



H2E SELF-ASSESSMENT GUIDE

Welcome to the H2E Partners for Change Program! This self-assessment can help you evaluate your facility's waste streams, identify opportunities for improvements, and enhance your environmental and waste programs. This guide includes questions on how your facility manages solid waste, hazardous waste, mercury, and other materials. H2E designed the questions to encourage you, and your colleagues, to think about new ways to manage environmental programs with an emphasis on waste and identifying opportunities for eliminating waste at the source. H2E pioneers have found that source reduction and recycling activities can save the hospital money, freeing up resources for healthcare priorities. One large health system **saves nearly \$200,000 annually** just by its switch to reusable mattress pads.

This guide includes sections on overall environmental policies and procedures, as well as on specific waste streams (e.g., solid waste, regulated medical waste, chemical waste and mercury), water and energy conservation and environmentally preferable purchasing. Use the questions in the guide to assess your starting point, as well as to identify potential goals and action items.

The guide also suggests collecting baseline data including the annual weight of every waste stream leaving the facility and the costs to manage that material. Many hospitals have no idea how much money is spent on total waste management. Documenting the quantity of materials you recycle and dispose of and the associated costs can help you prioritize actions. Tracking changes in the data will enable you to document results and report successes.

Data is a powerful tool. If you don't know what you have, how can you prioritize your action plans, justify your programs, or report on your success?

And finally, use the guide to help you set achievable goals and prioritize key action plans to significantly improve your facility's environmental performance. H2E recognizes those facilities that make outstanding efforts in mercury elimination and overall waste reduction in the H2E Recognition and Awards program...

This H2E Self-Assessment is intended to provide a set of examples to assess your facilities environmental program's status, prioritize goals, and assist in the development of an action plan. It may not, however, identify all possible opportunities for pollution prevention, regulatory compliance, or improved worker safety regarding these issues. And finally, as hospitals across the country engage in these efforts, this self-assessment may evolve to reflect changes in the industry and the most up-to-date resources available. Please contact your local and state regulators for state specific regulatory

CONFIDENTIALITY AND DATA COLLECTION: *The information collected on the H2E Annual Facility Assessment Summary and Goals Form is used to assess national trends and to determine if H2E is helping meet the waste and mercury reduction goals of the MOU. This information will be kept strictly confidential.*

HOW TO COMPLETE THE ASSESSMENT

If you have completed waste surveys in the past, you do not necessarily need to complete another one, but the H2E Facility Baseline Self-Assessment can be used to help you identify goals and action plans – a requirement of H2E partnership.

If you have never done a facility wide assessment, completing this Assessment should be the first thing you do prior to starting any waste reduction or mercury elimination programs. This data will be crucial for identifying areas for action, as well as for measuring success.

About the Sections

Don't be put off by the length of the document. The assessment form is broken into sections that are designed to help you assess the current state of your facility, and provide ideas for action. The sections are also designed so that they can be completed independently. You may also find that different sections may need to be completed by staff in different departments in your hospital; this is a great way to get them involved in the process!

- ✓ General Waste, Environmental Management and Education
- ✓ Solid Waste Management
- ✓ Waste Reduction, Recycling and Reuse
- ✓ Regulated Medical Waste
- ✓ Hazardous Chemical Waste and Persistent Bioaccumulative Toxics (PBTs)
- ✓ Mercury Management
- ✓ Environmentally Preferable Purchasing (EPP) Practices
- ✓ Facilities Management

Data Collection & Program Assessment

It is important for every facility embarking on these programs to have baseline data collected from which to measure progress, including tonnage of materials moved and the associated costs. Worksheets are provided within specific categories to assist you in data collection and number crunching. In addition to data, there are policy and programmatic issues that also need to be addressed. In combination, this information collection format will help you prioritize your work.

For additional information and assistance in completing your assessment, H2E provides tools and resources on our web site – www.h2e-online.org.

Using the Assessment to [Develop Goals and Action Plans](#)

Use the Assessment's **Issues to Consider – Sample Action Plans** to help you develop your goals and set of action plans to help you meet the H2E goals. These lists are examples and by no means a complete list of the dozens of projects you can initiate to help you meet your goals. H2E offers other tools and resources on our website to assist with this work, including our "How to Develop Your H2E Goals" guide available at http://www.h2e-online.org/programs/partner/p_action.htm.

Using the Assessment to Look Ahead to [Recognition and Awards](#)

Setting achievable goals and prioritizing key action plans to significantly improve your facilities environmental performance is key elements to the Recognition and Awards program. When applying for recognition or an award, you will be asked to submit the goals and action plan items for the current year. Learn more about this program at http://www.h2e-online.org/pubs/H2ERecognition_Awards_Program.pdf.

SECTION 1: GENERAL WASTE AND ENVIRONMENTAL MANAGEMENT

Data Collection & Program Assessment	Issues to Consider – Sample Action Plan Items
<p>Waste Management Data Collection</p> <p>What is your facility’s annual disposal budget for ALL waste at your facility? <div style="text-align: right;">\$ _____</div></p> <p>What is the total weight of ALL waste disposed at your facility? (tons) <div style="text-align: right;">_____</div></p> <p><i>Use the attached worksheets for each waste stream to assist in the collection of this data. Combine the data to determine total weight disposed and total cost of waste disposal at your facility.</i></p> <p><i>Also visit the H2E website for the other tools to help you manage and track your waste data.</i></p>	<p>Waste data is a powerful tool to justify program expenses and its very existence! Create a system that tracks waste generation rates and cost. Consider collecting that data also for each department.</p> <p>Evaluate the total costs of generating waste at your facility, such as lost materials, regulatory compliance, costs that result from cleaning up accidents and safety training.</p> <p>Quantify the environmental, economic and other benefits of your waste reduction program.</p> <p>For help on tracking your facility’s annual disposal budget, visit the H2E website at www.h2e-online.org, <i>Waste Reduction</i> section and see information on environmental accounting.</p>
<p>Policy</p> <p>Does your facility have a “Green Team” responsible for designing and implementing your environmental programs? <div style="text-align: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</div></p> <p>Do you have a waste management policy that includes:</p> <ul style="list-style-type: none"> • Hierarchy of waste management <input type="checkbox"/> Yes <input type="checkbox"/> No • Goals of waste management program <input type="checkbox"/> Yes <input type="checkbox"/> No • Handling and disposal procedures for all waste streams <input type="checkbox"/> Yes <input type="checkbox"/> No • Pollution prevention/source reduction, environmental commitment <input type="checkbox"/> Yes <input type="checkbox"/> No <p>Does your hospital have any facility-wide goals related to pollution prevention efforts, including but not limited to:</p> <ul style="list-style-type: none"> • Waste volume/weight reduction efforts? <input type="checkbox"/> Yes <input type="checkbox"/> No • Waste toxicity reduction efforts? <input type="checkbox"/> Yes <input type="checkbox"/> No 	<p>Assign a project leader who will be responsible for collecting information, organizing the self-assessment, and forming the "Green Team".</p> <p>Form a waste reduction planning committee (Green Team) that includes representatives from as many departments as practicable, including but not limited to purchasing, infection control, facilities management, clinical area representatives, materials management, housekeeping/ environmental services and upper management.</p> <p>Develop a <i>waste management policy</i> that incorporates all policies and procedures related to waste management, including staff responsibilities for managing waste safely.</p> <p>Get formal administrative support for your programs. Develop an “environmental principles statement” stating your facility’s commitment to environmental programs. Consider an “administrative environmental leadership council” type of committee to approve and support major institutional initiatives</p>
<p>NOTES:</p>	

SECTION 1: GENERAL WASTE AND ENVIRONMENTAL MANAGEMENT

Data Collection & Program Assessment	Issues to Consider – Sample Action Plan Items
<p>Staff Education</p> <p>Does your hospital provide waste/environmental education in the following areas for ALL staff:</p> <ul style="list-style-type: none"> • General Waste management, including waste stream definitions, handling and disposal procedures for all waste? <input type="checkbox"/> Yes <input type="checkbox"/> No • Red bag or regulated medical waste - the proper identification, segregation and disposal? <input type="checkbox"/> Yes <input type="checkbox"/> No • Hazardous Chemical Waste: proper identification, segregation, and disposal? <input type="checkbox"/> Yes <input type="checkbox"/> No • Mercury: management, spill procedures, the health and environmental effects? <input type="checkbox"/> Yes <input type="checkbox"/> No • Resource management – understanding the utilization of supplies and resources to minimize waste? <input type="checkbox"/> Yes <input type="checkbox"/> No • Ethylene oxide (and other sterilants, disinfectants): health and environmental effects of exposure, emergency procedures, etc.? <input type="checkbox"/> Yes <input type="checkbox"/> No <p>Is proper waste management (all waste streams) part of the employee job description? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Implement waste and environmental training programs that may include:</p> <ul style="list-style-type: none"> • New employee orientation, • Annual training, • Required or as-needed departmental in-services. <p>Create an internal newsletter about waste and mercury use reduction, including information on what employees can do both at home and at work to protect the environment.</p> <p>Make safe waste management and minimization a job requirement.</p> <p>Use H2E listserv as a resource for policies and procedures, and training materials. Join online at www.h2e-online.org.</p> <p>Check out the H2E Teleconference calendar, also on the H2E website. These free monthly teleconferences offer practical solutions to some of these challenging issues.</p>
<p>Community Health Initiatives</p> <p>Do you communicate your environmental successes with the community? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do you share policies and procedures with other medical facilities? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Contribute to a community environmental improvement project that promotes waste or mercury use reduction, such as hosting a waste reduction educational event or a mercury thermometer exchange.</p> <p>Mentor other hospitals on waste reduction techniques, including developing case studies or hosting a tour.</p> <p>Collaborate with community and environmental leaders by inviting them to participate in your waste and mercury-use reduction planning committee.</p>
<p>Notes:</p>	

SECTION 2: SOLID WASTE MANAGEMENT

Data Collection & Program Assessment	Issues to Consider – Sample Action Plan Items
<p>Total amount of SOLID WASTE Annually (tons): _____</p> <p>SOLID WASTE disposal cost per year \$ _____</p> <p>How is SOLID WASTE disposed: <i>(Record % for each.)</i></p> <p>_____ % Land-filled _____ % Incinerated <i>(TOTAL MUST EQUAL 100%)</i> _____ % Other</p> <p>Do you have a solid waste reduction strategy? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If you incinerate your solid waste, is there a plan to try to eliminate incineration as a disposal method? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Have you ever visited your landfill or disposal facility? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Developing a relationship with your technical resource providers and haulers can be a strategic move when and if you ever have any problems.</p> <p>Do you have a contact person who can answer technical questions related to solid waste practices in your region: Name: Phone #:</p> <p>Solid waste hauler/company(s): Name: Phone #:</p> <p>Landfill (disposal facility) Operator: Name: Phone #:</p>	<p>Complete the solid waste assessment worksheet (Appendix A) to determine total volume/weight and cost of your solid waste management program.</p> <p>Reduce total cost for solid waste reduction by developing a comprehensive solid waste reduction strategy that includes:</p> <ul style="list-style-type: none"> Purchasing policies that encourage the purchase of materials with less packaging that are recyclable, reusable, and/or durable. Recycling policies that will help reduce solid waste that is incinerated or landfilled. Reuse policies that assess opportunities to reuse materials either through in-house reuse programs or community donation programs. Comprehensive waste segregation program that promotes recycling, reuse and reduction of waste. <p>Develop a non-incineration policy that reflects a commitment to public health. Consider alternatives.</p> <ul style="list-style-type: none"> Develop a policy to ensure that hazardous chemicals, mercury, PVC products are not being incinerated. If you are operating an incinerator on-site, ensure you are in compliance with the medical waste incinerator rules. If you send your waste off-site for incineration, audit the facility for environmental and OSHA compliance. <p>Establish a relationship with your solid waste hauler and/or landfill operator to “problem solve” solid waste issues.</p>
<p>Notes:</p>	

SECTION 3: WASTE REDUCTION, RECYCLING, AND REUSE

Data Collection and Program Assessment	Issues to Consider – Sample Action Plan Items
<p>Total amount of materials Recycled/Reused Annually (tons): _____</p> <p>Recycling Program cost per year \$ _____</p> <p>For help on tracking your facility’s recycling budget, visit the H2E website at http://www.h2e-online.org/tools/waste.htm.</p>	<p>H2E cannot stress enough the value in collecting waste and recycling data. Understanding avoided landfill costs, for example, can help cost justify the recycling bins you need to purchase.</p> <p>Complete the recycling assessment worksheet (Appendix B) to determine total volume/weight and cost of your recycling program.</p> <p>Create a system that tracks each recyclable waste stream including generation rates and cost not only for the facility, but also for each department.</p>
<p>Is recycling and reducing waste a part of everyone’s job description? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Are recycling containers readily available for hospital visitors and staff? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <ul style="list-style-type: none"> • Paper bins in every office area? <input type="checkbox"/> Yes <input type="checkbox"/> No • Paper bins by every copier and printer? <input type="checkbox"/> Yes <input type="checkbox"/> No • Beverage container bins in every kitchen, break room, conference room? <input type="checkbox"/> Yes <input type="checkbox"/> No 	<p>Develop a comprehensive waste segregation and recycling program ensuring proper placement and access to all appropriate containers.</p> <p>Source reduction means generating less stuff in the first place. Encourage office practices that reduce waste paper generation, such as copying on two sides, using electronic mail, posting information on announcement boards, and reusing scrap paper for notes and message pads.</p> <p>Clinical work practices might include not taking more supplies than you need and understanding what can be restocked and what can’t.</p>
<p>If you recycle paper, does the recycler guarantee paper destruction for confidentiality? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Consider combining your paper recycling programs with your confidential paper management policy. This will increase your recycling volume and improve participation in confidential management compliance.</p> <p>See H2E HIPAA policy at http://www.h2e-online.org/tools/waste_hipaa.htm.</p>
<p>Do you know how recycling revenues are used? (applied to general revenues, donated to charity, etc.): <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Consider a policy where recycling revenues go back into other waste reduction efforts, particularly those efforts that cost more; or to fund an employee recognition program for those that take a leadership role in waste reduction.</p>
<p>Do you have a comprehensive list of all recycling vendors: <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Centralize all recycling vendor information for every item that is recycled or reused by an outside vendor.</p>
<p>Do you donate any equipment or supplies to community groups or other agencies? <input type="checkbox"/> Yes \$ _____ <input type="checkbox"/> No</p> <p>If yes, do staff or the community know of these efforts? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Implement a collection/donation program of unused surgical packs, open, clean but unused supplies, and unwanted but useable “stuff” in order to:</p> <ol style="list-style-type: none"> 1) Reduce waste, 2) Assist local organizations (schools, EMT training, vets, animal shelters) or developing countries, 3) Assess what you might otherwise be throwing away.
<p>NOTES:</p>	

SECTION 3: WASTE REDUCTION, RECYCLING, AND REUSE

Data Collection and Program Assessment	Issues to Consider – Sample Action Plan Items
<p>Do you have an Environmental Preferable Purchasing Policy to encourage waste reduction:</p> <ul style="list-style-type: none"> • Reduced use of individually wrapped items? <input type="checkbox"/> Yes <input type="checkbox"/> No • Elimination of duplicate forms? <input type="checkbox"/> Yes <input type="checkbox"/> No • Less toxic cleaning products and lab chemicals? <input type="checkbox"/> Yes <input type="checkbox"/> No • Preference for products with reduced packaging? <input type="checkbox"/> Yes <input type="checkbox"/> No 	<p>Eliminate duplicate admission kits.</p> <p>Do not open/unwrap surgical supplies unless there is a reasonable certainty they will be used during the procedure.</p> <p>Eliminate individual condiment packages in the food service.</p> <p>Reduce subscriptions to medical publications and unsubscribe to junk mail outlets.</p> <p>Purchase equipment that will reduce waste (e.g., hand-dryers in restrooms to eliminate paper towel waste).</p>
<p>Do you have purchasing policies and procedures that assess and encourage the opportunities to use reusable items? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Use items that can be washed or sterilized and reused</p>	<ul style="list-style-type: none"> • Linen services: surgical drapes, underpads, cloth diapers, gowns, pillows, etc • Food services: all food service items. Reduce beverage prices for personnel who supply their own reusable cups. • CSR items: suture sets, instrument trays and water pitchers, bedpans • Use washable glassware in labs. <p>Wash and reuse mop heads and rags.</p>
<p>Universal Wastes Recycling – do you recycle:</p> <ul style="list-style-type: none"> • Batteries? <input type="checkbox"/> Yes <input type="checkbox"/> No • Fluorescent lamps? <input type="checkbox"/> Yes <input type="checkbox"/> No • Paints and Paint Thinner? <input type="checkbox"/> Yes <input type="checkbox"/> No • Mercury? <input type="checkbox"/> Yes <input type="checkbox"/> No • Computers and Electronics? <input type="checkbox"/> Yes <input type="checkbox"/> No 	<p>Implement comprehensive programs for the safe handling and disposal of universal wastes.</p> <p>Understand universal waste regulations and specific collection, handling, storage and shipping requirements for each material.</p> <p>Implement recycling programs for products that contain potentially hazardous waste and ensure these items are not disposed of improperly.</p>
<p>Do you compost food waste, organics and yard waste? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Implement a comprehensive compost program. Is there a compost facility in your region? Are there opportunities to collect yard waste on campus? Explore compost opportunities in your area.</p>
<p>NOTES:</p>	

SECTION 4: REGULATED MEDICAL WASTE

Data Collection and Program Assessment	Issues to Consider – Sample Action Plan Items
<p>TOTAL RMW Total amount of RMW Annually (tons): _____</p> <p>Total Disposal cost per year: \$ _____</p>	<p>Completing the RMW assessment (Appendix C) to determine the amount of RMW currently generated is an important first step to assessing opportunities for improvement.</p> <p>RMW often cost 10 times more for handling and disposal than solid waste. Understanding your data can help you realize significant RMW savings and can justify a program to improve segregation, purchasing and waste handling practices.</p>
<p>Treatment Technology (<i>Record percentage for each – total should equal 100 percent.</i>):</p> <p>_____ % Autoclaved _____ % Microwaved</p> <p>_____ % Chemically treated _____ % Incinerated</p> <p>_____ % Treated on site _____ % <i>other</i></p>	<p>General infectious waste (vs. pathological or chemotherapy waste) does not require incineration but can be appropriately treated by alternative technologies. Refer to “Non-Incineration Medical Waste Treatment Technologies – A Resource Guide” and/or “Medical Waste Treatment Alternative Technologies” available on the web at www.noharm.org.</p>
<p>Do you have an education or training program on segregating, handling, and minimizing regulated medical waste (type of training, who receives, who provides, how often)? <div style="text-align: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</div></p> <p>If so, what was the percent of RMW that you currently generate and what is your reduction goal? % RMW Today: _____ % Reduction Goal: _____ %</p> <p>Has your staff been trained on the environmental and human health impacts of improper waste segregation and disposal practices? <div style="text-align: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</div></p> <p>Do you have a comprehensive waste segregation plan that ensures hazardous materials are not disposed of in RMW containers? <div style="text-align: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</div></p> <p>Note: Many facilities have realized 20-50% reductions in RMW by improving waste segregation and purchasing practices.</p>	<p>Conduct an RMW audit to assess opportunities to reduce RMW.</p> <p>Provide additional training and signage to increase staff awareness of RMW definitions.</p> <p>Implement An RMW Segregation Plan, including:</p> <ul style="list-style-type: none"> • Limiting access and size of red bag containers, • Segregating procedures in the operating rooms, • Removing red bag waste containers from non-essential areas. <p>Assess opportunities to reduce RMW by looking at how and where waste is collected and transported. RMW might be bagged, double bagged and then place in a box with more double red bags.</p> <p>Track cost savings and celebrate success to all staff. Use the success to drive improvements in other aspects of waste reduction.</p> <p>RMW containers have long been thought of as “catch all” containers for materials nobody knows what to do with. Also, “hazardous waste” (chemical waste) is often confused with bio-hazardous waste also leading to more confusion.</p> <p>Purchase cadmium-free red bags and containers. See www.sustainablehospitals.org for more information.</p>
<p>NOTES:</p>	

SECTION 4: REGULATED MEDICAL WASTE

Data Collection and Program Assessment	Issues to Consider – Sample Action Plan Items
<p>If you incinerate your RMW, is there a plan to try to minimize or eliminate incineration? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do you know if your state requires through regulation, the incineration of pathological or chemotherapy waste? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do you segregate pathological waste from general infectious waste? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Have you specified how you want your waste treated? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do you reduce/eliminate chlorine-containing supplies, and reduce the amount discarded that goes to medical waste incinerators? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Develop a non-incineration policy that reflects a commitment to public health. Consider alternatives.</p> <p>Minimize or eliminate incineration by specifying to your RMW hauler that general infectious waste be autoclaved. Segregate pathological waste for incineration if required by your state.</p> <p>Compliance -- If you are operating an incinerator on-site, make sure you are in compliance with the medical waste incinerator rules. If you send your waste off-site for incineration, audit the facility for environmental and OSHA compliance.</p> <p>Assess and replace chlorine treated medical waste, as well as chlorine-containing products that are being incinerated, for example PVC products (e.g., Patient Identification Bracelets And Cards, Shower Curtains, IV Bags And Fluid Collection Devices). Assess opportunities to minimize incineration of chlorine containing items (a precursor to the formation of dioxin)</p>
<p>How do you problem solve RMW problems? *</p> <p>Do you keep track of in-house collection and handling problems (e.g., needlesticks, ergonomics, improper segregation)? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do you have any problems managing RMW with your hauler or the community? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>*Develop a policy to not only identify problems, but give authority to a problem-solver to address the issues. For instance, if sharps are found in bags, who is responsible to determining who is responsible and do they have the authority to rectify the problem?</p> <p>Identify a responsible person, then establish protocols and procedures to problem solve.</p>
<p>Do you have a policy/procedure for the safe handling and disposal of Cytotoxic Drugs? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Are staff trained in safe handling, safety, waste minimization and spill containment and clean-up procedures in a manner to prevent exposure? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Are chemotherapy waste containers strategically placed to collect only chemo waste, and not other regulated medical waste or trash? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>See OSHA Instruction PUB 8-1.1, January 28, 1986 – Guidelines for Cytotoxic Drugs.</p> <p>Identify opportunities through training, education and container placement to minimize chemotherapy waste.</p> <p>See the list of RCRA U-listed anti-neoplastic agents: http://yosemite.epa.gov/osw/rcra.nsf/b098e2ce61abf52285256adf00690fc4/0f7f73d04c4dcb8a8525670f006c1bb7?OpenDocument</p>
<p>Waste Hauling Company/Contact:</p> <p>Have you audited your RMW hauler? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Audit your waste hauler and treatment facility to ensure environmental and OSHA compliance.</p>
<p>NOTES:</p>	

**SECTION 5:
HAZARDOUS WASTE AND PERSISTENT, BIOACCUMULATIVE, AND TOXIC CHEMICALS**

Data Collection and Program Assessment Items	Issues to Consider – Sample Action Plan
<p>Total annual amount of hazardous chemical waste (Pounds, tons, cubic yards, other): _____</p> <p>Hazardous chemical waste disposal cost per year: \$ _____</p> <p>Total amount of hazardous drugs (RCRA chemotherapy and other hazardous drug waste) generated per year (pounds/tons/cubic yards): _____</p>	<p>See H2E’s chemical minimization plan on www.h2e-online.org for information on reducing hazardous chemicals and PBTs in your facility.</p> <p>Completing the HW assessment worksheets (Appendix D) to determine the amount of hazardous waste currently generated is an important first step to assessing opportunities for improvement.</p>
<p>Does your facility have an EPA Identification number? _____</p> <p>What is your hazardous waste generator status? Large Quantity Generator? Small Quantity Generator? _____</p> <p>Who is responsible for your Hazardous Waste Program?: _____</p> <p>Do you also have an Emergency Response Coordinator?: _____</p> <p>Are either or both of these staff charged with reducing the amount of materials used, initiating waste minimization programs? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Learn about regulations governing hazardous wastes at www.epa.gov/epaoswer/hotline/rmods.htm.</p> <p>Read “Pollution Prevention for Selected Hospital Waste Streams” at http://www.p2pays.org/ref/02/01059.pdf</p> <p>Pollution prevention opportunities for hazardous waste streams commonly found at hospitals and medical facilities. City of Palo Alto, California's Regional Water Quality Control Plant (1995. free) http://www.city.palo-alto.ca.us/cleanbay/pdf/hosp.pdf</p>
<p>Have employees been trained to minimize the use of hazardous chemicals and to properly handle and dispose of them to ensure that chemicals are not improperly disposed of down the drain or in the trash (infectious, solid or recycling)? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Are Material Safety Data Sheets maintained and made readily available to all employees? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Are ALL hazardous materials properly and consistently labeled? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do you have a written spill prevention plan and are spill kits available and accessible? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Implement a comprehensive hazardous materials training program including an MSDS management program, hazardous materials identification, labeling, handling, storage, disposal, spill prevention and clean up procedures.</p>
<p>NOTES:</p>	

SECTION 5: HAZARDOUS WASTE AND PERSISTENT, BIOACCUMULATIVE, AND TOXIC CHEMICALS

Data Collection and Program Assessment Items	Issues to Consider – Sample Action Plan
<p>What steps are being taken to decrease the use of hazardous chemicals in your facility?</p> <p>Have you done a comprehensive assessment of opportunities to reduce hazardous chemicals in the lab? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Have you considered using less hazardous cleaning chemicals in housekeeping and facilities departments?</p>	<p>Develop a list of highly hazardous substances and implement a purchasing policy to ban their purchase. (H2E's Chemical Minimization plan has prioritized highly hazardous substances).</p> <p>Assess opportunities to use smaller containers in lab procedures. See Microscale Chemistry information - http://campus.umn.edu/ehs/Hazardous_Waste_Mgmt/Waste_Minimization_Program/wmmicro.html</p> <p>Purchase maintenance and housekeeping chemicals in concentrated form for dilution onsite. See Janitorial Products and Pollution Prevention website: http://www.wrppn.org/Janitorial/jp4.cfm</p>
<p>Do you capture and recycle silver and X-ray film from radiology? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do you have a management and minimization plan for the higher volume chemicals such as? ethylene oxide <input type="checkbox"/> Yes <input type="checkbox"/> No glutaraldehyde <input type="checkbox"/> Yes <input type="checkbox"/> No formaldehyde (formalin) <input type="checkbox"/> Yes <input type="checkbox"/> No solvents <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Does your hospital redistill solvents or formalin for reuse? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, volume of avoided hazardous waste disposal: _____ gallons cost savings \$ _____</p> <p>Volume of avoided solvent purchases due to redistillation: _____ gallons cost savings \$ _____</p>	<p>Implement a silver recovery program, including x-ray films.</p> <p>Switch to alternative liquid sterilants, such as peracetic acid, acetic acid and hydrogen peroxide. (see EtO reduction guide in H2E Tools and Resources page – www.h2e-online.org.)</p> <p>Assess opportunities to purchase solvent recovery stills to recycle laboratory waste solvents, such as xylene, formalin and alcohol. <i>This not only reduces hazardous waste disposal volume but also disposal costs and purchase costs of new chemicals.</i></p>
<p><u>Persistent, Bioaccumulative Toxics (PBT)</u></p> <p>Do you know what PBTs are and what the connection is to healthcare? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>List of PBTs possibly found in or associated with healthcare: Mercury Dioxin Lead PCB's Hexachlorobenzene-</p> <p>Mercury – see Mercury Management/Elimination Section below.</p> <p>How are you disposing of lead containing items such as aprons and lead packaging? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Learn more about PBT's – EPA's PBT Chemical Program at http://www.epa.gov/pbt/.</p> <p>For a comprehensive list of persistent and toxic chemicals in addition to the EPA PBT priority list see Appendix E.</p> <p>Initiate programs to eliminate PBT pollution. For example, address dioxin issues by eliminating the incineration of chlorine containing products such as PVC, chlorine bleached paper, and RMW treated with chlorine bleach.</p> <p>Initiate mercury elimination programs.</p>

SECTION 5A: MERCURY CHECKLIST

MERCURY <i>For each of the following statements, please check the box that most accurately describes the mercury reduction practices at your facility:</i>	Yes - Plan in Place And Implemented	Yes - Plan in Place But Not Implemented	No Plan in Place – Need more Info
1. Do you have a corporate or facility policy statement that includes a resolution or pledge for the reduction and virtual elimination of mercury?			
2. Do you have a Mercury Management Policy that includes: a. Protocols for safe handling? b. Mercury spill clean-up procedures? c. Disposal procedures such as recycling or regulated safe disposal to avoid disposal in the waste stream (including dental amalgam and other mercury containing items)? d. Education and training of employees about facility protocols, including information about mercury and its effects on human health and the environment?			
3. Have you completed a mercury audit, including an inventory of all mercury devices/sources (clinical and facility)? Have you labeled those facility devices containing mercury? Do you have a plan in place to replace devices with non-mercury devices? See Appendix E for a listing of mercury sources.			
4. Do you have a committee or process in place to regularly review mercury use reduction/elimination progress for continuous quality improvement?			
5. Have you replaced mercury thermometers?			
6. Have you eliminated the practice of sending mercury thermometers home with patients (e.g., new mothers, oncology, pediatric)?			
7. Have you replaced mercury blood pressure units?			
8. Have you replaced other mercury-containing cantor tubes, dilators, others?			
9. Are you managing and recycling fluorescent bulbs?			
10. Have you implemented battery collection programs?			
11. Do you have a “purchasing policy statement” which bans the purchase of mercury containing items?			
12. Do you require a mercury disclosure on all products coming into your facility?			
13. Have you replaced any mercury containing lab chemicals? See Appendix E for a listing of mercury sources in the lab.			
14. Other: _____			

SECTION 5B: MERCURY SAMPLE ACTION PLANS

MERCURY	
Data Collection and Program Assessment Items	Issues to Consider – Sample Action Plan
Mercury Management	<p>Designate a mercury reduction team and identify its primary contact.</p> <p>Draft a corporate or facility policy statement that includes a resolution or pledge for the reduction and virtual elimination of mercury.</p> <p>Inventory and evaluate current mercury product/equipment practices at your facility.</p> <p>Evaluate alternatives to the mercury products/equipment currently being used.</p> <p>Label mercury-containing products to ensure proper use and disposal.</p> <p>Establish a mercury management policy that includes:</p> <ul style="list-style-type: none"> • Protocols for safe handling, including procedures for cleaning and refilling instruments containing mercury, • Mercury spill clean up procedures, • Disposal procedures such as recycling or regulated safe disposal of mercury and mercury containing devices to avoid disposal in the waste stream (including dental amalgam and other mercury containing items), • Education and training of employees about facility protocols, including information about mercury and its effects on human health and the environment, • A process to regularly review mercury use reduction/elimination progress for continuous quality improvement.
Mercury In Chemicals	<p>Phase out nonessential uses of mercury-containing chemicals in laboratories.</p> <p>Investigate alternatives to mercury preservatives (e.g., thimerosal, phenylmercuric acetate, phenylmercuric nitrate) found in pharmaceutical products (e.g., merbromin/water solution, ophthalmic and contact lens products, nasal sprays and vaccines).</p> <p>Establish a program to identify mercury content of cleaners and degreasers and choose mercury-free products, where possible.</p>
NOTES:	

SECTION 5B: MERCURY SAMPLE ACTION PLANS

MERCURY	
Data Collection and Program Assessment Items	Issues to Consider – Sample Action Plan
Community Health Initiatives	<p>Implement a voluntary “take back” program for employees or the community (e.g., thermometers, batteries).</p> <p>Develop case studies on your past experiences to share with other hospitals.</p> <p>Contribute information on mercury alternatives to the Sustainable Hospitals Project Web site.</p> <p>Educate staff and the community about the human health and environmental effects of mercury.</p> <p>Mentor another hospital in their evaluation of mercury at their facility.</p>
Mercury in Clinical Devices	<p>Replace mercury-containing thermometers with non-mercury equivalents (a limited number of mercury thermometers may be kept on-site for use in critical care applications).</p> <p>Phase out the use of mercury-containing blood pressure monitoring devices (sphygmomanometers).</p> <p>Phase out the use of mercury-containing gastrointestinal tubes (e.g., esophageal dilators, cantor tubes, miller abbot tubes, feeding tubes).</p> <p>Discontinue sending mercury thermometers home with newborns and other patients.</p>
Facilities	<p>Establish a program to replace mercury-containing electrical equipment (tilt switches, float switches, thermostats, reed relays, thermostat probes, plungers, and displacement relays) during facility remodeling/renovation programs.</p> <p>Establish procedures to remove historical mercury from sewer pipes, sumps and sink traps.</p> <p>Establish a recycling program for collection and disposal of fluorescent lamps.</p> <p>Substitute non-mercury alternatives for mercury-containing batteries and provide convenient collection points for recycling of mercury-containing batteries.</p>
Purchasing – Environmentally Preferable Purchasing Mercury-free Policies	<p>Develop a purchasing policy statement that bans the purchase of mercury containing items without prior approval (for example, where a non-mercury device or chemical is not available, the request to purchase should include a plan to manage the mercury safely and to collect all waste).</p> <p>Require mercury disclosure (i.e. certificate of analysis) on all products coming into the facility</p>
NOTES:	

SECTION 6: GREEN PURCHASING

Data Collection & Program Assessment Items	Issues to Consider – Sample Action Plan
Do you have “Environmentally Preferable Purchasing” policies and the ability to purchase preferable products through your vendors/GPO? <div style="text-align: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</div>	Adopt purchasing guidelines that encourage the use of environmentally friendly products and services. Request that vendors provide information on the environmental attributes of products they carry, including: <ul style="list-style-type: none"> • Recycled content • Reusable • Recyclable • Mercury content • PBT content • Others?
Please indicate whether each of the following environmentally-preferable purchasing practices are being implemented at your facility (<i>Answer “yes” even if the program is not fully implemented</i>):	Request that vendors provide environmentally preferable products if currently unavailable. Test new products or equipment that reduce mercury use or waste generation.
Reduced hazardous materials? <div style="text-align: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</div>	Are there less hazardous or non-hazardous alternatives?
Minimize packaging? <div style="text-align: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</div> Packaging that is recyclable/returnable or reusable? <div style="text-align: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</div>	Eliminate excess packaging in surgical packs and supply containers. Consider individually wrapped items when bulk surgical kits may increase unnecessary waste generation.
Products made from recycled content material (Office paper - at least 30% recycled content)? <div style="text-align: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</div>	Purchase products that contain recycled materials such as paper, containers, packaging, and cardboard.
Reusables vs. Disposables Linen <input type="checkbox"/> Yes <input type="checkbox"/> No Bedpans <input type="checkbox"/> Yes <input type="checkbox"/> No Suture Kits <input type="checkbox"/> Yes <input type="checkbox"/> No Others? <input type="checkbox"/> Yes <input type="checkbox"/> No	Assess opportunities to use reusables instead of disposables.
Supplies distributed in reusable shipping containers? <div style="text-align: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</div>	Order supplies in reusable totes. Use bulk-dispensing equipment. Use reusable shipping containers and pallets for general supplies.
Specific hazardous materials issues? Cadmium-free red bags <input type="checkbox"/> Yes <input type="checkbox"/> No Aerosols <input type="checkbox"/> Yes <input type="checkbox"/> No Pesticides <input type="checkbox"/> Yes <input type="checkbox"/> No	
Does your facility have a concern about PVC products? <div style="text-align: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</div>	See Appendix F for more PVC information and web links.
NOTES:	

SECTION 7: FACILITIES

Data Collection and Program Assessment Items	Issues to Consider – Sample Action Plan
<p>Do you have a policy in place to conserve energy and water? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do you use energy-efficient lighting? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do you use water-efficient equipment? <ul style="list-style-type: none"> • Low-flow toilets? <input type="checkbox"/> Yes <input type="checkbox"/> No • Recalculating water in labs? <input type="checkbox"/> Yes <input type="checkbox"/> No • Other? <input type="checkbox"/> Yes <input type="checkbox"/> No </p> <p>Do you educate your staff on the conservation efforts are you engaged in?</p>	<p>Incorporate energy-efficiency changes in your facility renovation programs.</p> <p>Install energy-efficient computer equipment, lights and appliances (follow U.S. EPA's Energy Star guidelines).</p> <p>Participate in EPA's Green Lights Program.</p> <p>Participate in EPA's Energy Star Program.</p> <p>Implement water conservation measures for the surgical scrub area (i.e., use automated or foot-operated faucets on scrub sinks).</p>
<p>Are housekeeping and facilities staff trained to minimize the use of cleaning products, solvents and chemicals? Are they trained to handle and dispose of it safely, including using proper spill procedures? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Is there an EPP policy to minimize or eliminate mercury, chlorine, or phosphate-free cleaning products? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Purchase maintenance and housekeeping chemicals in concentrated form for dilution onsite. See Janitorial Products and Pollution Prevention website: http://www.wrppn.org/Janitorial/jp4.cfm</p> <p>Identified and, where feasible, phased out the use of cleaning and maintenance products that contain toxic substances such as metals (mercury, copper, zinc, or chromium), solvents, and try-butyl tin.</p>
<p>Do you use mercury-free motion switches? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do you use mercury-free temperature gauges? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Is all mercury-containing facility equipment labeled for proper disposal and are non-mercury alternatives when replaced? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>See the Making Medicine Mercury Free Checklist at www.h2e-online.org/pubs/checklist.pdf.</p> <p>Also see the Mercury Virtual Elimination Plan for a comprehensive list of mercury elimination projects, available at http://www.h2e-online.org/pubs/mercurywaste.pdf.</p>
<p>Do you have an integrated pest management plan that reduces to the greatest extent possible the use of chemical pesticides? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Xeriscape, or use landscape with slow-growing, drought tolerant native plants to reduce water and chemical inputs.</p>
<p>Does your facility have a policy on using water-based paints? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do you collect your paint thinner (check with your hazardous waste hauler on recycling options?) <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	
<p>NOTES:</p>	