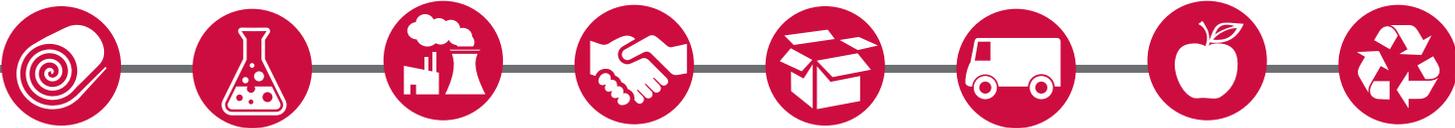


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Improving Population Health and
the Environment Through Supply
Chain Sustainability





The Case for the Healthcare Sustainable Purchasing Index

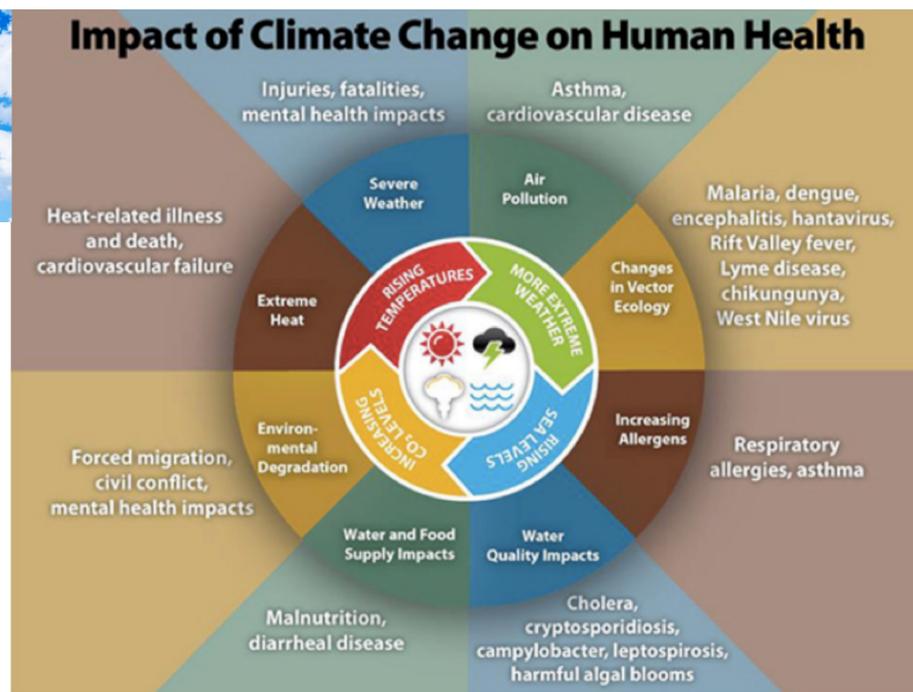


The healthcare industry, representing 18% of U.S. GDP, spends over \$200 billion annually purchasing medical and non-medical products, many of which are the same products purchased for our homes, businesses and communities. The material choices, production practices, distribution systems, packaging, use, and disposal of these products are both direct contributors to and are directly impacted by climate change.



Climate change is estimated by the WHO and the United Nations Framework Convention on Climate Change (UNFCCC) to cost US\$5 billion per year, spent directly by the health sector, and over US\$25 billion in sectors influencing public health, such as water supply and sanitation.

Source: National Center for Environmental Health, CDC



Just as healthcare providers are on the front lines, responding to the impacts of climate change, the healthcare industry can lead the way to improving population health and the global environment through their purchasing choices.

MindClick, the Johnson & Johnson Family of Companies, Steelcase, Premier and leading healthcare systems recognize that part of the solution lies in a centralized industry technology system, a Healthcare Sustainable Purchasing Index, to collect relevant data, translate data into meaningful information, integrate this information into the procurement process, and measure progress through dashboard reporting.

The Healthcare Sustainable Purchasing Index (HCSP Index) will support more environmentally responsible and innovative product development by:

- **Automating the existing manual system** to reduce costs and improve efficiency and market transparency
- **Providing usable and actionable information** for providers to make more educated purchasing decisions
- **Demonstrating the business case** to encourage supplier development of more sustainable products

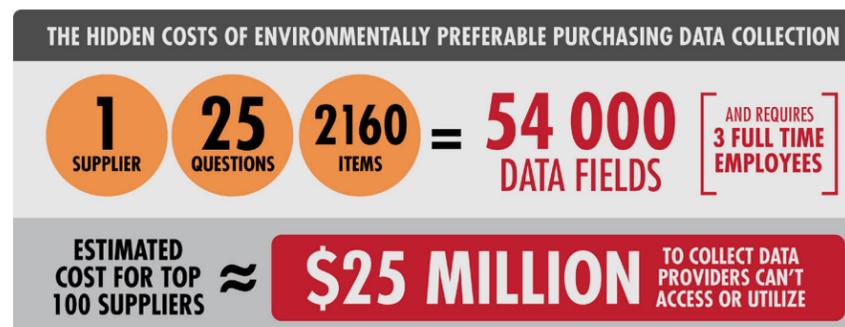
To provide a snapshot of what the HCSP Index can deliver, MindClick collaborated with Premier, the Johnson & Johnson Family of Companies, Steelcase, Edward-Elmhurst Health, Anne-Arundel Health and Fairview Health to produce this case study. The first release of the case study, featuring analysis of Edward-Elmhurst Health's purchasing, demonstrates the business intelligence gained from translating data

The State of Healthcare Supply Chain Sustainability

Current Data Collection is Inefficient, Ineffective and Expensive

In 2011, the leading GPOs in the industry agreed to integrate Practice Greenhealth's Environmentally Preferable Purchasing (EPP) framework into the RFI process. This framework is comprised of approximately 25 questions, which seems initially to be a manageable number. However, response to a single EPP RFI by Ethicon, a subsidiary of the Johnson & Johnson Family of Companies, required completion of over 54,000 data fields. As a result, three full-time analysts were hired to respond to the more than 300 EPP surveys received annually.

GPOs have made best efforts to share basic EPP information through their existing systems and processes; typically through the use of green leaf icons or PDFs listing EPP contracts. Despite the significant effort by suppliers, EPP information is not available to Providers in the format they want- real-time item level EPP information across all categories. Assuming the top 100 healthcare suppliers utilize the same resources as the Johnson & Johnson Family of Companies to keep up with demand for EPP data, data collection alone is costing the industry an estimated \$25 million, and is falling far short of the goal of improving the environmental and health impact of the healthcare supply chain.



Benchmarking Environmentally Preferable Purchasing at Edward-Elmhurst Health

MindClick worked with Edward-Elmhurst Health's purchasing team and Premier to obtain a detailed line item list of purchases in the Endotracheal Tube, Furniture and Suture categories made during the period October 2014 to September 2015. The Edward-Elmhurst Health purchase activity was then matched with item level EPP data provided by Premier, Ethicon, and Steelcase for the Endotracheal Tubes, Sutures, and Furniture categories respectively.

To transform over 300,000 supplier reported product sustainability data points into usable information, the MindClick team created a very simple performance framework comprised of three levels: Starter, Achiever, and Leader. Using the existing EPP framework and self-reported supplier responses, ratings are based on the highest performance possible, combined with the highest performance achieved by manufacturers in the category. The highest performance achieved was selected as the ceiling to reflect the existence of non-relevant questions in the current Premier EPP framework. This framework is for case study purposes only, to demonstrate how data can be transformed into usable, actionable information.

Delivering a benchmark assessment of Edward-Elmhurst Health's purchasing required gathering up-to-date sustainability information at the item level. Members of Premier, the Johnson & Johnson Family of Companies, Steelcase, other suppliers, and MindClick teams collectively spent more than 12 weeks and hundreds of hours manually tracking down, assembling and reporting the relevant information needed to create the benchmark.

Edward-Elmhurst Health Benchmark Study Results:

Endotracheal Tube Category

Six suppliers responded to Premier's Endotracheal Tube EPP RFI during the 2014 contract cycle. Based on supplier responses, MindClick identified eight possible sustainability attributes. Starters are defined as having less than 60% of the possible EPP attributes, Achievers have between 60% and 90%, and Leaders have 90% or more in their products.

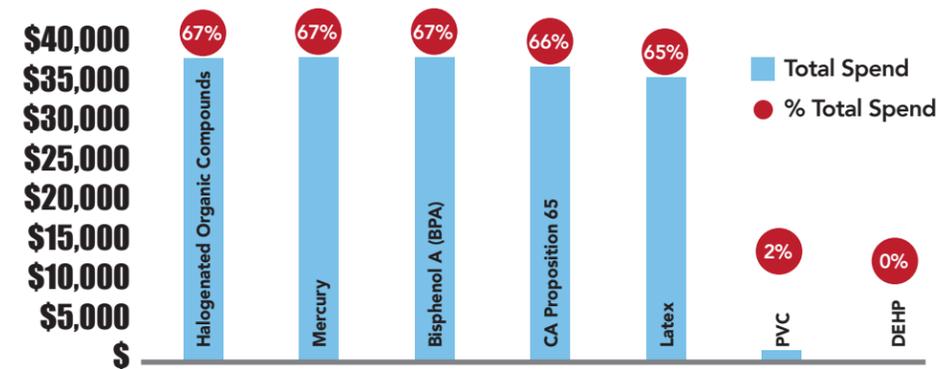


2014 EPP Performance-Premier Contracted Endotracheal Tube Category Items Reported by Manufacturers

Premier Contracted Suppliers	Rating	% EPP Metrics Achieved	% Premier \$ Spend	% Edward-Elmhurst \$ Spend	EPP Attributes							
					CA VOC Compliant	Free of Halogenated Organic Compounds (Fluoride, Chlorine, Bromine, Iodine)	Free of CA Prop 65 Chemicals	BPA Free	Latex Free	DEHP Free	PVC Free	Mercury Free
Marpac	Leader	100	.37	0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Teleflex	Achiever	63	.16	66	NA	Yes	Yes	Yes	Yes	Yes	No	Yes
Surgimed	Achiever	63	.01	0	No	Yes	Yes	Yes	No	No	No	Yes
Sourcemark	Starter	38	.50	0	NA	NA	No	Yes	Yes	No	No	Yes
Covidien	Starter	25	.83	0	NA	NA	No	No	Yes	No	No	Yes
Off Contract	None	0	NA	34	None	None	None	None	None	None	None	None

Edward-Elmhurst Health purchased almost \$60,000 of Endotracheal Tube category items between October 2014 and September 2015. Sixty-six percent was spent on Teleflex products, which received Achiever ratings for being free of halogenated organic compounds, California Prop 65 chemicals of concern, BPA, Latex, DEHP and Mercury. The remaining 34% was spent on off-contract products with unknown EPP performance.

Edward-Elmhurst Health: % of Spend (2014-2015) by Attribute



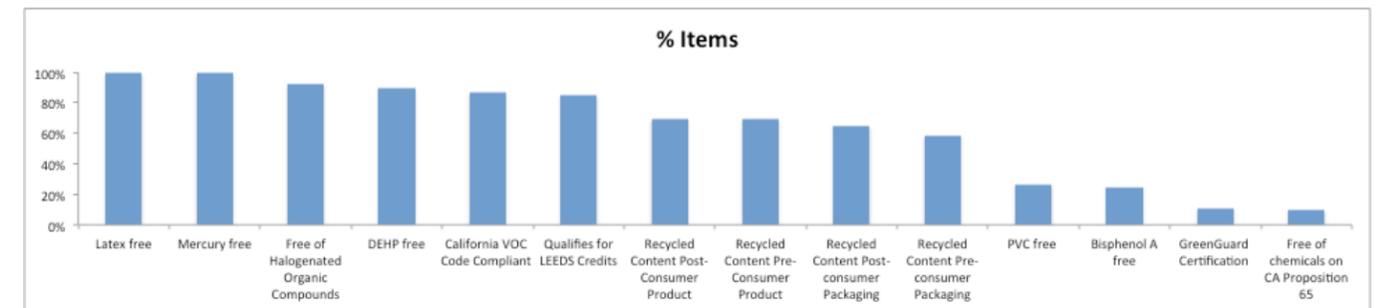
Furniture Category

Ten suppliers responded to Premier's Furniture EPP RFI during the 2014 contract cycle. Based on supplier responses, MindClick identified fourteen possible sustainability attributes. Starters are defined as having less than 60% of the possible EPP attributes, Achievers have between 60% and 90%, and Leaders have 90% or more in their products.



Based on the items covered in each supplier's RFI response, over 85% of Premier contracted items are free of Latex, Mercury, Halogenated Organic Compounds, DEHP, are compliant with California VOC codes, and qualify for LEED credits. Between 58% and 70% of the evaluated products contain pre and post recycled content in both the product and the packaging.

Premier: % of Spend (2014-2015) by Attribute with Contracted Furniture Category Items



2014 EPP Performance-Premier Contracted Furniture Category Items Reported by Manufacturers

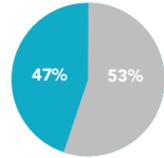
Premier Contracted Suppliers	Rating	Green Seal / EcoLogo Certification (Y / N / NA)	GreenGuard Certification (Y / N / NA)	California VOC Code Compliant (Y / N / NA)	Recycled Content Post-Consumer % Product	Recycled Content Pre-Consumer % Product	NSF approved (Y / N / NA)	Free of halogenated organic compounds (Y / N / NA)	Recycled Content Pre-consumer % Packaging	Recycled Content Post-consumer % Packaging	Qualifies for LEED Credits (Y / N / NA)	Chemical on CA Prop 65 (Y/N/NA)	BPA free (Y / N / NA)	Latex free (Y / N / NA)	DEHP free (Y / N / NA)	PVC free (Y / N / NA)	Mercury free (Y / N / NA)
Hon	Leader	NA	83% Yes	Yes	88% Yes	67% Yes	86% Yes	Yes	No	No	Yes	Yes	98% Yes	Yes	71% Yes	71% Yes	Yes
Haworth	Leader	11% Yes	78% Yes	78% Yes	67% Yes	67% Yes	NA	78% Yes	67% Yes	67% Yes	78% Yes	NA	78% Yes	78% Yes	78% Yes	78% Yes	78% Yes
Herman Miller	Achiever	NA	95% Yes	NA	77% Yes	76% Yes	68% Yes	65% Yes	77% Yes	77% Yes	79% Yes	2% Yes	Yes	Yes	88% Yes	73% Yes	92% Yes
Durofold	Achiever	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
OFS	Achiever	No	Yes	NA	34% Yes	36% Yes	NA	38% Yes	36% Yes	34% Yes	Yes	Yes	Yes	Yes	90% Yes	90% Yes	Yes
Steelcase	Achiever	No	No	NA	88% Yes	95% Yes	NA	Yes	95% Yes	88% Yes	Yes	NA	Yes	Yes	63% Yes	63% Yes	Yes
Krueger	Starter	No	No	Yes	67% Yes	76% Yes	NA	Yes	67% Yes	76% Yes	Yes	Yes	No	Yes	Yes	No	Yes
Stryker	Starter	Yes	No	Yes	NA	NA	NA	Yes	NA	NA	No	No	Yes	Yes	Yes	Yes	Yes
Hill rom	Starter	NA	NA	NA	0% Yes	No	NA	NA	No	No	NA	NA	NA	Yes	NA	Yes	Yes
All Seating	Starter	NA	Yes	Yes	94% Yes	No info	NA	NA	No info	94% Yes	Yes	No	NA	6% Yes	NA	Yes	6% Yes

In the past year, Edward-Elmhurst Health spent almost \$600,000 on approximately 2,000 furniture items. Because all purchases were made through distributors, no EPP information is available. Tracking down this information would first require review of scanned purchase receipts to identify the manufacturer, product name, and item number, followed by outreach to the manufacturer to gather the specific EPP information. Rather than attempt this time-intensive and expensive approach, we ran a what-if scenario to determine performance if Edward-Elmhurst Health had purchased comparable product alternatives from Steelcase.

Steelcase identified products that matched 18% of Edward's purchases and 50% of Elmhurst's purchases. Based on Steelcase's 2015 EPP responses, 88% of the products came in at the Leader level with the remaining 12% rated as Achievers. Characteristics of the Steelcase products include meeting the Healthier Hospital

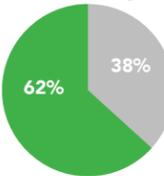
■ Premier contracted Steelcase products purchased by Members in 2014 are making a significant contribution to reducing use of virgin materials and reducing waste, both of which are direct contributors to greenhouse gas emissions and climate change.

Recycled Content Percentage*



■ Recycled Content
■ Virgin Materials

Recyclable Materials Percentage*



■ Recyclable Materials
■ Non-recyclable Materials

Initiatives standard for DEHP/PVC, Formaldehyde, PFCs and Halogenated Organic Compounds, recycled content in the product, recyclable packaging made with recycled materials, and certifications from leading certifiers for indoor air quality and reduced toxins.

In addition to reducing direct exposure to chemicals of concern, Premier contracted Steelcase products purchased by Members in 2014 are making a significant contribution to reducing use of virgin materials and reducing waste, both of which are direct contributors to greenhouse gas emissions and climate change.

Environmental Metrics Summary*

	WEIGHT (LBS)
Total Weight	9,095,300
Recycled Content	4,289,200
Total Pre-Consumer Recycled Content	3,109,400
Total Post-Consumer Recycled Content	1,167,100
Adjusted Sum (for rounding)	4,289,200
Total Potential Waste Diverted from Landfill	5,671,100

*Based on Steelcase analysis of 2014 Steelcase products purchased by Premier members.

Suture Category

Four suppliers responded to Premier's 2014 EPP RFI. Based on their responses, seven possible sustainability attributes were identified. Starters were defined as having less than 60% of the possible EPP attributes, Achievers have between 60% and 90%, and Leaders have 90% or more in their products.

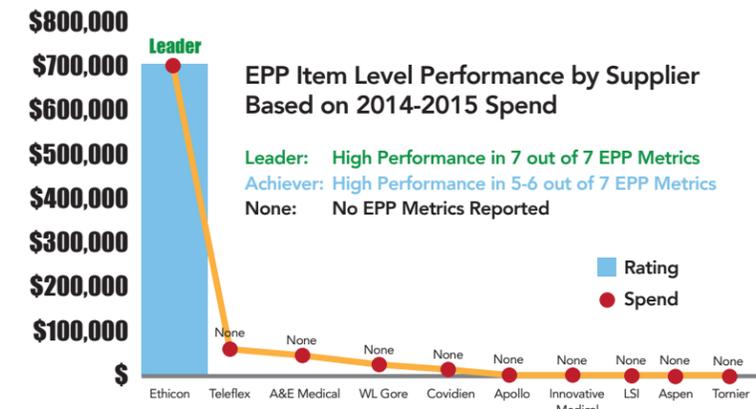
98% of Premier Members' 2014 purchasing was from Ethicon, which not only leads in market share, but also performs at the Leader level across its entire reported product line.

2014 EPP Performance-Premier Contracted Suture Category Items Reported by Manufacturers

Premier Contracted Suppliers	Rating	% EPP Metrics Achieved	% Premier \$ Spend	% Edward-Elmhurst \$ Spend	EPP Attributes						
					CA VOC Compliant	Free of Halogenated Organic Compounds (Fluoride, Chlorine, Bromine, Iodine)	Free of CA Prop 65 Chemicals	BPA Free	Latex Free	DEHP Free	PVC Free
Aesculap	Starter	5	.14	0	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Angiotech	Leader	100	New Contract	0	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ethicon	Leader	100	98	91	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Teleflex	None	0	2	4							
Off Contract	None	0	0	6	None	None	None	None	None	None	None

The suture category is one of the largest categories by spend for Edward-Elmhurst Health, and Ethicon is the primary supplier, accounting for over 90% of their purchases. Of the three categories evaluated, sutures is the only one in which the almost all of the products Edward-Elmhurst Health buys are at the category EPP Leader level--free of Halogenated Organic Compounds, California Prop 65 Chemicals, BPA, Latex, DEHP, PVC and Mercury.

Edward-Elmhurst Health: % of Suture Category Spend (2014-2015) by Supplier and by EPP Performance



Following its recent merger and in response to the Affordable Care Act, Edward-Elmhurst Health launched the Healthy Driven communications campaign to explain its holistic, population health centered approach to healthcare. According to Pam Davis, System CEO, Edward-Elmhurst Health "Healthy Driven means we are willing to do whatever it takes to improve the health of our community."

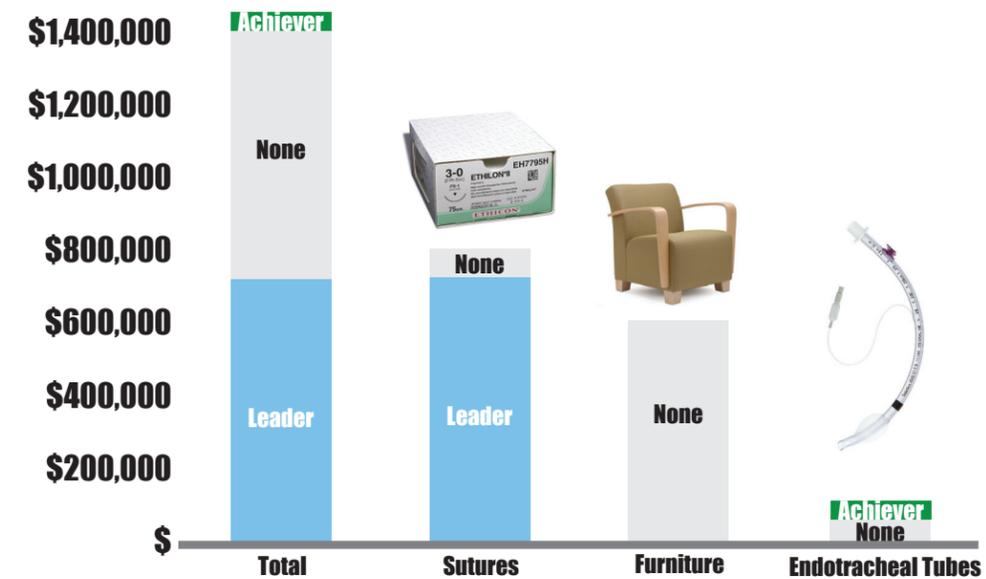


For Edward-Elmhurst Health, Ethicon's performance provides the foundation for a great story demonstrating how the healthcare team's buying practices support their Healthy Driven vision, and the health and safety of their population. However, the suture category purchasing represents under 50% of the combined spend across the three categories evaluated. Based on purchasing choices in the furniture and endotracheal tube categories, Edward-Elmhurst Health's average is at the Starter level. To fully deliver on Healthy Driven in its purchasing and support population health, Edward-Elmhurst Health can shift from off-contract to on contract furniture purchasing and increase the number of Achiever and Leader rated items purchased.

"Healthy Driven means we are willing to do whatever it takes to improve the health of our community."

— Pam Davis, System CEO, Edward-Elmhurst Health

Edward-Elmhurst Health: % of Endotracheal Tube, Furniture and Suture Category Spend (2014-2015) by EPP Performance



■ 98% of Premier Members' 2014 purchasing was from Ethicon, which not only leads in market share, but also performs at the Leader level across its entire reported product line.



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What We Learned and Where We Go From Here

We completed an in-depth review of the impact of Edward-Elmhurst Health's purchasing choices representing almost \$1.5 million across three categories, endotracheal tubes, furniture and sutures. Approximately 50% of Edward-Elmhurst Health's spend is with products that positively contribute to human and environmental health through reduced toxins. The flip side is the other 50% may in fact be contributing to the toxins, which could be linked to carcinogens, endocrine disrupters, asthma, and many more chronic diseases.

For the first time, Edward-Elmhurst Health, Premier, Steelcase, and the Johnson & Johnson Family of Companies have access to usable item level sustainability information.

- Edward-Elmhurst Health has a baseline of their purchasing impacts and knowledge of alternatives to drive improvement;
- Premier can provide valuable analysis to support Member interest in purchasing products with a positive environmental and health impact story, and demonstrate additional value in on-contract purchasing;
- Steelcase and the Johnson & Johnson Family of Companies can obtain valuable insight as to how they perform relative to competitors and gain insight into the volume of purchasing tied to sustainability performance.

Collecting EPP data, converting it into usable information, and producing the analysis included in this case study took a considerable amount of work from 6 organizations and at least a dozen people over the course of 3 months. The good news is, collaboration between providers, suppliers and GPOs combined with a robust technology platform will deliver a scalable, cost-effective solution that will solve the challenges that exist today.

In 2016, with the support of the Johnson & Johnson Family of Companies, Steelcase, Premier, Edward-Elmhurst Health, and more, MindClick will build the Healthcare Sustainable Purchasing Index to serve as the technology platform, automating and scaling the process shared in this case study.

HCSP will provide suppliers a single destination for item level sustainability reporting, based on the existing GPO EPP framework, product category specific standards, and input from Providers, GPOs, Suppliers and NGOs. Data will be translated through a stakeholder developed rating system to categorize sustainability information for ease of comparison, and integration into purchasing systems. Provider and GPO purchasing information will be collected for use in developing confidential and customized dashboard reports to provide Healthcare Systems, Suppliers and GPOs with the business intelligence needed to achieve their sustainable purchasing goals.

What do we see as the outcome?

According to a 2012 study from the University of Illinois-Chicago's School of Public Health, the Healthcare Industry could potentially save \$5.4 billion in five years and up to \$15 billion in 10 years if it adopts more sustainable practices. We invite you to join us on a smarter, sustainable, and cost-efficient path to support population health through more sustainable products and healthier environments.

MindClick

593 NW York Drive, Suite 100
Bend, OR 97701

mindclickgroup.com/healthcare