PRACTICE GREENHEALTH

2012 Sustainability Benchmark Report

A Practice Greenhealth Member Benefit

AUGUST 2012

This is an abbreviated version of the report, containing only the table of contents and executive summary. The entire report is available to Practice Greenhealth Members. Learn more about membership at www.practicegreenhealth.org/membership.

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Executive Summary

Insights for Goal Setting and Success

As sustainability in the health care community continues to evolve and expectations rise, health care organizations are becoming more strategic in the implementation of environmentally friendly practices. It's no longer enough to highlight a specific singular effort—today it is vital to demonstrate sustainability throughout everyday operations.

Each Sustainability Benchmark Report presents data building on the past several years to identify sustainability trends in the health care sector. Practice Greenhealth's *2012 Sustainability Benchmark Report*:

- Examines specific sustainable activities performed within health care organizations and within the local community;
- Presents detailed waste generation and recycling data, waste generation data normalized by different factors, and cost of waste data;
- Presents, for the first time, specific data on sustainable activities and identification of opportunities within the operating room **(OR), based on metrics of Practice Greenhealth's Greening the OR® Initiative;**
- **Analyzes millions of dollars in savings from single-use devices, reusable sharps container programs, solvent distillation, energy** efficiency, water conservation and associated reductions in CO^2**;**
- Presents detailed green procurement data on green cleaning, reusable products, energy efficient lighting and equipment, and more;
- **Examines recent trends in sustainable practices in food services;**
- **Analyzes energy use by temperature zone;**
- **Looks at other trends in *specific* sustainable activities performed in Award winning hospitals.**

The Collective Experience of Leading Hospitals

For the fourth consecutive year, Practice Greenhealth presents comprehensive data illustrating the progress of sustainability across the health care sector as health care facilities navigate their path toward better patient and staff wellness, a healthier environment, and a better bottom line. This one of a kind report provides the information needed to benchmark each hospital's practices against the collective progress of leading hospitals and can help identify areas to address to increase green activities. The report is **comprehensive, presenting organized information based on the best practices of the healthcare community in one place to serve as a vital reference guide.**

The Practice Greenhealth Sustainability Benchmark Report provides health care professionals the comprehensive data and insights needed to evaluate a facility's performance against sector standards to guide strategic planning and execution of sustainability programs.

Key Savings from this Year's Report

Additionally, compelling findings have been called out to highlight interesting trends. This year, the 149 Award winning hospitals in our data set **saved $55 million** through recycling, energy and water conservation and avoided waste generation. A summary of results include:

Savings from:	Amount of Waste Prevented	Dollars Saved	Table in Report
Recycling	64,800 tons	**$16.8 million**	Text above Table 13
SUD Reprocessing	333 tons	**$18.3 million**	Table 17
Reusable Sharps Container Programs	1,656 tons	**$749,000**	Table 18
Solvent Distillation	39,510 gal distilled 37,725 gal reused	**$494,000**	Table 29
Efficiency			
Electricity	72 million kWh =50,000 metric tons CO_2	**$14.3 million**	Table 57, 58
Natural Gas	—	**$1.4 million**	Table 57
Fuel Oil	200,000 gallons	**$165,000**	Table 57
Steam	7 million pounds	**$975,000**	Table 57
Water	150 million	**$1.3 million**	Table 63
TOTAL	—	**$55 million**	Table 67

This detailed information can help green teams assess the quality and measurement of sustainability programs, resulting in action plans that will provide results. Practice Greenhealth is dedicated to embedding sustainability into daily operations to advance the environmental responsibility of the health care sector. We are all one team, and succeeding independently is as important as succeeding as an enterprise. Practice Greenhealth hopes this report will inspire all hospitals to engage to their fullest extent in sustainability and will help each hospital set goals.

1.0 Introduction

Practice Greenhealth is proud to present its **fourth annual Sustainability Benchmark Report,** which documents the advancement of sustainability in healthcare for its 2012 Award-winning facilities. This report illustrates not only a snapshot in **time of the progress Practice Greenhealth Award winners have achieved relative to the integration of sustainable practices into their** operations, but the overall progression of our members' journeys as they incorporate sustainable practices into so many different areas of their operations. This progress is reflected in healthcare facilities all across the country, as many hospitals who started with **several "greening" projects a few years ago are now implementing comprehensive sustainability programs that institutionalize** sustainability in their organization, and across entire health systems. The benefits of these programs are far reaching—and impact patients, staff, the local community, the environment and the organization's bottom line.

The 2012 Sustainability Benchmark Report includes activities reported by 171 winners of the **Partner for Change(PFC), Partner for Change with Distinction (DIST)** and **Environmental Leadership Circle (ELC)** Awards won in Practice Greenhealth's 2012 Environmental Excellence Awards Program. These Awards were presented at CleanMed in Denver, Colorado in May of 2012 with the celebration of the Awards program's tenth anniversary! The Awards program has significantly advanced its reporting capabilities **since its inception in 2002, and we are excited to provide even better data analysis of sustainability trends and benchmarks with this report. We would like to thank all of the Practice Greenhealth members who participated in completing the lengthy PFC Award application, upon which this report is based.**

New this year, the data has been reviewed and presented by a statistical firm using the Statistical Package for the Social Science (SPSS) for increased validation of the data. The data set is larger than that presented in last year's report, which consisted of 141 **Award winners. Also new this year, a subset of 14 clinic and 8 long term care (LTC) data has been analyzed and is presented in Appendix 1; these facilities are part of health system that are Practice Greenhealth members.**

Because Practice Greenhealth's electronic Award submission capabilities began in 2009 and were significantly expanded in 2010, **most of the tables presented herein provide data beginning in 2009 or 2010. Each year the application is improved and new additions are made, so some tables will begin with data from 2011 or even 2012. All of the 2012 data presented in the tables is in bold for ease of review.**

We hope you find the 2012 report useful in your pursuit for greater organizational sustainability.

Sincerely,

Lin Hill
Director of Awards
Practice Greenhealth

2.0 THE DATA SET

The Partner for Change Award application is used to determine Partner for Change (PFC), Partner for Change with Distinction (DIST) and Environmental Leadership Circle (ELC) winners. The following analyses have been done using data provided by the **171 PFC Award applicants who received a PFC or higher Award (a number of the PFC applicants receive Partner Recognition,** which is not included in these results). The PFC application is designed for hospitals, but has been used by larger clinics and long term care facilities (LTCs) if they are members of health systems that have system memberships with Practice Greenhealth. This year, 149 hospitals, 14 Clinics and nine LTCs applied for Partner for Change Award. The data in the main body of this report **represent the hospital data only, while the clinic and LTC data is reported in Appendix 1. Eighty-two percent (82%) of the** hospitals in this data set are acute care. (A shorter more specific application for clinics and LTCs will be available in the future). As **you can see in Table 1, 99 of the 171 PFC applicants received PFC, 44 received DIST and 28 received ELC. Note that because** the DIST and ELC groups are small, just a few answers can change the percentages reported in the tables significantly. For ELCs, **each facility represents about 3.5% of that data set, for DISTs, each represents 2.3%.**

Please note that some of the sample sizes by facility type are rather small, particularly the clinic and long term care groups. Assessment between these smaller groups is not recommended. Hospitals comprise the majority of the facility types. PFC winners comprise the majority of the Award winners. More detailed information on the data set (range of APD, Square footage, etc) is presented in Appendix 2.

Table 1: The Data Set

PFC applicants represented by type of facility:	**Sample Size**
Hospitals (82% are acute care)	**149**
Clinics[1]	**14**
Long Term Care Facilities (LTC)[1]	**8**
Total PFC, DIST and ELC winners	**171**
Hospital applicants presented by Award won:	**Sample Size**
PFC	**80 (54%)**
DIST	**41 (27%)**
ELC	**28 (19%)**
Total hospital PFC, DIST and ELC winners	**149**
1) presented in Appendix 1	

Award Types

A brief description of the three Award types is presented here, but for a more detailed description please visit our website at: http://practicegreenhealth.org/awards/award-types.

The **Partner for Change Award** recognizes health care facilities that have established environmental programs and continuously improve and expand upon these programs on the path to sustainability.

Minimum qualifications for the PFC Award include:

- Recycle 15% or more of their total waste stream
- Have a mercury eliminate on program in place with a plan for total elimination, and
- Have implemented of a number of successful pollution prevention projects or sustainability programs.

The **Partner for Change, with Distinction Award** is a competitive Award that recognizes healthcare facilities that have well established environmental programs and are the cream of the PFC crop.

Minimum qualifications for the PFC with Distinction Award include:

- A 20% or greater recycling rate with an RMW generation of 10% or less
- Demonstrate progress in the basics, such as an EPP policy, RMW reduction techniques, green cleaning, and IPM.
- Describe specific progress in a number of less "basic" categories such as food, Greening the OR®, Greening the Supply Chain®, energy and water, or other real innovation.
- A show of leadership in the local community and/or in the health care sector

The **Environmental Leadership Award** is the premier Award recognizing health care facilities that exemplify environmental excellence and are setting the highest standards for environmental practices and sustainability in health care. This is our most competitive Award.

Minimum qualifications for the ELC Award include:

- Meet all of the criteria for the mercury-free Award, (or won MMMF in the past)
- Achieve a 25% or greater recycling rate, with an RMW generation rate of 8% or less
- Made significant Progress in just about every area on the application
- Lead the health care sector in innovation and sustainability, and
- Demonstrate leadership in the local community

Statistical Methodology

Data analysis was completed using SPSS (Statistical Package for the Social Sciences). SPSS is a good tool in the management and reduction of data because it allows you to create new variables, modify old and new ones, and provide special treatment for certain cases with missing data. The statistical techniques employed include univariate, descriptive statistics and frequency distributions along with multivariate techniques of cross tabulation, comparative means and multiple regression.

Data Cleaning and Identification of Outliers

The distributions of the continuous measures collected in the questionnaire are mostly skewed toward the higher values. That is to say there are fewer large and very large facilities and many smaller facilities. Facility size and work volume are also reflected in the facilities' inputs of the environmental resources of energy and water and the outputs of the various waste streams and thus, these measures too are skewed. Such non-normal distributions may evidence extreme values which are legitimate. For example: If one were to undertake a study of human settlement size in Mexico, one might be inclined to remove an exceptionally extreme case with a population of nearly 20 million. A settlement of this size would comprise close to 20% of the entire population of the nation and one might reasonably deem this as unrealistic and remove it as an errant case. However, with cautious examination of the data, one would learn that this is Mexico City—a large city in a developing country—and that the value for population size is not errant.

Social organizations like cities and healthcare facilities, as well as biological organisms, are less numerous as their size increases. Moreover, bigger places tend to consume more resources and create more waste. Therefore, extreme cases for all of the continuous

measures were examined on a case-by-case basis. If an extreme value was observed for a case which had no other measures with extreme values, this was considered an errant value for that measure and was suppressed from further analysis. However, when extreme values on one measure were partnered with extreme values on the other, these were taken as valid since large is large.

From the original measures, many new variables were created with the division of the waste and environmental resource measures by various normalizing factors such as adjusted patient day (APD) and square footage. These ratios were then assessed for extreme values. Unlike the original, skewed measures, these newly computed ratios may be expected to be distributed more normally. If a case's value for a particular measure was over four standard deviations beyond the mean, these values were deemed errant and suppressed from further analysis. (Four sigma units approximate a one in one thousand chance of being correct or a 99.99% chance of being wrong.) If a case was three standard deviations beyond the mean, around a 99% chance of being wrong, graphic inspection of box plots was undertaken to observe whether the case was truly an outlier in its distribution or if it might be accompanied by other extreme values. Solitary outliers were deemed errant and suppressed from future analysis.

DISCLAIMER

Please note that all of the data contained in this report is taken directly from Award applications, and has been analyzed by an outside statistical firm, and reviewed by Practice Greenhealth staff. A thorough statistical review increases the quality of the data presented, but Practice Greenhealth cannot guarantee the accuracy of the data. Accidental errors may occur by applicants, or during analysis and review. Overall, however, Practice Greenhealth feels the data presented in this report is adequately sound and represents the best sampling of sustainability benchmarks, specific activities, trends and identification of growth opportunities available anywhere in the sector today.