EVALUATION OF THE EPA HOSPITALS FOR A HEALTHY ENVIRONMENT PROGRAM

Final Report

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EXECUTIVE SUMMARY

Background

The Hospitals for a Healthy Environment (H2E) program was launched in 1998 when EPA and the American Hospital Association (AHA) signed a landmark Memorandum of Understanding (MOU) to advance waste reduction and pollution prevention efforts in the nation's hospitals. That MOU calls for hospitals to:

- Virtually eliminate mercury-containing waste from the hospitals' waste streams by 2005.
- Reduce the overall volume of waste (both regulated and non-regulated) by 33 percent by 2005 and by 50 percent by 2010.
- Identify hazardous substances for pollution prevention and waste reduction opportunities.

Using a team effort approach, H2E and its collaborators are working toward reaching these goals primarily through a voluntary, education-based programs with H2E's partners and endorsers.

As part of an evaluation of the effectiveness of H2E in reaching its objectives, EPA hired an independent contractor to answer six program evaluation questions:[1]

- What measurable environmental outcomes related to mercury reductions can H2E partner hospitals show?
- What measurable environmental outcomes related to non-mercury reductions can H2E partner hospitals show?
- What types of environmental activities related to mercury reductions are H2E partner hospitals engaged in?
- What types of environmental activities related to non-mercury reductions are H2E partner hospitals engaged in?
- How satisfied are H2E partners with key elements of the H2E program?
- How can the H2E program be improved in terms of the services it offers?

This analysis seeks to address these six questions and make recommendations based on the answers. The report uses three data sources:

- A survey completed by AHA during the summer of 2005 (the AHA survey) of hospitals involving a sample of both partners and non-partners of the H2E program.
- Data from H2E Facility Assessment and Goal Summary Report forms submitted to the program by partners (Facility Assessment form data).

[1] The original evaluation design developed by EPA revolved around four primary evaluation questions. Based on available data, EPA and ERG determined that two of those questions could be broken into two questions each.

- A customer satisfaction survey (CSS) of H2E partner hospitals developed and implemented as part of this evaluation, completed in December 2005.

Conclusions Drawn from Data Sources

ERG examined the data available from the three data sources and related those data to the evaluation questions posed above. We draw five general conclusions from the data:

(1) **The H2E program has developed a product that has met the needs of its customer base.** The results of the CSS are clear: hospitals involved in the H2E program are satisfied with the program as a whole and with the various components of the program. Overall, 64 percent of respondents to the CSS indicated that they were "very satisfied" with the program and 99 percent indicated that they were either "very" or "somewhat" satisfied with the program. Only one percent of the respondents (two respondents in total) indicated some level of dissatisfaction with the overall program. Table ES-1 presents other results from the CSS to highlight the high level of satisfaction with the H2E program.

Table ES-1. Partner Satisfaction With The H2E Program and Various Components Of The Program

Service	Percentage of All Respondents That Utilize The Service[a]	Reported Level of Satisfaction[b]		
		Very Satisfied	Somewhat Satisfied	Somewhat or Very Dissatisfied
H2E program overall	100%	64%	35%	1%
Listserv	96%	44%	44%	1%
Teleconferences	52%	69%	31%	0%
Technical assistance	50%	91%	9%	0%
Web site	88%	52%	26%	1%
Newsletter	79%	44%	30%	2%

[a] Partners that did not use the service were not asked the satisfaction questions.
[b] The third response option of "did not utilize enough to rate this service" is not presented in this table.

(2) **Almost all hospitals have taken actions, or are taking actions, to virtually eliminate mercury.** According to the AHA survey, more than 75 percent of hospitals indicated that they have virtually eliminated most mercury-containing devices and more than 90 percent have at least taken steps to eliminate those devices. Thus, hospitals as a whole are well on their way to becoming virtually mercury free. It should be noted, however, that H2E partners were no more likely to take actions to virtually eliminate mercury than non-partners.

(3) **Compared to non-partners, H2E partners have tended to take more actions that lead to successful outcomes.** There are a number of things that hospitals can do that, while not outcomes in themselves, will lead to successful outcomes in the future. Examples of these actions include implementing policies, procedures, or programs geared

toward improving environmental outcomes. The data reviewed for this analysis indicated that significantly more H2E partners tended to do more of these things than non-partners.

(4) **It is not possible to isolate the effect of the H2E program given the available data.** Although the data indicate that H2E partners tend to reduce waste and perform activities that can lead to positive environmental outcomes more than non-partners, it is not possible to attribute these results solely to the H2E program. Some level of self-selection may be involved.

(5) **It is not possible to generate representative estimates of reduced waste for partners.** The Facility Assessment form data asks partners for the necessary data to make an evaluation. However, too few assessments have been collected to make those data useful for analysis.

Relating Evaluation Results to H2E Goals

As noted above, the H2E program has three goals identified in the MOU that created the program. The results from the evaluation provide some insight into the first, but less into the second and third:

- **Virtually eliminate mercury-containing waste from the hospitals' waste streams by 2005.** The data from the AHA survey provides substantial evidence that hospitals are well on their way to virtually eliminating mercury. It is also clear, however, that mercury-containing devices have not been completely eliminated by hospitals at the time of this report and are thus most likely still in hospitals' waste streams.

- **Reduce the overall volume of waste (both regulated and non-regulated) by 33 percent by 2005 and by 50 percent by 2010.** The Facility Assessment form data would be able to provide some evidence toward this goal for H2E partners, but, as discussed above, those data are not reliable enough to provide a valid estimate. Thus, little evidence was provided to suggest whether this goal has been attained.

- **Identify hazardous substances for pollution prevention and waste reduction opportunities.** None of the three data sources provides much information on the "identification" of hazardous substances, but there is some evidence that actions have been taken to reduce hazardous substances.

Recommendations

Based on the results of the evaluation, ERG has developed six recommendations for the H2E program:

(1) **Use the results of this evaluation for strategic planning purposes.** In particular, the evaluation results related to customer satisfaction can be used in developing performance measures for the program, such as either maintaining the high level of satisfaction measured by the CSS or setting a goal of increasing the proportion that are "very satisfied" with the program. Additionally, the evaluation has found that the collection of the Facility Assessment form is lacking. Thus, another objective that the H2E program can set would be related to improving its collection of data from partners.

(2) **Focus on what customers liked and where improvements are still needed.** The CSS found that 99 percent of respondents are either very or somewhat satisfied with the

program in general. Respondents also indicated a high degree of satisfaction with several program components. These high marks are strong indications of overall customer satisfaction. The H2E program should not, however, become complacent following these strong results. The open-ended CSS survey questions provide information that H2E can draw from to better understand partner likes and where partners think improvements can be made. Some suggestions for improvement included simplifying the awards application process, reducing the high volume of e-mails from the listserv, and varying the times for the teleconferences.

(3) **Make a strong effort to collect baseline and annual follow-up Facility Assessment form data from current partners.** The program should make an effort to improve the collection of Facility Assessment form data. This data from this form would provide a good source of information to measure results associated with non-mercury waste reductions.

(4) **Collect baseline and annual follow-up data from new partners.** Hospitals that join the program in the future offer H2E the opportunity to collect Facility Assessment Form data. Given the current state of the Facility Assessment Form data, H2E should make it a priority to collect data from new partners at a minimum.

(5) **Develop a method of normalizing the data collected from the Facility Assessment form.** Comparing or combining raw waste reduction numbers across hospitals is not an accurate method of estimating waste reduction. Hospitals differ in size and in how busy they are. H2E should develop an approach to normalizing its data and use that approach consistently.

SECTION ONE: INTRODUCTION

The EPA H2E program is a voluntary program that was formed as a partnership between EPA and the American Hospital Association (AHA) through a Memorandum of Understanding (MOU) on June 24, 1998. Along with EPA and AHA, Healthcare Without Harm and the American Nurses Association (ANA) act as sponsors for the program. Hospitals and other healthcare-related facilities (e.g., clinics, nursing homes) can join the program as either "partners" or "champions." According to the H2E Web site:

- "Partners are health care facilities who commit to making changes in their facilities that protect community and environmental health."

- "Champions are organizations that encourage and aid health care facilities to participate as H2E partners and/or who make changes in their own institutions that support the goals of the H2E Program."

As of March 27, 2006, the H2E program had more than 1,100 partners (representing more than 6,300 facilities) and more than 100 champions. The partner facilities included more than 1,300 hospitals, which are the primary focus of this report.

The overall goal of the program is to reduce the impact of health care facilities on the environment. The MOU, however, set three specific goals:

- Virtually eliminate mercury-containing waste from the hospitals' waste streams by 2005.

- Reduce the overall volume of waste (both regulated and non-regulated) by 33 percent by 2005 and by 50 percent by 2010.

- Identify hazardous substances for pollution prevention and waste reduction opportunities.

To attain its goals, H2E has developed a number of programs and tools available to members and non-members. The resources available include:

- Two listservs, one which allows registered participants to share information that can facilitate environmental improvement and another that is reserved for announcements from the H2E program.

- Periodic teleconferences that cover a number of topics related to reducing the impact of healthcare services on the environment.

- Technical assistance provided over the phone to assist partners with implementing and assessing environmental improvements.

- A Web site that provides access to numerous technical documents and links to other Web sites that could provide useful information on reducing health-care related environmental impacts.

- A newsletter (distributed via e-mail) that provides news and information related to the program.

- An awards ceremony program where the outstanding achievements of partners and champions are highlighted and awarded each year.

EPA's Office of Planning, Analysis, and Accountability (OPAA) and Office of Policy, Economics, and Innovation (OPEI) are interested in assessing the results of the H2E program. To perform this evaluation, EPA contracted with Eastern Research Group (ERG) through a subcontract with Industrial Economics of Cambridge, MA.

This document provides the results of ERG's evaluation of the H2E program. The original evaluation design developed by EPA was based on four questions:

(1) What measurable environmental outcomes (particularly mercury reductions) can H2E partner hospitals show?

(2) What types of environmental activities are H2E partner hospitals engaged in?

(3) How satisfied are H2E partners with key elements of the H2E program?

(4) How can the H2E program be improved in terms of the services it offers?

In developing the methodology for the evaluation, EPA and ERG agreed that the first two of these questions could be divided into mercury-related and non-mercury-related versions because (a) the reduction of mercury has been a priority for H2E and (b) two data sources have asked very specific questions on mercury reduction. Thus Question 1 became:

(1A) What measurable environmental outcomes related to mercury reductions can H2E partner hospitals show?

(1B) What measurable environmental outcomes related to non-mercury reductions can H2E partner hospitals show?

Additionally, Question 2 became:

(2A) What types of environmental activities related to mercury reductions are H2E partner hospitals engaged in?

(2B) What types of environmental activities related to non-mercury reductions are H2E partner hospitals engaged in?

This analysis seeks to answer these six questions and make recommendations based on the answers. The report uses three data sources:

- A survey completed by AHA during the summer of 2005 (the AHA survey).

- Baseline and updated data from H2E's Facility Assessment and Goals Summary Report forms (Facility Assessment form data) submitted to H2E.

- A customer satisfaction survey (CSS) completed in December 2005.

ERG discusses these data sources in Section 2 of this report and examines each sources limitation and ability to answer the evaluation questions. Of the three data sources, only the CSS was developed for this report. The FA form data are maintained by the H2E program and the AHA survey was conducted by the American Hospital Association. Thus, this evaluation relies on two secondary data sources (the AHA survey and the FA form data) and one primary data source (the CSS).

Section 3 of this report discusses how the data sources are used to answer the evaluation questions. Specifically, data elements from each source are linked to each evaluation question. Additionally, Section 3 provides a discussion of the methods used in developing the CSS. Section 4 of the report provides the results of the evaluation and Section 5 provides recommendations based on those results.

SECTION TWO: DATA SOURCES

This section discusses the data sources being used for this evaluation. The section begins by discussing the three main data sources and then briefly discusses the sampling methods for the Customer Satisfaction Survey (CSS).

2.1 Description and Characterization of Data Sources

There are three data sources used in evaluation:

- *H2E Customer Satisfaction Survey.* A survey designed to collect statistically valid data on H2E partners' satisfaction with various aspects of the H2E program.[2]

- *American Hospital Association Mercury Reduction and Elimination Survey.* A survey conducted by the AHA of its members asking a series of questions on mercury reduction and elimination. The survey included a question to differentiate between AHA members that are H2E partners and non-partners, which will allow for a comparative evaluation between the two groups.[3]

- *H2E Annual Facility Assessment and Goal Summary Report Form Data.* Data collected by the H2E program when hospitals join the program and annually thereafter. This is referred to as the Facility Assessment (FA) form data throughout this report.[4]

Table 2-1 summarizes the three data sources with respect to a number of key characteristics:

- Description—a brief description of the data source.

- Target populations—the groups that the data source focuses on.

- Time frame—when the data were collected.

- Number of data points—the number of usable observations in the data.

- Nonresponse—potential or actual nonresponse in the data source.

- Collection methods—brief description of how the data were collected.

- Statistical properties/data validity—whether or not the data were or will be collected using statistical designs and the implications for data validity.

- Biases—any actual or potential biases that will affect the data.

- Evaluation notes—a brief indication of evaluation-related considerations for each data source.

[2] The sampling plan for this survey appears in Appendix A, the survey instrument appears in Appendix B, and detailed responses to the survey are in Appendix C.
[3] A copy of the survey instrument used by AHA appears in Appendix D of this report.
[4] Data were extracted from this sources in January 11, 2006 for use in this analysis. A copy of the data collection form used by H2E appears in Appendix E of this report.

Table 2-1. Summary of Data Sources Used for Analysis of H2E Program

Criteria	AHA Mercury Survey	H2E Facility Assessment Form	H2E Customer Satisfaction Survey
Description	Survey performed by the AHA to collect data on the mercury use and reduction of AHA member hospitals.	Data requested from facilities as part of H2E membership. Data requested includes information on: • Basic facility information • Waste generation • Mercury-related policies • Environmental policies • H2E goals	Survey developed for this project; asks H2E member hospitals about their satisfaction with H2E products and services.
Target population(s)	AHA member hospitals that are either H2E partners or non-partners.	All H2E partners. The analysis for this evaluation only focuses on hospitals, however.	Hospitals that are H2E partners.
Time frame	Spring and summer of 2005.	Facilities are asked to submit data at the time they join and then each year thereafter.	Conducted November 23, 2005 through December 19, 2005.
Number of data points	472 total hospitals: • 244 H2E partners • 228 non-H2E partners	134 facilities have submitted at least one year of data. However, to perform a before-after analysis, at least two years of data are necessary; only 60 hospitals have submitted more than one year of data. Section 3.3 of this report discusses additional issues that reduce the number of hospitals with usable and comparable data to less than 60 for each waste category.	135 hospitals, randomly selected.
Response	Unknown. AHA distributed the survey through multiple modes, including faxing to potential respondents and announcing on a listserv. Given this, it is not possible to calculate a response rate.	Poor. The 134 facilities represent only 10.8 percent of the total number of partner hospitals (1,240 as of 1/11/06). Thus nonresponse is 89.2 percent. Additionally, only 60 facilities have submitted more than one year of data. Thus, 95.2 percent of partners have submitted either no data or only one year of data.	27 percent response rate. Even though this is a low response rate, a large number of dialed contacts were not reached and therefore not a likely source of bias. Of those facilities where a representative was spoken with, 68 percent completed the survey. Section 3.2.3 of this report discusses response rates for the CSS in more detail.
Collection methods	Surveys distributed by e-mailing and/or faxing copies of the survey to hospitals. The hospitals then responded by mailing the survey back to AHA.	Voluntarily submitted by H2E partners when the hospital joins and annually thereafter.	Telephone survey.
Statistical properties/data validity	Unknown. AHA implemented the survey by distributing through multiple modes, including faxing to potential respondents and announcing on a listserv. Given this, the AHA survey does not have well-defined statistical properties and assessing the data validity would not be possible.	Not applicable. Data collection is meant to be for the population of H2E partners.	Sample designed using statistical sampling techniques (power analysis). See Section 3.2 of this report and the sampling plan in Appendix A of this report.

Table 2-1 (continued)

Criteria	AHA Mercury Survey	H2E Facility Assessment Form	H2E Customer Satisfaction Survey
Potential biases	Nonresponse. Those responding to the survey may be more active in eliminating mercury. Without information on nonresponse rates, the extent of this potential bias is difficult to gauge. Thus data collected through this survey may reflect self-selection.	Potentially, hospitals with more comprehensive environmental programs before joining will submit baseline data and those that are actively pursuing H2E goals are more likely to submit follow up data. Additionally, according to the H2E program, most of those submitting data were applying for H2E awards and thus represent the "best" facilities. Thus, data would be biased toward better performers.	27 percent response rate. Even though this is a low response rate, a large number of dialed contacts were not reached and therefore not a likely source of bias. Of those facilities where a representative was spoken with, 68 percent completed the survey.
Evaluation notes	• Allows for comparison of H2E partners and non-partners for topics covered in the survey. • Potential biases may influence results of comparing partners to non-partners. Specifically, without knowing the response rate or statistical properties of the data, it may not be possible to make valid, reliable comparisons.	• Allows for comparison of a baseline year to a follow-up year for partners that have submitted more than one year of data. • Significant nonresponse, however, will lead to biased estimates of the impact of the program on partners. • Most of those submitting data were applying for H2E awards and thus represent the "best" facilities.	• Specifically designed to provide a valid measure of customer satisfaction with the program. • Does not allow for comparison of H2E partners and non-partners.

2.2 Limitations of Data Sources

The limitations associated with each data source are discussed below.

2.2.1 AHA Mercury Reduction and Elimination Survey

This survey was implemented in May 2005, prior to the program evaluation kick-off, and has been completed.[5] Per an EPA request, AHA inserted a question asking whether the respondent was a H2E partner, which will allow for comparison between H2E partners and non-partners. EPA was unable to influence the content of the survey to a large degree due to the timing of this evaluation and the AHA survey. AHA did allow EPA to add a small number of other questions to the survey.

The original design for this evaluation called for use of the raw data from the AHA survey. AHA was unwilling to provide EPA with access to the raw data. AHA did, however, provide EPA with the tabulations for each of the questions broken down between H2E partners and non-partners. Additionally, AHA also committed to performing other tabulations of the data for EPA upon request.

Finally, to the best of ERG's knowledge, the AHA survey did not employ statistical methods in designing the sample and did not employ standard survey implementation techniques in implementing the survey. The first of these issues is mitigated to some degree by the fact that AHA targeted all members of the AHA with the survey. Implementation issues, however, may be more significant. Specifically, the survey was distributed by multiple means (listserv announcements, fax, etc.) with little or no tracking of respondents. Thus, it is unclear whether some facilities appear more than once in the final data.[6]

2.2.2 H2E Facility Assessment Form Data

As of January 11, 2006, there were 1,240 partner hospitals. However, only 134 of those facilities submitted at least one year of FA form data. To perform a before-after analysis, at least two years of data are necessary; but only 60 hospitals have submitted more than one year of data. Section 3.3 of the methods section of this report discusses the usability of those data in more detail. Further discussion with H2E staff also indicates that much of the data collected through the FA form are submitted by hospitals applying for awards. As such, this indicates a potential bias in the collected data toward hospitals that are reducing waste and implementing the program components.

Concurrent to this evaluation, H2E is completing a waste management report based on the data from the facility assessment reports. H2E's initial analysis of the collected data indicates substantial variability among the hospitals, which has presented issues in interpreting their analysis. The reasons for this variability include:

- Hospitals do not have a common method to normalize the data to allow for comparisons. Examples of this include:
    - Licensed beds versus occupied beds can differ greatly.
    - Hospitals in larger systems (e.g., Veterans Administration) tend to have their own units that do not correspond to other systems.

[5] AHA did work with EPA and H2E staff in designing the survey, but the needs of this evaluation were not part of the AHA survey design.

[6] The AHA survey did ask each respondent for its unique AHA identification number so it is unlikely that duplication occurred.

- Waste generation is dependent upon the type of activities at the hospitals (e.g., trauma centers, surgeries, teaching hospital).

- Outlier sources of waste generation, such as construction/demolition, are often included without explanation.

2.2.3 H2E Customer Satisfaction Survey

EPA received approval from the Office of Management and Budget (OMB) to conduct a customer satisfaction survey of the H2E program as part of this evaluation. The approved survey instrument appears in Appendix B of this report. The OMB approval was under the OPEI generic customer service information collection request, which does not allow behavioral-type questions. However, the design of the survey does allow us to gauge partner satisfaction with the H2E program and specific elements, such as the program Web site and training calls.

SECTION THREE: METHODS USED TO ANSWER EVALUATION QUESTIONS

This section relates the data sources discussed in Section 2 to the evaluation questions and discusses the methods used in analyzing the data. Section 3.1 provides a detailed link between each of the six evaluation questions and data elements in each of the three data sources. Section 3.2 summarizes the methods used in the CSS and Section 3.3 discusses the usability of the Facility Assessment form data.

3.1 Linking Data Sources and Evaluation Questions

This section links the evaluation questions identified in the introduction to this report to the data sources discussed in Section 2. The purpose of this section is to show how the data sources can be used to answer the evaluation questions. This is done by linking each evaluation question to data elements (e.g., survey questions) in each data source. The set of data elements for each evaluation question are summarized in a series of tables in Section 3.1.1. Section 3.1.2 summarizes the available information for each evaluation question.

3.1.1 Data Relationship Tables

As discussed in Section 2, three data sources are available for use in the H2E program evaluation:

- The American Hospital Association Mercury Reduction and Elimination Survey.
- The H2E Customer Satisfaction Survey.
- H2E Facility Assessment form data.

ERG's evaluation strategy focuses on relating these data sources to the six evaluation questions. To identify how the data sources can answer each question, ERG developed six tables, one for each H2E program evaluation question. This approach allows us to determine what aspects of each evaluation question can be answered given the available data. These tables contain two columns: the first contains the survey questions from the Facility Assessment forms, AHA survey, or H2E CSS and the second contains the details on how the data can be used to answer the evaluation questions.

The tables are organized as follows:

- Table 3-1 links the data from three sources to Question 1A: What measurable environmental outcomes related to mercury reductions can H2E partner hospitals show?
- Table 3-2 links the data from three sources to Question 1B: What measurable environmental outcomes related to non-mercury reductions can H2E partner hospitals show?
- Table 3-3 links the data from three sources to Question 2A: What types of environmental activities related to mercury reductions are H2E partner hospitals engaged in?
- Table 3-4 links the data from three sources to Question 2B: What measurable environmental outcomes related to non-mercury reductions can H2E partner hospitals show?
- Table 3-5 links the data from three sources to Question 3: How satisfied are H2E partners with key elements of the H2E program?

- Table 3-6 links the data sources from three data sources to Question 4: How can the H2E program be improved in terms of services it offers?

- Table 3-7 identifies information from the three data sources that are supporting data to answer the above questions.

Table 3-1. Data Available to Answer "What Measurable Environmental Outcomes Related to Mercury Reductions Can H2E Partner Hospitals Show?"

Data Element (Survey Questions)*	Responses That Provide Evidence to Answer the Evaluation Question
AHA Q6. Has your facility virtually eliminated the use of mercury-containing clinical devices (discontinued distribution to patients, new mothers, and through hospital pharmacy)? • Thermometers • Sphygmomanometers • Bougies • Miller-Abbott Tubes • Cantor Tubes • Dilators • Other	• Answering "yes, completely eliminated," "yes, replaced with plan for eliminating remainder," or "some replacement, with plan for eliminating remainder" indicates environmental outcomes of varying degree, with the strongest being the first and the weakest the last.

* Data source is identified by the following codes: AHA = American Hospital Association Survey.

Table 3-2. Data Available to Answer "What Measurable Environmental Outcomes Related to Non-mercury Reductions Can H2E Partner Hospitals Show?"

Data Element (Survey Questions)*	Responses That Provide Evidence to Answer the Evaluation Question
FA Section 3. Facility Waste Assessment Summary (baseline and current year) provided in tons/year: • Solid waste • Recycling/reuse • Regulated medical waste • Hazardous waste	• Provides quantified information to calculate the changes in waste types and/or increases in recycling and reuse between the baseline and current year. • Provides quantified percentages of waste management between the baseline and current year (e.g., percent of waste recycled/reused; changes in the amount of regulated medical waste vs. solid waste).

* Data source is identified by the following code: FA = H2E Facility Assessment form.

Table 3-3. Data Available to Answer "What Types of Environmental Activities Related to Mercury Reductions Are H2E Partner Hospitals Engaged In?"

Data Element (Survey Questions)*	Responses That Provide Evidence to Answer the Evaluation question
AHA Q1. Did you know about these problems with mercury and why AHA, in conjunction with EPA, is committed to helping its members find alternatives to mercury-containing products?	• Answering "very aware—have taken significant steps to reduce or eliminate mercury," "aware—have taken some steps to address the issue but have more work to do," or "some what aware—are just beginning to address the issue" indicates engagement of the hospital in mercury activities with a varying degree, with the strongest being the first and the weakest the last.
AHA Q2. Mercury policies that reflect programs, operations and/or commitment. Please check all of the following that apply: • Established a facility policy statement that calls for the reduction and virtual elimination of mercury. • Established a purchasing policy that bans the purchase of products containing mercury unless no effective substitute is available. • Established mercury management policy that ensures safe handling of mercury that is either still in use, or might show up in the facility. • Other.	• Checking off any of the mercury statements indicates that the hospital is engaged in mercury reduction activities.
AHA Q7. Have you inventoried, labeled or replaced all mercury-containing gauges, switches, and other devices?	• Answering "yes, replaced all devices," "almost there – inventoried all devices, labeled them as mercury containing, and replaced some with plan to replace," "just got started inventoried all devices and labeled them as mercury containing" indicates engagement of the hospital in mercury elimination activities to a varying degree, with the strongest being the first and the weakest the last.
AHA Q8. Do you recycle fluorescent bulbs as an ongoing program?	• Answering "yes recycling all fluorescent lamps," "almost there, recycle some," or "just getting started" indicates engagement of the hospital in waste management behavior changes to a varying degree, with the strongest being the first and the weakest the last.
AHA Q9. Recycling mercury-containing button and other mercury batteries on an ongoing basis?	• Answering "yes recycling all mercury batteries," "almost there, recycle some," or "just getting started" indicates engagement of the hospital in mercury/waste management activities to a varying degree, with the strongest being the first and the weakest the last.
AHA Q10. Please check the box that most accurately describes the assessment and replacement of mercury-containing chemicals at your facility: • Purchase mercury-free laboratory chemicals • Purchase mercury-free pharmaceuticals • Purchase mercury-free housekeeping chemicals	• Answering "yes have replaced all," or "yes, replaced some and assessing other products" indicates an engagement of the hospital in mercury reduction activities with a varying degree with the strongest being the first and the weakest the last.

* Data source is identified by the following codes: AHA = American Hospital Association Survey.

Table 3-4. Data Available to Answer "What Types of Environmental Activities Related to Non-Mercury Reductions Are H2E Partner Hospitals Engaged In?"

Data Element (Survey Questions)*	Responses that Provide Evidence to Answer the Evaluation Question
AHA Q4. Does your facility have any waste reduction policies, plans, or programs in place?	• Answering "yes, waste reduction policy in place and program underway," "yes, waste reduction policy, but no formal plan/program yet," or "just getting started on waste reduction, no policy or program" indicates engagement of the hospital in waste management activities to a varying degree, with the strongest being the first and the weakest the last.
AHA Q11. Since 1998, please indicate how significant your waste reduction efforts have been in terms of achieving positive results in each of the following waste categories: • Regulated medical waste • Recycling • Other solid waste reduction (e.g., reuse, source reduction) • Hazardous chemical minimization	• Answering "yes, very significant" or "somewhat" indicates an engagement of the hospital in waste management reduction strategies with a varying degree with the strongest being the first and the weakest the last.
AHA Q12. Does your facility keep track of your waste data to better understand the volume and cost of each waste stream to help prioritize programs and reduce costs?	• Answering "yes, we track waste generation" indicates an engagement of the hospital in waste reduction activities.
AHA Q13. Does your facility use a waste-tracking program?	• Answering "yes" indicates the hospital implemented a waste management behavior change.

* Data source is identified by the following codes: AHA = American Hospital Association Survey.

Table 3-5. Data Available to Answer "How Satisfied Are H2E Partners with Key Elements of the H2E Program?"

Data Element (Survey Questions)*	Responses That Provide Evidence to Answer the Evaluation Question
AHA Q3. If your facility has taken one or more actions to reduce mercury, please indicate how influential each of the following factors was in your decision to take these actions: • Information provided by the national H2E program • Information from colleagues, state hospital associations, state programs, or other organizations • Public advisories against eating mercury contaminated fish • Federal, state, or local regulations on mercury elimination	• Answering on a scale of "very influential," "somewhat," "not very," "not at all," or "N/A" the question about H2E will indicate the varying degree to which the hospital (which may or may not be an H2E partner; see AHA Q16) utilizes the information from H2E.
CSSQ2. Could you tell me how often you use the Web site?	• Complementary data for CSSQ3 and CSSQ5.
CSSQ3. How do you rate your satisfaction level with the H2E Web site?	• Indicates the degree to which H2E partner hospitals are satisfied with the Web site.
CSSQ5. What is the most useful part of the Web site?	• Anecdotal evidence on what parts of the Web site participants are most satisfied with.
CSSQ7. How often do you read the H2E's Stat Green newsletter?	• Complementary data for CSSQ8.
CSSQ8. How do you rate your satisfaction level with the newsletter?	• Indicates the degree to which H2E partner hospitals are satisfied with the newsletter.
CSSQ10. How often do you read e-mails from the H2E Information Exchange listserv?	• Complementary data for CSSQ11.
CSSQ11. How do you rate your satisfaction level with the listserv?	• Indicates the degree to which H2E partner hospitals are satisfied with the listserv.
CSSQ13. Can you tell me how many times you have participated in an H2E teleconference in the past year?	• Complementary data for CSSQ15.
CSSQ15. On average, how do you rate the H2E teleconferences that you've participated in?	• Indicate the degree to which H2E partner hospitals are satisfied with the teleconference service.
CSSQ18. Can you tell me how many times you have called the H2E technical assistance hotline or called H2E staff directly in the past year?	• Complementary data for CSSQ19.
CSSQ19. On average, how do you rate your level of satisfaction with services you obtained from calling H2E staff or the hotline?	• Indicates the degree to which H2E partner hospitals are satisfied with telephone technical assistance from H2E hotline staff.
CSSQ29. On a scale of 1 to 4, with 4 being the most satisfied, how would you rate your level of satisfaction with the H2E program in general?	• Indicates the degree to which H2E partner hospitals are satisfied with the H2E program overall.
CSSQ30. What is the best part of being an H2E partner?	• Anecdotal evidence on what partners find valuable about the program.

* Data source is identified by the following codes: AHA = American Hospital Association Survey; CSS = Customer Satisfaction Survey.

Table 3-6. Data Available to Answer "How Can the H2E Program Be Improved in Terms of Services It Offers?"

Data Element (Survey Questions)*	Responses That Provide Evidence to Answer the Evaluation Question
AHA Q17. If your facility is not an H2E partner, what are the main reasons you haven't joined H2E?	• Answering of "hadn't heard of H2E" indicates that more program promotion is needed. • Answering of "not enough incentive to join," "already taken steps to reduce mercury," "too many requirements," or "takes too much time" indicates areas where the program may need to refocus efforts to increase membership.
CSSQ2. Could you tell me how often you use the Web site?	• Complementary data for CSSQ4 and CSSQ6.
CSSQ4. What are your main reasons for being dissatisfied with the Web site?	• Anecdotal insight into the sources of dissatisfaction which indicates where the Web site can be improved.
CSSQ6. Can you think of any improvements to the H2E Web site that can increase your level of satisfaction with this service?	• Direct input on how the Web site can be improved.
CSSQ7. How often do you read the H2E's Stat Green newsletter?	• Complementary data for CSSQ9
CSSQ9. Can you think of any improvements to the H2E newsletter that can increase your level of satisfaction with this service?	• Direct input on how the Web site can be improved.
CSSQ10. How often do you read the e-mails from H2E's Information Exchange listserv?	• Complementary data for CSSQ12.
CSSQ12. Can you think of any improvements to the H2E listserv that can increase your level of satisfaction with this service?	• Direct input on how the listserv can be improved.
CSSQ13. Can you tell me how many times you have participated in an H2E teleconference in the past year?	• Complementary data for CSSQ14 and CSSQ16.
CSSQ14. Can you think of any changes to the H2E teleconferences that would increase your likelihood of participating?	• Direct input on how the teleconference training could increase participation.
CSSQ16. Can you think of any improvements to the teleconferences that can increase your level of satisfaction with this service?	• Direct input on how the teleconferences can be improved.
CSSQ17. Can you think of any additional topics that would increase your level of satisfaction with the teleconferences?	• Direct input on how the teleconferences can be improved.
CSSQ18. Can you tell me how many times you have called the H2E technical assistance hotline or called H2E staff directly in the past year?	• Complementary data for CSSQ20.
CSSQ20. Can you think of any improvements that would increase your level of satisfaction with H2E staff or the hotline?	• Direct input on how the telephone technical assistance can be improved.
CSSQ23. Have you ever applied for an H2E award?	• Complementary data for CSSQ24.
CSSQ24. Can you think of any changes to the awards process that would increase your likelihood of participating?	• Direct input on how the awards program can be improved to increase participation.
CSSQ25. As you may know, every hospital participating in the H2E program is asked to submit a baseline Facility Assessment Form and to submit updated forms periodically. Do you recall whether you have submitted any of these forms?	• Complementary data for CSSQ26.
CSSQ26. Can you think of any improvements to the data collection process or the forms themselves that would increase your level of satisfaction with this part of the program?	• Direct input on how the facility form data collection can be improved.

Table 3-6 (continued)

Data Element (Survey Questions)*	Responses That Provide Evidence to Answer the Evaluation Question
CSSQ27. H2E may expand the program to include information about energy conservation. Would that increase your level of satisfaction with the program?	• Answering "yes" indicates that the partner hospital would be interested in H2E expanding into this area.
CSSQ27. H2E may expand the program to include information about water conservation. Would that increase your level of satisfaction with the program?	• Answering "yes" indicates that the partner hospital would be interested in H2E expanding into this area.
CSSQ31. What do you like the least about being an H2E partner?	• Anecdotal evidence of what partners are dissatisfied with.

* Data source is identified by the following codes: AHA = American Hospital Association Survey; CSS = Customer Satisfaction Survey.

Table 3-7. Supporting Data Available

Data Element (Survey Questions)*	Responses That Provide Evidence to Answer the Evaluation Question
FA Section 2: Facility Information. • Inpatient/hospital: adjusted patient days per month • Inpatient/hospital: # of beds • # outpatient visits • Long term care: # of beds • Long term case: # of staff	• Statistics can be used to adjust outcomes to make them comparable across facilities.
AHA Q16. Are you an H2E partner ?	• Useful statistic to analyze the difference between H2E partner and non-partner answers.
CSSQ1. How familiar are you with the H2E program?	• Designed to make sure the targeted audience (partner hospitals that utilize H2E resources) answers the survey.

* Data source is identified by the following codes: FA = H2E Facility Assessment form; AHA = American Hospital Association Survey; CSS = Customer Satisfaction Survey.

3.1.2 Summary of Relationships Between Evaluation Questions and Data Sources

This section summarizes the tables provided in Section 3.1.1 and identifies what can be evaluated, in general terms, for each evaluation question, given the available data. Table 3-8 provides a summary of the numbers of data elements that can be used to answer the evaluation questions. In this context, a data element is the responses to the questions provided in the Facility Assessment Form, AHA survey, and customer satisfaction survey. The data elements generally correspond to a row in Tables 3.1 to 3.6. The numbers of data elements for each evaluation question are derived from the tables in Section 3.1.1.

The information in Table 3-8 provides an indication of the relative importance of the Facility Assessment form to each of the six evaluation questions. As noted above, and as will be discussed in Section 3.3, the Facility Assessment form data may be limited and biased. Relying on that data to draw evaluation conclusions may limit what can be concluded. Based on the data relationship tables (Tables 3-1 to 3-6), only one evaluation question is affected by poor data from the FA form: Question 1B, what measurable environmental outcomes related to non-mercury reductions can H2E partner hospitals show?

In fact, without the Facility Assessment form data, Question 1B does not have any data elements that can be used.

Table 3-8. Assessment of Data Sources in Answering Evaluation Questions

Evaluation Question	Data Source[a]			Total Data Elements	Total Data Elements Without FA
	FA	AHA	CSS[b]		
1A. What measurable outcomes related to mercury reductions can H2E partner hospitals show?	0	7	0	7	7
1B. What measurable outcomes related to non-mercury reductions can H2E partner hospitals show?	4	0	0	4	0
2A. What types of mercury-reduction activities are H2E partner hospitals engaged in?	0	10	0	10	10
2B. What types of non-mercury related activities are H2E partner hospitals engaged in?	0	7	0	7	7
3. How satisfied are H2E partners with key elements of the H2E program?	0	1	10	11	11
4. How can the H2E program be improved in terms of the services it offers?	0	1	13	14	14

Note: Data elements correspond to answers to questions or data items that can be used to provide information to answer evaluation questions. For the most part, a data element corresponds to a row in the tables of Section 3.1 of the method report. There are cases, however, where the rows of the tables in Section 3.1 of the methods report include more than one data element.
[a] Data source is identified by the following codes: FA = H2E Facility Assessment form; AHA = American Hospital Association Survey; and CSS = Customer Satisfaction Survey.
[b] Does not include in the count any questions that solicit the level of use of a service.

Question 1A: What measurable outcomes related to mercury reductions can H2E partner hospitals show?

Data used to answer this question come from the AHA survey. There are seven data elements that can be used to answer this question. The elements cover:

- Eliminating mercury-containing patient devices
- Implementing mercury-free purchasing policies
- Identifying mercury devices
- Recycling mercury batteries and fluorescent bulbs

ERG believes that the AHA data will be able to provide measurable outcomes for H2E's progress in reaching its long-term goals of eliminating mercury.

Question 1B: What measurable outcomes related to non-mercury reductions can H2E partner hospitals show?

Data used to answer this question come from the H2E Facility Assessment form only. There are four data elements that can be used to answer this question. The elements cover:

- Changes in solid waste generation
- Changes in recycling and reuse
- Changes in regulated medical waste and hazardous waste generation

Without representative data from the Facility Assessment form, the program evaluation will not be able to provide measurable outcomes relating to goals established for reducing waste.

Question 2A: What types of environmental activities related to mercury reductions are H2E partner hospitals engaged in?

Data used to answer this question come from the AHA survey. There are 10 data elements that can be used to answer this question. The elements cover:

- Eliminating mercury-containing patient devices
- Implementing mercury-free purchasing policies
- Identifying mercury devices
- Recycling mercury batteries and fluorescent bulbs
- Executing a mercury management/elimination strategy
- Searching for alternatives to mercury-containing products

ERG believes that the AHA data will be able to provide measurable outcomes for answering this question.

Question 2B: What types of environmental activities related to non-mercury reductions are H2E partner hospitals engaged in?

Data used to answer this question come from the AHA survey. There are seven data elements that can be used to answer this question. The elements cover:

- Waste reduction policies
- Significance of efforts at reducing waste
- Tracking amount and cost of waste generation

The AHA survey included several questions about waste management programs that can be used to determine the types of waste-related activities partners may be engaged in.

Question 3: How satisfied are H2E partners with key elements of the H2E program?

Data used to answer this question come primarily from the CSS with some additional data provided by the AHA survey. There are 11 data elements that can be used to answer this question. The elements cover:

- Web site
- Teleconferences
- Technical hotline
- Stat Green newsletter
- Awards program
- Data collection
- Program in general

The data from the CSS will provide statistically valid data on partners' satisfaction with the program elements.

Question 4: How can the H2E program be improved in terms of the services it offers?

Data used to answer this question come from the AHA survey and the CSS. There are 14 data elements that can be used to answer this question. The elements cover:

- Why hospitals do not join the program
- Web site
- Teleconferences
- Technical hotline
- Stat Green newsletter
- Awards program
- Data collection
- Interest in expanding H2E scope into energy and water conservation
- Program in general

After gauging a respondent's satisfaction level, the CSS asks for specific reasons why a partner is dissatisfied with the program and provides input into how program elements can be improved. Additionally, a number of open-ended questions provide an opportunity for a respondent to provide suggestions for improvements. Although much of the data from these answers may be anecdotal, trends may emerge that will be valuable for planning the program's next steps.

3.2 Summary of Sampling Methods for Customer Satisfaction Survey

The CSS data were collected using a statistical survey design. Table 3-9 describes the key aspects of the survey design; more detailed discussion of the survey design appears in Appendix A.

3.2.1 Precision

The customer satisfaction survey contains a question about respondents' overall satisfaction with the H2E program. EPA expects that this question represents a key parameter of interest for this survey and has therefore based a sample size estimate on obtaining a valid response to this question. The question is phrased as follows:

Could you tell me how satisfied you are with the H2E program in general?

4. Very satisfied
3. Somewhat satisfied
2. Somewhat dissatisfied
1. Very dissatisfied

Table 3-9. Summary Table of Sampling Methods for Customer Satisfaction Survey

Survey Aspect	Design Description
Units	
Target population	Hospitals that are H2E partners.
Sampling units	Hospitals listed as H2E partners by the H2E program.
Observational units	Individuals in the hospitals that are responsible for the hospital's H2E program.
Sample frame	H2E partner list maintained by H2E program.
Statistical Criteria	
Sample design approach	Power analysis.
Precision	Discussed in Section 3.2.1.
Confidence	90 percent.
Power	80 percent.
Sample size (finite-population adjusted)	133 hospitals. (See Section A.2 of the sampling plan in Appendix A for detailed discussion of how this number was calculated.)
Allocation, Selection, Implementation, Nonresponse Issues, and Analysis	
Allocation	Sample was proportionally allocated across four geographic areas: Northeast (EPA Regions 1, 2, and 3), South (EPA Regions 4 and 6), Midwest (EPA Regions 5, 7, and 8), and West (EPA Regions 9 and 10).
Selection	Systematic sampling scheme within each geographic area.
Implementation	Phone survey using a Computer-Assisted Telephone Interviewing (CATI) software.
Missing data and nonresponse	See Table A-2 of the sampling plan.
Analysis	Section A.7 of the sampling plan provides expressions for weighting and variance estimation.

The question for precision is then: For a mean value estimated from the sample, how many points (on the four-point scale being used in the question) is an acceptable deviance from the population mean for given confidence and power levels? ERG set precision for this survey at 0.3 points on the four-point scale. Thus, if the mean satisfaction level was measured at 2.3, the 90 percent confidence and 0.3 points in precision imply that one can be 90 percent certain that the population mean is between 2.0 and 2.6.

3.2.2 Pre-Testing the Survey Instrument

The survey instrument was pre-tested with contacts from two hospitals that have good working relationships with the H2E program. Hospitals were contacted in advance of the call and asked to participate in the survey pre-testing. The participating hospitals were told to treat the pre-test as if they were being surveyed. Immediately following the pre-test, ERG called the pre-tested hospital to discuss the survey with the participating hospitals and obtained comments. Given the nature of these comments, no substantial revisions to the instrument were necessary.

3.2.3 Response Rate for Customer Satisfaction Survey

Table 3-10 provides information on the responses to the CSS. A total of 632 facilities were dialed during the CSS, resulting in a total of 135 completed interviews. Of the 497 facilities that did not result in a completed interview:

- 14 were deemed out-of-scope.[7]
- 64 refused to take or complete the survey.
- 96 had agreed to complete the interview at a later date.[8]
- 323 were dialed, without contact being made with the person specified as the potential respondent in the sampling frame.

In calculating the response rate, ERG excluded facilities that had agreed to an interview at a later date since these, in principle, had neither responded nor failed to respond.[9] ERG expects that this fits within OMB's (2006) current guidance on calculating response rates. Facilities that were dialed, but with which no contact was made, were assumed to be non-responders (OMB, 2006). However, it is necessary to adjust that number based on the percentage contacted that were in-scope. Of the 213 contacts,[10] 199 (93 percent) were in-scope. Therefore, the 323 facilities that were dialed but with which no contact was made was multiplied by 93 percent, yielding an estimated 300 in-scope respondents among that group. Thus the set of in-scope respondents comprised:

- 135 respondents with completed interviews.
- 64 respondents that refused to take or complete the survey.
- 300 estimated in-scope respondents from among those that were dialed, but that were not contacted.

This is a total of 499 in-scope respondents, resulting in a response rate of 27 percent (135 ÷ 499, see note to Table 3-10 for details).

A 27 percent response rate is generally considered low, and low response rates can be indicative of potential bias. One consideration in assessing this response rate, however, is that many facilities were dialed without contact being made. That is, it was simply difficult to actually get the relevant person on the phone to ask to take the interview within the short time frame over which the survey was conducted. Standard response rate calculations require assigning these facilities to the "nonresponse" category. ERG expects that the nonresponse from these facilities, however, is not generating a nonresponse bias; because it was just not possible to make contact with these facilities, it seems unlikely that they were unavailable for a reason that would bias the data given that the survey was conducted over a short time frame. The survey had a relatively high response rate when calculated using only those contacted. Of the number contacted that either took the survey or refused to take/complete the survey, 68 percent (135/(135+64)) completed the survey.

[7] These potential respondents indicated that they were not familiar with the program.
[8] The survey reached its target sample size of 133 prior to attempting to re-contact these potential respondents.
[9] These were excluded from both the numerator and the denominator of the response rate calculation.
[10] These were comprised of 135 completed interviews, 14 out-of-scope, and 64 refusals.

Table 3-10. Summary of Respondent Dispositions and Estimated Response Rate

Category		Value
Total number of facilities dialed		632
A	Number determined to be out of scope	14
B	Completed interviews	135
C	Refusals	64
D	Facilities that were not contacted[a]	323
E	Facilities that agreed to complete interview at a later date	96
Response rate[b]		27%
Response rate among definitive contacts[c]		68%

Note: Response rate calculations based on OMB (2006). The target sample size for this data collection was 133 responses.

[a] These are facilities where there was no answer, voice-mail, the phone was busy, the phone was disconnected/not in service, or the respondent was not available.

[b] This is calculated as

$$RR = \frac{B}{B + C + \left(\frac{B + C}{A + B + C}\right) D}$$

[c] This is calculated as

$$RR2 = \frac{B}{B + C}$$

3.3 Usability of Facility Assessment Form Data

As noted in Section 2, there are problems with using Facility Assessment form data. One specific issue is the significant nonresponse (missing data) among the facilities that are members of the H2E program. Among the 1,240 member hospitals, only 134 (10.8 percent) have supplied at least one year of data.[11] In order for the Facility Assessment Form data to be useful for analysis, however, it is necessary to have baseline data and follow-up data so that changes following program participation can be measured. The Facility Assessment form requests information for four categories of waste:

- Solid waste.
- Reuse and recycling.
- Regulated medical waste.
- Hazardous waste.

[11] These numbers are current based on the extraction date of January 11, 2006.

Additionally, comparing the facilities requires normalizing the data using some factor. Based on work conducted by H2E, ERG has decided that the number of adjusted inpatient days (requested from facilities on the Facility Assessment form) would provide the best normalization factor. As with the waste data, however, the adjusted number of inpatient days is not consistently provided by facilities.

To gauge the usability of the Facility Assessment form data for this analysis, ERG counted the number of facilities that provided baseline data and:

- Data for the year following the baseline year (i.e., one-year follow-up) for each waste category.
- Data for the year following the baseline year for each waste category, as well as a normalization factor for each year.
- Data for the year two years after the baseline (i.e., two-year follow-up) for each waste category.
- Data for the year two years after the baseline for each waste category, as well as a normalization factor for each year.

These data are presented in Table 3-11.

The facilities counted in Table 3-11 represent usable data points for this analysis. As can be seen, these facilities represent very small proportions of the complete set of H2E members. This limits what can be said about the program using the Facility Assessment form data. Furthermore, H2E has informed ERG that facilities that tend to send in the data are those that are applying for awards. Thus, the available Facility Assessment form data represent a small, biased sample of H2E facilities, providing little insight into the population of H2E partners due to its biased nature.

Table 3-11. Number of Facilities Providing Data for Use in the Analysis

Waste Type from Facility Assessment Form	Number of Facilities Providing Baseline Data and Data for the Year Following the Baseline (Percent of H2E Membership in Parentheses)		Number of Facilities Providing Baseline Data and Data for the Year Two Years After the Baseline (Percent of H2E Membership in Parentheses)	
	Without Normalization	With Normalization	Without Normalization	With Normalization
Solid waste	30 (2.4%)	23 (1.9%)	22 (1.8%)	18 (1.5%)
Reuse and recycling	27 (2.2%)	21 (1.7%)	21 (1.7%)	17 (1.4%)
Regulated medical waste	30 (2.4%)	23 (1.9%)	21 (1.7%)	18 (1.5%)
Hazardous waste	20 (1.6%)	19 (1.5%)	15 (1.2%)	12 (1.0%)

SECTION FOUR: RESULTS

This section of the report summarizes the results for each of the six evaluation questions:

(1A) What measurable environmental outcomes related to mercury reductions can H2E partner hospitals show?

(1B) What measurable environmental outcomes related to non-mercury reductions can H2E partner hospitals show?

(2A) What types of environmental activities related to mercury reductions are H2E partner hospitals engaged in?

(2B) What types of environmental activities related to non-mercury reductions are H2E partner hospitals engaged in?

(3) How satisfied are H2E partners with key elements of the H2E program?

(4) How can the H2E program be improved in terms of the services it offers?

The results for each set of questions are discussed in the sections that follow.

4.1 Question 1A: What Measurable Environmental Outcomes Related to Mercury Reductions Can H2E Partner Hospitals Show?

Overall, H2E partners can show significant results related to reducing mercury usage. The AHA survey, which asked about the degree to which hospitals had "virtually eliminated" the use of various mercury-containing items, provided data to answer this question. Table 4-1 summarizes the responses to the AHA data items used to answer this question.

When asked about specific items (thermometers, sphygmomanometers, bougies, miller-abbott tubes, cantor tubes, and dilators) more than 70 percent of partners reported that they had virtually eliminated use of each item. More than 90 percent of partner hospitals had at least eliminated some and planned to eliminate the rest. For two items, thermometers and sphygmomanometers, more than 99 percent of partners responded that they had at least eliminated some and planned to eliminate the rest.

There are, however, few significant differences between partners and non-partners in terms of eliminating these mercury-containing items.[12] The two cases where there are significant differences, thermometers and sphygmomanometers, are associated with only a small percentage point difference in each case. For example, 99.6 percent of partners and 97.7 percent of non-partners have eliminated mercury-containing thermometers—or a 1.9 percentage point difference. Statistically significant differences of this sort reflect the fact that it is easier to find significant differences near the extremes (zero and one) of a percentage value. For other items, there are no significant differences.

[12] It should also be noted that close to 60 percent of non-partners indicated that the H2E program influenced their actions to reduce mercury either very or somewhat significantly. (This is presented in Table 4-5 below.) Thus, the fact that there is no significant difference between partners and non-partners in this case does not lead to the conclusion that the H2E program had no effect at reducing mercury since non-partners have claimed to have been influenced by the program.

Table 4-1. Data from the AHA Survey Used to Answer Evaluation Question 1A: "What Measurable Environmental Outcomes Related to Mercury Reductions Can H2E Partner Hospitals Show?"

Survey Question	Response(s)	Percentage of H2E Partners	Percentage of Non-H2E Partners	Significant Difference[a]
AHAQ6a. Has your facility virtually eliminated the use of mercury-containing thermometers?	• Yes, completely eliminated	81.9%	77.4%	No
	• Yes, completely eliminated • Yes, replaced with plan for eliminating remainder • Some replacement with plan for eliminating remainder	99.6%	97.7%	Yes
AHAQ6b. Has your facility virtually eliminated the use of mercury-containing sphygmomanometers?	• Yes, completely eliminated	75.9%	68.9%	No
	• Yes, completely eliminated • Yes, replaced with plan for eliminating remainder • Some replacement with plan for eliminating remainder	99.6%	96.8%	Yes
AHAQ6c. Has your facility virtually eliminated the use of mercury-containing bougies?	• Yes, completely eliminated	72.6%	70.3%	No
	• Yes, completely eliminated • Yes, replaced with plan for eliminating remainder • Some replacement with plan for eliminating remainder	90.6%	91.9%	No
AHAQ6d. Has your facility virtually eliminated the use of mercury-containing miller-abbott tubes?	• Yes, completely eliminated	74.8%	76.9%	No
	• Yes, completely eliminated • Yes, replaced with plan for eliminating remainder • Some replacement with plan for eliminating remainder	91.4%	94.8%	No
AHAQ6e. Has your facility virtually eliminated the use of mercury-containing cantor tubes?	• Yes, completely eliminated	75.4%	78.5%	No
	• Yes, completely eliminated • Yes, replaced with plan for eliminating remainder • Some replacement with plan for eliminating remainder	97.4%	95.3%	No
AHAQ6f. Has your facility virtually eliminated the use of mercury-containing dilators?	• Yes, completely eliminated	73.3%	77.3%	No
	• Yes, completely eliminated • Yes, replaced with plan for eliminating remainder • Some replacement with plan for eliminating remainder	92.4%	95.3%	No
AHAQ6g. Has your facility virtually eliminated the use of other mercury-containing devices?	• Yes, completely eliminated	41.6%	53.1%	No
	• Yes, completely eliminated • Yes, replaced with plan for eliminating remainder • Some replacement with plan for eliminating remainder	80.5%	76.6%	No

[a] Indicates whether the percentage of H2E partners was statistically significantly greater than the percentage of non-H2E partners using a five percent level of significance.

4.2 Question 1B: What Measurable Environmental Outcomes Related to Non-Mercury Reductions Can H2E Partners Show?

The results related to non-mercury outcomes is less clear-cut than those related to mercury-related reductions. Data to answer this question come from the Facility Assessment form. Specifically, the Form asks partners to provide information on baseline data for a specific year and then annual data thereafter for four categories of waste:

- Solid waste.
- Waste that was reused or recycled.
- Regulated medical waste.
- Hazardous waste.

As noted in Section 3.3, the data from the Facility Assessment form are limited and provide only a small, biased sample.[13] Nevertheless, ERG summarized the data from the Facility Assessment form. What can be summarized are the results *among facilities that submitted data*.[14]

In order to better compare outcomes across facilities, it is necessary to normalize the data. To do this, ERG divided waste amounts by the number of adjusted inpatient days (requested of partners on the Facility Assessment form). The number of adjusted inpatient days is a measure of the how busy a hospital is and thus should correlate with waste generation.

ERG calculated changes in each waste category listed above for one year after the baseline and for two years after the baseline. This was done for both unnormalized (raw) and normalized data. The results are presented in Table 4-2. As noted above, caution must be taken when interpreting these data. That is, these numbers represent changes among facilities that submitted data, which is most likely a biased sample of H2E facilities. Thus, the following trends can be seen *from among those facilities that submitted Facility Assessment form data* after they joined the H2E program:

- There were small reductions (3–10 percent) in the amount of solid waste generated.
- There were moderate increases (7–46 percent) in the amount of reuse and recycling.
- There were moderate decreases (13–23 percent) in the amount of regulated medical waste.
- There were substantial decreases (30–66 percent) in the amount of hazardous waste.

Each trend represents a positive environmental outcome. Additionally, these results are consistent with the program's intent, which encourages facilities to reduce the hazardous and medical waste volume through better segregation. This better segregation would lead to increases in recycling and possibly in the amount of solid waste. Thus, the fact that solid waste has only a small decrease, rather than a larger decrease, may be indicative of this waste diversion.[15]

[13] The sample is biased because facilities that tend to submit assessment also tend to be applying for H2E awards.
[14] Additionally, these data are submitted by the facilities and the number and the methods are not audited or validated by the program.
[15] To accurately determine whether waste diversion has led to only small decreases in solid waste (rather than larger ones) would require a more detailed facility-level analysis beyond the scope of this project.

It is not possible to attribute these outcomes to the H2E program, though, due to potential self-selection. First, there are no comparison data to non-H2E hospitals. Second, the hospitals that submitted data may be more motivated than others to reduce waste even in the absence of the H2E program: those that submit data also tend to be applying for awards.

Table 4-2. Summary of Data from Facility Assessment Form Used to Answer Evaluation Question 1A: What Measurable Environmental Outcomes Related to Non-Mercury Reductions Can H2E Partners Show?

Category	Solid Waste	Reuse and Recycling	Regulated Medical Waste	Hazardous Waste
Reported Values Not Normalized for Facility Size				
One-Year Following Baseline				
Number of facilities	30	27	30	20
Mean baseline amount	1,142.6	312.2	249.9	14.5
Mean change from baseline	-44.7	33.4	-44.7	-9.6
Mean change as a percent of baseline	-3.9%	10.7%	-17.9%	-66.2%
Two-Years Following Baseline				
Number of facilities	22	21	21	15
Mean baseline amount	1,357.4	369.7	232.4	22.1
Mean change from baseline	-52.5	96.8	-31.7	-14.5
Mean change as a percent of baseline	-3.9%	26.2%	-13.6%	-65.6%
Reported Values Normalized for Facility Size				
One-Year Following Baseline				
Number of facilities	23	21	23	19
Mean baseline amount	7.82	1.67	1.17	0.06
Mean change from baseline	-0.57	0.71	-0.28	-0.04
Mean change as a percent of baseline	-7.2%	42.6%	-23.8%	-63.8%
Two-Years Following Baseline				
Number of facilities	18	17	18	12
Mean baseline amount	8.41	1.70	1.23	0.15
Mean change from baseline	-0.90	0.13	-0.23	-0.05
Mean change as a percent of baseline	-10.7%	7.6%	-18.3%	-30.7%

4.3 Question 2A: What Types of Environmental Activities Related to Mercury Reductions Are H2E Partner Hospitals Engaged In?

There is substantial evidence to indicate that H2E partners are engaged in environmental activities related to reducing mercury. Furthermore, some of the evidence indicates that H2E partners have outperformed non-partners in this regard. Data used to answer this question come from the AHA survey. Table 4-3 summarizes the data from the AHA survey used to answer this question.

AHA Question 1 asked the respondents whether they were aware of mercury-related issues. More than 98 percent of H2E members and close to 97 percent of non-members indicated that they were aware of mercury-related issues and had either taken significant steps or some steps to eliminate mercury. Furthermore, the difference between partners and non-partners was statistically significant. As with the significant differences in Section 4.1, however, the significant difference here is due to the fact that these percentages are near the upper end of the percentage, making it easier to find a significant difference.

The AHA survey also asked respondents about three specific policies:

- A statement that calls for the reduction and virtual elimination of mercury (AHA question 2a).
- A policy that bans the purchase of products containing mercury (AHA question 2b).
- A mercury management policy that ensure safe-handling of mercury that either shows up at the facility or that is still in-place (AHA question 2c).

In each case, more than 60 percent of H2E partners had established these policies—significantly higher than the percentage of non-partners that had done so.

The AHA survey also asked whether facilities had inventoried, labeled, or replaced all mercury-containing gauges, switches, and other devices (AHA question 7). Close to 22 percent of H2E partners indicated that they had replaced all devices, while close to 28 percent of non-partners had. However, almost 80 percent of H2E partners had either replaced all devices, were "almost there," or had just gotten started replacing all devices; only 67 percent of non-partners had done the same, a statistically significant difference. Thus, overall, partners are further along than non-partners at replacing all devices.

Partners have outperformed non-partners in terms of recycling mercury-containing products (AHA questions 8 and 9). For example, significantly larger percentages of H2E partners recycle all mercury-containing light bulbs and batteries compared to non-partners (79 percent to 59 percent for light bulbs and 74 percent to 59 percent for batteries).

There are also significant differences between the percentages of partners and non-partners that have limited the purchase of mercury-containing products (AHA questions 10a, 10b, and 10c). Among H2E partners, 84 percent purchase mercury-free laboratory chemicals and 84 percent purchase mercury-free housekeeping products, both of which percentages are significantly higher for than non-partners (76 percent for laboratory chemicals and 79 percent for housekeeping products). However, roughly the same percentage of partners (64 percent) and non-partners (65 percent) purchase mercury-free pharmaceuticals.

Table 4-3. Data to Answer Evaluation Question 2A: "What Types of Environmental Activities Related to Mercury Reductions Are H2E Partner Hospitals Engaged In?"

Survey Question	Response	Percentage of H2E Partners	Percentage of Non-H2E Partners	Significant Difference[a]
AHAQ1. Did you know about these problems with mercury and why AHA, in conjunction with EPA, is committed to helping its members find alternatives to mercury-containing products?	• Very aware, and have taken significant steps to reduce and eliminate mercury	83.8%	80.1%	No
	• Very aware, and have taken significant steps to reduce and eliminate mercury • Aware and have taken some steps to address the issue but have more work to do	98.8%	96.9%	Yes
AHAQ2a. Has your facility established a policy statement that calls for the reduction and virtual elimination of mercury?	• Yes	63.5%	48.1%	Yes
AHAQ2b. Has your facility established a policy that bans the purchase of products containing mercury unless no effective substitute is available?	• Yes	60.1%	50.0%	Yes
AHAQ2c. Has your facility established a mercury management policy that ensures safe handling of mercury that is either still in use or might show up in the facility?	• Yes	64.8%	55.6%	Yes
AHAQ2d. Has your facility established another type of mercury policy?[b]	• Yes	12.0%	12.6%	No
AHAQ7. Has your facility inventoried, labeled or replaced all mercury-containing gauges, switches, and other devices?	• Yes, replaced all devices	21.9%	27.6%	No
	• Yes, replaced all devices • Almost there—inventoried all devices, labeled them as mercury-containing, and replaced some with plan to replace the remainder • Just got started—inventoried all devices and labeled them as mercury-containing	78.9%	67.3%	Yes

Table 4-3 (continued)

Survey Question	Response	Percentage of H2E Partners	Percentage of Non-H2E Partners	Statistically Significant Difference[a]
AHAQ8. Do you recycle fluorescent bulbs as an ongoing program?	• Yes, recycling all fluorescent lamps, including green tips	78.6%	58.8%	Yes
	• Yes, recycling all fluorescent lamps, including green tips • Almost there • Just getting started	87.0%	75.9%	Yes
AHAQ9. Do you recycle mercury-containing batteries on an ongoing basis?	• Yes, recycling all mercury-containing batteries	74.2%	58.8%	Yes
	• Yes, recycling all mercury-containing batteries • Almost there • Just getting started	91.1%	75.9%	Yes
AHAQ10a. Does your facility purchase mercury-free laboratory chemicals?	• Yes, have replaced all	41.4%	46.0%	No
	• Yes, have replaced all • Yes, replaced some and assessing other products	83.6%	75.8%	Yes
AHAQ10b. Does your facility purchase mercury-free pharmaceuticals?	• Yes, have replaced all	34.6%	36.4%	No
	• Yes, have replaced all • Yes, replaced some and assessing other products	67.4%	65.4%	No
AHAQ10c. Does your facility purchase mercury-free housekeeping products?	• Yes, have replaced all	63.9%	71.4%	No
	• Yes, have replaced all • Yes, replaced some and assessing other products	84.1%	78.8%	Yes

[a] Indicates whether the percentage of H2E partners was statistically significantly greater than the percentage of non-H2E partners using a five percent level of significance.
[b] At the time of this report, ERG had not received verbatim answers to this question from AHA.

4.4 Question 2B: What Types of Environmental Activities Related to Non-Mercury Reductions Are H2E Partner Hospitals Engaged In?

There is some evidence that H2E partners are engaged in environmental activities related to non-mercury reductions. Some of the evidence also indicates that H2E partners have outperformed non-partners in this regard. Data used to answer this question come from the AHA survey. Table 4-4 summarizes the data used to answer this question.

A significantly larger percentage of H2E partners (69 percent) have waste reduction policies in place and programs underway compared to non-partners (59 percent) (AHA question 4). Additionally, significantly larger percentages of partners compared to non-partners track waste generation (62 to 54 percent; AHA question 12) and use waste tracking programs (62 to 54 percent; AHA question 13).

The AHA survey asked respondents to rate how significant their efforts had been at reducing three types of waste: regulated medical waste, solid waste, and hazardous chemical waste. Close to 90 percent of partners rate their efforts at reducing each of those waste types as very or somewhat significant (Questions 11a through 11d). Significantly more H2E partners rated their efforts at reducing other solid waste (Question 11c) and recycling (Question 11b) as very or somewhat significant compared to non-partners.

Table 4-4. Data to Answer Evaluation Question 2B: "What Types of Environmental Activities Related to Non-Mercury Reductions Are H2E Partner Hospitals Engaged In?"

Survey Question	Response	Percentage of H2E Partners	Percentage of Non-H2E Partners	Significant Difference[a]
AHAQ4. Does your facility have any waste reduction policies, plans, or programs in place?	• Yes, waste reduction policy in place and program underway	68.8%	59.0%	Yes
	• Yes, waste reduction policy in place and program underway • Almost there • Just getting started	83.1%	79.3%	No
AHAQ11a. Since 1998, please indicate how significant your waste reduction efforts have been in terms of reducing regulated medical waste.	• Very significant	55.8%	50.9%	No
	• Very significant • Somewhat significant	90.8%	89.5%	No
AHAQ11b. Since 1998, please indicate how significant your waste reduction efforts have been in terms of increasing recycling.	• Very significant	51.0%	36.4%	Yes
	• Very significant • Somewhat significant	91.3%	80.4%	Yes
AHAQ11c. Since 1998, please indicate how significant your waste reduction efforts have been in terms of other solid waste.	• Very significant	31.5%	28.3%	No
	• Very significant • Somewhat significant	87.4%	77.6%	Yes
AHAQ11d. Since 1998, please indicate how significant your waste reduction efforts have been in terms of hazardous chemical minimization.	• Very significant	51.5%	48.6%	No
	• Very significant • Somewhat significant	94.1%	91.8%	No
AHAQ12. Does your facility keep track of your waste data to better understand the volume and cost of each waste stream to help prioritize programs and reduce costs?	• Yes, we track waste generation rates	62.4%	54.0%	Yes
	• Yes, we track waste generation rates • In the process of assessing waste generation rates	88.0%	75.0%	Yes
AHAQ13. Does your facility use a waste-tracking program?	• Yes	62.4%	54.0%	Yes

[a] Indicates whether the percentage of H2E partners was statistically significantly greater than the percentage of non-H2E partners using a five percent level of significance.

4.5 Question 3: How Satisfied Are H2E Partners with Key Elements of the H2E Program?

Satisfaction with the H2E program overall and with components of the H2E program was very high. Data used to answer this question came from the AHA survey and from the CSS.[16] Table 4-5 summarizes the one data element from the AHA survey used to answer this question and Table 4-6 summarizes the data from the CSS.

The AHA survey asked respondents if they had taken one or more actions to reduce mercury, how significant were H2E program materials in assisting them (Table 4-5). Among H2E partners, 91 percent indicated that the influence of H2E materials was either very or somewhat significant. This implies some level of satisfaction with those materials.

Table 4-6 summarizes the results from the CSS for five program components (listserv, teleconferences, technical assistance via phone, Web site, and newsletter) and for the program as a whole. Overall, 99 percent of respondents to the CSS rated their satisfaction with the program as a whole as either very or somewhat satisfied. For the most part, satisfaction with the components was also high. For example, 100 percent of respondents who attended teleconferences and used technical assistance over the phone were wither very satisfied or satisfied with those services. The lowest level of satisfaction was with the newsletter; with which 74 percent of respondents were satisfied.

Table 4-5. Data From AHA Survey to Answer Evaluation Question 3: "How Satisfied Are H2E Partners with Key Elements of the H2E Program?"

Survey Question	Response(s)	Percentage of H2E Partners	Percentage of Non-H2E Partners	Significant Difference[a]
AHAQ3a. If your facility has taken one or more actions to reduce mercury, please indicate how influential information provided by the national H2E program has been.	• Very significant	55.1%	25.4%	Yes
	• Very significant • Somewhat significant	91.0%	59.7%	Yes

[a] Indicates whether the percentage of H2E partners was statistically significantly greater than the percentage of non-H2E partners using a five percent level of significance.

[16] Complete data from the CSS can be found in Appendix C.

Table 4-6. Data from CSS to Answer Evaluation Question 3: "How Satisfied Are H2E Partners with Key Elements of the H2E Program?"

Service	Percentage of All Respondents That Utilize The Service[a]	Reported Level of Satisfaction[b]		
		Very Satisfied	Somewhat Satisfied	Somewhat or Very Dissatisfied
H2E program overall	100%	64%	35%	1%
Listserv	96%	44%	44%	1%
Teleconferences	52%	69%	31%	0%
Technical assistance	50%	91%	9%	0%
Web site	88%	52%	26%	1%
Newsletter	79%	44%	30%	2%

[a] Partners that did not use the service were not asked the satisfaction questions.
[b] The third response option of "did not utilize enough to rate this service" is not presented in this table.

4.6 Question 4: How Can the H2E Program Be Improved in Terms of Services It Offers?

As discussed in Section 4.5, H2E partners are satisfied with services that H2E provides. For the most part, respondents to the CSS did not provide specific suggestions on how to improve H2E services in general. However, as indicated in Table 4-7, there are some good suggestions on ways to improve the listserv, awards process, and teleconferences services. Some suggestions for improvement included simplifying the awards application process, reducing the high volume of e-mails from the listserv, and varying the times for the teleconferences. H2E partners also indicate they would be interested in H2E expanding to include topics in energy and water conservation.

Table 4-7: Data from the AHA Survey and the CSS Used to Answer Evaluation Question 4: "How Can the H2E Program Be Improved in Terms of Services It Offers?"

Data Elements	Responses
AHAQ17. If your facility is not an H2E partner, what are the main reasons you haven't joined H2E? (may check more than one)	• 45% of non-H2E partners already reduced mercury. • 40% of non-H2E partners have not heard of the program. • 19% of non-H2E partners do know how to sign up. • 13% of non-H2E partners said there was not enough incentive. • 5% of non-H2E partners said there are too many requirements. • 4% of non-H2E partners said it takes too much time to apply.
CSSQ4. Can you think of any improvements to the H2E listserv that would increase your level of satisfaction with this service? *(Note: 96 percent of respondents indicated that they participated in the listserv.)*	• 21 comments related to the high volume of e-mails or a desire for a better filtering system to facilitate identification of topics of interest.
CSSQ6. Can you think of any changes to the H2E teleconferences that would increase your likelihood of participating?	• The respondents to this question indicated that they have not participated because they are too busy.

Data Elements	Responses
(Note: 48 percent of respondents indicated that they have not participated in the teleconferences.)	
CSSQ8. Can you think of any improvements to the teleconferences that would increase your level of satisfaction with this service? *(Note: 52 percent of respondents indicated that they participated in the teleconferences.)*	• Two respondents mentioned varying the scheduled time. • Two respondents suggested better stand-alone handouts for those not able to participate in the call.
CSSQ9. Can you think of any additional topics that would increase your level of satisfaction with the teleconferences? *(Note: 52 percent of respondents indicated that they participated in the teleconferences.)*	• Top suggestions include pharmaceutical waste and medical waste in general.
CSSQ12. Can you think of any improvements that would increase your level of satisfaction with H2E staff or the hotline? *(Note: 50 percent of respondents indicated that they have called H2E for assistance at least once.)*	• 94% of respondents that called at least once did not have any suggested improvements; there was no trend among the remaining responses.
CSSQ15. What are your main reasons for being dissatisfied with the Web site? *(Note: 88 percent of respondents indicated that they have used the Web site.)*	• The only respondent said, "The content is not really what I am interested in. The service seems a little basic to me."
CSSQ16. What is the most useful part of the Web site? *(Note: 88 percent of respondents indicated that they have used the Web site.)*	• The majority of the participants did not identify a particular item because "the Web site is great—especially the wealth of information related to waste management."
CSSQ17. Can you think of any improvements to the H2E Web site that would increase your level of satisfaction with this service? *(Note: 88 percent of respondents indicated that they have used the Web site.)*	• 90% of respondents did not have any suggestions; no theme was common among the other suggestions.
CSSQ19. Can you think of any improvements to the H2E newsletter that would increase your level of satisfaction with this service? *(Note: 79 percent of respondents indicated that they have read the newsletter.)*	• 86% of respondents did not have any suggestions; no theme was common among the suggestions that were made.
CSSQ22. What was the most satisfying aspect of the awards ceremony? *(Note: 16 percent of respondents indicated that they have attended an awards ceremony.)*	• Ten respondents indicated networking and the award winner presentations. • Six respondents mentioned winning an award.
CSSQ24. Can you think of any changes to the awards process that would increase your likelihood of participating? *(Note: 84 percent of respondents indicated that they have not attended an awards ceremony.)*	• Four participants suggested simplifying the application form. • Four respondents said that the location of the event factored in and suggested localized events.
CSSQ26. Can you think of any improvements to the data collection process or the form themselves that would increase your level of satisfaction with this part of the program? *(Note: 59 percent of respondents indicated that they have not submitted any data to the program.)*	• 84% of respondents did not have any suggestions. • Several respondents suggested that H2E look at how hospitals internally collect data and modify the H2E form to better match these processes better.

Table 4-7 (continued)

Data Elements	Responses
CSSQ27. How interested would you be if energy conservation were included in the program?	• 88% of respondents said they would be "very interested" or "somewhat interested."
CSSQ28. How interested would you be if water conservation were included in the program?	• 85% of respondents said they would be "very interested" or "somewhat interested."
CSSQ30. What is the best part of being an H2E partner?	• Many respondents identified information available from the Web site, listserv, networking, and sharing ideas as the best part of the program. • Others said being in a peer community working toward a healthier environment was the best part.
CSSSQ31. What do you like the least about being an H2E partner?	• Approximately 15 people mentioned the volume of e-mails.

4.7 Conclusions

This section draws some general conclusions about the findings from this evaluation. It also relates the findings to the goals of the H2E program identified in the introduction to the report.

Based on the data in Sections 4.1 through 4.6, five general conclusions can be drawn:

(1) The H2E program has developed a product that has met the needs of its customer base. The results of the CSS are clear: hospitals involved in the H2E program are satisfied with the program as a whole and with its various components. Most respondents indicated high levels of satisfaction with the H2E technical assistance and with the teleconferences. Suggestions for improving the teleconferences included adding some new topics (e.g., pharmaceutical and general medical waste) and varying the time of the call. Another suggestion for the teleconference involved having stand-alone handouts for those that could not attend it. In terms of the awards ceremony, some respondents suggested simplifying the application while others suggested adding in local events. For the Facility Assessment form data, a number of respondents suggested looking at how hospitals collect data and modify the forms to better match that process.

(2) Almost all hospitals have taken actions, or are taking actions, to virtually eliminate mercury. As demonstrated in Table 4-1, more than 75 percent of hospitals indicated they have virtually eliminated most mercury-containing devices. Additionally, more than 90 percent have at least taken steps to eliminate those devices. These results, however, do not appear to be solely attributable to H2E membership. Based on the data in Table 4-1, it appears that H2E partners have not out-performed non-partners in the elimination of mercury-containing devices.[17]

(3) H2E partners have tended to take more actions that lead to successful outcomes than non-partners. Examples of these actions include implementing policies, procedures, or programs geared toward improving environmental outcomes. Large percentages of H2E partners have such policies and programs in place (see the responses to Questions 2a and 2b

[17] On the other hand, the AHA survey provides some evidence that the H2E program materials have influenced non-partner actions (see Table 4-5).

of the AHA survey in Table 4-3). Furthermore, a significantly larger percentage of H2E partners tend to have these in place than non-partners. It may not be possible to attribute this result to the H2E program because H2E partners may be more predisposed to having those policies in place (i.e., self-selection by joining the program). Nevertheless, there is a correlation between H2E partnership and having these policies and programs in place.

(4) It is not possible to isolate the effect of the H2E program given the available data. The hospitals that have joined the H2E program may be more likely than non-partners to reduce waste and to perform activities leading to positive environmental outcomes. Thus, there may be some degree of self-selection. Evaluation design methods are available to control for self-selection, but the data available for this analysis did not lend themselves to such a method. Specifically, to control for self-selection into the program, it would be ideal to have a control group and baseline and post-joining data for both the set of H2E partners and the control group. An alternative method is to use a statistical method that adjusts for self-selection in data. However, such a method would require more complete Facility Assessment form data and the ability to link facility data to the other data sources.

(5) It is not possible to generate representative estimates of reduced waste for partners. The Facility Assessment form asks partners for the necessary data to make an evaluation. However, too few assessments have been collected to make those data useful for analysis.

As noted in the introduction to this report, the H2E program has three goals identified in the MOU that created the program. The results from the evaluation provide some insight into the first, but provide less insight into the second and third:

- **Virtually eliminate mercury-containing waste from the hospitals' waste streams by 2005.** The data from the AHA survey provide substantial evidence that hospitals are well on their way to virtually eliminating mercury. As noted in Section 4.1, about 70 percent of hospitals (75 percent of H2E partners) have indicated that they have completely eliminated several types of mercury-containing devices. Furthermore, more than 90 percent of hospitals have taken the steps to eliminate several types of mercury-containing devices. It is also clear, however, that mercury-containing devices have not been completely eliminated by hospitals and are thus most likely still in hospitals' waste streams.

- **Reduce the overall volume of waste (both regulated and non-regulated) by 33 percent by 2005 and by 50 percent by 2010.** The Facility Assessment form data would be able to provide some evidence toward this goal for H2E partners, but, as discussed, that data provides only a small, biased sample. Thus, little evidence was provided to suggest whether this goal has been attained.

- **Identify hazardous substances for pollution prevention and waste reduction opportunities.** None of three data sources provides much information on the "identification" of hazardous substances, but there is some evidence that actions have been taken to reduce hazardous substances. The AHA survey found that 94 percent of H2E partners and 92 percent of non-partners have made a very or somewhat significant effort at reducing hazardous chemical use. Additionally, although the Facility Assessment form data have issues complicating their use in analysis, they do indicate that among those who submitted data, reductions in hazardous waste have been significant (see Table 4-2).

SECTION FIVE
RECOMMENDATIONS

Based on the results of the evaluation, ERG has developed five recommendations for the H2E program:

(1) Use the results of this evaluation for strategic planning purposes.

In particular, the evaluation results related to customer satisfaction can be used in developing performance measures for the program. For example, the CSS found that 99 percent of H2E members are very or somewhat satisfied with the program. The H2E program can set a goal of maintaining that high level of customer satisfaction. Alternatively, the program can set a goal of increasing the percentage that were "very satisfied" with the program. The CSS results indicate that 64 percent are "very" satisfied. H2E can set a goal of increasing or at least maintaining that percentage in the future.

Additionally, the evaluation has found that the collection of the Facility Assessment Form data is lacking. Thus, another objective that the H2E program can set would be related to improving its collection of data from partners. H2E could set a quantitative target for collecting data such as a number (or percentage) of current partners to collect baseline and annual follow-up data from. Increasing the response rate may be challenging, however. Options for increasing response are (a) consistent follow-up on the part of H2E and (b) providing guidance materials on completing the forms. ERG's CSS phone survey was able to attain a response rate of 68 percent among partners that were contacted. Additionally, partners are, on a whole, very satisfied with the program. Thus, in ERG's professional opinion, consistent follow-up should lead to increased submission of data, since the population is both interested in discussing the program and satisfied with the program. Also, the H2E program can consider developing guidance materials on how to fill out the form. This can be combined with the suggestion from the CSS that the forms be re-worked to better reflect how hospitals track data. Specifically, the guidance can provide instructions on how to translate hospitals' real-world data tracking into the categories provided on the current form.[18]

(2) Focus on what customers liked and where improvements are still needed.

The CSS found that 99 percent of respondents are either very or somewhat satisfied with the program in general. Respondents also indicated a high degree of satisfaction with several program components. These high marks are strong indications of overall customer satisfaction. The H2E program should not, however, become complacent following these strong results. The open-ended CSS survey questions provide information that H2E can draw from to better understand partner likes and where partners think improvements can be made. The program should consider each of the suggestions made by respondents to the CSS (see detailed responses in Appendix C). Some suggestions for improvement included simplifying the awards application process, reducing the high volume of e-mails from the listserv, and varying the times for the teleconferences.

[18] ERG is not suggesting to re-work the current form, however. One consideration in re-working the Facility Assessment form is the comparability of data collected from any re-worked form to the original form. Non-comparable data would restrict analyses that could be performed.

(3) Make a strong effort to collect baseline and annual follow-up Facility Assessment Form data from current partners.

Collecting baseline data may be difficult to achieve given that some non-submitting hospitals have been partners for more than three years. Thus, the baseline data may not be available for those facilities. Nevertheless, a key to measuring program success is to collect data. The Facility Assessment form itself asks for the necessary data: baseline and annual follow-up data for the key waste categories other than mercury-related waste. The form, however, does not ask for specific *amounts* of mercury reductions. H2E should consider asking about mercury-related reductions, possibly providing representative mercury levels from different types of devices as guidance.

For all types of waste, if H2E were to collect baseline and follow-up data, a more comprehensive analysis could be conducted. In fact, if more comprehensive data were available from the Facility Assessment form, a detailed assessment of program impacts could be performed. Specifically, reductions from baseline could be calculated and potentially some of those reductions could be attributed to the program. Such an evaluation would meet OMB requirements under the Program Assessment Rating Tool. ERG has provided recommendations under #1 above to improve response rates for the FA form.

(4) Collect baseline and annual follow-up data from new partners.

Hospitals that join the program in the future offer H2E the opportunity to collect Facility Assessment form data. Given the current state of the Facility Assessment form data, H2E should make it a priority to collect data from new partners at a minimum. It should be noted, however, that collecting data from new partners alone will not generate a set of data that can be used for a future comprehensive evaluation. Partners that join in future may not be representative of all partners that have joined the program. Thus, in order to perform analysis of program impacts, H2E will need collect data from current partner as well.

(5) Develop a method of normalizing the data collected from the Facility Assessment Form.

Comparing or combining raw waste reduction numbers across hospitals is not an accurate method of estimating waste reduction. Hospitals differ in size and in how busy they are. This report used the number of adjusted inpatient days (available from the Facility Assessment Form) to normalize the data. However, there are some problems even with this number. Specifically, different types of hospitals generate waste at different rates, even for similarly busy and similarly-sized hospitals. If H2E were to collect data on the type of each hospital, along with more of the Facility Assessment Form data, then H2E could separate out the different types of hospitals from one another and compare similar hospitals. Nevertheless, H2E should develop an approach to normalizing its data and use that approach consistently.

References

Office of Management and Budget (OMB), 2006. Questions and Answers When Designing Surveys for Information Collections," Office of Information and Regulatory Affairs, January.

APPENDIX A

SAMPLING AND IMPLEMENTATION PLAN TO COMPLETE CUSTOMER SATISFACTION SURVEY

This appendix details the sampling plan for the customer satisfaction survey for the H2E program. This plan consists of:

- Definitions of the target population, sampling units, and sampling frame,
- Sample size estimates,
- Procedures for allocating the sample among strata,
- Procedures for selecting the sample,
- A discussion of potential missing data and nonresponse issues and procedures for handling those issues,
- Implementation procedures, and
- Procedures to be used in analyzing the sampled data.

A.1 Target Population, Sampling Units, Observational Units, and Sampling Frame

A.1.1 Target Population

The target population for the customer satisfaction survey consists of **hospitals** that are **H2E partners**. The H2E program covers a variety of organizations and there are different ways for organizations to be involved in the program. Partners include hospitals, nursing homes, and clinics, as well as other types of facilities. Additionally, besides being a Partner, an organization can be a "Champion" or an "Endorser." This survey effort, however, is being restricted to partner hospitals.

A.1.2 Sampling Units

The sampling unit for a survey is the unit that is drawn from the population. For this survey, the sampling unit will be **hospitals**.

A.1.3 Observational Units

The observational unit in a survey is the unit that responds to the survey questions. Observational units in the survey will be the **individuals responsible for the hospital's H2E membership**. Thus, responses will reflect the satisfaction of the individuals that are responsible for H2E membership, rather than for the hospital as a whole. Nevertheless, the individual responsible for program membership should be able to provide the most relevant opinion on the satisfaction with the H2E program.

A.1.4 Sample Frame

The H2E program maintains a database of members. The sampling frame will be drawn from this list. ERG obtained the list from H2E and refined the list to generate a list of facilities that are in-scope for this sampling effort. These refinements were:

- Eliminating any facility listed as a "Prospect Partner," rather than as a "Partner."
- Retaining only facilities that had "Hospital" or "Medical Center" in their name.

The refinements to the list provided by H2E resulted in a sample frame of **873 hospitals**.

The list identifies which members are hospitals and provides contact information for the individual responsible for H2E membership. If the individual responsible for H2E membership has changed, the telephone contractor will be responsible for identifying the appropriate person at the hospital.

A.2 Estimation of Sample Size

This section of the sampling plan discusses criteria used to estimate a sample size and provides an estimated sample size for the survey. There are three topics covered in this section: the statistical criteria used in choosing the sample size, an initial sample size estimate, and a finite-population-corrected sample size estimate.

A.2.1 Statistical Criteria

The statistical criteria used in choosing a sample size are:

- Precision—The maximum difference in the parameter of interest (e.g., degree of satisfaction with the H2E program on a scale of one to four) between an estimate for that parameter obtained from the sample and the value of that parameter in the population.
- Confidence—The probability of correctly accepting a true hypothesis.
- Power—The probability of correctly rejecting a false hypothesis.

The use of each in choosing a sample size is discussed in what follows.

Precision

Precision is the maximum difference between a sample estimate and the population value that one is willing to accept. For example, for sample means, precision defines '*x*' in the phrase: we are 90 percent confident that the population mean is within (plus or minus) '*x* units' of population mean.

The customer satisfaction survey contains a question that asks respondents about their overall satisfaction with the H2E program. ERG expects that this question represents a key parameter of interest for this survey and has therefore based a sample size estimate on obtaining a valid response to this question. The question is phrased as follows:

Could you tell me how satisfied you are with the H2E program in general?

4. Very satisfied
3. Somewhat satisfied
2. Somewhat dissatisfied
1. Very dissatisfied

The question for precision is then: for a mean value estimated from the sample, how many points (on the four-point scale being used in the question) is an acceptable deviance from the population mean for given

levels of confidence and power. For example, choice of a half point in precision and 90 percent confidence (explained below) and a sample mean estimate of 2.8 implies that one can be 90 certain that the population sample mean is somewhere between 2.3 and 3.3. The necessary sample size needed to achieve a given level of precision increases as the acceptable deviance becomes smaller (i.e., as the precision increases). Additionally, the necessary sample size needed to meet precision requirements increases exponentially with the precision.

ERG suggests that an acceptable level of precision for this analysis would be **0.3 points** on the four-point scale. This level of precision balances cost (i.e., an increased number of units) with the need to relatively precise data. In the above example with a 2.3 sample mean and 90 percent confidence, 0.3 in precision implies that one can be 90 percent certain that the population mean is between 2.0 and 2.6.

Confidence

Confidence is the probability of accepting a true hypothesis. For purposes of sampling, confidence defines the likelihood that the population mean will be contained in the interval around the sample mean defined by the precision for the sample. Although standard confidence for studies such as this one is commonly set at 95 percent, we have chosen a **90 percent confidence interval**. The reason is that there is an inverse relationship between power and confidence. As discussed below, power has been set at 80 percent, well above the standard 50 percent value. Thus, reducing the necessary confidence to 90 percent is acceptable. Furthermore, 90 percent confidence is still an acceptable level of confidence in most disciplines.

Power

Power is the probability of finding a significant difference with a hypothesis test if that difference in fact exists. (In statistical terms, the power of a statistical test is the probability of correctly rejecting a false hypothesis.) In the case of the H2E customer satisfaction survey, the data collected should be able to provide a valid answer to the question of whether respondents' satisfaction with the program is significantly above average. That is, the data should be able to indicate whether the average value from the customer satisfaction is significantly greater than 2.5 on the four-point scale being used. In this case, the hypothesis is that satisfaction with the program is "average" and we are trying to determine if satisfaction is above average. Traditional hypothesis tests set power, by default, at 50 percent. In cases such as this, power should be set above 50 percent (Cohen, 1988; Murphy and Myors, 2004). Following Cohen's (1988) suggestion, we have decided to use **80 percent** power.

A.2.2 Initial Sample Size Estimates

The choices for precision, confidence, and power are used to generate a sample size estimate using the methods and tables in Cohen (1998). First, the precision of the sample is divided by standard deviation of the variable that the precision is measured on. Without data on the four-point customer satisfaction question defined above, ERG has used a worst-case assumption on standard deviation. Specifically, the question of interest has a four-point scale, so it has a three-point range [4 (upper end) – 1 (lower end) = 3 point range]. The variance of the parameter would be maximized if half of the respondents answered '1' and half answered '4' to the question. This would generate a mean of 2.5 and a variance of $(1.5)^2$, resulting in a standard deviation of 1.5. Thus, the ratio of precision to standard deviation for our case is 0.2 (= 0.3 ÷ 1.5). Cohen then suggests multiplying this number by the square root of 2 before cross-referencing in his tables. This is necessary because the tables are designed for

comparing two samples, whereas in this case only one sample is being used.[19] The resulting value, 0.28 (= $0.2 \times [2]^{0.5}$), is then used as d in the following formula:

$$n_0 = \frac{n_{.10}}{100d^2} + 1 \qquad \text{(A-1)}$$

where $n_{.10}$ is the sample size for a precision-standard deviation ratio of 0.10 for the specified power (80 percent) and confidence value (90 percent) from Table 2.4.1 in Cohen (1988). From Cohen (1988), Table 2.4.1, $n_{.10}$ = 1,237 for 80 percent power and 90 percent confidence on a two-sided test. Thus, the estimated sample size for the precision of 0.3 points on the four-point scale is 156.[20]

A.2.3 Finite Population-Adjusted Sample Size Estimates

Sample size estimates that exceed 5 percent of the population size are generally adjusted downward using what is commonly referred to as a finite population correction (FPC). The FPC can be written as:

$$n_{FPC} = \frac{n_0}{1 + \frac{n_0}{N}} \qquad \text{(A-2)}$$

where n_{FPC} is the FPC sample size, n_0 is the initial sample size estimate (from the previous section), and N is the population size. The population of H2E partner hospitals is 873. Using this and the estimated sample size from A.2.2, the FPC-adjusted sample size is **133 hospitals**.

A.3 Sample Allocation

The sample will be allocated across the population based on EPA Region and whether or not the facility has submitted an assessment form. To allocate across regions, ERG divided the ten EPA Regions into four areas based on geography:

- Northeast—Regions 1, 2, and 3
- South—Regions 4 and 6
- Midwest—Regions 5, 7, and 8
- West—Regions 9 and 10

The sample will then be proportionally allocated across these four areas.[21] Table A-1 provides a breakdown of how the sample is allocated across the four geographic areas. The reason for dividing the Regions into these four areas is pragmatic. If the sample were proportionally allocated among the Regions, the sample size (133 hospitals) may result in small numbers of sampled hospitals for some regions. For example, if the sample were proportionally allocated across Regions, only five hospitals would be allocated to Region 8, a number too small to make meaningful inferences about.

[19] Cohen (1998) refers to this as "Case 3" in Chapter 2 of his book.
[20] Estimated values were rounded up to the nearest integer.
[21] That is, the proportion of the sample allocated to each area will be identical to the proportion that each area represents in the target population. For example, if x percent of the target population is in the Northeast area, then x percent of the sample will be allocated to the Northeast area.

ERG will also divide the sampling frame between facilities that have submitted facility assessment forms and ones that have not. ERG will use systematic sampling (see Section A.4) to ensure that both types of facilities are included in the sample.

ERG also considered allocating the sample across sizes of hospitals, but size information was not available for enough of the sample frame to be reliable.

A.4 Sample Selection Procedures

The sample will be selected using a systematic sampling scheme. The sample frame will be divided among the four geographic areas listed above and sorted by assessment form status ("submitted at least one form" and "never submitted a form"). From each area, every *k*th unit will be selected where the value for *k* for area *j* (k_j) will be determined by:

$$k_j = \frac{N_j}{n_j} \qquad \text{(A-3)}$$

where N_j is the number of units for area *j* in the sampling and n_j is the estimated sample size for area *j*. Values of N_j and n_j can be found in Table A-1 (see footnotes to Table A-1).

A.5 Implementation

The survey will be conducted as a phone survey, using an experienced, professional telephone survey firm. Data will be collected as it is reported through use of a Computer-Assisted Telephone Interviewing (CATI) software. ERG will receive weekly reports from the survey firm to monitor progress. Additionally, ERG will monitor actual telephone interviews of respondents to ensure accuracy and adherence to the survey protocols.

Table A-1. Allocation of Sample Across Geographic Areas

Geographic Area/EPA Region	Number of Hospitals in Target Population (Percent of Total in Parentheses)	Number of Hospitals Allocated to Sample
Northeast		
Region 1	113 (12.9%)	[a]
Region 2	57 (6.5%)	[a]
Region 3	80 (9.2%)	[a]
Subtotal—Northeast	*250 (28.6%) [b]*	*38 [c]*
South		
Region 4	122 (14.0%)	[a]
Region 6	90 (10.3%)	[a]
Subtotal—South	*212 (24.3%) [b]*	*32 [c]*
Midwest		
Region 5	162 (18.6%)	[a]
Region 7	36 (4.1%)	[a]
Region 8	36 (4.1%)	[a]
Subtotal—Midwest	*234 (26.0%) [b]*	*36 [c]*
West		
Region 9	129 (14.8%)	[a]
Region 10	48 (5.5%)	[a]
Subtotal—West	*177 (20.3%) [b]*	*27 [c]*
TOTALS	**873 (100%)**	**133**

[a] The sample was allocated across the target population at the geographic area (Northeast, South, Midwest, West) level and not at the Regional level.
[b] These number comprise the values for N_j in equation A-3.
[c] These number comprise the values for n_j in equation A-3.

A.6 Dealing With Missing Data and Nonresponse

A number of nonresponse issues may arise during the data collection process. Table A-2 summarizes ERG's approach to handling those issues.

Table A-2. Nonresponse Issues and Techniques Used to Minimize the Impact Of Those Issues

Nonresponse issue	Techniques to be used to minimize impact of nonresponse
Refusals—Observational unit refuses to take survey	• ERG will be using a professional survey firm that is skilled in converting refusals. • ERG will replace refusals with similar establishments. • ERG will develop a questionnaire that limits the burden imposed on observational units.
Not available—Observational unit not available at the time the phone survey firm calls	• The survey firm will call the establishment back up to seven times before considering them nonrespondents and excluding them from the sample. • ERG will replace not availables with similar establishments.
Out of scope—Observational unit indicates that sampled unit is not within scope for survey (e.g., not an H2E partner or not a hospital)	• ERG will replace those that are out of scope with similar establishments. • ERG does not expect this to be a significant issue given the sample frame being used (i.e., the H2E's own list of partners).
Refusal to answer specific questions—Observational unit refuses to answer specific questions	• ERG will be using a professional survey firm that is skilled in converting refusals. • ERG will develop a questionnaire that limits the burden imposed on observational units.

A.7 Analysis

Analysis of data collected from the survey will need to account for the nature the sample design. Specifically, the calculation of mean values will require appropriate weighting. The sample mean ($\bar{x}$) of any variable collected through this survey can be calculated using the following formula:

$$\bar{x} = \sum_{j=1}^{J} \frac{N_j}{N} \bar{x}_j \qquad \text{(A-4)}$$

where *j* indexes strata, *J* is the total number of strata (i.e., the four geographic areas), N_j is the population for the *j*th stratum, *N* is the number in the population, and $\bar{x}_j$ is the mean value for variable *x* in the *j*th stratum. The variance of the sample mean ($\hat{V}(\bar{x})$) can be calculated as

$$\hat{V}(\bar{x}) = \sum_{j=1}^{J} \left(1 - \frac{n_j}{N_j}\right)\left(\frac{N_j}{N}\right)^2 \left(\frac{s_j^2}{n_j}\right) \qquad \text{(A-5)}$$

where s_j^2 is the variance for variable *x* in the *j*th stratum and all other variables are as defined above. A 95 percent confidence interval for the sample mean of *x* is then defined as:

$$\bar{x} \pm 1.96 \times \sqrt{\hat{V}(\bar{x})} \qquad \text{(A-6)}$$

APPENDIX B

CUSTOMER SATISFACTION SURVEY QUESTIONNAIRE

[*Introductory text, such as: "Hello, may I please speak with [insert name]. My name is [insert your name] of [company name]."*] We are conducting a survey of hospitals that are participating in the Hospitals for a Healthy Environment Program, also referred to as H2E. As you may know the purpose of the H2E program is to provide information and services that hospitals can use to reduce their use of mercury and generation of waste. The services provided by the program include a Web site, teleconference training, technical assistance hotline, and an awards program. Are you the best person to talk to regarding your facility's involvement with the H2E program?

If no, please ask for the name and contact information for the more appropriate person. Contact this new person to complete the survey.

I would like to ask you some questions about how often you use particular services, whether you are satisfied with the services, and whether you have any suggestions for improvement. The survey should take about 20 minutes. The survey is voluntary and the answers you give will be kept strictly confidential.

1. How familiar are you with the H2E program?

1. Not familiar
2. Just a little familiar
3. Moderately familiar
4. Very familiar

If Q1 is "1"then politely thank the respondent and end the interview.

2. Could you tell me how often you use the H2E program Web site?

1. Never
2. Rarely
3. Once a month
4. Two or three times a month
5. More than once a week

If Q2 is "1" then skip to Q7.
Otherwise go to Q3.

3. How do you rate your level of satisfaction with the H2E Web site?

1. Haven't used it enough to say
2. Very dissatisfied
3. Somewhat dissatisfied
4. Somewhat satisfied
5. Very satisfied

If Q3 is "1" then skip to Q7.
If Q3 is "4" or "5" then skip to Q5.

If Q3 is "2" or "3" go to Q4

4. What are your main reasons for being dissatisfied with the Web site?

[This is an open-ended question with the responses below provided for coding purposes
- *Difficult to navigate through the Web site*
- *Information on the topic not available*
- *Broken links*
- *Slow download time*
- *Other, please briefly describe]*

5. What is the most useful part of the Web site?

[This is an open-ended question with the responses below provided for coding purposes
- *Ten Step Guides*
- *Tools and resources, such as model policies or fact sheets*
- *Links to contacts and other information sources*
- *Event listings*
- *Other, please briefly describe]*

6. Can you think of any improvements to the H2E Web site that would increase your level of satisfaction with this service?

7. How often do you read the H2E's Stat Green newsletter?

1. Never
2. Rarely
3. Occasionally
4. Read every issue

If Q7 is "1" then skip to Q10
Otherwise go to Q8.

8. How do you rate your level of satisfaction with the newsletter?

1. Haven't read it enough to say
2. Very dissatisfied
3. Somewhat dissatisfied
4. Somewhat satisfied
5. Very satisfied

9. Can you think of any improvements to the H2E newsletter that would increase your level of satisfaction with this service?

10. How often do you read the emails from the H2E Information Exchange listserv?

1. Am not signed up
2. Rarely
3. Occasionally read e-mail threads
4. Actively read listserv e-mails

If Q10 is "1" then skip to Q13.
Otherwise go to Q11.

11. How do you rate your level of satisfaction with the listserv?

1. Haven't used it enough to say
2. Very dissatisfied
3. Somewhat dissatisfied
4. Somewhat satisfied
5. Very satisfied

12. Can you think of any improvements to the H2E listserv that would increase your level of satisfaction with this service?

13. Now let's turn to the H2E teleconference training. Can you tell me how many times you have participated in an H2E teleconference in the past year?

1. None
2. 1 to 5
3. 6 to 9
4. More than 9

If Q14 is "2," "3" or "4" then skip to Q15.
Otherwise go to Q14.

14. Can you think of any changes to the H2E teleconferences that would increase your likelihood of participating?

[Response categories for coding purposes:
- *Better topics*
- *Different times for training call*
- *Training formats other than calls*
- *Other (please specify)]*

Skip to Q18.

15. On average, how would you rate your level of satisfaction with the H2E teleconferences that you've participated in?

1. Very dissatisfied
2. Somewhat dissatisfied
3. Somewhat satisfied
4. Very satisfied

16. Can you think of any improvements to the teleconferences that would increase your level of satisfaction with this service?

17. The H2E program is open to including additional topics in future teleconferences. Can you think of any additional topics that would increase your level of satisfaction with the teleconferences?

[Response categories for coding purposes:
- *data collection*
- *sample hospital partner education*
- *how to reduce linen use*
- *other (please specify)]*

18. How many times have you called the H2E technical assistance hotline or called H2E staff directly during the past year?

1. None
2. 1 to 5
3. 6 to 9
4. More than 9

If Q18 is "1" then skip to Q21.
Otherwise go to Q19.

19. On average, how do you rate your level of satisfaction with the services you obtained from calling H2E staff or the hotline?

1. Very dissatisfied
2. Somewhat dissatisfied
3. Somewhat satisfied
4. Very satisfied

20. Can you think of any improvements that would increase your level of satisfaction with H2E staff or the hotline?

21. H2E hosts an awards ceremony each year. Have you ever attended?

Yes [ ] No [ ]

If Q21 is "no" then skip to Q25.
Otherwise go to Q22.

22. What was the most satisfying aspect of the awards ceremony?

[Response categories for coding purposes:
- *Public recognition*
- *Learning from peers*
- *Networking opportunities*
- *Other, please briefly describe]*

23. Have you ever applied for an H2E award?

Yes [ ] No [ ]

If Q23 is "no" then skip to Q25.
Otherwise go to Q24.

24. Can you think of any changes to the awards process that would increase your likelihood of participating?

25. As you may know, every hospital participating in the H2E program is asked to submit a baseline facility assessment form and to submit updated forms periodically. Do you recall whether you have submitted any of these forms?

1. Yes, original and updated forms
2. Original form only
3. Updates only
4. No, have not submitted any forms

26. Can you think of any improvements to the data collection process or the forms themselves that would increase your level of satisfaction with this part of the program?

27. H2E may expand the program to include information about energy conservation. Would that increase your level of satisfaction with the program?

Yes [ ] No [ ]

28. H2E may expand the program to include information about water conservation. Would that increase your level of satisfaction with the program?

Yes [ ] No [ ]

29. On a scale of 1 to 4, with 4 being the most satisfied, how would you rate your level of satisfaction with the H2E program in general?

1. Very dissatisfied
2. Somewhat dissatisfied
3. Somewhat satisfied
4. Very satisfied

30. What is the best part of being an H2E partner?

31. What do you like the least about being an H2E partner?

Thank you very much for your time. Your comments will help us in our efforts to evaluate and improve the H2E program.

APPENDIX C

H2E CUSTOMER SATISFACTION SURVEY: TELEPHONE INTERVIEWS, NOVEMBER – DECEMBER 2005

1. How familiar are you with the H2E Program?

Response Options	Count	Percent
Very familiar	59	44%
Moderately familiar	63	47%
Just a little familiar	13	10%
Not familiar	0	0%
Total:	135	101%

2. How often do you read the emails from the H2E Information Exchange listserv?

Response Options	Count	Percent
Actively read listserv e-mails	83	61%
Occasionally read e-mail threads	42	31%
Rarely	4	3%
Am not signed up	6	4%
Total:	135	99%

3. *(Answered 'rarely,' 'occasionally read e-mail threads,' or 'actively read listserv e-mails' to Question 2),* **How do you rate your level of satisfaction with the listserv?**

Response Options	Count	Percent
Very satisfied	57	44%
Somewhat satisfied	57	44%
Somewhat dissatisfied	1	1%
Very dissatisfied	0	0%
Haven't used it enough to say	14	11%
Total:	129	100%

4. *(Answered 'rarely,' 'occasionally read e-mail threads,' or 'actively read listserv e-mails' to Question 2),* **Can you think of any improvements to the H2E listserv that would increase your level of satisfaction with this service?**

Response Options	Count	Percent
I cannot think of any[a]	84	65%
No, I am happy with it[b]	9	7%
Substantive comments[c]	36	28%
Total:	129	100%

[a] This category contains non-substantive statements, such as none or no.

[b] This category includes any responses that were non-substantive and included a positive comment, such as not really - it does a good job.

[c] Verbatim answers provided in next table.

Verbatim Answers to Question 4 About Improving the Listserv

1	No not really. Maybe a Web site but from listserv.
2	The general etiquette of the people using the listserv could be improved upon. Some of the things coming across are inappropriate and could be dealt with directly. The volume of e-mails is too high.
3	They could decrease the volume of e-mails coming across. I am so busy that I must delete a high percentage of them.
4	They could figure out some way of limiting the volume of e-mails that we receive regarding one single topic.
5	They could slow down the massive amount of e-mails that come across.
6	They have too many emails.
7	They should group the messages and make one summary. They just pile up so much. I do not have time to read all of them and do work.
8	Less chatting back and forth. They should stay with the topic of compliance purposes.
9	Members who are out of the office set their listserv to out of office mode. When you return, you may have fifty e-mails that do not pertain. It would be nice if they could filter out some of these communications.
10	There is way too much useless communications coming across the listserv. The users should have more etiquette. The communications should be cut back to relevant conversation only.
11	They could apply some etiquette when asking and answering questions. There are too many e-mails coming across.
12	When they broadcast email responses about a question to a member they go on and on about different things and you get lost. It would be nice to read just what you request.
13	There are some bits of information that do not pertain to me. I usually delete a large percentage of the e-mails.
14	There are too many irrelevant e-mails coming across. It makes me not want to read them. I could miss something important by trying to skip over the irrelevant ones.
15	They could filter out some of the topics that are not pertinent to me. I do not know how they could do it. I realize that they have to keep it opened, but it seems as though there is a lot of useless chatting going on.
16	They could filter out the information that is not pertinent to me.
17	They could have some way to categorize the questions so that I only get the questions that I am interested in.
18	They have a lot of miscellaneous stuff. I was wondering if they could filter them out by topics.
19	It is difficult to say. It gives a lot of information. Some of the information does not relate to me at the time. Sometimes it points to references I can use.
20	Not that I could really think of. Most of it has not been pertinent to what we are doing.
21	Users could make their topics or questions more clear. I would like to be able to read information relevant to me, and also quickly delete anything that is not relevant.
22	I think the H2E listserv should have some sort of screening mechanism that lumps it together and categorizes things.
23	I think the listserv should have more regulatory updates.
24	I think they should try to keep inquiries general to EPA issues.
25	Maybe subject matter. A better subject line.
26	More links with Greening the government.
27	The variety of subjects keeps me very satisfied.
28	They could break down EPA requirements better, to make it easier for me to understand.
29	It is an excellent program. There is just not enough time.
30	I cannot think of anything right off. Improving their source data on their Web site.
31	I did not even know I was on a listserv.
32	They could add me personally to the program.

Question 4 Answers (continued)

33	Yes there is one thing I would do, I would add tie-ends where we could get certification for different types of jobs.
34	Either some of the answers are not being circulated, or I do not know what I am doing. It seems to me that not all of the answers are given to questions that are posted.
35	They could improve the format. It is hard to read.
36	They could provide better education for users. They could explain more of the details for this service.

5. Can you tell me how many times you have participated in an H2E teleconference in the past year?

Response Options	Count	Percent
More than 9	2	1%
6 to 9	6	4%
1 to 5	64	47%
None	63	47%
Total:	135	99%

6. *(Answered 'none' to Question 5),* **Can you think of any changes to the H2E teleconferences that would increase your likelihood of participating?**

Response Options	Count	Percent
I cannot think of any[a]	49	78%
No, I am just too busy[b]	7	11%
Substantive comments[c]	7	11%
Total:	63	100%

[a] This category contains non-substantive statements, such as none or no.
[b] This category includes any responses that were non-substantive and also included the statement of being too busy.
[c] Verbatim answers provided in next table.

Verbatim Answers to Question 6 About How to Increase Participation in Teleconferences

1	Get closer to our time zone rather than eastern standard time.
2	I guess I have not been that familiar when they come up.
3	I think they should have some teleconferences here in town.
4	Keep them brief.
5	Maybe additional regulations.
6	There is not enough by in from superiors. This is an addition to my work. I think by assisting, it would help initiate if someone from higher up like a director or vice president would get involved.
7	They could post more of an advanced warning about when they will be held so I could make plans to attend.

7. *(Answered '1 to 5,' '6 to 9,' or 'more than 9' to Question 5),* **On average, how would you rate your level of satisfaction with the H2E teleconferences that you've participated in?**

Response Options	Count	Percent
Very satisfied	50	69%
Somewhat satisfied	22	31%
Somewhat dissatisfied	0	0%
Very dissatisfied	0	0%
Total:	72	100%

8. *(Answered '1 to 5,' '6 to 9,' or 'more than 9' to Question 5),* **Can you think of any improvements to the teleconferences that would increase your level of satisfaction with this service?**

Response Options	Count	Percent
I cannot think of any[a]	52	72%
Not really, they do a great job[b]	4	6%
Substantive comments[c]	16	22%
Total:	72	100%

[a] This category contains non-substantive statements, such as none or no.
[b] This category includes any responses that were non-substantive and also included a statement about them being useful or other positive statement.
[c] Verbatim answers provided in next table.

Verbatim Answers to Question 8 About Improving the Teleconferences

1	To bring more experts to ask specific questions about H2E.
2	Things should move a little faster and they should provide more information for small, rural hospitals.
3	They could have various start times rather than the usual 2pm est.
4	They could have better and more detailed handouts.
5	They always conduct them on Friday evenings. That is a busy time for people who may be leaving for the weekend.
6	The only improvement I can think of would be having a wide variety of topics so you could pick and choose which ones to go to.
7	The issue for me is conflict with my work schedule. What would be nice is after conference support data.
8	The ability to choose what information to be responsive on for specific topics.
9	Sometimes we have trouble getting access.
10	Reaching out to policy makers.
11	No not really. Maybe offer more specially on health care issues.
12	I would like to see a block of shared information at the beginning and a list of contacts.
13	I would like it if it were a Web teleconference. For example over the speaker and slides would be good.
14	I think focusing on just one item at a time would be better.
15	I guess sometimes the topics are not ones I would like to hear.
16	I guess presentations have occasionally been too lengthy, and or too rudimentary. The presentations could be shorter and more focused. They could assume a basic level of knowledge. They have too much background information included in the presentation.

9. *(Answered '1 to 5,' '6 to 9,' or 'more than 9' to Question 5),* **The H2E program is open to including additional topics in future teleconferences. Can you think of any additional topics that would increase your level of satisfaction with the teleconferences?**

Response Options	Count	Percent
I cannot think of any[a]	48	67%
Substantive suggestions[b]	24	33%
Total:	72	100%

[a] This category contains non-substantive statements, such as none or no.
[b] Verbatim answers provided in next table.

Verbatim Answers to Question 9 About Teleconferences Topics

1	We are struggling with disposal of pharmacy waste and streamline.
2	Waste reduction and waste stream tips.
3	They could talk more about HIPPA requirements. They could include more innovations from the waste reduction aspect of healthcare.
4	They could take some of the ideas from the listserv questions. The listserv is like an active conversation between members. They could include more questions from the listserv.
5	They could include Cogent production, and how to keep it within EPA standards.
6	They could have more topics about hazardous waste management and reduction.
7	They could address protocol for natural disasters.
8	They could focus more on pharmaceuticals. They could have more updates on microfiber use.
9	The one topic I can think of is waste in chemotherapy.
10	The one big this is the pharmaceutical disposal. To get rid of the p-list drugs and the U-list drugs, ext. I think they should hit one area, then another. I also think they should get recommendations of what companies are avail.
11	The main topic would be industrial hygiene.
12	The ems topics.
13	Spill containment, refrigeration, medical waste, pharmaceutical waste and recycling.
14	One topic that I think would be a good one is more recycling options for different types of health care related waste.
15	One additional topic I can think of is disposal of neo-plastic agents.
16	More topics about waste management in the healthcare industry. There are a lot of topics that are not relevant to me.
17	Maybe a discussion with The American Medical Association.
18	Just environmental management systems and audits also training and awareness of environmental hazards.
19	I would like to see more information on sustainable buildings, particularly sustainable hospitals.
20	I read an article that recommends switching from bleach to hydrogen peroxide for laundry. I would like to see a topic on the pros and cons of switching.
21	Genetic engineered foods, hormones, the beef supply, pharmaceuticals and the water supply would be good topics.
22	Environment issues are important all the time.
23	Energy management
24	Anything towards the medical waste reduction.

10. How many times have you called the H2E technical assistance hotline or called H2E staff directly during the past year?

Response Options	Count	Percent
More than 9	4	3%
6 to 9	5	4%
1 to 5	58	43%
None	68	50%
Total:	135	100%

11. *(Answered '1 to 5,' '6 to 9,' or 'more than 9' to Question 10),* **On average, how do you rate your level of satisfaction with the services you obtained from calling H2E staff or the hotline?**

Response Options	Count	Percent
Very satisfied	61	91%
Somewhat satisfied	6	9%
Somewhat dissatisfied	0	0%
Very dissatisfied	0	0%
Total:	67	100%

12. *(Answered '1 to 5,' '6 to 9,' or 'more than 9' to Question 10),* **Can you think of any improvements that would increase your level of satisfaction with H2E staff or the hotline?**

Response Options	Count	Percent
I cannot think of any[a]	59	88%
No, they are great[b]	4	6%
Substantive suggestions[c]	4	6%
Total:	67	100%

[a] This category contains non-substantive statements, such as none or no.
[b] This category includes any responses that were non-substantive and also included a statement about them being useful or other positive statement.
[c] Verbatim answers provided in next table.

Verbatim Answers to Question 12 About Improving Calls to H2E

1	They need a local number in Colorado.
2	They could increase their number of staff members.
3	Recycling with other resources
4	I can easily see all the information that I pull of about varies types of topics

13. Could you tell me how often you use the H2E program Web site?

Response Options	Count	Percent
More than once a week	10	7%
Two or three times a month	20	15%
Once a month	44	33%
Rarely	45	33%
Never	16	12%
Total:	135	100%

14. *(Answered 'rarely,' 'once a month,' 'two or three times a month,' or 'more than once a week,' to Question 13),* **How do you rate your level of satisfaction with the H2E Web site?**

Response Options	Count	Percent
Very satisfied	62	52%
Somewhat satisfied	31	26%
Somewhat dissatisfied	1	1%
Very dissatisfied	0	0%
Haven't used it enough to say	25	21%
Total:	119	100%

15. *(Answered 'somewhat dissatisfied' or 'very dissatisfied' to Question 14),* **What are your main reasons for being dissatisfied with the Web site?**

Verbatim Answer to Question 15 Regarding Dissatisfaction with Web site

The content is not really what I am interested in. The service seems a little basic to me.

16. *(Answered 'very dissatisfied,' 'somewhat dissatisfied,' 'somewhat satisfied,' or 'very satisfied' to Question 14),* **What is the most useful part of the Web site?**

Response Options	Count	Percent
None[a]	13	14%
It's all great[b]	41	44%
Substantive comments[c]	40	43%
	94	101%

[a] This category contains non-substantive statements, such as none or no.

[b] This category includes any responses that were non-substantive and also included a statement about it being useful or other positive statement.

[c] Verbatim answers provided in next table.

Verbatim Answers to Question 16 About Most Useful Part of the Web site

1	Being able to research recycling contractors.
2	Any recycling information that I can access for Massachusetts.
3	References such as hazardous wastes and points of contact on certain areas dealing either compliance.
4	A good summary of resources and templates that you can use to improve policies. Also there is information that is provided so we do not use any more mercury construction.
5	All of the information that I am able to access.
6	All the information on different items that I look up.
7	Any type of reference material.
8	Anything dealing with waste. I think the entire Web site is very useful. Whenever I look up something, it is always there.
9	I find the navigation is fantastic and the links are excellent.
10	I use it for the award information.
11	Information that is pertinent to me is easily accessible.
12	It is a great tool for obtaining information.
13	It is a very comprehensive Web site. It is targeted for what we need in the healthcare industry.

Question 16 Answers (continued)

14	It is a well of information.
15	It is satisfying and user friendly.
16	Just the information.
17	That you can get all the information you need at your fingertips.
18	The amount of information that is readily available.
19	The current information varies, but it is a good resource.
20	The entire Web site is a wealth of information. I cannot choose one particular part.
21	The general information that I am able to access. I also like the links to other Web sites.
22	The good information.
23	The information you receive.
24	The information given on the Web site is very informative.
25	The most useful part of the Web site is the information that is available on it.
26	The most useful part of the Web site to me is it helps me when I am unsure of certain environmental issues.
27	The various listing of topics as situations arise and it is easy to access the variety of links.
28	Previous teleconference presentations, and links to publications.
29	The scheduling is good. I can find out when the teleconferences are. I also get awards information and the criteria for receiving an award.
30	The teleconferences and they periodically schedule meetings in the area.
31	The teleconferences are great. It is also nice to have links that enable me to research anything needed.
32	For me the most useful part of the Web site is the tools when it comes to integrated pest management and hazardous materials.
33	It gives me the tools to take a look at my institution, and help me to make it more environmentally friendly.
34	The tools such as, the different links, information on spread sheets and assessment tools.
35	The most useful part of the Web site for me is getting information on pharmaceutical waste I have been dealing with.
36	The most useful part of the Web site for me are the training documents that are available on-line.
37	The training classes, and the technical information that is available.
38	I like the technical information given. For example the compliance with environmental regulations of mercury.
39	The most useful part is the sharing of information on hot topics and information on our waste disposal.
40	There is a section on waste reduction that was very useful.

17. *(Answered 'very dissatisfied,' 'somewhat dissatisfied,' 'somewhat satisfied,' or 'very satisfied' to Question 14),* **Can you think of any improvements to the H2E Web site that would increase your level of satisfaction with this service?**

Response Options	Count	Percent
None[a]	85	90%
Substantive suggestions[b]	9	10%
Total:	94	100%

[a] This category contains non-substantive statements, such as no or I can't think of any.
[b]Verbatim answers provided in next table.

Verbatim Answers to Question 17 About Improving the Web site

1	They could add some template documents and policy procedure guidelines.
2	The Web site should break down federal and state information.
3	Organizing their information better.
4	More information on the H2E annual award winner.
5	More industrial monitoring and a list of requirements.
6	Include industrial hygiene.
7	I would like more best practices.
8	I guess if anything I have trouble linking to other Web sites.
9	Energy management.

18. How often do you read the H2E's *Stat Green* newsletter?

Response Options	Count	Percent
Read every issue	45	33%
Occasionally	39	29%
Rarely	23	17%
Never	28	21%
Total:	135	100%

19. *(Answered 'rarely,' 'occasionally,' or 'read every issue,' to Question 18),* **How do you rate your level of satisfaction with the newsletter?**

Response Options	Count	Percent
Very satisfied	47	44%
Somewhat satisfied	32	30%
Somewhat dissatisfied	2	2%
Very dissatisfied	0	0%
Haven't read it enough to say	26	24%
Total:	107	100%

20. *(Answered 'rarely,' 'occasionally,' or 'read every issue,' to Question 18),* **Can you think of any improvements to the H2E newsletter that would increase your level of satisfaction with this service?**

Response Options	Count	Percent
Not that I can think of[a]	92	86%
Substantive suggestions[b]	15	14%
	107	100%

[a] This category contains non-substantive statements, such as none or no.
[b] Verbatim answers provided in next table.

Verbatim Answers to Question 20 About Improving the Newsletter

1	Receiving an award and the educational topics.
2	They could include more detailed case studies. The inclusions are somewhat superficial now.
3	They could include more best practice examples.
4	They could probably put it on the Web site.
5	Send it to us directly.
6	To have more areas of deadline diversity of hospitals such as a military hospital versus a government hospital.
7	They could attach these surveys so that we could do them online.
8	More color and pictures could be added.
9	Well I am not a computer guy, I am more of a hands on person
10	I think it is boring.
11	It doesn't look like a newsletter. It needs to be formatted like a newsletter. The issues are somewhat vague. It also needs a point of contact, someone to call.
12	If they could have a link, rather then an email. I would like to see something a little more professional.
13	I would like to receive a hard copy as well as e-mail.
14	I would like more video.
15	They could offer more news to those of us in Hawaii.

21. H2E hosts an awards ceremony each year. Have you ever attended?

Response Options	Count	Percent
Yes	21	16%
No	114	84%
Total:	135	100%

22. *(Answered 'yes' to Question 21),* **What was the most satisfying aspect of the awards ceremony?**

Response Options	Count	Percent
Not that I can think of[a]	2	10%
Substantive comments[b]	19	90%
Total:	21	100%

[a] This category contains non-substantive statements, such as none.
[b] Verbatim answers provided in next table.

Verbatim Answers to Question 22 About Most Satisfying Aspect of Awards Ceremony

1	We won an award.
2	Watching and meeting the awards recipients.
3	The presentations from awards winners, and the opportunity to network.
4	The most satisfying aspect of the awards ceremony to me was the ability to meet people and exchange thoughts and ideas.
5	The governor was there and it was a good experience.
6	The award that I received.
7	The ability to see what others in the field are doing. Also, the networking capabilities that I obtained.
8	My hospital won an award.

Question 22 Answers (continued)

9	Meeting other people in the waste reduction field.
10	It was all good and very nice.
11	It is humbling to be recognized for our work. It was also nice meeting the H2E staff, as well as other award recipients.
12	I was given an award for mercury reduction.
13	I think time spent with colleagues and listening to their stories.
14	I liked to see the hospital executives participating.
15	I found it impressing that everyone was actively participating.
16	I enjoyed meeting the presenters. I like making new contacts to network with.
17	Getting an award. Meeting people that are involved in the program.
18	Electronic data submissions.
19	Being able to see what other people are doing.

23. Have you ever applied for an H2E award?

Response Options	Count	Percent
Yes	42	31%
No	93	69%
Total:	135	100%

24. *(Answered 'no' to Question 23),* **Can you think of any changes to the awards process that would increase your likelihood of participating?**

Response Options	Count	Percent
I cannot think of any[a]	77	83%
Substantive suggestions[b]	16	17%
	93	100%

[a] This category contains non-substantive statements, such as none.
[b] Verbatim answers provided in next table.

Verbatim Answers to Question 24 About Encouraging More Participation in Awards

1	I think I am eligible but I do not have time to apply.
2	Yes, the paper could be shorten. The application form is too long, especially the mercury reduction part.
3	The application is for lawyers to apply. It involves technical expertise. The Mercury Three application is very time consuming.
4	Simplifying and uncomplicating the forms. The amount of detail they have in the applications, there is just not enough hours in the day.
5	The only change I can think of is to be invited.
6	I would participate in it if I knew about it.
7	I just found out about it. They need more per. to get out the information.
8	They could have more localized awards ceremonies. My hospital will no longer pay for me to attend. I won an award last year, but was unable to attend the ceremony because it was too far away. The hospital will take credit for my award, but they will no
9	They could have awards ceremonies in localized areas. The next one is in Seattle, and I am located in Florida. That one is not going to happen for me.

Question 24 Answers (continued)

10	Make them regional.
11	Location, where they host it.
12	They need more categories.
13	Information on how to use or maybe a list of topics to go in for.
14	Include more areas of specialized compliance and pharmaceuticals. Hospitals are disputing them in an incorrect way.
15	We do not have that big of a budget. This eliminates me a lot of the time to participate.
16	It would be nice to have an assistant to keep up with the paperwork.

25. As you may know, every hospital participating in the H2E program is asked to submit their annual waste data on the H2E Facility Assessment Summary and Goals Form and to submit updated forms periodically. Do you recall whether you have submitted any of these forms?

Response Options	Count	Percent
Yes, original and updated forms	28	21%
Original form only	23	17%
Updates only	4	3%
No, have not submitted any forms	80	59%
Total:	135	100%

26. Can you think of any improvements to the data collection process or the forms themselves that would increase your level of satisfaction with this part of the program?

Response Options	Count	Percent
I cannot think of any[a]	104	77%
No, they are fine as is[b]	2	1%
Never used the form, New to program[b]	10	7%
Substantive suggestions[c]	19	14%
	135	99%

[a] This category contains non-substantive statements, such as none or no.
[b] This category includes other responses that were non-substantive with similar wording.
[c] Verbatim answers provided in next table.

Verbatim Answers to Question 26 About Improving the Data Collection Process

1	They network you around this continent with other people with similar problems. It is a good resource. It provides portions of contact and leadership for the H2E process.
2	no, because I did not know about the awards program
3	I missed the publicized resources on that in the network. Maybe they can make it a little more clearer.
4	Yeah, the forms do not work and information management needs to look at it. Data goes all over the place.
5	They could simplify the forms so that they are not so time consuming.
6	There are sometimes some things that confuse me on certain topics. For example when I go and present a certain topic. I would like if before hand they can explain exactly how they want it. It is was easier so they can read it and I can make my layout better.
7	The VA Hospitals are utilizing a system and the EPA should consider potential utilizing or merging of the two systems.

Question 26 Answers (continued)

8	The forms need to be totally revamped. Everyone that I have talked to said that the forms were vague. Nobody can figure out what information they are looking for.
9	Offering different ways of recycling. For example we recycle cardboard in a six yard dumpster. They ask for reporting it in pounds and I cannot do that.
10	Not really it seemed too long.
11	My main problem is that the program does not take the unusual circumstances of a university medical center into consideration. We have more waste resulting from research than anything else.
12	Make a brief summary of each issue.
13	It should be less time consuming.
14	It seems so cumbersome, that is why I have not done it again.
15	It is just very time consuming, that sometimes I cannot do all that and work at the same time
16	I think it would be great if they took information in any format that we have already prepared within the organization.
17	It would be nice to get e-mail reminders so that I would remember to submit them.
18	Identify the correct person for the H2E program.
19	I am not even familiar with the forms. They could make the forms more readily available and well known.

27. H2E may expand the program to include information about energy conservation. How interested would you be if energy conservation were included in the program?

Response Options	Count	Percent
Very interested	68	50%
Somewhat interested	51	38%
Somewhat disinterested	11	8%
Very disinterested	5	4%
Total:	135	100%

28. H2E may expand the program to include information about water conservation. How interested would you be if water conservation were included in the program?

Response Options	Count	Percent
Very interested	59	44%
Somewhat interested	55	41%
Somewhat disinterested	16	12%
Very disinterested	5	4%
Total:	135	100%

29. How would you rate your level of satisfaction with the H2E program in general?

Response Options	Count	Percent
Very satisfied	86	64%
Somewhat satisfied	47	35%
Somewhat dissatisfied	2	1%
Very dissatisfied	0	0%
Total:	135	100%

30. What is the best part of being an H2E partner?

Response Options	Count	Percent
I cannot think of an answer[a]	11	8%
Substantive comments[b]	124	92%
	135	100%

[a] This category contains non-substantive statements, usually related to not being very involved in the program.
[b] Verbatim answers provided in next table.

Verbatim Answers to Question 30 About the Best Part of Being an H2E Partner

1	Access to all the information on the Web site.
2	I like knowing you can just get information off the Web site.
3	When I go on the Web site you can pull up or call for information.
4	Access to the Web site and all of the information that it provides.
5	Access to current information on a wide range of topics.
6	Having access to information comparing what we are doing versus other hospitals in the program.
7	The resources that are available to obtain valuable information on waste reduction.
8	The best part of being an H2E partner is the fact that one Web site has a whole lot of information. I can get all the information I need about mercury and anything else about hospitals I need to know. It is a very good resource.
9	The best part of being an H2E partner is the fact that the Web site keeps me informed of environmental issues without searching.
10	I think the teleconferences are informative. They bring a lot of peoples ideas together.
11	Actually the teleconferences and getting involved with it shows us other areas where we could reduce waste.
12	The amount of valuable shared information that I am able to access.
13	The best part is trying to move the medical community forward and knowing I am not the only one out there.
14	Having the company behind you. If you have any questions, you can get on the Web site. You just have a lot of technical support.
15	The community.
16	The best part of being an H2E partner is hearing other people's success stories. It is energizing.
17	You feel connected with people of like minds.
18	There is a lot of positive encouragement from H2E. It is a great national resource that everybody can utilize to gain valuable insights into many environmental programs such as mercury reduction.
19	Knowing that we are making a difference. We are successfully impacting the environment in a good way.
20	Being part of a group of people that are willing to participate in recycling programs, and other waste reduction programs. We use the H2E name in order to lend more credibility to our programs.
21	Caring for the environment.
22	Doing the right thing for the environment.
23	The support that we receive from the H2E staff.
24	They do great work in the waste management field, and we reap the benefits.
25	You always have support close at hand.
26	The best part of being an H2E partner is concentrating on a goal to improve our environment.
27	The best part of being an H2E partner is helping the planet. I like to be environmentally friendly however I can be.

Question 30 Answers (continued)

28	The best part of being an H2E partner is getting and sharing information.
29	The best part of being an H2E partner is having a good resource to go to for questions and to see what other people are doing.
30	The advantage of all the resources. You can pick and choose depending on your needs at the time.
31	Getting information and support that enables me to move forward to our shared goals.
32	Access to information that you may not even think about.
33	The resources available and the information staff support.
34	The availability of information and the exchanging of ideas.
35	It is a great resource and they are nice people.
36	Just the resources and how easy it is to get information. The staff is very personable and helpful.
37	I think the information and support you get from that group has helped with mercury reduction and recycling.
38	It is a good thing I support it.
39	The information you can receive from different members.
40	Keeping well informed and knowing what is happening so that I can make a change.
41	There reference materials
42	Being responsible for the whole world and the environment.
43	All the resources such as compliance and sharing different ideas.
44	The helpful information on waste and hazardous material.
45	The resources available for getting technical questions answered.
46	The ability to research and pickup information. The listserv and the sharing of information.
47	I would just say it is nice to know there is a resource there for questions and for help.
48	Well just the information.
49	There are several pieces, you get all the new information and you do not fill out state regulation forms for mercury reduction.
50	Getting knowledge and being educated. Finding out what is going on in my world.
51	To have an outside resource that digest the information about environmental sustainability and gives guidance to environmental operations.
52	Utilizing the resources,
53	The best part of being an H2E partner is it provides me with a lot of information on EPA issues that are specific to health care.
54	Receiving up to date information that is helpful in my quest to clean up the environment.
55	The ability to be involved with waste reduction.
56	Access to information. References to people who are relevant to my field. It is a great source for networking.
57	Access to information about what other hospitals are doing about waste management and mercury elimination.
58	The vast amount of information that is available to me on the Web site.
59	The information sharing with other partners. Seeing what methods of waste management are being used at other hospitals.
60	I can see what is going on in my field throughout the country.
61	All of the information that I can access.
62	The ability to access information, and network with others in the field.
63	Having a sounding board for problems when needed.
64	Having access to information that enables me to make informed decisions on a daily basis.

Question 30 Answers (continued)

65	It is a fantastic resource all in one place. The staff is fantastic. The listserv is great for obtaining information. The networking capabilities are endless.
66	There is a lot of information pertaining to our field. It is very easy to access.
67	The ability to obtain information regarding how to replace existing materials in the hospital, with more environmentally friendly materials. It also helps us to maintain corporate standards by keeping abreast of new programs and regulations.
68	Information sharing and helping to make a clean working environment.
69	I like having the ability to access information enabling us to change administrative practices.
70	Keeping on top of all of the healthiest ways to perform waste disposal, like getting rid of mercury and other hazardous materials.
71	Having access to all of their information.
72	For me the best part of being an H2E partner is the knowledge I have gained. There are a lot of things that I did not know before I started working with H2E.
73	The best part of being an H2E partner is it gives you a chance to pick the information you want to look at.
74	The best part of being an H2E partner for me is the sharing of information and there is a wealth of knowledge in the program. It is a very good resource of knowledge.
75	Information from others in my field that could help me improve upon my waste reduction techniques.
76	Protecting the environment.
77	The satisfaction of knowing all our hazardous waste is being taken care of.
78	Reporting the waste management data. The people I rely on do not do there part so, there is a big follow up on my part.
79	All of the shared information, and the networking capabilities.
80	I would say it is a new program. I feel is the way of the future and I am excited about it.
81	Getting the information from the newsletters.
82	Being kept up to date about programs related to waste management and reduction.
83	The educational aspect. Keeping abreast of the programs are pertinent to me.
84	Networking with other hospitals and the links.
85	I have access to people that are doing the same thing.
86	The resources and networking.
87	I can offer my professional information I have gained through the years.
88	The information you receive from other facilities about what is going on in our environment. The opportunity for grants. Also the networking.
89	Information sharing
90	The ability to share information with other hospitals.
91	The ability to get ideas from other people.
92	All the information that comes to us and the ability to contact other people and the good networking.
93	I like the networking. I have online contacts if I should have any questions that I need resolved.
94	Learning from other hospitals and sharing information.
95	I like the networking and sharing of information with others in my field.
96	I like the exchange of ideas by people in the environmental protection field.
97	The networking that is generated on the listserv. Being able to see what others are doing in the field.
98	I get to work in close contact with the EPA. I am informed of any new regulations and programs that are available.

Question 30 Answers (continued)

99	Networking with other partners.
100	I like the communications that I receive about what waste reduction techniques are used by other hospitals.
101	The contacts that I have had the opportunity to meet, and share ideas and information with.
102	Being able to share information and network with all of the members.
103	I like the ability to share information with other members.
104	I like the ability to share information and meet new contacts.
105	The contacts that I have had the opportunity to meet. Some of our best work is done outside of the structured environment.
106	The listserv, being able to communicate e-mails to other facilities in the best practice.
107	The best part is the listserv.
108	The sharing of information and the listserv. It's a good information sharing process.
109	The listserv and the awards. I'd like to see leadership get on board to achieve objectives and too compete and possibly win.
110	I like the shared information that I have access to from the listserv.
111	I like the information exchange. It enables me to find out what others are doing regarding recycling and waste reduction.
112	The information gathered on the listserv.
113	The availability of communications with somebody who knows what they are talking about.
114	The listserv. The topics that come up and the discussions within the hospitals.
115	The best part of being an H2E partner is access to Listserv. Being a member allows me access.
116	The best part of being an H2E partner is the listserv and the information from there.
117	If you have a problem you ask someone who has experienced it and who has solved it.
118	The recognition we get throughout the whole h2e program and the awards.
119	I like knowing that I am doing the right thing, and being recognized as a friend to the environment in my community.
120	The information that I am able to receive, and the recognition for being a partner.
121	Being recognized for doing the right thing. Caring for the environment.
122	The tools that I receive to better perform waste reduction procedures. I also enjoy the recognition that we receive through the awards ceremonies.
123	I like the recognition. I like the trading of educational materials.
124	The awards program, and the listserv.

31. What do you like the least about being an H2E partner?

Response Options	Count	Percent
There is nothing I like least[a]	90	67%
Substantive comments[b]	45	33%
	135	100%

[a] This category contains non-substantive statements

[b] Verbatim answers provided in next table.

Verbatim Answers to Question 31 About the Least Favorite Part of Being an H2E Partner

1	Not having enough visibility with other players.
2	I am not an official partner yet, so I get very little information sent directly to me.
3	They do not have enough resources to fulfill their mission of keeping the environment safe.
4	What I like least about being an H2E partner is not getting involved enough with other hospitals.
5	I did not know that some of the services you are talking about were offered.
6	At times it is difficult to understand what H2E"s objectives and expectations are.
7	Nothing but, I think we should have meetings. Like a like a regional or state conferences discussing the topics.
8	Having to supply reports.
9	The annual surveys are a little lengthy.
10	There is a lot of data collection involved that takes up too much of my time.
11	Filling out all of the forms that are required.
12	The amount of paperwork that is involved.
13	I do not like the added paperwork.
14	My biggest complaint is with the go between who got us signed up with this program.
15	It still relies to heavily on the EPA.
16	The communication between the EPA and us. There is no global list of updated versions.
17	Maybe knowing too much.
18	Probably not much. I do not like being signed up automatically.
19	More sustainability service
20	I get a lot of e-mails.
21	The heavy volume of irrelevant information that comes across the listserv.
22	The e-mails. I just delete what does not pertain to my department.
23	The overwhelming e-mails
24	The enormous amount of email.
25	All the e-messages.
26	All the e-mails
27	So much information coming through clogs up the email.
28	They bombard you with propaganda on the listserv. There is lots of information that is of no use to me.
29	The astronomical amount of e-mails that I receive.
30	The irritating volume of e-mails on the listserv.
31	There are entirely too many listserv messages. There seems to be too much chatting about unrelated information.
32	The volume of e-mails is too high.
33	I do not like the massive amounts of e-mails that I receive.
34	We have multiple people doing the activities H2E covers, and I am the only one signed up with listserv. It is geared toward hospitals that have an environmental manager and we do not have that.
35	There really is not anything negative except sometimes I am overwhelmed with the volume of E-mails.
36	Not being able to participate for the awards.
37	I do not see the big reason for getting awards
38	Some of the training sessions almost seem like the EPA is endorsing certain vendors. It almost seems like a sales pitch. I do not like that.
39	I would devote to it if I had more time
40	Not enough time.

Question 31 Answers (continued)

41	What I like least about being a partner is all the time it takes to keep on top of things.
42	Not having enough time to fully participate.
43	Added time in an already busy day.
44	Sometimes I regret the time that I have to spend being a partner, but it is well worth it.
45	I just wish I had more time to do it.

APPENDIX D

AMERICAN HOSPITALS ASSOCIATION (AHA) MERCURY REDUCTION AND ELIMINATION SURVEY

HOME ADMIN HELP LOGOUT

Hospitals for a Healthy Environment

American Hospital Association

Hospitals for a Healthy Environment Survey

Description

Hospitals for a Healthy Environment Survey

In 1998, the AHA signed a Memorandum of Understanding (MOU) with the US EPA agreeing to work toward waste reduction and the virtual elimination of mercury in healthcare by the end of 2005 (just around the corner now!). Hospitals for a Healthy Environment (H2E) is the national environmental assistance program that was created by that MOU.

As we enter 2005, H2E would like to know more about the healthcare sector's successes with mercury reduction and elimination. This information will not only tell us how far we've collectively come, but will also help us understand how to prioritize our efforts in 2005 to meet the mercury goal. (If you haven't addressed mercury reduction and elimination in your facility, it is important for us to know that too).

Click "Section A." to get started with the survey. And feel free to leave the survey at any time and come back to it later to finish - your answers will be saved for when you return. All information collected through this survey will be aggregated. Any facility-specific information is optional and will be kept strictly confidential. Hospital participation in this survey will be central to our ability to increase the effectiveness of the movement to Make Medicine Mercury Free.

Thank you for your participation!

Instructions

Status New. (Historical reference is not available.)
Last Update On - by Preview Preview
Created On 03/16/2005 1:55 PM by Preview Preview

A. Section A — New, -

Submit Survey

.

Facts: In the mid-90's, the healthcare sector was identified as a leading source of mercury emissions to the environment due to the large volume and variety of mercury-containg products used in healthcare and the incineration or drain disposal of those products when they become waste. Mercury is a highly toxic element associated with a wide-range of serious health conditions.

Did you know about these problems with mercury and why the AHA, in conjunction with the EPA, is commited to helping its members find alternatives to mercuy-containing products?

- ○ Very Aware - have taken significant steps to reduce and eleminate mercury
- ○ Aware- have taken some steps to address the issue but have more work to do
- ○ Somewhat Aware - are just beginning to address the issue
- ○ Not at all
- ○ Other (please specify)

2. Mercury Policies that reflect programs, operations and/or commitment. Please check all of the following that apply.

- ☐ Established a facility policy statement (resolution, pledge, administrative commitment letter) that calls for the reduction and virtual elimination of mercury.
- ☐ Established a purchasing policy that bans the purchase of products containg mercury unless no effective substitute is available.
- ☐ Established mercury managment policy that ensures safe handling of mercury that is either still in use, or might **show up** in the facility.
- ☐ Other (please specify in the line below)

If other indicated above please describe.

3. If your facility has taken one or more actions to reduce mercury, please indicate how influential each of the following factors was in your decision to take these actions.

	Very Influential	Somewhat	Not Very	Not At All	N/A
Information provided by the national H2E Program	○	○	○	○	○
Information from colleagues, state hospital associations, state program or other organizations	○	○	○	○	○
Public advisories against eating mercury-contaminated fish	○	○	○	○	○
Federal, state or local regulations on mercury elimination	○	○	○	○	○

4. Does your facility have any waste reduction policies, plans or programs in place?

- ○ Yes, waste reduction policy in place and program underway.
- ○ Yes, waste reduction policy but no formal plan/program yet.
- ○ Just getting started on waste reduction, no policy or program yet.
- ○ No - we're not focusing on waste reduction.

5. Are there any other factors which were a significant influence in your decision to reduce mercury and/or waste? if so, please list below.

6. Has your facility virtually eliminated the use of mercury-containing clinical devices (*Discontinued distribution to patients, new mothers and through hospital pharmacy)

.

	Yes, Completely Eleminated	Yes, Replaced With Plan For Eliminating Remainder	Some Replacement With Plan For Eliminating Remainder	No, None Replaced Yet, But Putting Plan In Place	No Plans For Replacement
Thermometers*	○	○	○	○	○
Sphygmomanometers	○	○	○	○	○
Bougies	○	○	○	○	○
Miller-Abbott Tubes	○	○	○	○	○
Cantor Tubes	○	○	○	○	○
Dilators	○	○	○	○	○
Other	○	○	○	○	○

Save

Please check "the box that most accurately" describes the replacement of mercury-containing devices in your facilities.

7. Inventoried, labeled or replaced all mercury-containing gauges, switches and other devices.

- ○ Yes, replace ALL devices
- ○ Almost there - inventoried all devices, labeled them as mercury-containing, and replaced some with plan to replace the remainder
- ○ Just got started - inventoried all devices and labeled them as mercury-containing. Putting plan to replace the remainder
- ○ Not yet, but planning to enventory and label
- ○ No plan in place to inventory, label or replace devices

7b. Additional comments:

8. ALL fluorescent bulbs contain mercury. Do you recycle fluorescent bulbs as an ongoing program?

- ○ Yes, recycling ALL fluorescent lamps, including green tips
- ○ Almost there - recycle some fluorescent lamps with plan in place to recycle the remainder. (Please describe.)
- ○ Just getting started
- ○ Not yet, but we're developing a plan to start recycling lamps.
- ○ No plan in place to recycle fluorescent lamps

8b. Additional comments

9. Recycling mercury-containg button and other mercury batteries on an ongoing basis?

- ○ Yes, recycling ALL mercury-containing batteries
- ○ Almost there - recycle some batteries with plan to recycle the remainder.
- ○ Just getting started
- ○ No, but we're developing a plan to recycle mercury batteries
- ○ No plan in place to recycle batteries

9b. Addtional comments

Lab and Other Mercury-Containing Chemicals

10. Please check the box that most accurately describes the assessment and replacement of mercury-containing chemicals at your facility (the purpose of this questions is to ensure that there is at least a basic awareness that there are mercury-containing chemicals and that alternatives are being assessed):

	Yes, Have Replaced All.	Yes, Have Replace Some And Assessing Other Products	No, Have Not Replaced Any But Assessing Other Products	No, Have Not Replaced Any And No Plans In Place	Don't Know
a. Purchase mercury-free laboratory chemicals (fixatives and stains)	○	○	○	○	○
b. Purchase mercury-free pharmaceuticals (without thimerosal)	○	○	○	○	○
c. Purchase mercury-free housekeeping chemicals (some brands of bleach)	○	○	○	○	○

11. Since the MOU was signed in 1998, please indicate how significant your waste reduction efforts have been in terms of achieving positive results in each of the following waste categories.

	Very Significant	Somewhat	Not Very	Not At All
Regulated Medical Waste Minimization	○	○	○	○
Recycling	○	○	○	○
Other solid waste reduction: reuse, source reduction (e.g., through purchasing)	○	○	○	○
Hazerdous Chemical Minimization	○	○	○	○

12. Does your facility keep track of your waste data to better understand the volume and cost of each waste stream (solid waste, regulated medical waste, recyclables, hazardous waste) to help prioritize programs and reduce costs?

○ Yes, we track waste generation rates for each category. (If you use waste tracking software, please not below.)

○ In the process of assessing our waste generation rates.

○ No, we have not assessed our waste generation rates, but hope to do so.

○ No plan to assess waste generation rates

Does your facility use a waste tracking program?

○ Yes ○ No Please comment

Would you like help from H2E (Optional)

If you're interested in learning more, or would like someone from H2E to contact you provide free assistance, please indicate your contact information below--

THIS INFORMATION IS KEPT STRICTLY CONFIDENTIAL.

13. Contact Name:

14. Contact Phone:

15. E-mail:

Save

H2E Evaluation

Please help AHA evaluate H2E's effectiveness in helping your facility implement mercury reduction and waste minimization programs by answering the following questions.

16. Are you an H2E Partner?

○ Yes ○ No

17. If your facility is not an H2E Partner, what are the main reasons you haven't joined H2E? (Check all that apply.)

☐ Hadn't heard of H2E before taking this survey

☐ Didn't know how to sign up

☐ Not enough incentive to join

☐ Already taken steps to reduce mercury

☐ Too many requirements

☐ Takes too much time to apply

18. If you indicated that information provided by the H2E program influenced you "strongly" or "somewhat" to reduce mercury or waste, please indicate from where you obtained the information (check all that apply)

☐ State level H2E program

☐ H2E website

☐ Newspaper or journal articles

☐ Other media

☐ Conference presentations

☐ Health care colleagues

☐ Vendors

☐ National associations

☐ Other (please describe)

Save

APPENDIX E

HOSPITALS FOR A HEALTHY ENVIRONMENT (H2E)

ANNUAL FACILITY ASSESSMENT AND GOALS SUMMARY FORM

Note: Formatting Removed.

Sections 4 through 6 were not in a format available for analysis.

This form is to help you collect the information necessary to establish your facility's baseline, develop your H2E goals and track your successes.

Establish a baseline and record annual progress — The first step to measuring annual progress at your facility is to conduct a baseline assessment. Especially important is understanding your waste streams in terms of weight/volume and cost. The H2E Self-Assessment Guide, available at www.h2e-online.org, can help you in this process. For H2E tracking purposes, your baseline year should be 1998 or later.

SECTION 1: CONTACT INFORMATION

Organization Name: _____ Date: 8/28/13

	First Name	Last Name		
Contact Name:			Title:	
Address:				
City:			State:	Zip:
Phone:			Fax:	
E-mail:				

SECTION 2: FACILITY INFORMATION

Facility Type	Total	
In-Patient/Hospital	Annual Adjusted Patient Days*	
	# Beds	
Ambulatory Care/Outpatient Clinics	# Outpatient Visits	
Long Term Care	# Beds	
Staff	# FTE's	

*Adjusted Patient Days = Ttl Patient Days x (Ttl Patient Revenue (Inpatient + Outpatient)/Inpatient Revenue)

SECTION 3: FACILITY WASTE ASSESSMENT SUMMARY

Baseline Year: ☐
CurrentYear: ☐

(If the current year is your baseline year, then only complete the baseline column.)

Waste Management Category	Tons/Year		Percent of Total Waste		Annual Costs	
	Baseline	Current	Baseline	Current	Baseline	Current
Solid Waste	☐	☐	☐	☐	☐	☐
Recycling/Reuse	☐	☐	☐	☐	☐	☐
Regulated Medical Waste	☐	☐	☐	☐	☐	☐
Hazard Waste	☐	☐	☐	☐	☐	☐
Total	☐	☐	100	100	☐	☐

SECTION 4: MERCURY ASSESSMENT

For information on how to evaluate mercury use and implement activities to eliminate mercury from your facility's waste stream, download the H2E Self-Assessment Guide at www.h2e-online.org. See Sections 5A and B in the guide.

Is your facility virtually mercury free? ☐ Yes ☐ No

Has your facility:

- Conducted a facility inventory of mercury containing devices and chemicals? ☐ Yes ☐ No
- Implemented a mercury purchasing policy? ☐ Yes ☐ No
- Eliminated mercury-containing patient care devices? ☐ Yes ☐ No
  (e.g., thermometers, sphygmomanometers, bougies, dilators)

Please highlight efforts to eliminate mercury from your facility to date.

☐

SECTION 5: ENVIRONMENTAL POLICIES

Please indicate if your facility has any of the following policies by marking your response. If no, you might consider implementing these policies for your H2E program.

Facility Environmental Commitment Statement ☐ Yes ☐ No
Comprehensive Waste Management ☐ Yes ☐ No
Mercury Management/Elimination ☐ Yes ☐ No
Environmentally Preferable Purchasing ☐ Yes ☐ No

SECTION 6: H2E GOALS

Please list your facility's goals below and describe any activities, including source reduction, mercury elimination, recycling, reuse, donation, and other efforts, that your facility will implement to achieve these goals. For more information, consult "How to Develop Your H2E Goals" on the H2E Web site located at www.h2e-online.org.

Goal 1:

Goal 2:

Goal 3:

Goal 4:

Goal 5:

Please submit this form within 3 months of becoming an H2E Partner or with your Awards Application, whichever comes first. ***E-mail the completed form to h2e@h2e-online.org.***
For questions or assistance, please e-mail or call us at 800-727-4179.

Hospitals for a Healthy Environment
Phone: 800-727-4179 • Fax: 866-379-8705