This guide is designed to provide a step-by-step approach to implementing the HHI Challenges and submitting data for this initiative.
How to use this guide

The HHI How-to Guides provide a step-by-step approach to achieving and measuring six specific areas of environmental intervention. The challenges have been carefully selected for their positive impact on human health and the environment, for their achievability, as well as to drive demand for healthier products in the marketplace. HHI How-to Guides include case studies, sample policies and resources to help facilities meet the goals of each challenge and lead communities to a healthier future.

Engaged Leadership: The furthest reaching sustainability programming has leadership support, demonstrated by environmental charters, reporting structure and goal setting that recognizes the importance of continuous environmental quality improvement for the long term.

Healthier Food: Healthier food for staff, patients and visitors, positively impacts human health and the environment. Balanced menus, healthy beverages and local and sustainable food are within reach.

Leaner Energy: Partner with Energy Star for Health Care and Reduce greenhouse gas emissions through decreased energy use. Case studies, sample RFP for developing a Strategic Energy Master Plan and other resources shine a light on energy conservation success.

Less Waste: Gather baseline waste data and reduce Regulated Medical Waste (RMW), increase recycling and reduce construction and demolition debris to take control of materials, wastes and associated costs.

Safer Chemicals: Improve health of employees, patients and communities by choosing safer chemicals in materials and products. Transition to greener cleaners, reduce PVC/DEHP in medical devices and reduce toxicity of furniture and finishes for healthier interiors.

Smarter Purchasing: Green the supply chain through product disclosure, sample specification language and case studies on surgical kit reformulation, single use device reprocessing and use of EPEAT resource for purchasing environmentally preferred computers.

Healthier Hospitals Initiative

The Healthier Hospitals Initiative (HHI) is a national campaign to implement a completely new approach to improving environmental health and sustainability in the health care sector. Eleven of the largest, most influential U.S. health systems, comprising over 500 hospitals with more than $20 billion in purchasing power, worked with Health Care Without Harm (HCWH), the Center for Health Design and Practice Greenhealth to create HHI as a guide for hospitals to improve sustainability in six key areas: Engaged leadership, healthier foods, leaner energy, less waste, safer chemicals, and smarter purchasing. Sponsoring health systems include Advocate Health Care, Bon Secours Health System, Catholic Health Initiatives, Dignity Health (formerly Catholic Healthcare West), Hospital Corporation of America, Inova Health System, Kaiser Permanente, MedStar Health, Partners HealthCare, Tenet Health Systems and Vanguard Health Systems. Together we are leading communities to a healthier future. More information is available at www.healthierhospitals.org.

This document was developed in collaboration with multiple partners within the Healthier Hospitals Initiative. The authors gratefully acknowledge and thank the following colleagues and organizations for their input and feedback in the development and review of this document:

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Kaiser Permanente*
MedStar Health*
Partners HealthCare*
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Introduction

Health care has significant purchasing power, representing 17 percent of the marketplace. What is purchased and used in health care environments has multiple impacts across communities. Health care, which spends $6 billion a year on energy, contributes significantly to greenhouse gas emissions. Medical waste incineration is one of the top sources of dioxin, a highly toxic chemical, in the environment.

Some substances typically utilized or found in health care facilities can be asthmagens (agents that cause asthma de novo) or asthma triggers. Studies show nurses that have one of the highest incidences of asthma and are twice as likely to suffer from occupational asthma. Medical products containing chemicals of concern, such as di(2-ethylhexyl)DEHP in tubing and bags, continue to be used on patients. As a sector, health care is concerned about these potential exposures, and many hospitals and health systems are seeking ways to reduce them.

The health care industry can mitigate the impact of these exposures by exploring alternatives. The process of looking at and selecting products with reduced environmental impact on human health and the environment is referred to as Environmentally Preferable Purchasing (EPP). EPP is a vital step in any hospital's sustainability journey. And there are other benefits. EPP can reduce costs. While purchasers consider “up front” costs when making purchasing decisions, some “back door” costs are not always evident. Waste disposal, regulatory compliance, safety issues, equipment maintenance and other factors can add costs that may not be fully realized up front. These “back door” considerations can help inform decision making and can yield both environmental and financial benefits. Looking for environmentally preferred alternatives can result in waste volume and toxicity reduction, extend the life of products and equipment, and conserve energy and water.

EPP is not new; the federal government passed an Executive Order mandating federal agencies procure environmentally preferable products in the 1990s and has targeted specific products that all federal agencies must consider. EPP considers how products may reduce the impact on natural resources.
(recyclable, recycled content, etc.), use safer chemicals (free of PVC, latex, etc.), and save energy and water.

**Issues/Problems**

**Environmental Claims:** Few environmental standards exist for medical products. Health care purchasers must identify environmental considerations on their own. Knowing whether a product or service is environmentally preferable can be complex. Products or services may have one or several environmental attributes making them preferable to competing products. They may be recyclable, contain recycled content, emit fewer volatile organic compounds or contain safer chemicals. The difficulty for purchasers is knowing what is really “green.”

In a recent article in Building Operating Management, Greg Zimmerman writes:

> . . . selecting truly green products is often a matter of staying ahead of the marketing rhetoric before the marketing rhetoric gets the best of you. In addition, more and more third-party resources — from EPA’s Environmentally Preferable Purchasing guidelines to the 377 eco-labels currently available to the Federal Trade Commission’s greenwashing guidelines — make delineating green product criteria challenging. It really is almost too much to digest without hiring full-time product criteria gurus to sort through for you.

**Lax Regulatory Framework:** According to the Guide to Choosing Safer Products and Chemicals, current environmental laws and regulations are inadequate. Many products still contain chemicals of concern. Many laws don’t provide regulators with adequate authority to take actions on known hazards. The Toxic Substances Control Act (TSCA) written in the 1970s grandfathered in thousands of chemicals without testing for toxicity. It is the most recent federal legislation to address chemical toxicity. As a result, for example, no federal regulations are in place to control the use of bisphenol A (BPA) in baby bottles, despite a clear demand from the market for safer, BPA-free products.

**Burden Shifting to Suppliers:** As a result of this lax regulatory framework, the burden has shifted to the health care supply chain to learn about product ingredients and toxicity and to make environmentally safer product selections.

To help hospitals become more environmentally responsible, supply chain managers need to ask more questions about product ingredients and impacts before the product enters a facility.

**The Power of Purchasing**

The health care sector strives for a healthy environment and to do no harm. EPP can play a major role in that mission, by generating demand for safer products and services that have less of an impact on natural resources.

Practice Greenhealth has been working with many of the largest Group Purchasing Organizations (GPOs) to raise environmental awareness and alter purchasing habits within health care. These GPOs, which represent over $135 billion in purchasing volume annually, take part in Practice Greenhealth’s [EPP Supporter Program](#) and provide valuable support for the program’s Greening the Supply Chain™ activities for hospital and health care purchasing programs. The program has increased awareness of EPP among myriad stakeholders. GPOs have established EPP website resources, product databases and other tools to support their members’ interest in environmentally preferable products. The program has created a vast array of product-specific environmental criteria for health care products, and the demand for “green” products continues unabated.

These product-specific criteria can help hospitals:

- Encourage manufacturers and suppliers to reduce the negative environmental and health impacts of their products and services across their life cycle.
- Establish purchasing standards for environmentally preferable products for use by other health care purchasers.
- Educate staff and others on the environmental priorities in health care.
- Create safer and healthier environments for patients, health care workers and communities.

> “Without exception, every environmental issue is related to a product or a service.”

— DAVID MCCOMBS, VP, ERP/SUPPLY CHAIN OPERATIONS, BON SECOURS HEALTH SYSTEM
Smarter Purchasing Challenge

**Baseline**

Pledge to support Group Purchasing Organization (GPO) in contracting for, and to start purchasing applicable products based on, the environmentally preferred attributes in the Standardized Environmental Questions for Medical Products.

<table>
<thead>
<tr>
<th>Level</th>
<th>Commit to</th>
<th>Surgical kit review: Review at least 30 custom surgical O.R. kits or 80 percent of O.R. kit types, whichever is greater in efforts to eliminate unneeded materials.</th>
<th>Single use device reprocessing: Increase expenditure of reprocessed FDA-eligible single use devices by 50 percent.</th>
<th>Electronic Products Environmental Assessment Tool (EPEAT): Specify and report expenditures on EPEAT registered devices.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>one</strong></td>
<td>Surgical kit review, single use device reprocessing or electronic products environmental assessment tool (EPEAT) purchasing goals.</td>
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<td>Surgical kit review, single use device reprocessing or electronic products environmental assessment tool (EPEAT) purchasing goals.</td>
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<td>3</td>
<td><strong>three</strong></td>
<td>Surgical kit review, single use device reprocessing or electronic products environmental assessment tool (EPEAT) purchasing goals.</td>
<td></td>
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</tr>
</tbody>
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**HHI Data Collection**

The Smarter Purchasing Challenge Requires data submission through the Institute for Health Care Improvement’s Extranet Site. (www.ihi.org)

Refer to the Resources Section for the Smarter Purchasing Measures for data collection details and the Data Submission Guide for guidance on IHI Registration and data submission.
Baseline

Pledge to support Group Purchasing Organization (GPO) in contracting for, and to start purchasing applicable products based on, the environmentally preferred attributes in the Standardized Environmental Questions for Medical Products.

Hospitals and health systems are encouraged to support their Group Purchasing Organization in contracting for, and to start purchasing applicable products based on, the environmentally preferred attributes in the Standardized Environmental Questions for medical products, developed in a consensus process with five of the largest GPOs, to reduce negative impact on the environment. The Environmental Questions for Medical Products can be used in the procurement of products used to diagnose, treat or care for patients (excluding electronic medical products, i.e., products that plug in or have a battery).

The Environmental Questions focus on three areas (and may include others as the questions progress)—natural resources, chemicals and waste—and cover packaging, manufacturing, use and the end-of-life of medical products. Each question asks about a specific environmental attribute. The totality of a product’s attributes across the life cycle determines whether the product is environmentally preferable. It is also important to look at product-specific elements that go beyond these questions, such as source of feed stock, transportation and additional chemicals of concern.

1. Obtain Approval to Pledge to Support GPOs and to Purchase Environmental Preferable Products
This baseline challenge is two parts. The first part is to complete the online form. This form simply requires a “check the box” and a contact person at the facility, and is a requirement for this challenge. Each organization may have a unique system for obtaining management support and communicating this support to applicable Group Purchasing Organizations. Determine the facility representatives who participate on GPO evaluation teams and other committees and ensure they are informed of and communicate support for this pledge.

Make the Case for Pledging
The Standardized Environmental Questions can help health care organizations:

   a) Support more informed purchasing decisions that send a message and ultimately drive a shift in the marketplace
   b) Accelerate the demand for and increase the purchase of products and services that, based on evidence, have a reduced environmental and health impact on patients, staff and the community
   c) Create a consistent platform to reduce the request for information/ request for proposal (RFI/RFP) burden on suppliers
   d) Improve the availability of cost-effective and environmentally preferable products and services, and reduce the environmental/public health footprint of the health care sector
   e) Inform and educate the health care community—including suppliers, purchasers, health care professionals and others—about environmental and public health concerns.

2. Engage Leadership and Establish the Project Team
This second part is to purchase medical products that are environmental preferable based on the attributes in the Standardized Environmental Questions. As with many new projects, the best approach to start purchasing applicable products based on the environmentally preferable
attributes in the Standardized Environmental Questions for Medical Products is by forming a small team of representatives from core areas in supply chain, nursing, information technology (IT), administration (C-suite) and other areas.

Leadership engagement and support are critical to win support from procurement, C-suite, and other areas for the high level of procedural change involved in EPP.

3. Identify the Approach and Target Area
GPOs generally contract for products and services for three to five year terms. Ask the GPO for medical products with the environmental attributes or look in product catalogs for them. Teams may also identify GPO contracts in the upcoming calendar year and communicate support to GPO evaluation teams for those medical product contracts to offer products with environmentally preferable attributes as suggested in the Standardized Environmental Questions. Signaling support for environmentally preferable products is an important step and needs to be communicated effectively to GPOs.

How does one purchase EPP products? The biggest challenge teams may face is proving the environmentally preferable product is cost-effective and performs the same as a comparison product. The team may review available case studies, articles or other materials to identify and address these issues. GPOs may be a source for this information. Practice Greenhealth’s EPP resources may also be useful. Suppliers of environmentally preferable products may offer resources, metrics or referrals to other users.

The Standardized Environmental Questions target medical products generally (and exclude electronic products). Because “medical product” does not have a strict definition, Practice Greenhealth has provided examples of acceptable and unacceptable items for guidance.

What is The Real Total Cost of Buying Products?
How does one measure cost savings in the procurement process when buying an environmentally preferable product that results in reduced patient stays, decreased sick leave and worker’s compensation among environmental services staff, reduced calls for hazardous spill cleanups, or reduced waste hauler pick-ups? These indirect costs impact total costs and should be considered in the contract evaluation process when comparing products A and B.

4. Track and Evaluate the Data
Depending on the organization’s procurement processes, tracking and evaluating the data may take many forms. Use the simplest method available.

As part of the HHI reporting, organizations will need to know how much is purchased as indicated for each level. This type of data gathering may done internally or as part of the supplier reporting process. It may be difficult for this data to be obtained from a GPO. Communicate this need with the supplier as early in the contracting process as possible.

5. Overcome Obstacles
The process of purchasing medical products with environmental attributes contained in the Standardized Environmental Questions for Medical products may have challenges. Be sure to report obstacles and how they were addressed.

6. Celebrate Success
Celebrating success is an important educational and motivational opportunity. Check with the facility’s GPO about awards, or consider applying for a Practice Greenhealth Environmental Excellence Award. Communicate to staff about the facility’s environmental and financial successes.

For more information
• Practice Greenhealth’s Standardized Environmental Questions for Medical Products
• How to Support the Standardized Questions
• Practice Greenhealth’s Greening the Supply Chain Initiative
The OR is responsible for approximately 33 percent of all hospital supply costs. Other estimates of the OR’s contribution to total supply costs are much higher, coming in at greater than 50%; while another estimate indicates that 30.1 percent of all health care outlays are related to surgical expenditures. Within the OR, supply costs can comprise more than 50 percent of the departmental budget. Supply costs in the OR are driven in large part by surgeon preference, but are also due to occasional hoarding of supplies and increased inventory when supplies are split between the Sterile Processing Department (SPD) and the OR and duplicated. While certain supplies are common to certain procedures, often surgeons have strong preferences about composition of the OR packs, devices, equipment and other items. These preferences are typically captured on preference cards and result in “pick lists.” Preferences among surgeons for kinds and volumes of supplies can lead to considerable variation in supply costs per procedure.

Another key driver of supply costs is unused items in surgical and anesthesia kits. Under FDA guidelines, these unused items are deemed “unsterile” and cannot be used on another patient. This concept, defined as “overage” by a 1997 study, can drive significant wastage of devices and materials. These excess supplies are driven in part by how often the custom kit or the preference card has been updated and whether care has been taken to remove excess supplies from the kit. Every item picked in Supply Processing and Distribution (SPD) and the OR and then not used represents additional labor and transportation costs that ultimately diminish margins. Restocking unopened, unused items can double the labor. It is recommended that preference cards only include items that are used more than 90 percent of the time. When preference cards are not regularly updated, excess supplies in the kits continue to be opened and become unusable. Hospitals often end up throwing these materials away, most typically in the regulated medical waste stream. In some instances, clean, unopened or expired supplies are donated to missions or third party organizations that deliver the supplies to developing countries. Despite the goodwill of these donation efforts, the waste of excess supplies represents significant costs to the organization.

In some instances, surgeons select their own supplies without team review, while the hospital is typically responsible for paying the surgeon a set fee per procedure regardless of supply cost. Multiple surgeons with multiple supply preferences for the same procedure significantly increase supply and inventory costs. Surgeons are coming under more scrutiny as automated materials management systems compare supply costs among surgeons performing the same procedure.

As hospital administrators struggle to control costs by attempting to limit surgeons to a pre-selected or standardized group of devices, implants or supplies, the pushback can be fast and furious, with surgeons playing the “quality” card against administration’s “cost” card. Some hospitals are exploring reducing variations in clinical practice between surgeons performing similar operations. These efforts could drive the move toward standardization of supplies that are clinically effective but less expensive. Reimbursement models will keep cost-cutting front and center in the next decade. Public reporting of quality measures will force administrators to determine the best way to initiate compromise and ensure that product selection in the OR is not based just on lowest cost, but also on the functional and clinical quality needed to improve patient outcomes.

### Example of Operating Room Kit Reformulation at University of Minnesota Medical Center, Fairview:

**NEURO MINOR PACK**

- **Eliminated 5 items**
- **890 pounds of waste reduced per year**
- **$3,313 saved per year**

---

*Items removed from thoracotomy pack as part of OR Kit Reformulation Process at University of Minnesota, Fairview*
**STEP 1: Engage Leadership and Establish the Project Team**
Like most new programs, OR kit reformulation benefits from a team effort. The team should include nursing staff who are concerned about the volume of supplies being used, a representative from Purchasing or Materials Management, OR leadership and Sterile Processing. Environmental Services may also play a useful role on this team if the organization is interested in tracking its waste reduction benefits. Explore whether a surgeon is interested in this initiative. Be careful to explain that any changes to custom kits are voluntary rather than mandated. The team will also want to bring in nursing staff or surgeons as advisors who have expertise in the type of kit being reviewed.

**STEP 2: Start Small and Identify Target Packs**
HHI requires a baseline of total number of custom packs. The measure is total number of custom packs reviewed with a goal of 30 packs or 90% of packs, whichever is greater. This can be obtained by purchasing. Focus the project on the areas of largest impact or opportunity— the 80-20 phenomenon, which, according to the Pareto principle, states that 20 percent of the factors typically cause 80 percent of the impact. With that principle in mind, identify the packs used most frequently and of which the organization purchases the greatest volume. Target one pack as a starting point, and bring together the project team to discuss how the review process.

**STEP 3: Gather Baseline Data: Review the Initial Pack**
Working with the project team and other relevant purchasing staff, identify the total number of custom surgical kits in use. Then, the team can engage with the OR staff or surgeons to carefully review the chosen pack for review. The team should lay out the pack contents and group the kit items into “always need,” “sometimes need” and “never need” categories. Gather input from the surgeons who perform the majority of the procedure and from circulating nurses who can pull the charges for the procedure to see what is typically used. Surgical custom packs often contain items such as extra light handles, emesis basins or suture. During the case, the circulating nurses are responsible for marking on the preference card what supplies are utilized. They are also responsible for indicating what additional supplies are routinely used that may not be included in the custom pack. If possible, try to use only two categories—“always” and “never.” However, be sure that the team does not propose to remove items that will later cause a delay or anger a surgeon during surgery while a nurse runs to grab the missing item. If there are items of which the team is uncertain, gather additional input from other surgeons who perform the procedure. At this early stage in the process, it is better to leave some supplies in the pack than to risk removing them and creating new problems.

**STEP 4: Collect Data on Pack Transition**
While the HHI measure is to count number of packs reviewed and reformulated, many facilities want to measure the waste prevention, as well. This data best tells the “pollution prevention” story. So while the next steps are not required for HHI data submission, the team may want to calculate total waste diverted per kit by following the next steps.

- Using a gram scale, weigh each item in the original custom pack.
- List weights for each item individually.
- Tally the original pack weight.
- Tally the weight of the pack without the excess items.
- Using knowledge of how the OR segregates waste at the facility, assess whether the excess items would typically be disposed of as regulated medical waste (RMW), solid waste or recycling.
  - Gather the disposal costs per pound for each of the three waste streams (if applicable) from the environmental services director.
  - Using the knowledge of how the items would typically be disposed of, multiply the weights by the appropriate cost per pound to establish what the organization would save in disposal costs per each revised pack.
  - Multiply this total cost by the number of packs the OR uses over a set period to determine the total potential cost savings from waste avoidance.

Do surgeons differ in use of disposables for same surgical procedure?

The sum total of disposable instruments for a single operative case in which laparoscopic cholecystectomy was performed ranged from $92 to $637 (mean $333) depending on the preference of the surgeon. [The] study points out the differences in expenses between surgeons. Maintaining this type of expense tracking can apply to other procedures and is a good place to start a surgeon-led and hospital-based cost-saving initiative.
• Work with Purchasing to establish costs for each item in the pack.
• List the prices for each item in the pack separately and then compare the cost of the original pack against the cost of the revised pack.
• Subtract the revised pack supply cost from the original pack supply cost to determine the approximate cost savings per pack.
• Multiply by the number of packs used over a set period (same number used in waste estimate above) to establish the total potential cost savings from avoided purchase of supplies.
• Total the waste avoidance and the avoided purchase costs to get a total potential savings for reformulating the custom kit. (See Figure 2.)

STEP 5: Meet with Vendors
Once the OR and purchasing leadership team reviewed the potential financial and environmental benefits and agreed that it makes sense to move forward, the next step is to reach out to the vendor who supplies the kit and formally request reformulation. Depending on the vendor, these conversations can be incredibly easy or slightly challenging. Many vendors want to meet the needs of their customers’ needs and will gladly revise the pack contents. Others may try to sell the organization on new additions to replace the eliminated items as a means of maintaining revenue. Be clear that the organization is not interested in purchasing items it cannot or will not use. It also makes sense at this point to let vendor know that the organization is planning to reformulate additional packs. Don’t be discouraged by lag time before receiving the reformulated packs. Many suppliers make up packs in bulk volumes. It may take some time to use the old packs before the new packs can be brought in. The reformulated packs may also save SPD staff time when they pick supplies for a case.

STEP 6: Tackle Additional Packs
After the project team has had an initial success and developed a process for analyzing packs, use the same format to select additional high volume, high utilization packs for review. Continue to bring in staff with the right expertise, and vet pack reformulations with surgeons who utilize those packs. Continue to track cost savings and waste reduction data from each pack reformulation to share with leadership in the OR, SPD and Purchasing, as well as the Green Team or sustainability leader (if applicable). These are real-time cost savings for the organization at a time when health care dollars are scarce. Be sure to inform leadership of the OR’s success in addressing its environmental and cost footprint.

STEP 7: Review Preference Cards
In addition to reformulating custom packs, the project team can also review surgeon preference cards with an eye on eliminating unnecessary supplies. Take note of any surgeons who might be interested in this project. A surgeon champion can help to engage other surgeons, and increase their willingness to review and revise preference cards. The champion can begin a dialogue with his or her colleagues, initiate a proactive review of preference cards and perhaps pre-empt the inevitable push from administration for increased standardization.

STEP 8: Create a Mechanism for Staff Feedback
As the hospital begins a kit reformulation program, it is important to create a feedback mechanism for staff, surgeons and anesthesiologists. If certain items are removed from the pack but then are found to be needed, staff needs a way to express those concerns. Likewise, the project team needs to be prepared to come up with stopgap solutions to ensure patient safety and surgeon satisfaction. Make the pack review part of all-staff or committee meetings. Vet the changes as thoroughly as possible before moving ahead with the reformulation. The project team needs to stay flexible to meet perioperative staff demands while reducing excess materials and supplies.

STEP 9: Celebrate Success
Continue to track the cost savings and environmental benefits of the pack reformulation and preference card revision process. Share the data and results with staff. Help them understand how their willingness to rethink supply use reduces the organization’s impact on the environment and public health while also helping protect the organization’s critical financial resources. Translate environmental benefits into concepts that feel tangible for staff. Share the department’s successes with organizational leadership and ensure that the organization’s Green Team or sustainability leader is aware of the department’s success and includes it in any awards applications.

Resources
• Greening the OR: [http://www.GreeningTheOR.org](http://www.GreeningTheOR.org)
STEP BY STEP

Single Use Device Reprocessing

Hospitals have accepted that third party reprocessing of medical devices labeled “single use” is a safe and effective process that can help redirect valuable financial resources back into patient care while significantly reducing the volume of regulated medical waste.

The U.S. Food and Drug Administration (FDA) requires third party reprocessors to meet the same standards as originally manufactured single-use devices (SUDs). The reprocessing industry has safely reprocessed over 50 million devices and prevented over 10,000 tons of medical waste from entering landfills between 1997 and 2007. Reprocessing is now common practice, with all of US News and World Report’s “Honor Roll” hospitals choosing to reprocess single use devices, and 82 percent of the 2011 Practice Greenhealth Award winners choosing to reprocess medical devices, with a combined savings of over $11,750,000. Some original equipment manufacturers (OEMs), however, continue to drive efforts to stop the adoption of this program, citing patient safety concerns. These manufacturers quietly acknowledge that reprocessing severely impacts their bottom lines.

Hospitals historically reprocessed a myriad of medical devices onsite in the SPD. As equipment changed from durable materials, such as stainless steel, to plastic, hospitals began to utilize different standards for onsite reprocessing. Concerned about the lack of standardization among providers, the FDA created stringent new medical device reprocessing standards. Concurrently, concerns regarding infection prevention and health care-associated infections (HAIs) grew. Many OEMs began to market “single-use” products a label not required by the FDA. Many of these products looked similar or identical to products that had been reprocessed onsite. The only difference was that these products carried a label indicating that they should be disposed of after a single use. Many hospitals began using more of these disposable devices and discontinued onsite reprocessing in an effort to meet FDA standards.

A new service industry of third party reprocessors arose in 1997. These companies collected a set of FDA-approved devices (many labeled “single use”) and reprocessed them, making them available for resale to hospitals. Each device was cleaned, function-tested, packaged and sterilized, and returned to the hospital for purchase at a significant discount. In 2000, the FDA began tightly regulating third party reprocessors, Any liability for a faulty reprocessed device was transferred to the third party reprocessor. The FDA set up a reporting system to capture any adverse events related to reprocessed medical devices as a mechanism to build accountability.

OEMs provided considerable push back, selectively educating surgeons and clinical staff on the risks of reprocessing single-use devices, touting liability and patient safety as drivers for avoiding third party reprocessing. But many in health care—cost-conscious and environmentally engaged, and having long understood the value of reprocessing their own devices in-house—forged ahead with a commitment to third party reprocessing after studying the process in detail, visiting reprocessing plants and putting reprocessors through their own quality assurance programs. Third party reprocessors inspect, functionally test, clean, package and sterilize medical devices labeled for single use in such a manner that the quality, physical characteristics safety and performance functions of the device are not significantly affected. Reprocessors encourage

Hospital Corporation of America reduced costs by $17,600,000 in 2010 and $21,700,000 in 2011 through single use device reprocessing system wide. They diverted 296 tons of waste in 2010 and 364 tons of waste in 2011.
Many health care stakeholders have position statements supporting medical device reprocessing and remanufacturing, including the Association of Professionals in Infection Control, the Association of Perioperative Registered Nurses, the American Hospital Association the American Society for Health Care Central Service Professionals, the American Medical Association, the American College of Cardiology and the American Association of Orthopedic Surgeons. For a complete list of position statements supporting medical device reprocessing, see www.GreeningTheOR.org.

In 2008, the Government Accountability Office released a study demonstrating that the FDA's analysis of reported device-related adverse events indicates that reprocessed single-use devices present no increased risk compared with originally manufactured single-use devices. The report also notes that third party reprocessors are more stringently regulated by the FDA than OEMs. From an environmental perspective, most single-use devices that are not collected for reprocessing make their way into the RMW stream. Health care organizations pay a premium to dispose of RMW—six to 10 times the amount it costs to dispose of solid waste. Reprocessing provides a way to divert these devices from the RMW or solid waste stream and put them back into meaningful use. A single hospital can divert over a ton of devices from the waste stream each year. Additionally, these devices typically cost between 40-60 percent less than the original device, which can mean huge cost savings for the organization, as the OR arguably utilizes the most expensive medical devices across the health care sphere.

<table>
<thead>
<tr>
<th>Device type</th>
<th>New Device Price</th>
<th>Reprocessed Price</th>
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</thead>
<tbody>
<tr>
<td>Cardiac catheters</td>
<td>$280</td>
<td>$60</td>
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<td>Orthopedic surgical blades</td>
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<td>Saw blade</td>
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<tr>
<td>Cardiac stabilizers</td>
<td>$900</td>
<td>$380</td>
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<tr>
<td>Pulse oximetry sensor</td>
<td>$10-$20</td>
<td>$6-$10</td>
</tr>
</tbody>
</table>

Figure 1. Commonly reprocessed medical devices

Figure 2: FDA-Recommended Questions to Ask Potential Third Party Reprocessors

- Has the reprocessing facility been inspected by the FDA?
- Can you provide documentation showing that the FDA has approved the firm to reprocess single-use devices?
- Which aspects of the process — cleaning, packaging, sterilization — have been validated?
- Do you have limits on how many times items can be reprocessed?
- How are those limits determined?
- How do you make sure items are not reprocessed too many times?
staff. Reprocessors collect devices in color-coded reusable totes designed specifically for medical instrumentation and deliver packaged sterile devices back to the hospital in reusable totes, eliminating excess packaging brought in by new devices. Most third party repro-cessors also track waste diversion and estimated device purchase savings data for their customers.

With some surgeons and OR staff still skeptical of a transition to the collection and use of reprocessed single-use medical devices, how is the case made to operationalize the change? The following steps can help ease the transition.

**STEP 1: Identify the Project Team**

Begin by reaching out to Purchasing, Infection Prevention, SPD, Risk Management and others who might be helpful. Lay out the hospital’s sustainability goals (if applicable) and point to staff’s desire to reduce the hospital’s environmental impact and the dramatic cost savings that can occur with reprocessing. Present the stringent quality assurance and regulatory processes for reprocessed medical devices. Emphasize that reprocessors actually become the “manufacturers” of the reprocessed devices, and that it is the reprocessor, rather than the OEM, who is liable for defects and quality issues.xxix

**STEP 2: Identify a Potential Reprocessing Partner**

Work with the project team to determine the best potential reprocessing partner. Ask the GPO or other hospitals in the system or geographic area who they recommend. When the choices have been narrowed down, ask each candidate to address the FDA-recommended questions and other questions about their service model. Do they provide containers for collection of devices? How often do they pick up collection containers? Can they explain how containers will be stored onsite before collection? What kinds of devices do they reprocess, and are they able to track cost savings and waste diversion benefits? What happens to devices that are collected but cannot be reprocessed? One hospital has reported that its reprocessor provides with device collection containers that allow them to avoid buying 18-gallon sharps containers at $19 each.xxxi Ask about additional opportunities to save money, reduce waste or supply costs, or ease handling concerns for staff. A good reprocessor will be happy to lay out the benefits of partnership.xxxii

**STEP 3: Educate, educate, educate Surgeons and Staff**

Education is key to building understanding, acceptance and support for reprocessing among OR staff and surgeons. Take a stakeholder approach and tailor education for different audiences. Nurses and surgical technicians may have concerns about infection prevention and the process for separating appropriate devices in the OR (e.g., What standards are used for cleaning and sterilization? Will segregation be time-consuming?) Surgeons are going to be concerned about functionality of devices (Are the blades sharp? Are there quality concerns?) They may also need an in-depth briefing on how the FDA views the third party reprocessor as the manufacturer of that must meet the original device’s functional standard in order to be placed back into service. A thorough update on product liability and a referral to the GAO report demonstrating that reprocessed devices are as safe or safer than the original devices would help highlight the industry’s outstanding safety record. Many hospitals have found that having OR staff take an onsite tour of the reprocessing plant can build comfort and address questions.

**STEP 4: Pilot the Program and Start Small**

Once the program is ready for roll-out, the hospital may find it easier to start small or begin with a trial period. Some hospitals begin by collecting all devices for reprocessing, but only buying back non-invasive devices, as a way to build comfort. Others move directly into buying back all kinds of devices but work slowly with surgeons to gain acceptance, never forcing them to use a reprocessed device without their knowledge. Some surgeons use a blind test in which they use both kinds of equipment to see if they can sense any difference in quality. That strategy requires the support of surgeon leadership. Each hospital must develop an approach that works with its own culture, staff and surgeons. OR staff can build on their relationships with surgeons to gently reiterate the dual benefits of cost reduction and decreased environmental impact.xxxiii Recruit engaged nurses and technicians to be the initiative’s eyes and ears and flag areas of concern.
STEP 5: Use Evidence-Based Decision-Making
Increasingly, clinical leaders are interested in their role in environmental stewardship. It is important to help OR staff and surgeons understand this is not a decision being pushed on them, but rather one they have chosen to support and adopt. The ongoing discussion between reprocessors and OEMs can be fierce at times. Many hospitals have issues with OEMs, which try to selectively “re-educate” surgeons or staff. Hospitals have dealt with the issue in a variety of ways, from asking OEMs not to interfere with the hospital's decision to reprocess single-use medical devices, to requiring OEMs to have pre-approved appointments with materials management before entering the hospital. Address confusion or concerns related to OEMs among surgeons and other staff quickly.

STEP 6: Set Up for Success
- Smooth implementation of the hospital’s new reprocessing program requires support from a diverse team of players. Everyone must understand the new procedures. Bring in the reprocessor to provide a staff inservice to discuss: Placement of the collection containers
- Which devices can and should be placed in the container during and after surgeries
- Which devices the hospital has chosen to reprocess initially (if a shortened list)
- Which devices should be cleaned in SPD before being sent for reprocessing
- How the new process complies with medical waste disposal regulations
- General information on how the process works.

Work with Environmental Services (EVS) to develop a process for collecting containers from the OR to onsite storage to pick-up by the vendor. Even determining the staging area for onsite storage can sometimes be challenging when dealing with limited dock space. And strategizing with EVS around how to structure collection so that it doesn’t require additional labor or pick-ups on their part can be key to gaining this department’s support. When reprocessed devices are brought back into the facility, Central Sterile Supply about where these items should be stocked. Reprocessors often try to use the same size packaging used by the OEM to allow unified storage of new and reprocessed devices. Some hospitals encounter early resistance to utilizing the reprocessed devices. Separate storage areas can increase that resistance. An integrated supply area for both kinds of devices can promote program acceptance. While the program will immediately provide environmental benefits in reduced waste, many of the deeper savings come from replacing the purchase of new devices with the purchase of reprocessed devices. Troubleshooting the case cart process or reaching out to resistant staff, offering an opportunity to express and concerns and answering their questions can build momentum.

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<tr>
<td>Laparoscopic</td>
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<td>Trocars</td>
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<td>EP Catheters &amp; Cables</td>
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<td>Pulse Oximeter Probes</td>
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<tr>
<td>Total Annual Savings Potential</td>
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STEP 7: Troubleshoot and Expand the Program
Once the program is up and running, and clinicians and staff are comfortable with the transition, the organization may consider more aggressive reprocessing goals. This can mean moving to the reuse of invasive devices if the organization began with non-invasive devices. It can mean upping the collection rate in the ORs by re-educating staff. Or it can mean troubleshooting the selection of reprocessed devices for new surgeries. Use this as an opportunity to reach out to OR staff, ask how the program is working, and assess ways to aid implementation or collection. Check in with EVS to make sure the collection process and pick-ups are proceeding smoothly. Hospitals find that reprocessing can be done in other areas beyond Surgical Services, such as labs and critical care units. Consider adding additional departments to the service contract. Electrophysiology labs, for example, can save up to $150,000 by reprocessing electrophysiology and imaging catheters. Switching to reprocessed sequential compression device sleeves and pulse oximetry sensors can also yield huge savings. Some of these items may also be available from companies beyond those that provide large-scale reprocessing of the most complicated devices. Compare the existing reprocessor’s service model and savings with companies that specialize in reprocessing less invasive devices.

STEP 8: Track Improvements and Recognize Success
As with any other quality improvement initiative, track performance and report positive outcomes to demonstrate the program’s value. Continue tracking waste to capture volume and cost reductions. Work with EVS in advance to set up a system to track RMW reduction from the OR. This system can use data from a waste-tracking or bar-coding system that specifically identifies OR RMW volumes and fluctuations. Or it can be an estimate based on a bi-monthly audit in which OR waste is pulled aside and weighed. EVS can be very helpful in determining the best way to track or estimate waste reductions.

The HHI challenge measures are tracking of dollars spent on reprocessed devices. These numbers can be obtained by Purchasing or the third party reprocessor and submitted to the IHI website. Additionally, work with purchasing to track cost savings from purchasing reprocessed versus new devices. Typically, the reprocessor will be able to track many of these savings and provide these figures on the monthly statement. Though double-checking doesn’t hurt, it may be a redundant effort. Report cost reductions, waste diversion volumes, and other environmental and other benefits to leadership and OR management. Keep a running tally of savings to demonstrate payback. Congratulate OR staff and surgeons on their success in decreasing environmental impact while protecting patient health and safety. Make sure the organization’s sustainability leader or Green Team (if applicable) knows about the OR’s success and includes it in any award applications or recognition opportunities.

Resources
- Greening the OR: http://www.GreeningTheOR.org
Electronic Products Environmental Assessment Tool (EPEAT)

Background

The manufacture, use, and disposal of computers and their electronic accessories have a global adverse impact on human and environmental health. EPEAT is an environmental procurement tool designed to help purchasers address environmental concerns in their purchasing process for electronic products. For manufacturers, EPEAT provides clear and consistent performance criteria for the design of products and related services, and an opportunity for manufacturers to secure market recognition for efforts to reduce their products’ environmental impacts.

Before EPEAT was available, purchasers struggled to identify which attributes made one product environmentally superior to another. Computers, laptops and monitors all contained toxic heavy metals, halogenated flame retardants (HFRs), polyvinyl chloride (PVC), and many other chemicals of concern. Rapid changes in technology meant these products had short lives and were easier to dispose than to repair or upgrade. As Annie Leonard, creator and narrator of “The Story of Electronics” describes it, “electronic production facilities are ecologically filthy, using and releasing tons of hazardous compounds that poison workers and surrounding communities. Silicon Valley has so many toxic contaminated sites linked to former high-tech development that has the highest concentration of Superfund sites.” More than two thousand materials are used in the production of a microchip, which is just a single component of the machine. At the end of life, these products threaten the environment and human health as electronic waste (e-waste), and many are shipped overseas, creating toxic dumps in poor areas in undeveloped countries.

Today, the EPEAT registry helps purchasers identify, compare and select environmentally preferable products, and provides manufacturers with clear and consistent environmental criteria for product design and development. Through the use of an Environmental Benefits Calculator, purchasers can determine various savings both to the environment and to the bottom line:

- Savings in energy use
- Savings in virgin material use (increase in recycled materials)
- Savings in carbon dioxide/greenhouse gas emissions
- Savings in air emissions
- Savings in water emissions
- Savings in toxic materials
- Savings in municipal solid waste generation
- Savings in hazardous waste generation
- Savings in cost, where feasible

In 2010, EPEAT purchases helped to:

- Reduce use of primary materials by 15.7 million metric tons, equivalent to the weight of 48 Empire State Buildings.
- Reduce use of toxic materials, including mercury, by 1,156 metric tons, equivalent to the weight of 192 elephants.
- Avoid the disposal of 59,525 metric tons of hazardous waste, equivalent to the weight of four Eiffel Towers.
- Eliminate 31,991 metric tons of solid waste, equivalent to the solid waste produced by more than 16,052 U.S. households annually.
- Save over nine billion kilowatt hours of

Kaiser Permanente has been able to convert to EPEAT-registered devices that are cost neutral and result in $4 million in energy savings each year.
electricity, which is enough to power 757,416 U.S. homes for a year.
- Avoid 36 million metric tons of air emissions (including greenhouse gas emissions) and over 77 thousand metric tons of water pollutant emissions.
- Reduce over 1.6 million metric tons of greenhouse gas emissions, equivalent to taking nearly 11 million U.S. passenger cars off the road for a year.

The EPEAT system was developed and is managed through an open, transparent process involving representatives from all stakeholder groups. Manufacturing, environmental advocacy, academic, trade association, government and recycling entities all actively participate. The original EPEAT Development Team—comprising representatives from all stakeholder groups involved in the design, development, purchase and management of electronics—developed draft criteria for the computer and display category. These draft criteria were then submitted to the Institute of Electrical and Electronics Engineers (IEEE) for development into an IEEE American National Standard.

As the IEEE and other standards bodies develop and publish appropriate environmental standards for electronic product categories (through open, consensus-based stakeholder processes), EPEAT will review and adopt them as the basis for expanding the registry to cover additional types of electronic products.

The EPEAT registry currently includes desktops, laptops/notebooks, workstations, thin clients and displays (computer monitors). In 2012, EPEAT will begin to cover imaging equipment (printers, copiers and multifunctional devices) and televisions. Server and mobile devices will be covered next.

The EPEAT system rates electronic products against a range of environmental performance criteria. Products must meet all required criteria to be registered in EPEAT at the Bronze level. They then may be registered as Silver or Gold based on the percentage of optional criteria met above that baseline.

EPEAT is a self-certifying system. Electronics experience very high rates of change in components and sourcing from product launch through the end of their commercial lives. Given this tremendous variability, precertification based on a one-time investigation before a product is released is fundamentally inadequate. EPEAT’s original stakeholder developers consciously designed a system that requires manufacturers to commit to providing accurate information throughout their product’s life cycle and to remedying any inaccuracies discovered during EPEAT’s rigorous verification process.

The EPEAT registry is the leading resource for finding electronic products that reduce environmental impact—and potentially energy costs. EPEAT covers the most products from the broadest range of manufacturers, and is the only registry that combines comprehensive criteria for design, production, energy use and recycling with ongoing independent verification of manufacturer claims. The EPEAT system was designed with purchaser input, so it offers easy-to-use features like head-to-head product comparison and product search by manufacturer or geography.

**Step-By-Step Implementation**

The transition from purchasing EPEAT-registered computers versus traditional computers can be completed rather modestly or in a formalized fashion. A modest approach would involve identifying if any equipment purchased is EPEAT-registered. Some organizations have discovered many of their computers, laptops and notebooks are EPEAT-registered without having a formal program in place!

Other organizations may require a formal approach using a project team and developing a policy and specifications.

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**STEP 1: Create a Project Team**

Bring together members of the sourcing team who procure computers and other electronics.

**STEP 2: Identify the Target Approach**

For many electronic devices, ENERGY STAR is an important criterion. For computers and laptops, both energy savings and environmental benefits are attained through EPEAT-registered devices. Determine how the EPEAT criteria can benefit the organization by using the EPEAT calculator.
STEP 3: Develop Baseline Data
Determine from the existing contractor/vendor what products purchased are/are not EPEAT registered. The supplier may be able to provide a report or check the EPEAT website for products purchased.

STEP 4: Work with the Vendor
The project team should review current contract requirements. Can the existing vendor provide EPEAT-registered products and switch them out as computers are purchased, or will a new contract be necessary for EPEAT-registered products? Will the vendor be able to determine the cost impact? If so, what is it?

STEP 5: Make the Case
Availability
There are close to 3,000 registered EPEAT computers, monitors and laptops.

Case Studies
1. As part of Executive Order 13514, federal agencies are required to purchase 95 percent of applicable products as EPEAT-registered devices. This EO demonstrates the support for and viability of using EPEAT.
2. The project team may seek case studies demonstrating that using EPEAT-registered devices achieved either a cost savings or cost neutral result. In Kaiser Permanente’s case study, the system achieved $4 million in annual energy savings from EPEAT Gold-registered computers, laptops and notebooks, and the project was cost neutral.

Adopt a Policy
Some organizations may require a formal policy in order for sourcing teams to make any change. A sample policy (as written below) is available on EPEAT’s website:

Sample Policy Language
The policy language below is excerpted from actual organizational policies. It provides a useful model that can be customized to suit the organization’s particular needs and contracting approaches.

1. Beginning [date], consistent with the environmentally preferable purchasing policy adopted by [organization name], departments shall only purchase personal computers, notebook computers and monitors that meet at least the EPEAT Bronze rating level, with a preference for Silver or Gold rating.
2. For all ICT equipment not currently rated according to EPEAT standards, such as computer servers, printers, routers, [organization name’s] Office of Contract Administration will propose application of criteria to guide environmentally preferable purchasing practices in consultation with the Chief Information Officer (CIO). These guidelines will seek to minimize levels of toxic components, ensure the highest level of energy efficiency, incorporate recycled content, facilitate end-of-life recycling and minimize unnecessary packaging.
3. For product categories where an EPEAT standard is in development, now or in the future, once a product standard and registration process is in force, all products shall meet the minimum relevant EPEAT standard. Further consideration may be given to those products that meet higher levels of qualification under the product registration system.
4. [Organization name] will develop a procedure to develop necessary exemptions to this policy, with the goal of allowing no more than five percent of purchase dollars in the product area(s) covered by the EPEAT rating system to be spent on non-EPEAT-registered products. Such exemptions may be allowed, for example, if no registered products meet the specific performance needs of a purchaser, or if the EPEAT-registered product will not be cost-effective over the life of the product.

Sample Policy Language – Detailed
(a) General.
PURCHASERS must ensure that they meet at least 95 percent of their annual acquisition requirement for electronic products with EPEAT-registered electronic products, unless there is no EPEAT standard for such products.

(b) Personal computer products.
Personal computer products are a category of EPEAT-registered electronic products.
   (1) The IEEE 1680 standard for personal computer products:
      (i) Was issued by the Institute of Electrical and Electronics Engineers on April 28, 2006;
      (ii) Is a voluntary consensus standard;
      (iii) Meets U.S. EPA guidance on environmentally preferable products and services; and
      (iv) Is described in more detail at http://www.epeat.net.
   (2) A list of EPEAT-registered products that meet the IEEE 1680 standard can
be found at http://www.epeat.net.

(3) The IEEE 1680 standard sets forth required and optional criteria. EPEAT Bronze-registered products meet all required criteria. EPEAT Silver-registered products meet all required criteria and 50 percent of the optional criteria. EPEAT Gold-registered products meet all required criteria and 75 percent of the optional criteria. These levels are discussed at www.epeat.net.

(c) This policy makes EPEAT Bronze registration the minimum standard that all IT hardware purchased by ORGANIZATION must meet. Purchasers are encouraged to make EPEAT Silver registration the required standard for IT hardware in specific purchase contracts, where sufficient products are available from multiple suppliers, with Gold registered products preferred.

(d) PURCHASERS/DEPARTMENTS shall establish procedures for granting any necessary exceptions to the requirement in paragraph (a) of this section, with the goal that the dollar value of exceptions granted will not exceed five percent of the total dollar value of electronic products acquired by the Agency/Department for which EPEAT-registered products are available. For example, agencies may grant an exception if the agency determines that no EPEAT-registered product meets agency requirements or that the EPEAT registered product will not be cost-effective over the life of the product.

STEP 6: Work with the Contract Managers

a. Modify Specifications. Utilize specifications provided above.

b. Track and evaluate data. Vendors should provide purchasing reports on a regular basis on EPEAT purchases. Be sure to include this as part of the contractual agreement.

Sample Specification for Product Requirements

Purchasers are encouraged to use the following minimum contract language to ensure the products they buy meet the EPEAT standard:

All desktops, laptops and computer monitors provided under this contract are required to have achieved Bronze registration or higher in the EPEAT system in [COUNTRY/COUNTRIES]. EPEAT is a procurement tool designed to help large volume purchasers evaluate, compare and select electronic products based upon their environmental attributes as specified in the consensus-based IEEE Standard for the Environmental Assessment of Personal Computer Products (IEEE 1680.1).

[PURCHASER] will prefer products that have achieved EPEAT Silver or EPEAT Gold registration. The EPEAT registration criteria and a database of all registered products are provided at http://www.epeat.net.

NOTE: For increased environmental benefit, purchasers may require EPEAT Silver or EPEAT Gold as the baseline specification for all products provided under the contract.

Suppliers are required to block non-EPEAT registered products on their electronic catalogs or web portals that customers may buy from through this contract.

Reporting Requirements

The HHI challenge requires submission of dollars spent on EPEAT-registered products submitted through the IHI extranet. Additionally, purchase information may be used to calculate the environmental benefits of EPEAT purchasing and to provide required data for a variety of recognition programs. Requiring suppliers to provide regular EPEAT reporting - using language below - will simplify this task.

Suppliers are required to provide [quarterly/semiannual/annual] reporting on the number of EPEAT-registered products purchased under this contract. For each piece of equipment sold, EPEAT Registration Status (i.e. Bronze, Silver, Gold or Unregistered) must be provided. The information must be reported in aggregate in a matrix providing the following data:
STEP 7: Celebrate Success
Promote the hospital’s efforts through internal informational resources and externally through a press release. Join EPEAT as a Purchasing Partner.

Prepare a case study on the accomplishments, and include any savings achieved, the process and the lessons learned. Provide a copy to Practice Greenhealth’s HHI staff for posting.


• xxii *This information was supplied by the reprocessing vendor.

• xxiv ibid.


• xxvi Boone, PK. Transition to Reprocessing-One OR’s Success. Nursing Administration Quarterly. 2010. Vol. 34, No. 4, pp. 343-345.


• xxx ibid.

• xxx ibid.

• xxx i ibid.

• xxxi ibid.

• xxxii ibid.

• xxxiii Boone, PK. Transition to Reprocessing-One OR’s Success. Nursing Administration Quarterly. 2010. Vol. 34, No. 4, pp. 344.


• xxxviii Leonard, Annie, Story of Stuff, pg 58


Additional Resources

Easy to use templates, sample language, check lists and others tools will facilitate program implementation.

**EPEAT MODEL POLICY LANGUAGE**

EPEAT Model Policy Language

**SMARTER PURCHASING MEASURES**

This Data “Cheat Sheet” details data collection framework for each challenge.
http://healthierhospitals.org/hhi-challenges/resource-library/smarter-purchasing-measures

**DATA SUBMISSION GUIDE – KIT REFORMULATION**

A Power Point Guide to Assist in Data Submission for Surgical Kit Reformulation

**DATA SUBMISSION GUIDE – SINGLE USE DEVICE REPROCESSING**

A Power Point Guide to Assist in Data Submission for Single Use Device Reprocessing

**DATA SUBMISSION GUIDE - EPEAT COMPUTER PURCHASE**

A Power Point Guide to Assist in Data Submission for EPEAT Computer Purchase

**MEETING MINUTES**

Sample Meeting Minute Template for Modification and Use
http://healthierhospitals.org/hhi-challenges/resource-library/meeting-minutes-3

For further information email: jbrown@healthierhospitals.org or at (866) 598-2110.