solutions are used inside the product. DEHP exposure has been linked to a range of adverse effects on the liver, reproductive tract, kidneys, lungs and heart, particularly in pre-pubescent males and expectant mothers.

Bisphenol-A (BPA)

BPA (bisphenol-A) is used in certain types of hard plastics to keep them strong and lightweight, and is found in food and drink packaging, compact discs, infant bottles, impact-resistant safety equipment and medical devices. It is also used as a coating in metal food containers in order to preserve the foods inside. BPA is a hormone-disrupting chemical that can have health effects at extremely low exposure levels. It is of particular concern for vulnerable populations including pregnant women, babies and children. The main source of BPA exposure is through the diet.

Brominated Flame Retardants

Flame retardants are added to a variety of products in order to meet fire safety standards. In hospitals, they can be found in IV pumps, televisions, computers, hospital beds, waiting room chairs and privacy curtains. These chemicals are toxic to humans and have been linked to reproductive and developmental health impacts. According to Health Care Without Harm, the brominated category of flame retardants is of particular concern because they build up in the body over time and are linked to adverse health effects in children.

Volatile Organic Compounds (VOCs)

VOCs are gases that are released from a wide variety of products, including paints, cleaning supplies, pesticides, building materials, furnishings and office equipment. They include a range of chemicals, some of which have harmful short- or long-term health effects including sensory irritation, allergies and asthma, cancer, and neurological and liver toxicity. According to the EPA, VOCs are consistently higher indoors (up to 10 times higher) than outdoors, making this a crucial consideration for hospitals who want to protect the respiratory health of employee and patient populations.

Perfluorinated Compounds (PFCs)

PFCs help create water and soil repellency in fabrics and finishes such as Crypton, Teflon and Scotchgard. PFC finishes are widely used in the high-traffic environments of healthcare facilities. PFCs are extremely persistent and bioaccumulative in the environment, and have been detected in humans and wildlife throughout the world. Studies of certain types of these chemicals have indicated that under no conditions do they ever show any sign of breaking down in the environment. PFCs are known to cross the placenta, directly exposing the developing fetus to a range of potentially adverse health effects that scientists are still working to understand.

EPP Approach

Inova's Supply Chain Management Department is the front door to all of the products and services used in our hospitals. Our Supply Chain team works closely with the Office of Sustainability to build environmentally preferable purchasing (EPP) principles into Inova's purchasing practices. This work helps ensure that the half billion dollars we spend annually on products and services are bringing safer, healthier materials into our facilities.

These two groups have historically worked together on initiatives to target product lifecycle issues of reusability, disposability, chemical exposure and pollution. Inova's Supply Chain team has also acted as an essential interface with our supplier partners, communicating our demand for healthier products and integrating data reporting requirements and support for sustainability initiatives into proposal and contract language.

One key change in 2013 that has significantly impacted Inova's EPP practices was our conversion to a new group purchasing organization (GPO). As part of this process, representatives from this new GPO worked with our Supply Chain team to analyze and update contracts and identify associated savings opportunities. By meeting with this team before this work began, Inova's Office of Sustainability was able to build goals around sustainability and environmentally preferable purchasing into the procurement process. Sharing Inova's environmental purchasing goals with the new GPO team - making them advocates in the sustainable purchasing process - has allowed us to efficiently integrate EPP considerations into a much broader range of contracts and supplier dialogues than we were previously capable of achieving.

Inova's Office of Sustainability also started meeting regularly with members of our GPO and Supply Chain teams at the end of 2013 to discuss upcoming contracts and identify additional opportunities to integrate sustainability into our purchasing practices. After these meetings, our GPO partners followed up with suppliers on the topics discussed and then shared updates at the next meeting. Since this work to research the issues and connect with suppliers was traditionally handled by the Office of Sustainability, the GPO team's takeover of this key function has freed up Sustainability team members to work on other important projects.

Though we are unable to report on the exact number of suppliers and contracts analyzed through this new environmental focus, we are able to report that every new Inova contract will receive at least a baseline screening for environmental opportunities moving forward.

In 2013, Inova's EPP team worked together to work towards five key goals related to our environmental purchasing efforts, as identified by the Senior Vice President of Supply Chain the previous year:

1. Develop a system to implement existing policies (mercury, chemicals, etc.) at point of purchase
2. Re-evaluate and adopt Inova EPP Policy
3. Implement a standardized EPP product questionnaire for vendors
4. Get more information from suppliers about what they are doing to reduce environmental impacts
5. Host a vendor fair highlighting products with environmentally preferable characteristics

EPP STRATEGIES

Chemical Minimization
Products should reduce the quantity and potential negative impacts of the chemicals they contain, including:

Mercury	PVC/vinyl
Lead	Flame retardants
PBTs (persistent bioaccumulative toxics)	BPA (bisphenol A)
DEHP and other phthalates	VOCs (volatile organic compounds)
Carcinogens, mutagens & reproductive toxins	Latex

Waste Minimization
Products should assist in reducing the amount of waste Inova generates and/or reduce overall lifecycle impacts through:

Recycled content	Biobased material content
Recyclability	Biodegradable content
Reusability	Compostable content
Reduced materials	Increased durability/length of service

Energy & Water Conservation
Products should have characteristics that either reduce demand for or increase the efficiency of energy and/or water required for use.

Local Purchasing
Products should preferably contain content that is extracted, processed and manufactured regionally (within a 250-mile radius).

EPP in the Operating Room

As Inova's sustainability program has matured, our focus has extended from simply managing our waste to preventing it from being created in the first place. One major area of opportunity for waste reduction has been our operating rooms (ORs) – one of every hospital's most resource- and waste-intensive areas.

OR Pack Reformulation

Pre-packaged OR surgical packs can save significant time and money for hospitals when designed effectively. But they can also lead to physical and financial waste when used inefficiently. In 2013, Inova continued our efforts to eliminate this waste and standardize our OR supply purchasing process with our OR pack reformulation program.

Inova's efforts in OR pack reformulation started in 2012 as a joint effort between our OR Leadership and Supply Chain teams. The program yielded over $225,000 in supply savings and a 62% reduction in the total number of packs in use at Inova in 2012. These efforts were followed by additional consolidation efforts in 2013, as well as analysis of the effectiveness of the previous year's OR pack changes.

One important lesson learned was that reformulated OR packs can only achieve the estimated financial savings if they meet the needs of the department where they are used. Through conversations with end-users of Inova's new packs, the project team learned that they weren't working effectively for Inova's largest OR, and that staff was still throwing away many items while also having to bring in extras of other items – meaning we were missing out on supply cost savings associated with these efforts. Through continued discussions, we were able to pinpoint the specific issues with these updated packs and bring them to the attention of the project team, which was able to address them in its continued 2013 efforts.

Reusable Sterilization Containers

Several options exist for protecting sterilized medical supplies as they are transported from hospital sterile processing departments for use in the OR. Most hospitals currently use blue wrap, which is a polypropylene (plastic) fabric that is wrapped around sterilized surgical supplies as they are transported to the OR, and then removed and disposed of during case set-up. Certain organizations have started replacing this disposable wrap with reusable sterilization containers, which have higher up-front costs but can lead to significant financial and environmental savings in reduced blue wrap purchase and disposal costs.

In 2012, Inova purchased a small quantity of reusable sterilization containers for each hospital in a test pilot to compare performance against the blue wrap we were currently using. After receiving generally successful reviews, Inova added more reusable containers in 2013. Rather than initiating a full-scale switch from blue wrap to reusable containers, we decided to integrate the containers into Inova's inventory in small batches as the need arises moving forward.

Similarly to our OR pack reformulation efforts, it has been essential to continuously collect feedback from our Sterile Processing and OR teams regarding the integration of reusable sterilization containers at Inova. Feedback with the program has been generally good, and has also allowed us to learn that most employees involved in the switch prefer certain types of containers over others – a factor that will undoubtedly influence adoption of and satisfaction with this program moving forward.

Single-Use Device Reprocessing

Surgical supplies and other medical devices are highly costly to purchase, and yet are designed to be thrown away after only one use. Inova's single-use device reprocessing program helps eliminate this physical and financial waste by sending certain products to be sterilized and remanufactured in an FDA-approved process, and then purchasing them back for a fraction of the original equipment price.

Since implementing a single-use device reprocessing program in 2009, Inova has saved millions in supply costs and waste avoidance. It should be noted that exact savings opportunities vary from year to year alongside changes in the quantity of products used and the number of those products available for sale back to Inova.

2011-2013 Reprocessing Savings

	2011	2012	2013
Alexandria	$88,257	$151,717	$52,552
Fair Oaks	$244,005	$289,059	$242,189
Fairfax	$470,436	$607,705	$579,593
Loudoun	$124,986	$179,916	$157,453
Mt. Vernon	$34,308	$37,878	$27,426

2013 EPP Supplier Roundtable

In October 2013, Inova invited 15 of our key suppliers and business partners to a three-hour EPP roundtable hosted at our System offices. Invitees were selected based on the work their organizations are doing around sustainability and the scale of their business with Inova.

This EPP roundtable was based around a visioning activity created by Inova's Office of Sustainability. As attendees entered the room, they were given cards with actions that might help advance the field of EPP in healthcare. Each attendee was asked to place the action on their card wherever they felt it fit on a timeline of the next five years, and together we created a vision of some major industry milestones that could be achieved between 2013 and 2018. Surprisingly, most of the action cards were placed in 2014 and 2015 rather than in later years, showing optimism around the potential for change.

Once everyone had completed the activity, each participant was given a worksheet listing all of the environmental milestones that had been placed on the timeline. They were then asked to rate each action on a scale from one to ten in terms of importance and feasibility. As Inova's Director of Sustainability was sharing information about our EPP program and goals, a team of helpers tallied up all participants' worksheets to identify the top ten actions. The group then matched them against a list of the top ten actions identified by Inova's Supply Chain Management team when they completed the exercise before the meeting. Three actions were included in the top ten of both the supplier participants' and the SCM team's lists, and so the group used the rest of the meeting to discuss them.

Action #1: GPOs automatically include EPP metrics in purchasing reports

According to participants, current collection of EPP data is a bulky and time-consuming process because the information is available, but not necessarily centralized or in the desired format. Participants shared that demand for environmental metrics needs to be driven by requests from hospital leadership, to help supplier representatives communicate the urgency of this demand to their own leadership teams. They also emphasized the opportunity to highlight EPP as a value rather than a cost issue, and indicated that EPP efforts would likely be more effective if environmental metrics were tied to patients and used as a patient advocacy measure.

Participants additionally highlighted that current inventory systems actually do allow purchasers to compare across products for environmental features, but that there is a need to drastically increase education to ensure that purchasing teams understand the issues and are aware of the tools and capabilities available for tracking EPP products and services.

Action #2: GPOs and suppliers come together to create a standardized set of EPP product tags and definitions

Various standards and metrics exist around environmental purchasing. Roundtable participants indicated a need to narrow these down and establish universal definitions in order to make data reporting easier. The group felt it was important for suppliers and hospitals to establish these definitions together, using Practice Greenhealth's product specs and the Healthier Hospitals Initiatives' Challenge definitions as a foundation.

Participants also identified a need to consider who would maintain ownership of this master list, who would be responsible for changes or updates, and how updated information would be communicated back up the supply chain. They believed that Practice Greenhealth's Business Leadership Coalition would be an ideal group to involve in the review and troubleshooting of an initial draft list. The group's goal upon leaving the meeting was to have a draft list by the end of 2014.

Action #3: EPP discussion is included in annual business review updates

Roundtable participants indicated that annual business review meetings are a prime opportunity for them to help drive education, culture change and behavior change within healthcare organizations' Supply Chain departments, especially within organizations that are not already involved in EPP efforts. They also shared that they would like to have a way to include upstream supply chain information such as carbon reductions or ISO certifications during these business meetings, but emphasized that there would be a need to create a standard for sharing this information for purposes of comparability and to help drive a uniform demand.

Many participants additionally questioned whether we should add social impact updates to this list as well, shifting the focus of discussion from environment to the broader context of sustainability and triple bottom line.

SUSTAINABLE FOODS

Sustainable Foods Background

Hospitals are often among the largest 'restaurants' within their local communities, serving hundreds - if not thousands - of meals per day and spending millions annually on food. The freshness and nutrient content of a hospital's food directly impacts the health of its patients, employees and visitors. And the environmental impacts of the food production system that provides this food have much farther-reaching health consequences (see next page). The volume of food purchased by healthcare institutions creates a key opportunity to build healthier food supply chains across the country.

The quality of a hospital's food – and the manner in which it is served – can also affect patients' experiences within the facility and, accordingly, creates an opportunity to impact both patient survey scores and the bottom line. Certain hospitals that have implemented healthy, local, sustainable menu options have noted marked increases in patient survey scores for inpatient food services, while others have demonstrated that hospitals can use outstanding menus and innovative food delivery models to positively impact overall hospital experience and other important HCAHPS survey indicators.

Defining "Local"

There is no single definition of local food. For someone with a home garden, local could mean food sourced from the backyard. For someone in a large city it could mean food from the farmers' market, produced by farmers in surrounding counties. For someone in Virginia, choosing local food may mean selecting Virginia-grown peaches over Georgia-grown peaches, while local for a resident of the United States may mean choosing an American-made product over an imported version.

At some point, every organization must decide what local means for them. Inova and many other healthcare organizations across the country have adopted the Healthier Hospitals Initiative's definition of local, which is defined as:
- Farms, ranches and production/processing facilities located within a 250-mile radius of the Facility
- For processed foods with multiple ingredients, the product must have the majority of ingredients (greater than 50% by weight) produced within 250 miles

HHI Healthier Foods Platform

All five Inova hospitals have enrolled in all three of the Healthier Hospitals Initiative's Healhtier Foods Challenges, which requires a commitment to pursuing goals and reporting annual data in the following efforts:

Local/Sustainable Challenge
Increase the percentage of local and/or sustainable food purchases by 20 percent annually, or achieve local/sustainable purchases of 15 percent of total food dollar purchases within three years

Healthy Beverages Challenge
Increase the percentage of healthy beverage purchases by 20 percent of total beverage purchases annually, or achieve healthy beverage purchases of 80 percent of total beverage purchases

Balanced Menus Challenge
Decrease amount of meat purchased by 20 percent within three years from baseline

Health Impacts of the Food System

Nutrition

The U.S. food supply is laden with calories, fat salt, sweeteners, and meat and dairy products, yet sparse on fruits, vegetables and whole grains. Such unhealthy foods make up a large percentage of Americans' diets, and emerging bodies of research connect these foods to a range of chronic diseases. Hospitals committed to protecting health have an intrinsic responsibility to serve healthy, nutritious foods rather than unhealthy junk foods. They also have a significant opportunity to use food as a tool for wellness by promoting access to healthier food choices within their communities and increasing food-related knowledge of certain at-risk populations.

Antibiotic Resistance

Antibiotic resistance has become an alarming public health issue, and livestock production is a significant contributor to this problem. In livestock farming, small doses of non-therapeutic antibiotics are administered regularly to poultry, beef, swine and fish in order to help the animals gain more body weight. A growing body of evidence links these practices to antibiotic-resistant strains of bacteria and reduced effectiveness of related antibiotics in the treatment of humans. Antibiotic-free (ABF) meats are available on the general market, but integrating them into the healthcare food supply chain remains challenging due to availability and price concerns. Hospitals have an opportunity to create a broader market for these products by emphasizing to their suppliers that antibiotic resistance is a major concern, and by integrating antibiotic-free meat into their menus.

Chemical Exposure

Food has become a significant source of chemical exposure for many Americans. Pesticides and other pollution from production practices, chemicals from packaging and additives used during processing all end up in our food and can lead to negative health consequences in humans. Hospitals can help support healthier, chemical-free food systems by integrating fresh, seasonal, non-processed and/or pesticide-free ingredients into their menus. The availability of such ingredients varies greatly by region and by season, and healthcare organizations can help increase the local availability of such produce within their own region by partnering with local food producers, aggregators or food hubs to help increase demand.

Air & Water Pollution

Pesticide drift, field dust, waste burning, toxic gases from degrading manure, and exhaust from production, storage and transport all contribute to air pollution. Exposure to these pollutants can lead to asthma, cardiovascular disease, lung cancer and other respiratory illnesses, particularly in individuals who work or live in close proximity to farms that don't use sustainable production practices. According to the EPA, agriculture is also the leading source of water pollution in the nation's rivers and streams, and a major contributor to the contamination of lakes, reservoirs and groundwater. Pollutants found in water often biomagnify up the food chain. So as meats and seafood become increasingly polluted, so too do the humans who consume them. Hospitals can help minimize these impacts by purchasing foods produced using environmentally sound, third-party verified farming practices.

Impacts from Livestock

Meat has a large environmental impact since its production consumes significant resources and is highly pollutive. The storage and disposal of animal waste on livestock farms is also one of the leading causes of water pollution from industrial farming, while the crowded conditions of factory farms and automated slaughtering and processing also contribute to bacterial contamination linked to millions of cases of food-borne illnesses each year. Healthcare organizations have an opportunity to positively impact environmental and human health by reducing the amount of meat they purchase, and by ensuring that the meat they do purchase is sourced from responsible livestock farmers who follow safe, healthy, minimally pollutive practices.

Sustainable Foods Approach

Inova has implemented a robust set of programming and operational initiatives related to healthy, sustainable foods. These efforts support Inova IMPACT, our sustainable foods strategy that promotes healthfulness, sustainability and connectivity around food issues. Inova's Office of Sustainability and Supply Chain Management Department work closely with our food service management partners to implement the programs and tracking initiatives required to meet our sustainable foods goals.

Inova is fortunate to have a food service partner who is equally committed to being a leader in sustainable foods, and who is a willing and enthusiastic partner in any new ideas or programs we aim to implement. This close partnership has helped us achieve outstanding outcomes in areas such as local food procurement, data tracking, employee engagement and carbon footprint mitigation. We have been able to create additional accountability for such outcomes by building language around sustainability – chiefly, the requirement for data reporting and marketing support – into our food service contracts.

Data Collection

In 2013, Inova's major food focus was on data collection, including creating baselines for new metrics based on the three areas of the Healthier Hospitals Initiative's Healthier Foods Challenge: Local/Sustainable Purchasing, Healthier Beverages and Balanced Menus (less meat). In addition to expanding our tracking of local produce, Inova developed new metrics around sustainable foods, healthy beverages and meat consumption, and started tracking local purchases at a more in-depth level across all of our facilities.

2013 Meals Served

Inova Alexandria Hospital
939,286

Inova Fair Oaks Hospital
893,138

Inova Fairfax Medical Campus
2,480,568

Inova Loudoun Hospital
569,768

Inova Mount Vernon Hospital
614,408

Importantly, the language Inova used to request the above sustainable food data from our supplier partners was a standardized language specified by the HHI Healthier Foods Challenge. We believe that aggregating demand for a specific metric makes it easier for suppliers to provide the requested data and that, over time, it will help facilitate the addition of sustainability metrics into automated reporting systems and sourcing practices across the industry.

Local Procurement

Another of Inova's key sustainable foods focuses in 2013 was increasing local food procurement rates. Our organization's 250-mile "local" radius, as defined by HHI, spans an area that covers Virginia, Delaware, Maryland, Pennsylvania and parts of West Virginia, North Carolina, New Jersey and Ohio. Locally grown produce is abundant in these regions throughout most of the year, but stable aggregation and delivery infrastructures are still under development. Inova works with local food producers and aggregators to help create a more robust local food supply chain, and to use our purchasing power and influence in the community to help overcome obstacles that smaller organizations might not be able to address on their own.

In the first few months of 2013, Inova initiated a new partnership with a local food aggregator that works exclusively with Virginia farmers, significantly increasing the availability of local produce throughout the seasons. This partnership helped drastically increase Inova's annual local purchasing rates, more than doubling them from the previous year at one location and achieving rates upwards of fifteen percent during the growing season at others.

Inova IMPACT at a Glance

Healthfulness: Healthfulness targets the nutritional content of the food we offer to our patients and in our cafeterias. We aim to increase the variety of healthy, nutritious food options while decreasing the availability of high-fat, high-sugar, highly processed foods.

Sustainability: Sustainability addresses the manner in which the food we serve was produced. By reducing the harmful impacts of food production, we contribute to a healthier environment and reduced secondary health impacts from food production. This helps us prevent potential health issues before they ever become a problem.

Connectivity: Connectivity promotes healthy food as a lifestyle rather than a choice at mealtime. Inova offers various programs designed to help our patients, employees and community members improve their food knowledge and gain increased access to fresh, healthy food choices.

2013 Sustainable Foods Performance

Goal:
Provide a variety of fresh, healthy food options

2013 Progress:
- Contract updates
- Cafeteria audits
- Addition of healthier foods and beverages to menus
- Repositioning and removal of less-healthy foods and beverages
- Addition of daily vegetarian options
- Weekly cafeteria produce stands during summer growing season

Goal:
Minimize environmental impact of food purchases & support local farmers

2013 Progress:
- Forming new supplier partnerships to increase local purchasing rates
- Data tracking and reporting of local/sustainable food purchases through HHI
- Participation in HHI Food Roundtable meeting series to spur industry change
- Signing of Healthy Foods in Health Care pledge at all facilities
- Partnership with food services provider to pilot Carbon Foodprint tool

Goal:
Increase access to and knowledge of healthy food choices

2013 Progress:
- Monthly food & health focus displays in cafeterias
- Take & Bake Cooking Classes for employees
- Added cafeteria signage on healthy, sustainable food choices
- Third-annual Local Food Olympics contest
- Double Dollars SNAP Benefits program
- Buy Fresh Buy Local partnership and dissemination of resources

Local/Sustainable Foods Challenge

Inova has worked on the integration of local and sustainable foods into our patient menus, retail spaces and catering services for several years. We have tracked local purchasing data since 2010, and expanded these efforts in 2013 by working with Inova's food service partners and suppliers to start tracking data on our sustainable food purchases.

2013 Sustainable Purchases

Reduced-Antibiotic Chicken	$32,861
Reduced-Antibiotic Turkey	$16,839
rBGH-free Milk	$22,730
rBGH-free Yogurt	$8,585
Sustainable Seafood (MSC cert)	$13,103
Cage-Free Shell Eggs	$1,985
Fair Trade Coffee	$3,584

2013 Local Produce Purchases

	Local $	Total $	% Local
Alexandria	$5,287	$281,052	1.9%
Fair Oaks	$14,365	$180,733	7.9%
Fairfax	$62,505	$697,077	9%
Loudoun	$13,767	$152,463	9%
Mt. Vernon	$12,475	$131,371	7.5%
Total	**$108,400**	**$1,442,695**	**7.5%**

Balanced Menus Challenge

In 2013, Inova established our initial baseline for meat purchases, and initiated planning discussions between the appropriate internal and external teams in order to develop a long-term strategy around meat reduction and sustainable meat procurement efforts.

2013 Meat Purchases

	Tons	Cost
Alexandria	53.4	$316,173
Fair Oaks	43.2	$266,126
Fairfax	140.6	$853,750
Loudoun	41.2	$298,687
Mt. Vernon	29.5	$169,828
Total	**307.9**	**$1,904,562**

Healthy Beverages Challenge

Inova took the first steps towards fulfilling the requirements of this Challenge in 2013 by completing our first baseline of healthy beverage purchases within our hospitals. We continue with our careful consideration of the best strategies for eliminating unhealthy beverage options, in order to build a plan that will maximize the success of these efforts.

2013 Healthy Beverage Spend

	Healthy Bev $	Total Bev $	% Healthy
Alexandria	$115,150	$283,992	40.5%
Fair Oaks	$91,697	$192,656	47.6%
Fairfax	$317,877	$696,547	45.6%
Loudoun	$80,047	$198,124	40.4%
Mt. Vernon	$28,285	$50,276	56.3%
Total	**$633,056**	**$1,421,595**	**44.5%**

Sustainable Foods Success Stories

Sustainable Foods, Healthy Lives Cookbook

In 2013 we released *Sustainable Foods, Healthy Lives*, an Inova family cookbook filled with over 120 pages of recipes and articles connecting food, health and the environment. In addition to containing more than 60 seasonal recipes contributed by Inova employees, the cookbook provides a variety articles on healthy living and eating from our own team of nutritionists, physicians and sustainability experts. All proceeds from the sale of this cookbook are donated to Inova's Double Dollars SNAP Enhancement program, help- ing to increase community access to fresh, healthy foods.

Inova also produced an associated *Local Ingredients Guide* as a free online resource. The Guide provides an in-depth look at over 60 fruits and vegetables grown in within the mid-Atlantic region throughout the course of the year.

Building Healthier Food Systems

Through our work with HHI, Inova has had the chance to use our purchasing power to advocate for the development of a healthier, more sustainable food system. In 2013, we joined several peer organizations and food supply chain leaders for a national Healthy Foods Roundtable hosted by HHI, where participants worked together to identify key challenges to a healthier food system and then developed action plans for addressing them. This was the first of many meetings to be held over the next several years.

Inova extended this national work locally in 2013 through our engagement with local food advocacy organizations including the Chesapeake Food Leadership Council, Vir- ginia Food Systems Council and Northern Virginia Food Coalition.

SNAP & Mobile Market

Several years ago, the Inova Health System Foundation established an incentive program for recipients of SNAP benefits (formerly food stamps) to purchase fresh, local foods from a number of farmers' markets in Northern Vir- ginia.

Shoppers using their Virginia EBT card at participating markets receive up to $10 in matching funds from Inova for SNAP purchases. Inova has helped integrate this program into seven local farmers' markets and one mobile farm mar- ket that extends service into the area's only food desert.

Buy Fresh Buy Local Northern Virginia

Inova is a proud continuing sponsor of Buy Fresh Buy Lo- cal (BFBL), a nationally recognized program that is dedi- cated to reintroducing Americans to their food – the seeds it grows from, the farmers who produce it, and the routes that carry it from the fields to their tables. BFBL is part of Inova's family of health, nutrition and sustainability programs.

Each year, we produce a BFBL Guide to Local Food and Wellness in English, Spanish and Korean. This guide pro- vides locations and scheduling information for local farm- ers' markets, healthy recipes, wellness information and more. Thousands of these guides are delivered within our community each year, and the local farmers' market guide is also available as an online search tool.

Additional 2013 Sustainable Foods Efforts

- **Healthy Food in Health Care Pledge**: All Inova hospitals officially signed the Healthy Foods in Health Care Pledge, which outlines steps to be taken by the healthcare industry to reduce environmental and health impacts
- **Local Food Olympics**: Hosted a System-wide cooking competition featuring seasonal, healthy ingredients in July 2013
- **CSA pilot**: Piloted a community supported agriculture (CSA) program at Inova Fairfax Medical Campus and System Offices, featuring weekly workplace deliveries of farm-fresh produce
- **Weekly produce stands**: Set up cafeteria produce displays every Friday during the growing season, featuring locally grown fruits and vegetables
- **Monthly featured health food focus**: Installed cafeteria displays that rotate on a monthly basis and feature information about fresh, whole foods and their health benefits
- **Buy Local Challenge**: Served at least one featured local menu option at all five hospitals during Buy Local Week in July 2013
- **Fryerless Fridays**: Piloted a program to eliminate the sale of fried foods every Friday in the cafeteria at Inova Fair Oaks Hospital
- **Cafeteria upgrade planning**: Built efficient equipment, smarter technologies, and more-visible signage into upcoming System-wide cafeteria and kitchen updates
- **Community garden planning**: Initiated planning process for the installation of edible learning gardens at each hospital
- **Cafeteria wellness audits**: Conducted cafeteria wellness audits, looking at food quality, nutrition content, product placement and menu pricing
- **Increased vegetarian options**: Increased the quantity of vegetarian entrée and side dish options available on Inova's daily menu

ALTERNATIVE TRANSPORTATION

Transportation Background

Healthcare organizations' transportation impacts contribute to air pollution, noise pollution and increased traffic within their local communities. The transport of employees, patients and goods to and from hospitals negatively affects health and other quality-of-life factors that are essential for maintaining happy, healthy populations. As organizations that are committed to protecting health, hospitals have an intrinsic duty to minimize these impacts.

Air pollution is the most substantial impact associated with transportation, leading to thousands of premature deaths each year and countless other health impacts associated with the inhalation of particulate matter and other harmful compounds. According to the American Lung Association, over 131.8 million people in the U.S. – or forty-two percent of the population – lived where pollution levels were often dangerously high in 2013. These impacts are noticeably more pronounced in urban areas and communities located near major roadways, as well as in at-risk populations such as children, the elderly, individuals with certain health conditions and individuals below the poverty line. Many of these risk factors affect individuals living in the Northern Virginia area, including Inova's patients, employees and community members.

Another major impact associated with transportation is reduced quality of life for commuters and community members in high-traffic areas. The flow of traffic creates noise pollution that can last all hours of the night, especial around continuously operating facilities such as hospitals where people are coming and going around the clock. Additionally, high volumes of vehicles on the road contribute to rush-hour traffic, which can increase stress and reduce productivity for local residents. Healthcare employees, particularly within urban areas, may face several hours of commute time on a daily basis, adding the stress of driving in traffic and additional time away from home to an already-challenging workday.

Healthcare organizations have a chance to achieve drastic health, environmental and financial savings by reducing their transportation-related impacts in two key ways:

Employee Commute Management. The impact of healthcare employees' daily commuting habits can put significant strain on local roadways and create large amounts of air pollution within local communities. This is important for hospitals to address because the longer their employees sit in traffic, the higher their exposure to harmful air pollutants. Prolonging this exposure can negatively impact employee health, leading to more sick days and higher insurance costs related to respiratory health impacts. Reducing employee commute time can help healthcare organizations save money on employee health-related expenses in the long run. Additionally, alternative transportation perks such as commuter shuttles, preferred parking spaces or public transit subsidies can also be added to employee benefit packages to help increase employee satisfaction and improve professional recruitment and retention.

Fleet Management. Another major component of a hospital's transportation impacts is the inter-facility transport of patients and delivery of supplies. Countless miles are driven each year by healthcare organizations' internal fleets in order to manage the flow of patients and products throughout the system. In addition to the impact of fleet-related emissions on local air quality and community health, an organization's fleet of vehicles also has significant financial implications related to fuel consumption. More-efficient vehicles and routes are cheaper to maintain than less-efficient ones. As the price of fossil fuels continues to rise – and the supply slowly dwindles – organizations with large, active fleets will be challenged to contain fuel costs associated with their internal transport systems in the long run.

Analyzing Air Quality in the DC Area

In 2013, the Washington, D.C. metro area was ranked ninth-worst in the country for ozone pollution. Fairfax County received an F grade in this category, while Loudoun County received a D. These grades are based on a ranking system created by the Air Quality Index, the EPA's color-coded scale for daily air pollution forecasts. Such low grades mean that there was a high concentration of days in 2013 where air quality was labeled "unhealthy."

In the DC area, approximately 7.5 million individuals (of a total population of 8.5 million) were at heightened health risks due to this ozone pollution in 2013, including adult and pediatric asthma patients, individuals with COPD, cardiovascular disease or diabetes, children under 18, adults 65 & older, and people below the poverty line. These numbers highlight the magnitude air pollution's impacts on the health of local communities.

Alternative Transportation Approach

Goal:
Reduce environmental impact of Inova employees' transportation choices

2013 Progress:
• On-campus bike racks
• On-campus shuttles
• Metro shuttle
• Commuter Shuttle Bus program
• On-site or nearby public bus stops

Goal:
Increase availability and visibility of transportation options for employees

2013 Progress:
• Alternative Transit fairs
• Bike rack signage in high-visibility locations
• Survey to understand commuter habits
• Remote control "Inova Going Green" bus races
• Publicly available information about local alternative commute options

Goal:
Incentivize alternative modes of transportation for employees

2013 Progress:
• WageWorks pre-tax benefits program
• MetroCheck incentives program
• Preferred parking spaces for carpools, vanpools & hybrids

Inova's alternative transportation program is a joint effort between our Safety & Security Department, Office of Sustainability, Facilities Management Department and the Fairfax County Department of Transportation. Our strategy aims to minimize the impacts of our employees' commutes by providing and incentivizing viable alternative commute options. Alternative Transportation incentives and opportunities at Inova include:

Employee Commute Management

• **Preferred parking.** All of Inova's hospitals have established preferred parking spaces for registered carpools, vanpools and hybrid cars, though several spaces were temporarily removed in 2013 due to construction-related parking constraints.

• **WageWorks incentive.** The WageWorks Commuter Benefits Program allows employees to pay for eligible commuting costs through automatic, pre-tax payroll deductions. It works for train, bus, vanpool or parking facility expenses, and is available as an employee benefit through Inova's Human Resources Department.

• **Commuter shuttles.** Inova's Metro Shuttle Bus provides employees with transportation between the local MetroRail station, Inova Fairfax Medical Campus, and two System Office locations throughout the course of the day. The Employee Commuter Shuttle transports employees from commuter lots in Manassas, VA and Woodbridge, VA to Inova Fairfax Medical Campus, and is available weekdays free of charge.

• **MetroCheck incentive.** Employees at Inova Alexandria Hospital who use public transportation to get to work are eligible to receive a monthly transportation stipend, available as an employee benefit through Inova's Human Resources Department.

• **Bike racks.** All of Inova's hospitals offer bike racks and shower facilities to employees who bike to work. Information about local bike routes and regulations is available on the Office of Sustainability's intranet webpage, as well as

Being a *Best Workplace for Commuters*

For the past several years, Inova Fairfax Medical Campus and Inova Alexandria Hospital have been recognized the the EPA as *Best Workplaces for Commuters* for the variety of alternative transportation options available to employees.

at Alternative Transportation Fairs, hosted annually around Bike to Work Day.

• **Telecommuting.** In 2013, Inova initiated a telecommuting pilot program with select groups of non-clinical employees. The user group was kept small as we developed appropriate policies, processes and guidelines, but we anticipate that this program will have a significant impact on employee commuter miles traveled once it has been fully developed and implemented System-wide.

Fleet Management Activities

In 2013, Inova outsourced the management of our internal delivery services and fleet to an external partner, with a goal of streamlining and unifying transportation, improving process quality, and implementing technology to boost security. This new internal delivery partner worked with our Supply Chain and Materials Management teams to optimize transportation routes and delivery schedules to minimize miles traveled, which will lead to significant emissions reductions from internal deliveries in the long run.

In its initial analysis, the team figured out that we were wasting significant mileage and fuel due to delivery fragmentation and overuse of third-party couriers. Our fleet was traveling 135,022 miles per month on average, producing 7,638 tons of carbon dioxide (CO_2) emissions each year through these inefficient practices. During the first month of its partnership with Inova in late 2013, our internal delivery partner reduced monthly mileage down by over 22,500 miles, a change that is anticipated to yield savings of more than 6,000 tons of CO_2 emission reductions over the first year.

GREEN
BUILDINGS

Green Buildings Background

Hospitals are large, resource-intensive buildings that remain permanent fixtures within their communities for decades or longer. They are also very complex to build, requiring countless contracted teams and several years of project planning before construction work even begins. Given the permanence, intricate planning processes and tremendous environmental impacts of these buildings, there is significant opportunity to adopt more thoughtful, healthier hospital design and construction practices.

One primary opportunity for healthcare organizations that wish to create healthier healing environments is the minimization of chemicals within their facilities. The materials that go into and the fixtures that furnish modern hospitals are common sources of environmental chemical exposure, and can be major contributors to poor indoor air quality. This issue is particularly concerning in healthcare environments because it leads to reduced air quality and, at times, prolonged human exposure to irritating or harmful substances.

Healthcare organizations can reduce such exposure and its negative associated health impacts by carefully selecting building materials and furnishings that avoid the use of targeted chemicals such as mercury, polyvinyl chloride, toxic flame retardants and volatile organic compounds. By demanding safer products that use fewer chemicals of concern, hospitals provide the impetus needed for suppliers to create these new, market-changing products. Historically, such demand by healthcare organizations for less-toxic products has lead to the eventual widespread availability of these products in the general marketplace – creating not just healthier hospitals, but also healthier office and home environments across the globe.

Efforts around green building are also important for hospitals because sustainable design and construction practices can yield significant environmental and financial savings. Buildings that are designed to maximize energy and water efficiency reduce resource consumption and its associated long-term price and availability risks. The use of evidence-based design practices, where decisions around the built environment are based on credible research, can also help healthcare organizations positively impact patient outcomes, patient experience and workplace safety. This, in turn, creates potential for long-term financial impact due to shorter patient stays, reduced readmission rates, improved patient survey scores and fewer workplace safety incidents.

Healthcare organizations additionally have a major opportunity to improve air quality during construction and renovation by targeting their construction & demolition practices. The large equipment and heavy machinery required to build a healthcare facility is generally powered by engines that run on diesel fuel, which creates significantly more air pollution than unleaded fuel during combustion. Building specifications for more efficient and less pollutive equipment into construction proposals or contracts can help minimize this pollution, or at the very least can indicate to contractors that a demand exists for such healthier, less pollutive services.

Reincorporating old building materials into the design of new facilities can also help hospitals save on building supply costs, while recycling C&D waste instead of throwing it away reduces waste disposal costs. New hospital buildings – especially those built in a sustainable manner, with individual and community health in mind – also create a major opportunity to engage and educate patients, employees and visitors around topics of environment and health, and to demonstrate the organization's commitment to protecting health. This can ultimately improve both brand visibility and loyalty within the local community.

Green Building Approach

Goal:
Create safer healing environments through evidence-based design & green construction

2013 Progress:
- Use of EBD principles in design of LEED Silver South Patient Tower
- Green roof in South Patient Tower; larger patient-accessible green roof planned for new Women's Hospital
- Range of upcoming projects planned according to LEED guidelines
- Healing Gardens at all hospitals

Goal:
Reduce environmental impacts of materials used during construction & maintenance

2013 Progress:
- Construction & demolition waste recycling
- Responsible disposal of salvageable items from areas under renovation
- Ban on specific harmful chemicals in contract specifications

Goal:
Develop a consistent, low-impact approach to the maintenance of Inova facilities

2013 Progress:
- Green cleaning chemicals & low-impact cleaning practices
- Integrated pest management practices
- Water-efficient and pest-resistant native landscaping practices
- Water-efficient irrigation systems

Inova approaches sustainability in the built environment through two key mechanisms: green design & construction and sustainable facilities management. These two strategies must be approached in tandem because, though we may be able to design high-efficiency facilities, we can only achieve the associated financial and environmental savings if the buildings are maintained and technologies operated correctly.

The Inova Design & Construction Department works closely with the Facilities Management Department, Energy Manager, Office of Sustainability and contracted affiliates to build these environmental considerations into project plans.

Green Design & Construction

Inova has used both LEED (Leadership in Energy & Environmental Design) and GGHC (Green Guide for Health Care) guidelines for many years to inform the design and development of new construction and renovation projects. Additionally, in order to ensure that we build the safest healing environments possible, chloroform, ethylene dichloride, methylene chloride, perchloroethylene, trichloroethylene, lead, mercury, asbestos, and cadmium are all banned in our projects in Division 1. Inova's specifications for internal fixtures and furnishings also require that paints be lead- and cadmium-free, that wall coverings, handrails, bumper rails and roller shades be PVC-free, and that wood products contain no added urea-formaldehyde. We have additional contract language requiring the removal and recycling of CFC refrigerants.

In 2013, Inova began operations in our first LEED-rated facility, the new South Patient Tower at Inova Fairfax Medical Campus. This LEED Silver building, which was highlighted as a case study in Inova's 2012 Sustainability Report, is a 174-bed inpatient tower that added 238,000 square feet to the footprint of Inova Fairfax Medical Campus. The South Patient Tower is part of a broader, campus-wide construction project that will also include:

- **Women's Hospital & Children's Hospital New Construction**
A 660,000 square foot new build project scheduled for completion in 2014. This building will add a 108-bassinet neonatal intensive care unit, 8 ORs, 6 C-Section rooms, 33 labor & delivery rooms, 192 private patient rooms for Women's Services and 116 patient beds for Pediatric Services. LEED certification for this project was pending as of the end of 2013.
- **Critical Care Wing Renovation**
A 16,333 square foot project scheduled for completion in 2014. This project consists of multiple renovations including dialysis and short-term stay areas. Renovations have been designed to meet LEED guidelines, but Inova will not aim for certification for this project.
- **North Patient Tower Renovation**
A 242,873 square foot renovation scheduled for completion in 2015. This project entails the renovation of the 166-bed patient tower built in 1965, and will include the installation of new HVAC, roof, windows and plumbing systems. LEED certification for this project was pending as of the end of 2013.

Sustainable Facilities Management

Inova has implemented a range of practices to ensure that our facilities are operating at peak performance, and that our healing environments are as safe and healthy as possible for our patients and employees. Many of these practices are related to energy conservation and efficiency, and have been previously described in the Energy Management subsection of this report (i.e. audits and maintenance of mechanical systems, building management systems, variable frequency drives, integration of submetering).

The rest fall under the responsibility of an assortment of departments and functions within the hospital, and include:

- Use of Green Seal Certified cleaners and less-toxic disinfectants and sterilizers, improving indoor air quality
- Use of automatic scrubbing machines that only require water for floor cleaning, improving air quality and reducing water pollution
- Use of microfiber mops and cleaning cloths, reducing water and chemical use, cross-contamination and ergonomic stress
- Implementation of integrated pest management program, minimizing the use of chemical pesticides

Being a Good Corporate Citizen

Engaging Our Stakeholders

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Protecting Our Patients

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Supporting Our Workforce

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ENGAGING OUR
STAKEHOLDERS

Engaging Our Stakeholders

Inova values the input of internal and external stakeholders in the development of our sustainability strategy and initiatives. Feedback from these groups helps us prioritize our focus and identify opportunities that might otherwise go unnoticed. It also helps us build ongoing relationships with key partners within our community.

Our sustainability team interacts regularly with our stakeholders, including patients, visitors, employees, associates, suppliers, local communities, government and peer organizations. These groups have been targeted for engagement based on their interest in, closeness to, relationship with and ability to materially impact Inova. Most engagement takes place as part of our existing feedback collection processes and is managed by Inova's Leadership, Communications, Human Resources and Community Affairs teams, but several communication tools have also been specifically developed by the Office of Sustainability to capture sustainability feedback.

The contents of this Sustainability Report reflect issues that were identified as important to our stakeholders during the course of our 2013 engagement efforts, as well as report-specific materiality assessments. Some topics were identified based on observations from informal interactions with stakeholders, while others were identified through more formal engagement mechanisms such as surveys and roundtables. Since this is our first Report written to the Global Reporting Initiative's new G4 standard – and since this new standard requires much more detailed reporting on certain issues than its previous version – Inova does not yet have the mechanisms in place to report to the level requested by GRI for every single issue identified as material by stakeholders. Much of this information remains decentralized across our system, owned by the individual departments who manage engagement with each stakeholder group.

Taking on the GRI reporting process has pushed Inova to centralize the collection of this data, but we remain in the process of developing a more robust tracking system and are unable to report on several GRI indicators in specific detail this year. It should be noted, however, that we did engage in a two-month materiality assessment with all of our stakeholders in order to define the contents of this Report, and are using the outcomes of those engagement efforts to shape our data collection efforts moving forward. A summary of the outcomes from this work is included in the Appendix to this Report.

Stakeholder Engagement Outcomes

Patients & Visitors

Inova has implemented a range of engagement mechanisms to reach our patients both during and after their visit. In addition to the written communications and personal interactions they encounter within our facilities – a significant opportunity for us to make a difference with our professional, courteous and caring service – Inova reaches out to every single patient to conduct a survey upon their discharge in order to collect follow-up information about their experiences while under our care.

These patient surveys contain questions related to various aspects of service, such as food quality, staff courtesy and cleanliness of the environment. Survey outcomes are reviewed weekly by hospital and departmental leadership in order to adjust any performance issues as they are identified. The outcomes of such surveys have also become an important quality metric for hospitals, and are an increasingly essential component of the healthcare industry's financial structure.

Suppliers

Supplier engagement efforts are essential to Inova's continued success in environmentally preferable purchasing. Our work to engage with our suppliers around topics of sustainability, among other issues, are described in further detail in the Environmentally Preferable Purchasing and Governance sections of this report, and include hosting an EPP roundtable, working with our group purchasing organization to build sustainability into service contracts, developing a data collection process around sustainable products, and working with Inova's Supply Chain Team to build sustainability into the purchasing and vendor engagement process.

Local Communities

Protecting the health of our local communities is a key part of Inova's mission. We cannot fulfill this mission unless we engage with our community members to identify and address their needs. Inova has several departments dedicated to engaging with our local communities on a range of issues. More information about these crucial efforts is available in the Caring for Our Community section later in this Report.

Employees & Associates

Inova is engaged in a constant dialogue with our team of employees and associates. In addition to our robust internal communications program, which primarily includes organizational updates and event notifications sent out through a range of internal channels and formats, we have also developed a range of two-way communication mechanisms to help every voice at Inova be heard. Daily safety huddles and weekly departmental meetings foster dialogue between leadership and employees, allowing feedback and suggestions to flow both top-down and bottom-up throughout our organization.

Employees are also invited to participate in annual engagement surveys and performance reviews, which help Inova's leadership gather more detailed information regarding employee satisfaction with their jobs, workplaces and employer. Inova's employees are additionally aware of a range of emergency or safety hotlines that can be reached around the clock to address any pressing concerns or issues they may be facing, job-related and non.

All Inova employees are required to participate in annual performance reviews, regardless of employment category. Inova also initiates communication with employees regarding major operational changes well before the intended go-live date. Employees are also actively made a part of the planning process for such operational changes. Very rarely are large decisions made without first consulting with the groups they will be affecting. This helps us ensure that the messaging reaches everyone it needs to. It also builds a window to provide any last-minute feedback regarding hidden issues that may have arisen since initial planning.

In addition to this mix of general engagement mechanisms, Inova's Office of Sustainability has developed a suite of tools to gather sustainability-specific feedback from employees. In 2012, we conducted our first Sustainability Engagement Survey, which gathered feedback about Inova's environmental efforts and performance from hundreds of employees across the system. The results of this survey were shared publicly in Inova's 2012 Sustainability Report.

We additionally conduct department-based audits and educational trainings upon request or where need is identified, and have built sustainability topics into live trainings included in curriculum for certain clinical trainees such as students in Inova's OR Nursing Fellows program. These live education events create a forum for employees to ask questions and share their ideas, and for the Office of Sustainability to emphasize the connection between environmental preservation and the mission of healthcare. Inova has also developed a network of green teams, project workgroups and Sustainability Advisory Boards that meet throughout the year, and additionally offers our gogreen@inova.org email address as a catchall for any sustainability-related thoughts, ideas, questions or concerns that may arise during an employee's time within our organization.

Peer Organizations

In addition to targeting the health of our local community, Inova also has a significant opportunity to impact health on a broader scale – to reach beyond our walls and impact our global community. The emissions and pollution from our operations contribute to global environmental problems. Since we have accepted our duty to minimize these impacts wherever possible, it follows that our mission also extends to influencing other organizations who are contributing to these problems to do the same. Inova pursued a variety of ways to engage our peer organizations and colleagues, as well as and the broader public, in a dialogue around sustainability in 2013. We presented several webinars and lectures on our sustainability programming for both local and national industry groups, including Practice Greenhealth, the Healthier Hospitals Initiative, and the Chesapeake Food Leadership Council. We also shared our sustainability story with the public in forums including social media, press releases, radio interviews, case studies, an annual report and our public website. Inova additionally frequently reaches out to our network of connections at hospitals across the country to share sustainability best practices and help troubleshoot sustainability roadblocks. In 2013, we met with peers from both local and foreign health systems to extend the reach of our work.

Government

Inova's Government Affairs Department serves as the chief advocacy arm and liaison between the Inova community and our elected representatives at the local, state and federal level. Whether it is tracking land use issues before our boards of supervisors, legislation in the General Assembly and Congress, or initiatives by the governor or federal government, we are constantly on the lookout for issues that impact Inova. Our goal is to elevate awareness and advocate the Inova position on important health-related issues that are before our boards of supervisors, Virginia General Assembly, governor and congressional delegation. Inova's Government Affairs Department also produces monthly internal "Advocacy Updates" that summarize current or upcoming local, state and federal issues of relevance, along with the associated efforts of our Government Relations team.

Caring for Our Community

The health of Inova's local community is directly impacted by our operations. The emissions from our employees' personal vehicles reduce local air quality. The energy we use to power life-saving equipment pollutes the environment with greenhouse gases and other harmful compounds. And the waste we produce ends up in local landfills or waste-to-energy incinerators, where, like all other waste, it has the opportunity to leach chemicals that are harmful to human health into the environment.

As an organization whose mission is to protect the health of the diverse community we serve, Inova has a unique duty to minimize the harmful impacts of our own operations. In 2013, Inova included positive impacts from our sustainability initiatives in our annual IRS Community Benefit Report (Form 990) for the first time, sparking a broader change in the way we discuss environment as it relates to health.

At the same time, we also have a duty to extend our mission to our community by providing outreach and programming to promote healthier behavior and habits. Increasing access to healthcare and offering community events, health screenings and health-related educational programs allows Inova to pinpoint harmful health and lifestyle habits and intervene before they lead to more severe long-term health consequences.

Inova offers care, information and resources to our communities, schools and other organizations in the Northern Virginia and Washington, D.C. area. The needs of these groups are identified through routine community impact assessments conducted for all of Inova's facilities by our Community Affairs, Community Health and Cultural Competence Divisions. We often work in partnership with other organizations to spearhead valuable and much-needed community health improvement projects falling under the categories listed below.

A comprehensive list of programs that fall under Inova's Community Health and Cultural Competence Divisions can be found at http://www.inova.org/inova-in-the-community/index.jsp.

Community Health Improvement Categories

Access to Care

As part of Inova's not-for-profit mission, Inova in the Community's *Access to Care* programs ensure all members of our community can access much-needed healthcare services. Inova recognizes the diverse needs of our community and has established programs and services to meet them.

Community Partnerships

Inova's Community Partnerships enhance and extend our ability to serve the community. The best way to reach our neighbors is through partnering with community and faith-based organizations to foster education and collaborative initiatives to promote health and wellness.

Preventative Health

Inova is invested in the health of our community. Our commitment is twofold: to help make people healthy, and to help keep people healthy. A balanced approach to healthful living should be accessible to everyone in the community. Through our preventative health programs, Inova delivers these services online, in person and through our community partners.

Community Care Continuum

Inova provides disease management programs that focus on keeping our community healthy and out of the hospital. These programs under our Community Care Continuum utilize evidence-based research, technology and experience. Our goal is to deliver high-quality care and to provide self-management education and tools for patients and their families to manage illness and promote healthy lifestyles.

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PROTECTING OUR PATIENTS

Protecting Our Patients

Inova is committed to safety in everything we do. We strive to eliminate hazards from our work environments, securely manage sensitive information in an increasingly digital world, and make patients feel safe within our care. Inova has taken up the call to evaluate and improve our care at every level, using the best hospitals in the nation as our benchmarks. Every single component of the service we provide, from clinical functions to support services and community outreach, is continuously analyzed to identify opportunities for improvement. Our leadership, physicians and staff have established benchmarks and goals to meet or surpass the standards set by the best in the industry.

Inova has implemented a range of safety and security measures to protect our stakeholders and ensure the best possible outcomes for our patients. Several departments across the System, including Safety & Security, Quality, Risk Management, Human Resources, Information Technology and Leadership, manage these efforts. More information about Inova's annual performance relative to widely accepted measures of healthcare quality, safety and patient experience can be found in our annual Quality Matters Reports.

Physical Security

Inova's Safety and Security Teams manage the physical security of our hospital campuses. Each hospital has its own Safety and Security Team, whose members are trained to stringent standards so that they are prepared to respond effectively to a range of potential safety incidents or security issues. Inova's Emergency Management and Security Departments are dedicated to creating and promoting a safe environment for our staff, patients and visitors during normal day-to-day operations, as well as during emergency situations. This is accomplished through education, assessment, planning, and response exercises involving Inova and public healthcare providers, emergency management and first responder agencies, and the Northern Virginia Hospital Alliance and the Northern Virginia Emergency Response Systems.

Data Security

Patients have the right to privacy and confidentiality about their case, diagnosis and medical information. The Healthcare Insurance and Portability Accountability Act (HIPAA) includes rules and regulations about privacy and security of patient information, and governs how hospitals may use and disclose protected health information. When Inova collects information about a patient's medical condition, history, medication and family illnesses to provide the best possible care, our patients can expect that their privacy will be protected, and that patient-specific information will be released only as permitted by law or by the patient.

Inova's employees are committed to protecting the sensitive nature of confidential patient information. Detailed guidance on HIPAA compliance (guidelines for the management of confidential patient information, details on how to protect this information digitally, information about reporting privacy concerns) is included in annual Compliance & Ethics trainings for all employees, and is also available year-round via Inova's employee intranet. Employees are taught that any complaints received about potential HIPAA privacy violations must be reported immediately to Inova's Chief Privacy Officer or Compliance Hotline, regardless of the perceived validity of the complaint. Such complaints can be reported anonymously at any time of the day.

Staying Ahead of Technology

With the integration of modern technology and modern medicine, hospitals have had to update their privacy standards to address challenges related to computerized information systems and the widespread proliferation of photo- and internet-capable handheld devices.

In response to these challenges, Inova has implemented policies governing the use of social media and two-way handheld communications devices within our facilities, as well as a policy for computerized information security and confidentiality that includes:
- Awareness guidelines to ensure that all employees and physicians have current information related to security and confidentiality
- Training and Access guidelines to ensure that only qualified, authorized personnel are using the systems
- Disposal of information guidelines to ensure proper disposal of printed materials
- Compliance procedures to audit compliance and manage security violations

If a privacy violation is reported, Inova's Chief Privacy Officer is charged with contacting the facility department where the privacy violation is alleged to have taken place to begin an investigation and, where indicated, initiate a simultaneous investigation of any applicable IT systems. In the event that an individual elects to file a privacy complaint with the Secretary of Health and Human Services, Inova has committed to cooperating with any resulting investigation in accordance with its HIPAA policies. Inova's Chief Privacy Officer would be responsible for facilitating compliance with these procedures.

Patient Safety

Culture of Safety

Inova is committed to patient safety as a top priority. In addition to adopting best-practice safety standards and continuously assessing our workplace and processes for improvements, this commitment is propelled by Inova's push to create a Culture of Safety within our organization. This Culture of Safety empowers each individual, regardless of position, to take an active role in preventing errors by emphasizing personal and team accountability, continuous learning and safe choices. To achieve these objectives, Inova has created a set of safety goals around targets such as:

- Increasing the number of near misses reported
- Changing processes and procedures as a result of lessons learned from near misses
- Reducing the number of safety events because processes improved and potential for error was reduced
- Reducing fear among staff for reporting near misses or errors
- Providing leaders with tools and resources to guide them through appropriate responses to error
- Creating an environment where near misses and safety events always get reported because safety always comes first

Inova's Culture of Safety is a partnership between leadership and staff. We can only progress in improving patient safety if employees report errors and near misses, and if leaders investigate them fairly. Inova's managers are pushed to promote discussion and learning over blame and punishment, addressing root causes and helping to make employees feel more comfortable using the system.

Great Catch Recognition Program

Inova's Great Catch Recognition Program helps incentivize employees to identify areas where a process improvement is needed. Great Catches are recognized when an error or event had the potential of reaching a patient, but did not. Reporting Great Catches gives staff and leaders an opportunity to review and improve relevant processes to ensure these potential risks never reach the patient. By building on strengths and addressing areas in need of improvement, we can continue to strengthen Inova's Culture of Safety.

Reporting Safety Events

All work-related safety events at Inova are reported via the Safety Always reporting program, which catalogs details in a consistent and uniform way in order to make reporting and management easier for all involved. This program allows for fast, thorough and anonymous reporting from any Inova desktop computer. It allows physicians, nurses, technicians, administrative staff, ancillary personnel and anyone else on the Inova team to report safety events including errors that result in overt patient harm, procedures or processes not followed properly, near misses, Great Catches, employee injuries, visitor injuries and hazardous conditions. Employees are encouraged to report as close to the time of the incident as possible, which helps Inova more quickly address problems and can also help to prevent the same issue from reaching another patient or staff members.

Assessing Performance

Since 2011, Inova has conducted annual surveys of our employees and physicians using the Agency for Healthcare Research and Quality (AHRQ) Hospital Survey on Patient Safety Culture, which is a validated survey tool that is currently used by more than 1,700 hospitals across the country. This survey places an emphasis on patient safety issues and error and event reporting, measuring seven unit-level aspects of safety culture and three hospital-level aspects of safety culture. The information shared in the responses of Inova's employees and physicians helps our Leadership team understand how to improve and strengthen our Culture of Safety.

Impacting Patient Experience

At Inova, the patient experience is the center of our care delivery model. Everyone is responsible for, and plays an important role in, the patient experience. Leading the strategic direction and prioritization of our focus is the Patient Experience (Service Excellence) Team, whose primary focus is the satisfaction of patients and employees. This team believes that in order to make patients feel good about their experience, it must also make employees feel good about their work.

The Patient Experience Team is responsible for developing and implementing tactics to increase patient and employee satisfaction. They act as change agents, model new behaviors, create employee involvement in any change process, improve dialogue and cooperation between departments, and bring new and creative ideas to the team. They do this to ensure we can deliver the Inova Promise—making sure employees deliver excellent patient experiences, every time, every touch.

Ensuring Quality Performance

All Inova hospitals are Joint Commission Accredited, which means they have implemented state-of-the-art performance improvement strategies that focus on continuously improving patient safety and quality of care throughout their operations. Joint Commission Accreditation involves not only preparing for an on-site survey conducted by surveyors from a variety of healthcare backgrounds, but also maintaining a high level of quality and compliance with the latest standards. It helps Inova reduce the risk of error and adds oversight to the quality of the patient services we provide.

Inova also follows standards of care established by several other national organizations that support quality improvement, including the Centers for Medicare and Medicaid Services, the Agency for Health Care Research in Quality (AHRQ) and the National Quality Forum. These organizations provide healthcare providers with quality measurement tools that help us on our ongoing quest for achieving the highest level of quality in our hospitals.

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SUPPORTING OUR WORKFORCE

Supporting Our Workforce

Hospitals are service-based organizations. Their product is the service of healthcare – of consulting with patients, making diagnoses, performing procedures and promoting wellness. These front-line services are made possible by behind-the-scenes support services such as running tests, serving food, maintaining facilities, sterilizing medical equipment, transporting patients and delivering supplies. All of these services, both front-line and behind-the-scenes, rely on a healthcare organization's team of dedicated employees and affiliates to achieve the maximum outcomes possible. In other words, the quality of a hospital's services depends directly on the quality of its team.

With a family of over 20,000 employees, physicians and affiliated associates, Inova is one of the Northern Virginia region's largest employers. In addition to relying on our team members to provide exceptional service, we must also keep in mind that most of them are residents of our local communities and, at times, patients themselves. Inova's environmental, financial and social performance affects our workforce doubly by impacting them both at work and within the community.

Due to the importance of Inova's workforce to our organizational performance – and because of the intrinsic workplace hazards associated with working in the healthcare environment – Inova has implemented a robust set of occupational health and safety programs to protect the health of our team members. We also offer a range of training, career advancement, and other programs to increase knowledge and promote lifelong learning. These initiatives are managed by a mix of Inova teams, including Human Resources, Employee Health & Safety and Leadership, among others.

The Body Burden in Healthcare Workers

All humans host a range of man-made chemicals within their bodies. This broad chemical exposure, also known as a "body burden," stems from widespread environmental contamination with chemical pollutants. It is an issue of increasing concern for scientists due to the fact that dangerous chemicals are being found in populations that have never been directly exposed to them, such as newborn babies and native tribal communities in remote regions of the globe.

In addition to the standard body burden associated with simply being a human on this planet, healthcare professionals are also exposed to a range of healthcare-specific chemicals in the course of performing their work. And unfortunately, these chemicals – some of them known to be harmful to health – can also end up in their bodies due to inhalation or other unintentional methods of exposure.

As part of its Confronting Toxics Campaign, the group Physicians for Social Responsibility conducted a 2009 biomonitoring study on twelve doctors and eight nurses across the U.S. The group tested both blood and urine for six chemicals or chemical groups (62 chemicals total) that are known to be used in the healthcare setting, are linked to health problems, and are widespread in the environment. All 20 of the participating healthcare professionals were found to have at least 24 distinct chemicals in their bodies, and 18 of the chemicals were detected in every single participant.

Healthcare organizations have a significant opportunity to positively impact the health of their employees by targeting the overuse of chemicals within their facilities, and by switching to products containing less-toxic chemicals. Additional information about the health impacts of these chemicals, as well as study methodology, can be found at http://www.psr.org/assets/pdfs/hazardous-chemicals-in-health-care.pdf.

Employee Health & Safety

The medical profession, like many specialized fields, carries its own risks for healthcare employees. In the process of protecting the health of patients, hospital employees are exposed to potential hazards associated with their line of work, including exposure to toxic, radioactive or biohazardous waste, accidental sharps sticks, hazardous chemicals and and infectious illnesses. Long shifts spent walking, lifting, bending and reaching also impart a physical toll on certain groups of employees such as nurses and support staff.

Inova does everything possible to eliminate these risks to our employees in order to protect health, reduce injuries, minimize lost days, and create an environment of continuous excellence for our patients and employees. In addition to a carefully considered, standardized approach to safety procedures, we have implemented a range of safety, health and training programs to ensure our workforce is as prepared as possible to manage any safety or health risks encountered on the job.

Inova's Employee Health & Safety Team supports a safe and healthy workplace through health promotion and risk reduction, disease prevention programs, maintaining regulatory compliance, and providing timely and quality work-related injury and illness management through prevention, intervention and rehabilitation. This team is part of Inova's Human Resources department, and staff members include Nurse Consultants, Administrative Specialists, Physicians, Employee Safety Program Administrators and Workers Compensation Specialists.

Employee Health & Safety Offices are in place at each of Inova's five hospitals, and are open during the week for both walk-ins and appointments. Sample services provided to Inova employees include immunizations and TB screening, pre-employment health screening, employee injury management/Worker's Compensation, and the maintenance of employee health records.

Employees also receive regular trainings regarding workplace hazards and safety procedures. New hire trainings, career advancement trainings, daily safety huddles, posted signs, name badge add-on tags, written and visual communications and annual training materials all cover important safety practices related to employees' specific workplaces.

Inova has additionally implemented a strict system for safety incident reporting, which mandates that any safety incidents involving patients, employees or visitors be reported immediately through our Safety Always online platform. Inova's management teams have focused intensively on seeking to understand and fix causes of safety incidents rather than placing blame and/or punishing employees for possible errors. Ensuring that employees do not fear repercussions from reporting safety incidents has been essential in ensuring that every incident is reported. Consistent and accurate incident reporting allows us to support the health and emotional needs of any employees whose health has been negatively impacted by a safety incident at work, and to create learning experiences to prevent similar issues from occurring in the future.

Training & Education

Part of the power of Inova's workforce is in the knowledge, experience and passion of our clinicians and support teams, whom we rely on to achieve exceptional health outcomes and continuous excellence in care. Inova has implemented a range of training and education programs to provide assistance with career advancement and self-improvement opportunities to interested employees of all professions. We also offer regular retirement planning opportunities to assist employees approaching the end of their careers.

Annual Trainings

Inova mandates annual training modules for all our employees to ensure continued knowledge and awareness of certain priority topics such as workplace safety and patient rights. Clinicians (nurses, physicians, dietitians, etc.) are additionally required to complete a set number of career-specific continuing education units in order to maintain their positions with Inova and/or advance their professional certifications. The exact number of required training hours varies greatly based on factors such as profession, specialty, career level and advancement goals.

HealthStream is Inova's Learning Management System where regulatory, mandatory and enrichment courses are completed. It is a web-based, e-learning system for professional education and training in the healthcare setting, and contains a library of online courses available for assignment or enrollment. Each employee has their own education record that contains mandatory courses

assigned to them, as well as courses they have enrolled in or registered for themselves. HealthStream is free to all Inova employees, and offers courses applicable to both clinical and non-clinical employees.

Educational Partnerships

Inova is built on a foundation of visionary healthcare with a patient-centered focus and a strong commitment to academic excellence. We offer opportunities for medical and nursing students to learn and grow under the support and guidance of physicians and registered nurses. We also want to nurture younger students who are interested in a career in healthcare by introducing them to different medical fields. Click here for a list of some of the programs we offer to prepare future generations of healthcare professionals.

Inova also partners with local universities and other institutions to help contribute to the development of new clinicians and healthcare professionals. Inova Fairfax Hospital and Inova Children's Hospital are ACGME/CPME-accredited institutions, providing training programs in general surgery, pediatrics, pediatric emergency medicine, and podiatric medicine and surgery. Both hospitals are also major affiliates for Georgetown University, George Washington University, Howard University, the National Capital Consortium, the University of Virginia and Virginia Commonwealth University. Residents from these institutions receive training in areas including anesthesia, emergency medicine, family practice, general surgery and specialty surgeries, internal medicine, obstetrics & gynecology, and pediatrics.

Employees by Age	
Age under 30	18%
Age 30 to 50	51.9%
Age over 50	30.1%

Employees by Work Status	
Full-Time	73.9%
Part-Time	13.4%
PRN	12.7%

Employees by Gender	
Female	81.3%
Male	18.7%

Employees by Facility	
Inova Alexandria Hospital	11.7%
Inova Continuum of Care	2.1%
Inova Fair Oaks Hospital	8.5%
Inova Fairfax Medical Campus	36.3%
Inova Loudoun Hospital	9.8%
Inova Mount Vernon Hospital	7.1%
Inova System Offices	23.2%
Inova VNA/Home Health	1.3%

Employees by Job Class	
Administrative	9.0%
Clinical Other	11.5%
Clinical Social Services	1.1%
Facilities/Real Estate	0.4%
Finance/Patient Accounts	10.1%
Information Technology	3.4%
Laboratory	4.3%
Nursing	32.2%
Organization Effectiveness	0.7%
Pharmacy	2.3%
Physician Assistant/Nurse Pract	1.2%
Physicians	4.3%
Professional Support	3.7%
Radiation/Oncology	0.8%
Radiology	4.1%
Rehab	3.6%
Respiratory	1.7%
Service	0.8%
Social Services	2.8%
Technical	1.9%

Employees by Race	
African American	19.8%
All Other	0.4%
American Indian or Native Alaskan	0.3%
Asian or Pacific Islander	16.2%
Caucasian	53.4%
Hispanic	8.6%
Two or more non-Hispanic	1.4%

Employees by Minority Status	
Minority	46.6%
Non-Minority	53.4%

Management/Non-Management	
Management Team	4.8%
Non-Management Team	95.2%

Help Inova
Shape the
Future of Health

Share Your Thoughts

Thank you for reading Inova's 2013 Sustainability Report. We appreciate you taking the time to learn about our efforts to become a more sustainable operation. In order to maximize the effectiveness of our annual Sustainability Reports - and to ensure the material we share is as relevant, timely and useful as possible - Inova asks you to complete this brief survey.

Please email completed surveys to gogreen@inova.org.

1 From what perspective did you read this report? (Check all that apply.)

☐ Employee/team member ☐ Supplier/business partner ☐ Sustainability professional
☐ Patient ☐ Peer organization ☐ Healthcare professional
☐ Visitor or family member ☐ Government ☐ Student
☐ Community member ☐ NGO/non-profit ☐ Other

2 Did you know anything about Inova's sustainability program before reading this Report?

☐ Yes ☐ A little ☐ No

If yes, where did you hear about it?

3 How did you learn of Inova's 2013 Sustainability Report?

☐ Inova email ☐ News/online article ☐ Word-of-mouth
☐ Inova website ☐ Social media ☐ Other (please specify):

4 From what perspective did you read this Report? (Check all that apply.)

☐ Intro/CEO Letter ☐ Managing Our Impacts ☐ Being a Good Corporate Citizen
☐ Understanding Our Responsibilities

If you could include one additional topic in next year's Report, what would it be?

☐ Waste ☐ Foods ☐ Engaging Our Stakeholders
☐ Energy ☐ Transportation ☐ Protecting Our Patients
☐ Water ☐ Buildings ☐ Supporting Our Workforce
☐ Purchasing

5 What are your overall thoughts on this Report?

	Least/Lowest				Most/Highest
Ease of reading	☐	☐	☐	☐	☐
Quality of information	☐	☐	☐	☐	☐
Inclusiveness of topics	☐	☐	☐	☐	☐
Relevance of topics	☐	☐	☐	☐	☐

6 Please share any additional feedback or questions about this Report and/or about Inova's sustainability program below.

# GRI Index

GRI Disclosures & Content Index

For more information about Inova's environmental, social and financial impacts, please see our 2013 Report to the Community or visit us online at http://www.inova.org.

Indicator	Description	Section
Strategy & Analysis		
G4-1	Statement from the most senior decision-maker of the organization about the relevance of sustainability to the organization and its strategy	CEO Letter
G4-2	Description of key impacts, risks, and opportunities	Understanding Our Responsibilities Managing Our Impacts
Organizational Profile		
G4-3	Name of the organization	Inova Health System
G4-4	Primary brands, products and/or services	Appendix (Inova at a Glance)
G4-5	Location of the organization's headquarters	Falls Church, Virginia
G4-6	Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report	United States
G4-7	Nature of ownership and legal form	Non-profit
G4-8	Markets served	Appendix (Inova at a Glance)
G4-9	Scale of the reporting organization	Appendix (Inova at a Glance)
G4-10	Employee demographics	Appendix (Inova at a Glance)
G4-11	Percentage of total employees covered by collective bargaining agreements	None
G4-12	Describe the organization's supply chain	EPP, Appendix (Inova at a Glance)
G4-13	Report any significant changes during the reporting period regarding size, structure, ownership or supply chain	EPP, Green Building
G4-14	Report whether and how the Precautionary Approach is addressed	Managing Our Impacts
G4-15	List externally developed economic, environmental and social charters, principles or other initiatives to which the organization subscribes or which it endorses	Sustainable Foods, Engaging Our Stakeholders, Protecting Our Patients
G4-16	List memberships of associations and national or international advocacy organizations in which the organization holds a position on the governance body, participates in projects or committees, provides substantive funding beyond routine membership dues, or views membership as strategic	Healthier Hospitals Initiative Steering Committee Chesapeake Food Leadership Council Virginia Food Systems Council Northern Virginia Food Coalition PGH Total Cost of Ownership Committee USGBC National Capitol Region Board National Employee Wellness Think Tank
Identified Material Aspects & Boundaries		
G4-17	List all entities included in the organization's consolidated financial statements	Appendix (Inova at a Glance)
G4-18	Explain the process for defining report content and Aspect Boundaries	Report Overview
G4-19	List all material Aspects identified in the process for defining report content	Report Overview
G4-20	For each material Aspect, report the Aspect Boundary within the organization	Subsections of Managing Our Impacts and Being a Good Corporate Citizen
G4-21	For each material Aspect, report the Aspect Boundary outside the organization	Subsections of Managing Our Impacts and Being a Good Corporate Citizen
G4-22	Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements	Energy Management 2013 Outcomes Table
G4-23	Report significant changes from previous reporting periods in the Scope and Aspect Boundaries	None

Indicator	Description	Section
Stakeholder Engagement		
G4-24	Provide a list of stakeholder groups engaged by the organization	Engaging Our Stakeholders
G4-25	Report the basis for identification and selection of stakeholders for engagement	Engaging Our Stakeholders
G4-26	Report the organization's approach to stakeholder engagement	Engaging Our Stakeholders
G4-27	Report key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to them	Report Overview, EPP, Engaging Our Stakeholders Appendix (Materiality Assessment)
Report Profile		
G4-28	Reporting period for information provided	January - December 2013
G4-29	Date of most recent previous report	2012 Report released June 2013
G4-30	Reporting cycle	Annual
G4-31	Contact point for questions regarding the report or its contents	Office of Sustainability gogreen@inova.org
G4-32	Report the 'in accordance' option the organization has chosen	Reported In Accordance with Core Requirements
G4-33	Report the organization's policy and current practice with regard to seeking external assurance for the report	Inova does not seek external assurance for our Sustainability Report; we rely on the experience and integrity of our sustainability team to report accurately and to conduct due diligence to ensure data is accurate
Governance Performance Indicators		
G4-34	Report the governance structure of the organization, including committees of the highest governance body	Appendix (Inova at a Glance)
G4-35	Report the process for delegating authority for sustainability topics from the highest governance body to senior executives and other employees	Managing Our Impacts
G4-36	Report whether the organization has appointed an executive-level position with responsibility for sustainability topics	Managing Our Impacts
G4-47	Report the frequency of the highest governance body's review of sustainability impacts, risks and opportunities	Managing Our Impacts
G4-48	Report the highest committee or position that formally reviews and approves the organization's sustainability report and ensures that all material Aspects are covered	Inova's CEO and Director of Sustainability both provide final approval before release
G4-56	Describe the organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics	Protecting Our Patients Protecting Our Workforce Appendix (Inova at a Glance)
Economic Impacts		
Aspect: Economic Performance		
EC1	Direct economic value generated and distributed	Appendix (Inova at a Glance)
EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	Understanding Our Responsibilities
Aspect: Indirect Economic Impacts		
EC8	Significant indirect economic impacts, including the extent of impact	Engaging Our Stakeholders 2013 Report to the Community (pp 3-24)
Aspect: Procurement Practices		
EC9	Proportion of spending on local suppliers at significant locations of operation	Sustainable Foods
Environmental Impacts		
Aspect: Energy		
EN3	Energy consumption within the organization	Energy Management

Indicator	Description	Section
EN5	Energy intensity	Energy Management
EN6	Reduction of energy consumption	Energy Management
EN7	Reduction in energy requirements of products or services	Energy Management
Aspect: Water		
EN8	Total water withdrawal by source	Water Management
EN9	Water sources significantly affected by withdrawal of water	Water Management
Aspect: Biodiversity		
EN11	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value	Water Management
EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value	Water Management
Aspect: Effluents and Waste		
EN23	Total weight of waste by type and by disposal method	Waste Management
EN24	Total number and volume of significant spills	None
EN25	Weight of transported, imported, exported or treated hazardous waste	Waste Management; no hazardous waste shipped internationally
EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff	Water Management
Aspect: Products and Services		
EN27	Extent of impact mitigation of environmental impacts of products and services	Managing Our Impacts
Aspect: Compliance		
EN2	Significant fines or non-monetary sanctions for non-compliance with environmental laws and regulations	None
Aspect: Transport		
EN2	Significant environmental impacts of transporting products and other goods and materials, and transporting members of the workforce	Alternative Transportation
Aspect: Supplier Environmental Assessment		
EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	EPP
Social Impacts		
Aspect: Labor/Management Relations		
LA4	Minimum notice periods regarding operational changes	Protecting Our Workforce
Aspect: Occupational Health & Safety		
LA7	Workers with high incidence or high risk of diseases related to their occuption	Protecting Our Workforce
Aspect: Training & Education		
LA9	Average hours of training per year per employee by gender, and by employee category	Protecting Our Workforce
LA10	Programs for skills management and lifelong learning that support continued employability and assist in career endings	Protecting Our Workforce
LA11	Percentage of employees receiving regular performance and career development reviews	Protecting Our Workforce
Aspect: Diversity & Equal Opportunity		
LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	Appendix (Inova at a Glance)

Indicator	Description	Section
Aspect: Equal Remuneration for Women and Men		
LA13	Ratio of basic salary and remuneration of women to men by employee category	Unreported (see Appendix, Exhibit 2 for explanation)
Aspect: Non-Discrimination		
HR3	Total number of incidents of discrimination and corrective actions taken	Unreported (see Appendix, Exhibit 2 for explanation)
Aspect: Security Practices		
HR7	Percentage of security personnel trained in the organization's human rights policies or procedures that are relevant to operations	Protecting Our Patients
Aspect: Local Communities		
SO1	Percentage of operations with implemented local community engagement, impact assessments and development programs	Managing Our Impacts Engaging Our Stakeholders
SO2	Operations with significant actual or potential negative impacts on local communities	Managing Our Impacts
Aspect: Customer Health & Safety		
PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	EPP, Protecting Our Patients
Aspect: Customer Privacy		
PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	Protecting Our Patients (partially reported)
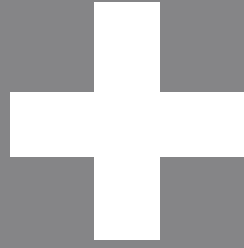
Appendix

Inova at a Glance
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Materiality Assessment Outcomes

Exhibit 1: Inova at a Glance

Our Organization

Inova is a not-for-profit U.S. healthcare system based in Northern Virginia that serves more than two million people each year from throughout the Washington, DC metro area and beyond. Governed by a volunteer board of community members, Inova has grown from one hospital in 1956 to a nationally recognized, comprehensive network of hospitals, outpatient services and facilities, primary and specialty care physician practices, and health and wellness initiatives serving the Washington, DC metro area.

Inova is governed by several volunteer community boards:
- The Inova Health System Board of Trustees is primarily responsible for oversight of Inova's finances, strategic planning and management.
- The Inova Health Care Services Board of Trustees is primarily responsible for oversight of the operation, quality and effectiveness of patient care services throughout Inova.
- The Loudoun Hospital Center Board of Directors is primarily responsible for assuring the operation of Inova Loudoun Hospital, now and in the future.

Inova encompasses the full array of health services, including the area's only Level 1 Trauma Center and Level IV neonatal intensive care unit. Inova is also home to nationally and internationally recognized Inova Heart and Vascular Institute, Inova Translational Medicine Institute focused on genomics research, Inova Neuroscience Institute and Inova Children's Hospital. The services we provide are based on the needs of our patients and communities, identified via appropriate community input collected through marketing research, community meetings, surveys of patients and community, and the use of other appropriate sample and scientific methods. A full list of our locations is available at http://www.inova.org/patient-and-visitor-information/facilities/index.jsp, while a list of our services can be found at http://www.inova.org/find-a-service.

Our Mission

Inova's mission is to improve the health of the diverse community we serve through excellence in patient care, education and research. We seek every opportunity to meet the unique needs of each person we are privileged to serve - every time, every touch.

We also aim to optimize the health and well-being of each individual we serve by creating the future of health. In our Vision 2015 strategy, Inova commits to:
- Reinventing hospital-based care to increase value for our patients
- Looking outside our hospitals to build an integrated network of providers and programs to support our community
- Gaining national and international recognition and funding - as well as an expanded patient base - through world-renowned specialty care and leading-edge corporate and consumer health programs

Inova relies on our employees, contractors and medical staff to represent our beliefs and values and to act in a way that is above reproach. In order to help achieve this mission, we have developed a comprehensive Code of Ethical Behavior to assist in the identification and clarification of our responsibility to patients, staff, physicians and community. This Code complements Inova's Compliance and Ethics Program, to ensure that Inova is able to prevent and detect violations of federal, state and local law, as well as Inova policies and procedures. All Inova employees, affiliates and medical staff members are expected to act in a manner that supports system and facility policies and procedures and meets the Code of Ethical Behavior. Any concerns or complaints are required to be promptly reported to Inova's Chief Compliance Officer or Office of General Counsel so that we may resolve them in a manner that will address concerns while complying with the Code. Inova employees are not penalized in any way for reporting concerns in good faith.

Key 2013 Financials (in millions)	
Net operating revenue	$2,539
Operating income	$132
Investment in new facilities and equipment	$365
Investment in medical education and research	$30
Charity Care	$105
Standards & Poor's Rating	AA+

Key 2013 Statistics	
Licensed hospital beds	1,753
Inpatient admissions	98,015
Births	18,581
Emergency Room visits	399,998
Home care visits	89.487
Nurses	5,534
Affiliated physicians	4,621
Employees	17,396

Exhibit 1, cont.

Supply Chain Strategy

Inova spends approximately $350 million on supplies and $250 million on services each year to provide a product of our own: exceptional patient care. Our Supply Chain Management (SCM) Department has implemented an extensive management strategy in order to better control the hundreds of thousands of products that flow through our hospitals each year. Even so, much opportunity remains to engage with our suppliers, particularly around issues of environment and corporate responsibility. We continue to promote dialogue around these issues, and to explore upstream to identify the true impacts of Inova's Supply Chain.

The mission of Inova's Supply Chain Management Department is to ensure our staff, physicians, clinicians, and caregivers have the right product, at the right time, at the right price, so that they can deliver exceptional care to our patients. We aim to create a learning environment with our staff, and continuously research, test, develop and utilize world-class supply chain practices that deliver the highest value for Inova.

It is Inova's policy to standardize supplies and equipment wherever possible to obtain the best possible price. All Inova value analysis teams are responsible for identifying standardization opportunities and working with SCM to achieve those standardization opportunities. We are also an active participant in our Group Purchasing Organization (GPO), which combines standardization and volume aggregation at a national level to obtain best price. The contracting team of our SCM Department works with Inova's GPO team to analyze associated contracts. All information is presented to the appropriate Inova value analysis teams for final decisions and approval, and all contracts are tracked through the Materials Management database.

The Supply Chain Management Department also has a contracting function that identifies opportunities across the System that are not covered by our GPO, or for which the GPO contract doesn't offer a favorable price or quality for the System. All information is presented to the appropriate value analysis team or appropriate department directors for decisions, and all contracts are tracked through the SCM contract database.

Value Analysis

In order to ensure we are getting the best pricing possible, all new products must be approved by Inova's System Supply Chain Steering Committee via the product Value Analysis Process prior to use at Inova. The purpose of this is to employ a disciplined, expeditious, and comprehensive approach to product review, approval, and utilization that supports the ideal patient experience, staff safety, the OneInova vision, physician satisfaction and partnership, and the financial goals of Inova. The Supply Chain Steering Committee meets regularly to review all requests approved by the value analysis committees and to further evaluate requests that involve significant change in clinical practice, require more extensive peer review or have an annual negative operational financial impact.

Supporting SMWBs

It is Inova's policy to promote the procurement of goods and services from small, minority or women-owned businesses, to actively work towards the attainment of this objective by soliciting business from small and minority- or women-owned businesses, and to use the services and assistance of the U.S. Small Business Administration, the Office of Minority Enterprise of the Department of Commerce, and all other resources identified as promoting the interest of small and minority businesses.

As new vendors are identified, the Materials Management IS Coordinator verifies that the new vendor qualifies to be listed as a small or minority business in the Materials Management vendor database by obtaining proof of SWAM certification through the Virginia Department of Minority Business Enterprise or other accrediting organization. On an annual basis, small and minority vendors are reviewed to determine the annual dollars going through small or minority-owned compared to the total spend of Inova's annual purchases. Changes in strategies are reviewed on an annual basis.

A Note on EPP Data Collection

Inova tracks what we can around our local/sustainable purchases (green cleaning products, EPEAT electronics, local/sustainable foods), but our data collection practices for EPP metrics lags slightly behind those of our other sustainability focus areas simply because this information is more difficult for us – and for our suppliers – to obtain.

Efforts such as Practice Greenhealth's Standardized Environmental Questions for Medical Products and the Healthier Hospitals Initiative's Smarter Purchasing and Safer Chemicals Challenges help make it easier for suppliers to collect and share EPP information because they standardize the product metrics being requested. But data on these metrics has been slow in making its way into the hands of hospitals, and we are still currently only able to track EPP spend for a few products. These are generally the products that we have individually identified as green, worked with SCM team to identify the vendor for, and reached out to the vendor to establish an EPP reporting system.

Inova is incapable of examining each of the tens of thousands of products we use in this manner in order to identify which are green, and then reaching out to all of our vendors to request that they share purchasing information with us. We continue to work with our GPO and Supply Chain teams moving forward to figure out how we can get this information to flow more easily from the individual suppliers to the GPOs and distributors and then to the hospitals.

Exhibit 2: Assessing Materiality

In Spring 2014, Inova's Office of Sustainability released our Stakeholder Materiality Survey. This Survey asked participants to rate every Aspect listed in the GRI's G4 Guidelines on a scale from one to ten based on two factors: how relevant it is to them, and how much potential it has to impact Inova (or vice versa).

The Stakeholder Materiality Survey was open to all stakeholder groups, including the broader public. It was posted on Inova's public website and social media pages, and emailed internally to all Inova team members. Specific individuals who have had traditionally close relationships to Inova's sustainability program, such as Green Team members and business partners, were also personally emailed the surveys to ensure representation of all stakeholder groups in the process (though not all stakeholder groups seized this opportunity to provide feedback).

At the same time, a more targeted survey was delivered to Inova's Sustainability Advisory Board (SAB), asking them to rate the same GRI Aspects based only on their potential for organizational impact or strategy. This survey was conducted in order to identify each Aspect's importance for Inova in terms of business performance and success.

The sustainability reporting team then identified the average rating for each GRI Aspect in each survey, creating the set of coordinates included in the Materiality Matrix on the following page. Once we had an average rating for each individual Aspect, we were able to compare scores across all the Aspects within each Category to identify those that were truly important to our stakeholders.

We then calculated the mean and median scores within each Category and used them to establish a threshold for reporting. Aspects whose average scores were above the Category average were identified as highly material. Those whose average scores fell between the mean and the median were identified as middling in materiality, and those whose average scores fell below the median were established to have low materiality.

With a list of material Aspects in hand, we analyzed the Indicators recommended by the GRI for each one to determine which were relevant to Inova. We then worked to collect any information that wasn't already available.

In total, Inova shared information on more than 65 GRI Indicators in our 2013 Sustainability Report, compared to the 45 shared in last year's GRI G3.1 Report. But though we have shared many new metrics in this year's Report – particularly around areas of governance and social responsibility – we have also learned the need to balance the drive for new data with considerations such as readability, stakeholder priorities and the practicality of data collection. Information identified as important to stakeholders might not be readily available, and may require extensive efforts to track down and approve for publication.

Despite our many reporting successes this year, Inova was still unable to collect data for all GRI Aspects identified as material. We have not shared information for the Aspects of Equal Remuneration of Women & Men, Non-Discrimination and Diversity & Equal Opportunity for two key reasons.

Reason 1: Unexpected Delays
Inova's first materiality assessment exercise took longer than anticipated to complete, creating significant delays in the reporting timeline.

on the associated Indicators. However, the tracking of certain new metrics was more difficult than anticipated by our reporting team, and we had to move forward without them or we would have faced additional, prohibitive delays to the release of this Report in a timely fashion. Now that we have a better idea of which metrics are material to our stakeholders, we can work throughout the course of 2014 on their collection and approval for next year's Report. of which metrics are material to our stakeholders, we can work throughout the course of 2014 on their collection and approval for next year's Report.

Reason 2: Lack of Clarity
We learned from stakeholders who completed our Stakeholder Materiality Survey that certain categories they were asked to rank – particularly those falling under Social Responsibility – were quite vague, and that at times the Aspect title they were asked to rank didn't seem to match up with the Indicator metrics. In order to eliminate this confusion and hone our materiality assessment process, we will be sure to include additional Indicator details in future surveys.

By undertaking this journey to publicly share not just our sustainability successes but also our challenges, we hope to shed light on potential roadblocks and to make the reporting process easier for others. We have learned much during this process, about both the reporting process and our own operations and strategies. We are committed to sharing these experiences with our peers, both in the pages of this Report and beyond, to facilitate increased transparency and integration of sustainability strategies across the healthcare industry.

Decoding the GRI

Term: *Category*
Refers to: *Broad sustainability impact area*

Term: *Aspect*
Refers to: *Sub-section of each broader Category*

Term: *Indicator*
Refers to: *Specific metric related to each Aspect*

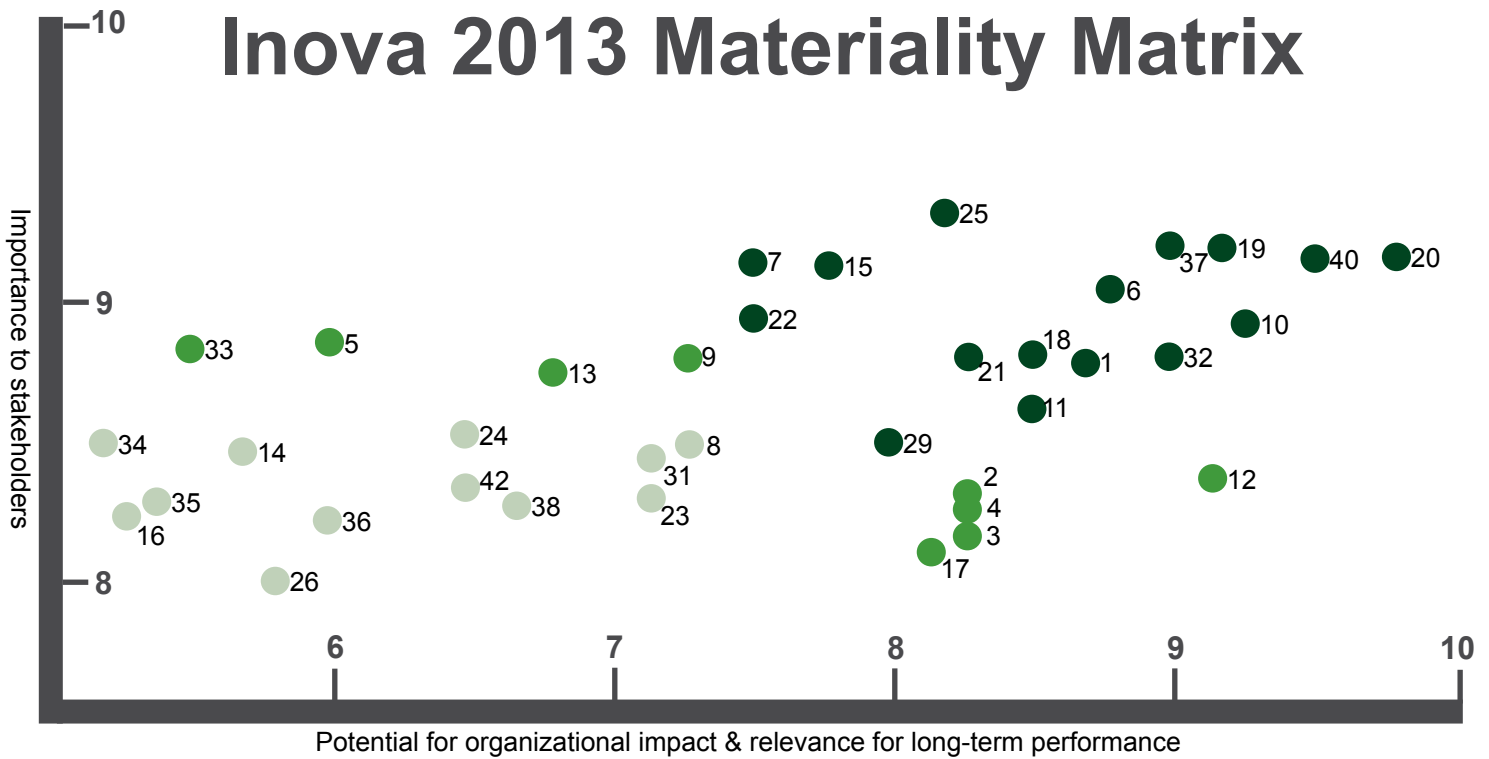| Sample Categories	Sample Aspects	Sample Indicators
Economy	*Economic Performance*	*Direct economic value generated and distributed*
Environment	*Energy*	*Energy consumption within the organization*
Society	*Training & Education*	*Average hours of training per year, per employee*

Broadest ⟶ Most Specific

Inova 2013 Materiality Matrix

Importance to stakeholders (y-axis, scale 8 to 10)

Potential for organizational impact & relevance for long-term performance (x-axis, scale 6 to 10)

High Materiality

1: Economic Performance
(8.7, 8.74)
6: Energy
(8.83, 9.10)
7: Water
(7.5, 9.18)
10: Effluents and Waste
(9.33, 8.92)
11: Products and Services
(8.5, 8.62)
15: Environmental Compliance
(7.83, 9.16)
18. Labor/Management Relations
(8.5, 8.79)
19. Occupational Health & Safety
(9.17, 9.26)
20. Training and Education
(9.83, 9.21)
21. Diversity and Equal Opportunity
(8.33, 8.78)
22. Equal Remuneration of Women to Men
(7.5, 8.94)
25. Non-Discrimination
(8.25, 9.34)
29. Security Practices
(8. 8.85)
32. Impact on Local Communities
(9, 8.79)
37. Customer Health & Safety
(9, 9.27)
40. Customer Privacy
(9.5, 9.21)

Medium Materiality

2: Market Presence
(8.3, 8.35)
3: Indirect Economic Impacts
(8.2, 8.21)
4: Procurement & Practices
(8.3, 8.33)
5: Materials
(6, 8.89)
9: Emissions
(7.33, 8.81)
12: Transport
(9.17, 8.4)
13: Environmental Protection Expenditures
(6.83, 8.77)
17: Employment Statistics
(8.17, 8.15)
33: Anti-Corruption
(5.5, 8.86)

Low Materiality

8. Biodiversity
(7.33, 8.51)
14. Supplier Environmental Assessment
(5.67, 8.47)
16. Environmental Grievance Mechanisms
(5.33, 8.25)
23. Supplier Assessment for Environmental Practices
(7.17, 8.35)
24. Investments that screen for Human Rights Impacts
(6.5, 8.55)
26. Freedom of Association & Collective Bargaining
(5.8, 8.06)
27. Child Labor
N/A for Inova
28. Forced or Compulsory Labor
N/A for Inova
30. Indigenous Rights
N/A for Inova
31. Supplier Human Rights Assessment
(7.17, 8.45)
34. Impact on Public Policy
(5.2, 8.5)
35. Anti-Competitive Behavior
(5.4, 8.30)
36. Supplier Assessment for Impacts on Society
(6, 8.27)
38. Product & Service Labeling
(6.67, 8.29)
39. Marketing Communications Compliance
N/A for Inova
41. Social Grievance Mechanisms
(6.5, 8.37)

Materiality Assessment Outcomes (by stakeholder group)

	Inova Employees (100)	Non-Inova Healthcare Employees (2)	Sustainability Professionals (4)	Patients (1)	Sustainability Advisory Board (6)
Economic Indicators					
Economic Performance	8.8	6.0	8.0	10	8.7
Market Presence	8.4	5.0	8.0	10	8.3
Indirect Economic Impacts	8.2	6.0	8.0	10	8.2
Procurement & Practices	8.4	6.0	8.5	10	8.3
Environmental Indicators					
Materials	9.0	6	7.5	10	6
Energy	9.1	7.5	10.0	10	8.83
Water	9.2	7.5	9.8	10	7.5
Biodiversity	8.5	8.5	8.5	10	7.33
Emissions	8.8	8	9.3	10	7.33
Effluents and Waste	8.9	6.5	9.3	10	9.33
Products and Services	8.7	6.5	8.0	10	8.5
Transport	8.5	6.5	7.3	10	9.17
Environmental Protection Expenditures	8.8	8.5	7.8	10	6.83
Supplier Environmental Assessment	8.5	7.5	8.0	10	5.67
Environmental Compliance	9.1	8.5	10.0	10	7.83
Environmental Grievance Mechanisms	8.3	7.5	8.3	10	5.33
Social Indicators					
Employment Statistics	8.2	7.5	6.8	10	8.17
Labor/Management Relations	8.8	8	9.0	10	8.5
Occupational Health and Safety	9.3	8	9.3	10	9.17
Training and Education	9.3	7.5	8.8	10	9.83
Diversity and Equal Opportunity	8.7	10	9.0	10	8.33
Equal Remuneration of Women to Men	8.9	10	8.5	10	7.5
Supplier Assessment for Labor Practices	8.4	7.5	7.3	10	7.17
Investments that screen for Human Rights impacts	8.6	8	7.3	10	6.5
Non-Discrimination	9.3	10	9.8	10	8.25
Freedom of Association & Collective Bargaining	8.1	8	7.3	10	5.8
Security Practices	8.9	7.5	8.5	10	8
Supplier Human Rights Assessment	8.5	8	7.8	10	7.17
Impact on Local Communities	8.8	8.5	9.8	10	9
Anti-Corruption	9.0	9	5.8	10	5.5
Impact on Public Policy	8.5	9	7.3	10	5.2
Anti-Competitive Behavior	8.4	8.5	4.8	10	5.4
Supplier Assessment for Impacts on Society	8.3	8	6.8	10	6
Customer Health and Safety	9.3	8.5	9.3	10	9
Product and Service Labeling	8.3	7.5	7.5	10	6.67
Marketing Communications	8.0	7.5	6.8	10	*Not included, indicator is N/A*
Customer Privacy	9.2	7.5	9.5	10	9.5
Social Grievance Mechanisms	8.4	7.5	8.3	10	6.5
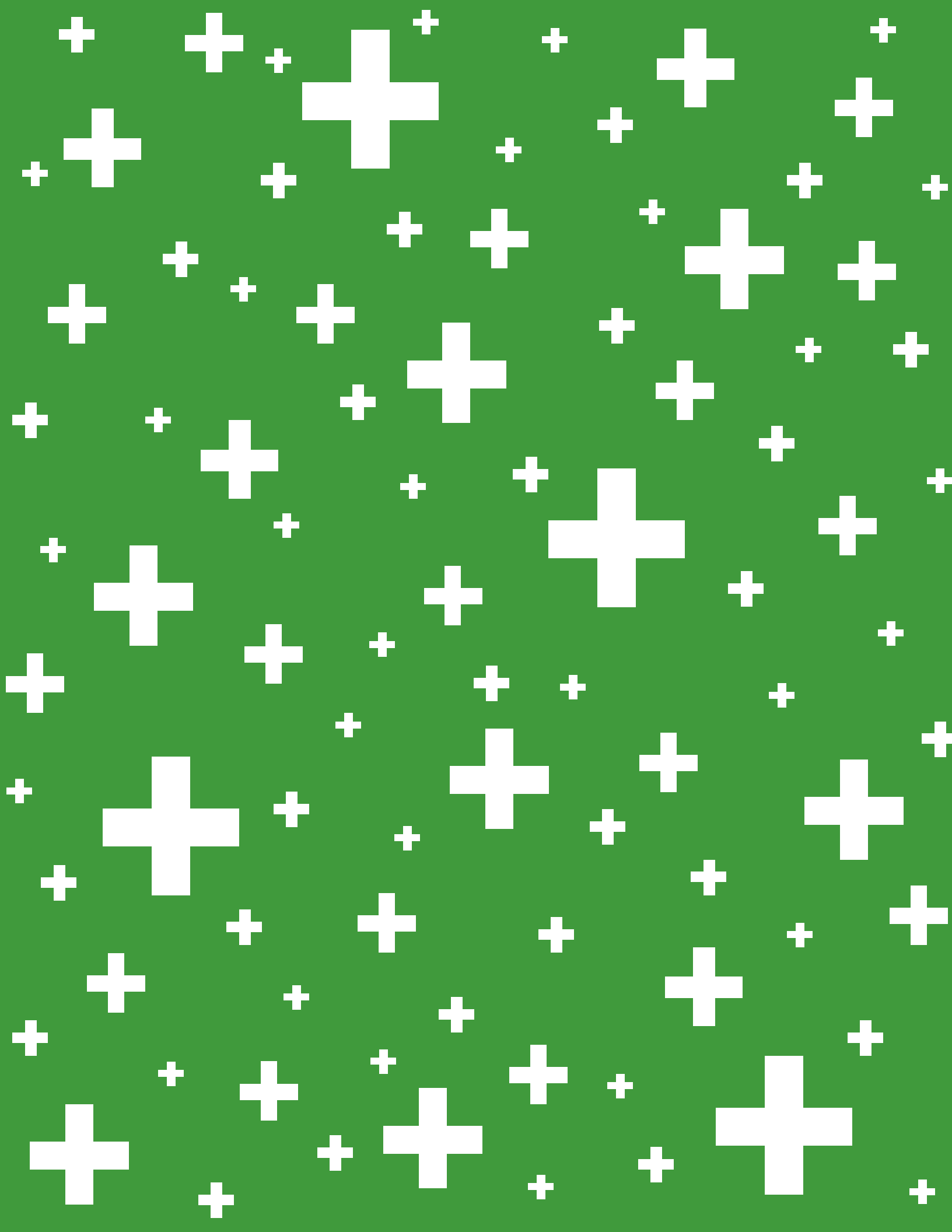
Inova Health System is a not-for-profit healthcare system based in Northern Virginia that consists of hospitals and other health services, including emergency- and urgent-care centers, home care, nursing homes, mental health and blood donor services, and wellness classes. Governed by a voluntary board of community members, Inova's mission is to improve the health of the diverse community it serves through excellence in patient care, education and research. Inova provides a healthy environment for its patients, families, visitors, staff and physicians by prohibiting tobacco use on its campuses.

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