

The Growing Importance of More Sustainable Products in the Global Health Care Industry

A research study commissioned by
Johnson & Johnson



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EXECUTIVE SUMMARY

Sustainability as a business approach is becoming widely adopted by companies and organizations around the world. The health care sector is no different. This industry has begun to embrace a sustainability mindset as the linkage between greener operations, improved health care and lower operating costs is becoming more apparent. Hospitals are starting to place greater emphasis on greener products for use in delivering patient care, as well as the materials used throughout their facilities, such as cleaning products and office supplies. While the sector has made great strides toward sustainability, greater leaps will be needed to advance sustainable health care around the world.

This research paper is intended to inform health care procurement professionals, executives, administrators and providers about procurement trends for more sustainable and greener products in the health care industry. Johnson & Johnson commissioned SK&A (www.skainfo.com) to conduct global research on the state of sustainable products in the health care industry. Throughout this paper, the research findings are shared and explained. Further insights and perspective are provided by two industry organizations that were interviewed: Practice Greenhealth, a U.S.-based not-for-profit that encourages environmental best practices in health care; and Healthcare Without Harm, an international coalition group promoting the health of people and the environment. In addition, several health care organizations were also interviewed to provide an industry perspective on the research findings.

More information about the research methodology is available at the end of this report. A PDF version of this report is available for download at www.earthwards.com.

54%

of hospitals say green attributes are very important in their purchasing decisions



40%

of hospitals expect their future RFPs to include questions/criteria regarding green attributes of products



85%+

of hospitals rate being free of heavy metals and latex, end-of-life solutions and energy efficiency as important attributes



35%

of hospitals switched suppliers due to additional green/sustainable product offerings



Hospitals rate manufacturers Johnson & Johnson, Boston Scientific and Zimmer **highest** in

green sustainability



SUSTAINABILITY IN THE HEALTH CARE INDUSTRY

Sustainability is no longer a fleeting trend but rather a business approach being adopted by organizations to maintain competitive positions. This is increasingly true of the health care sector, which represents approximately 10 percent of gross domestic product (GDP) on average among Organisation for Economic Co-operation and Development (OECD) countries.¹ In the United States, spending on health care is expected to reach 18 percent of GDP by 2020.

Given the scale and complexity of the health care industry, it is not surprising that it also has a large environmental footprint. In the United States, one estimate indicates health care facilities generate more than 5.9 million tons of waste annually.² A recent research letter in the *Journal of the American Medical Association* estimates hospitals contribute approximately eight percent of the greenhouse gas emissions resulting from human activity.³

Sustainability measures, especially those that are designed to reduce energy, water and waste, as well as the associated costs, have a direct

financial return on investment. Other sustainability initiatives, such as the procurement of non-toxic cleaners, medical devices with less chemicals, or more wholesome foods, can lead to healthier outcomes for patients.

Integrating sustainability into hospital or clinic operations can be particularly challenging, given the complex facilities and range of activities involved in delivering health care services.⁴ However, more emphasis is being placed on linking the mission of healing to sustainable health care operations – from the construction of greener facilities and efficient use of resources, to a preference for less toxic chemicals in cleaning products and providing healthier food options. The focus on greener facilities has led the U.S. Green Building Council (USGBC) to develop specifications for Leadership in Energy and Environmental Design (LEED) certification specifically for health care institutions, as well as initiatives that provide resources for those that are changing industry practices, such as Practice Greenhealth’s “Greening the Operating Room” initiative.

“Sustainability is definitely top-of-mind for our members. We’ve seen an increase in the number of hospitals and health systems who are working to achieve “LEED for Health Care” certification from the USGBC. Not only are they interested in the benefits of efficient building design and construction, but they also want to address increasing patient preference for healing environments that provide more comfortable surroundings. Patient satisfaction is becoming even more important following the introduction of the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey in the U.S., which publicly reports patients’ perspectives on hospital care.”

– Terri Scannell, Director of Corporate Citizenship and Sustainability at VHA, a network of more than 1,350 not-for-profit health care organizations across the United States

Other visible signs that sustainability is growing in importance among health care institutions can be seen in their purchasing decisions and the requirements they are placing on their suppliers. Some institutions have adopted Environmentally Preferred Purchasing (EPP) programs to ensure consideration is being given to buying products with sustainable attributes. Others have created Sustainability Scorecards, including Kaiser Permanente in 2010, which requires suppliers to provide environmental information about products. Given these trends, it is not surprising that 54 percent of respondents surveyed in four countries reported “green” attributes are important (rated 8-10 on a 10-point scale) in their purchasing decisions for health care products.

While the idea of sustainable health care was predicated on a belief that the industry should first do no harm, it is now becoming a priority and influencing facility design, operations and purchasing decisions.

IMPORTANCE OF “GREEN” IN PURCHASING DECISIONS FOR HEALTH CARE PRODUCTS (ON A 10-POINT SCALE)

Question: How important is “green” in your overall purchasing decision for health care products and supplies, specifically pharmaceuticals and devices and diagnostics?

Extremely Important
(8-10 pt.)

54%

Somewhat Important
(4-7 pt.)

40%

Not Important
(1-3 pt.)

6%

“Sustainable development is a journey. The long-term future of the health care system depends on health and sustainability outcomes being integrated into its structures, core to its services and championed by public, patients and staff.”

– Sonia Roschnik, Operational Director at United Kingdom’s National Health Service Sustainable Development Unit

INCREASING DEMAND FOR SUSTAINABLE HEALTH CARE PRODUCTS

Within most health care institutions, supply chain teams typically make the majority of purchases on behalf of various departments. In doing so, they must first consider the efficacy of products they purchase. While health care products must always be safe and of high quality, procurement staff are becoming increasingly concerned with additional factors, such as a product's ingredients or materials, packaging and efficient use of energy or water. Survey respondents expect nearly 40 percent of future requests for proposals (RFPs) to include questions or criteria regarding green attributes of products, an increase from about one-third of current RFPs.

These purchasing considerations are intended to have a positive impact on the quality of health care being delivered, while also minimizing environmental impact. For instance, Kaiser Permanente switched to catheters that are free of polyvinyl chloride (PVC) and di-ethylhexyl phthalates (DEHP). The new catheters decreased patient exposure to DEHP during dialysis treatment and also reduced dioxin emissions associated with the manufacture and disposal of

PVC.⁵ As more health care institutions emphasize the importance of greener materials, this increased demand will drive manufacturers to develop safer, more sustainable products.

Health care organizations that have evolved their institutional approach and incorporated a commitment to green purchasing report various benefits, including reduced costs, increased efficiencies and improved patient care. For instance, Dignity Health, a health care system throughout the western United States, saved \$5.6 million in 2011 by purchasing reusable products through reprocessing, a cleaning and sterilization procedure that can allow some medical devices to be safely used for more than one patient.⁶

Collaborative industry campaigns are also driving sustainability and demand for greener health care products. Through its Smarter Purchasing Challenge, the Healthier Hospitals Initiative has also charged hospitals with evaluating products and identifying opportunities to reduce waste through the use of reprocessed single-use devices.

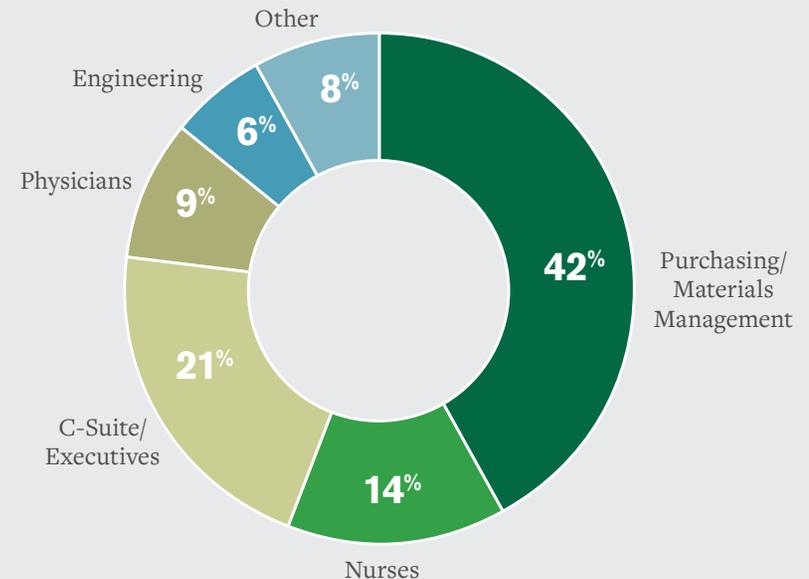
WHO IS DRIVING THIS DEMAND?

In any organization, the success of sustainability initiatives is often dependent on having internal champions, especially a senior executive who will advocate the merits of sustainability, establish the strategy and secure resources for related initiatives.

Survey respondents indicated that purchasing and materials managers are also critical players when it comes to purchasing sustainable and greener health care products, followed by C-suite executives. Christina Vernon, executive sustainability officer in the Office for a Healthy Environment at U.S.-based Cleveland Clinic, agrees: "Procurement and supply chain professionals are typically not sustainability experts. Engaging and educating them about the importance of sustainability is key. Suppliers should focus on making it as easy as possible for procurement managers to choose more sustainable options."

ORGANIZATIONAL GROUPS MOST INTERESTED IN SUSTAINABLE HEALTH CARE PRODUCTS

Question: What group within your organization is most interested in sustainability and sustainable health care products?



HOW DO PURCHASING MANAGERS MAKE DECISIONS?

A health care institution's decision to implement an Environmentally Preferable Purchasing (EPP) program is an important part of more holistic practices that support its commitment to sustainability. An EPP program may be used to guide simple decisions, such as buying recycled paper. Or it may require procurement staff to consider the total lifecycle impacts of a product to be purchased, from the raw materials used, to manufacturing and distribution, to its end-of-life disposal solutions.

Only 20 percent of global respondents are aware that their institution has an EPP program. However, more than 90 percent of those that do have an EPP program feel it is important in driving purchasing decisions.

The purchasing stage is critical. Since procurement departments are the central point for nearly every product or service purchased, they are best positioned to collaborate with vendors to implement actions that reduce environmental impact.

In 2010, Kaiser Permanente introduced a Sustainability Scorecard to formalize how it rates the environmental performance of its suppliers, the providers of approximately \$1 billion worth of medical equipment and products each year. The Scorecard was the first-of-its-kind for the health care industry and enabled Kaiser Permanente to better evaluate and select products that do not contain harmful chemicals, while also encouraging suppliers to offer more sustainable supplies. Kaiser Permanente's EPP program and Scorecard is estimated to save the company \$26 million annually.

Role of Group Purchasing Organizations

Within the U.S. health care industry, Group Purchasing Organizations (GPOs) have emerged as a service to health care procurement professionals. GPOs connect otherwise unrelated health care organizations and leverage their collective buying power to achieve price reductions from suppliers.

Amerinet, HealthTrust, MedAssets, Novation and Premier, the five largest GPOs that secure a combined \$135 billion in medical products each year, recently announced their endorsement of a standardized list of questions suppliers will need to answer regarding the impact their products have on human health and the environment. This new tool, created with guidance from Practice Greenhealth and based on Kaiser Permanente's Sustainability Scorecard, is intended to encourage manufacturers to produce greener medical products.⁷

“Standardizing the questions will allow GPOs to do some of the groundwork for supply chain teams so that informed decisions can be made on a timely basis. If there are too many criteria, they might default to what has been purchased in the past and not consider a more sustainable choice.”

- Cathy Bastian, Senior Director – Sustainability, Geisinger Health System (United States)

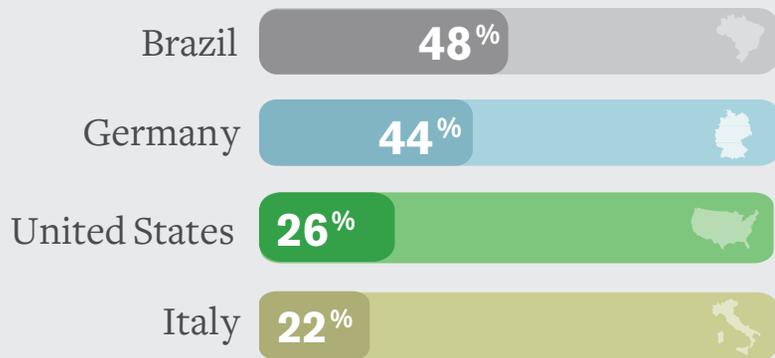
WHAT TYPES OF SUSTAINABLE HEALTH CARE PRODUCTS ARE IN DEMAND?

Thirty-five percent of health care organizations globally report that they switched suppliers in order to purchase more sustainable products and supplies. Administrative supplies, such as printer paper and toner, top their list for greener products, followed by cafeteria food. More sustainable medical devices and supplies, such as DEHP-free IV solutions, are important to purchasers as well. Hospitals are also purchasing less toxic cleaning products and janitorial supplies.

Hospitals are considered places of healing for patients, so it is easy to connect the dots and see how sustainable medical supplies can benefit ailing patients. Creating a greener health care facility is as much about ensuring the health and safety of hospital employees and providing a great work environment as it is about delivering quality and cost-efficient patient care.

PERCENTAGE OF HOSPITALS BY COUNTRY WHO SWITCHED SUPPLIERS FOR MORE SUSTAINABLE OPTIONS

Question: Have you moved your business from one supplier to another because the new supplier offered green/sustainability product attributes and the other did not?



WHAT ARE THE MOST IMPORTANT ATTRIBUTES FOR SUSTAINABLE PRODUCTS?

Regardless of where health care products fall on the sustainability spectrum, they must first be efficacious, safe and meet the quality standards for patient care before hospitals evaluate green attributes. Of the many sustainability traits that are considered, 92 percent of hospitals globally rate “heavy metal free” as an important attribute in purchasing decisions for medical products. This includes lead, mercury, hexavalent chromium and cadmium.

Eighty-nine percent of health care institutions consider whether the supplier offers a product “end-of-life” solution, such as take-back programs, recycling or reprocessing, as an important attribute. The third most important attribute is energy efficiency (87 percent), which is typically the primary focus of many sustainability initiatives in health care, given the enormous amount of energy this industry consumes. The average hospital uses more total energy than any other commercial building type and is second only to retail food establishments in energy use per square foot.⁸

TOP-RATED GREEN PRODUCT ATTRIBUTES OR SUSTAINABILITY FACTORS CONSIDERED BY GLOBAL PROCUREMENT PROFESSIONALS

Question: How important are the following attributes in your purchasing decisions for medical products?

Free of heavy metals **92%**

Supplier end-of-life solutions **89%**

Energy efficient **87%**

Free of latex **86%**

Free of persistent synthetic chemicals (such as polybrominated byphenyls and polyflourinated acids) **84%**

Manufacturer's certification that the product is one of its "greener" products **80%**

Meets applicable country-specific regulations, such as California Proposition 65, REACH, RoHS and the Brazilian National Policy on Solid Waste **80%**

Not surprisingly, the importance of specific green product attributes varies by country. Products that are free of heavy metals or include end-of-life solutions remain among the top three most important attributes across the four countries surveyed. However, German respondents place more importance on whether a product meets country-specific regulations, while the use of recycled content in a product rose to number two for those surveyed in Brazil. In the United States, respondents are most concerned with whether a product is latex-free.

IMPORTANCE OF SUSTAINABILITY ATTRIBUTES ON PURCHASING DECISIONS FOR MEDICAL PRODUCTS, BY COUNTRY

Question: How important are the following attributes in your purchasing decisions for medical products?

	U.S. 	Germany 	Italy 	Brazil 
First	Latex Free (90%)	Country Regulations (97%)	Heavy Metal Free (98%)	Supplier End of Life Solutions (92%)
Second	Heavy Metal Free (89%)	Heavy Metal Free (96%)	Supplier End of Life Solutions (96%)	Recycled Content within Product (90%)
Third	Energy Efficient (84%)	Supplier End of Life Solutions (96%)	Latex Free (92%)	Third Party Certification (88%)
Fourth	Synthetic Chemicals Free (79%)	Energy Efficient (92%)	Synthetic Chemicals Free (90%)	Country Regulations (87%)
Fifth	PVC Free (79%)	Latex Free (90%)	Manufacturer's Certification (89%)	Primary Product Recycled (87%)

HOW ARE SUPPLIERS MEETING THIS DEMAND?

It is clear that health care organizations and hospitals are interested in more sustainable options for medical products and supplies. Manufacturers are aware of the increased demand for greener alternatives and many are taking steps to meet this demand and become more sustainable. Some suppliers are starting to include sustainability considerations earlier in the R&D and product development processes, while others have introduced more formalized product evaluation programs.

In the case of Ethicon Endo-Surgery, a Johnson & Johnson Company that makes medical devices for minimally invasive and open surgical procedures, it acquired Sterilmed,

which reprocesses and remanufactures medical devices, to be better positioned and able to respond to this evolving landscape. The companies are continuing to develop innovative surgical solutions, while also providing healthcare facilities a wider range of product options that help reduce medical waste, save money and maintain quality patient care.

From the perspective of survey respondents, a number of health care manufacturers are already viewed as on the forefront of sustainability: Hospitals rate manufacturers Johnson & Johnson (45 percent), Boston Scientific (42 percent) and Zimmer (40 percent) highest in this area.

HIGHEST RATED HEALTH CARE MANUFACTURERS ON LEVEL OF SUSTAINABILITY (BY COUNTRY, RATED 8-10)

Question: Please rate the following health care manufacturers on the basis of their level of green sustainability. Use a scale of 1-10 where 10 means excellent and 1 means very poor.

Johnson & Johnson
United States



Zimmer
Italy



Medtronic
Germany

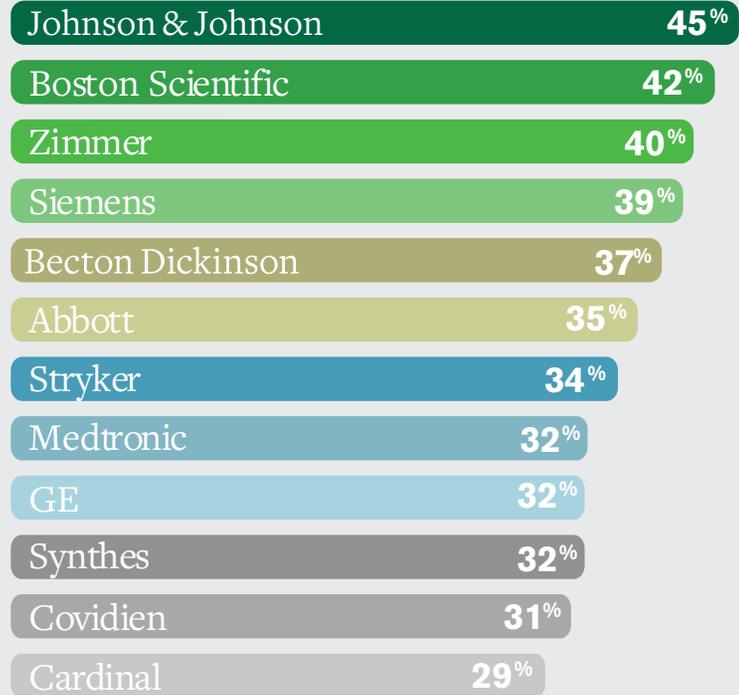


Johnson & Johnson
Brazil



RATINGS OF GLOBAL HEALTH CARE MANUFACTURERS ON LEVEL OF SUSTAINABILITY (RATED 8-10)

Question: Please rate the following health care manufacturers on the basis of their level of green sustainability. Use a scale of 1-10 where 10 means excellent and 1 means very poor.



SUPPLIER CASE STUDIES

Johnson & Johnson: EARTHWARDS®

Johnson & Johnson established the proprietary Earthwards® process for developing and marketing greener products through lifecycle evaluation. Every Earthwards®-recognized product must achieve a greater than 10 percent improvement in at least three of seven areas: materials used, packaging, energy, waste, water, social benefit and innovation.

As an example, Ortho Clinical Diagnostics, a Johnson & Johnson Company, launched a new generation of its VITROS® 3600 Immunodiagnostic System, which runs clinical blood tests in hospital labs. VITROS® 3600 is one of Johnson & Johnson's recent Earthwards®-recognized products, due to reductions of waste generated, energy consumed and materials used. For instance, the system uses on-board electronic documentation, which led to a 15 percent reduction of paper documentation ordered. The new generation of the system also achieved significant improvement in ROHS compliance, as well as a 13 percent reduction in energy and 80 percent reduction in liquid waste generated during use.*

**All VITROS® 3600 improvements are compared to the previous generation*

BD: ecoFinity®

Single-use medical sharps, such as syringes, needles and infusion products, can comprise a significant portion of the regulated medical waste stream. Today, used medical sharps are typically treated and disposed of in landfills or incinerated.

To address this issue, BD and Waste Management developed the BD ecoFinity® Life Cycle Solution, which enables hospitals for the first time to safely and economically recycle these materials. BD incorporates plastics recovered through the program into new sharps collector products, creating a closed-loop recycling solution.

Recycling these products not only helps divert solid waste from landfills, but also reduces the amount of raw materials needed to produce new sharps collectors. Projections from BD ecoFinity® Life Cycle Solution pilots demonstrate that participating hospitals can keep up to 70 percent of their sharps waste out of landfills or from being incinerated.

Kimberly-Clark: Blue ReNew

Since 2010, Kimberly-Clark has conducted pilot programs to better understand health care institutions' needs around recycling of the blue sterilization wrap used for medical instruments. In 2012, the company launched Blue ReNew, a step-by-step program that helps hospitals formalize the process for recycling sterilization wrap. The Kimberly-Clark Blue ReNew Team works with hospitals to customize the program for each facility's unique needs, identify recycling partners, train Operating Room teams and measure results to ensure the wrap recycling program can be sustained.

CUSTOMERS WANT TO KNOW MORE

Some suppliers and manufacturers are rethinking product development to include sustainability considerations and taking steps to communicate these efforts to customers within health care organizations. Opportunities still remain for suppliers to share more information with hospitals about sustainable products and to educate them about how these purchases can help improve organizational efficiencies and their environmental footprint.

Question: What information about green/sustainable practices do you want to hear from your vendors?



THE FUTURE OF SUSTAINABILITY IN THE HEALTH CARE INDUSTRY

Health care organizations and manufacturers have made significant strides during the past two decades in embracing and integrating environmental, social and financial sustainability throughout the industry. Suppliers are rethinking what goes into products and the ways they are made. Hospitals and health care systems are increasing recycling, using greener cleaning products and providing healthier food options. It is inevitable that sustainability will only continue to grow in importance as the link between environmental and human health becomes stronger.

According to Practice Greenhealth, emerging growth areas include energy-efficiency and sustainable energy, waste reduction (particularly packaging and styrofoam), elimination of halogenated flame retardants and other toxic chemicals and sourcing local, healthier food. Globally, hospitals

are starting to consider the total cost of ownership of energy-intensive medical devices, due to increasing focus on cost reductions, specifically in Europe.

Suppliers to European health care systems will also be focusing efforts through 2016 on ensuring medical devices and diagnostics are compliant with the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive. For instance, efforts are already underway at Advanced Sterilization Products, a Johnson & Johnson Company, to redesign products through the elimination or substitution of certain materials and substances as required by the scope of RoHS.

What can be expected is continued momentum – and continued progress – in advancing sustainable health care around the world.

“The idea of transparency will only become more important, and suppliers and hospitals around the world will be held accountable for impacts throughout the lifecycle of a product – from where it is produced and how it is used in the delivery of care, to how it is treated at end of use.”

- Gary Cohen, President and Founder, Health Care Without Harm, an international coalition of sustainable health care advocates

Additional Resources

Please visit the resources below for more information and tools to help integrate sustainability into purchasing decisions and overall health care operations.

- American Hospital Association (www.hospitalsustainability.org)
- Health Care Without Harm (www.noharm.org)
- Healthier Hospitals Initiative (www.healthierhospitals.org)
- Practice Greenhealth (www.practicegreenhealth.org)
- Sustainability Roadmap for Hospitals (www.sustainabilityroadmap.org)

Research Methodology

This non-blind research was conducted in January 2012 and surveyed key decision-makers within Institutional Delivery Networks (IDNs) and hospitals in Brazil, Germany, Italy and the United States. Survey participants included health care professionals, procurement/materials management professionals, and executives. Online surveys were conducted in Germany, Italy and the United States; in Brazil, surveys were conducted via phone. Fifty surveys were completed in both Germany and Italy; 62 surveys were completed in Brazil; and 145 surveys were completed in the United States.

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- Lara Sutherland, Practice Greenhealth (Virginia, United States)
- Christina Vernon, Cleveland Clinic (Ohio, United States)

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