

Implementing Sustainable Supply Chain Initiatives Within UCLA Health

Team Leaders:

Sarah Paset, Lillian Wherry

Team Members:

Eddie Galvin, Gabriel Hernandez, Keerthana Muthukrishnan, Ben Tran

Stakeholder: Sara Lindenfeld



Abstract

The main objective of our project is to enhance sustainability in UCLA Health to help reach the university's goal to become waste free. The initiatives implemented across several other healthcare systems and UCLA's overall staggering buying power has inspired us to focus our efforts on green purchasing. We have been collaborating with our stakeholder, Sara Lindenfeld, to pinpoint areas of improvement in purchasing and where the greatest saving potentials are. We have compiled a list of initiatives and products that other hospitals have implemented to improve their own sustainability. We aim to narrow down our research and determine a few specific alternate sustainable items that we can negotiate to be implemented into the UCLA hospitals and health centers.

Introduction

Sustainable healthcare is an emerging concept that often has been overlooked in global sustainability initiatives. Given the prioritization of a fully sanitized environment required in a health care setting, the standard concept of environmentally conscious efforts such as recycling and reusing do not appear to have a place in hospitals. With UCLA's goal of becoming waste free, however, it is has become increasingly critical to think outside of the box and begin developing creative solutions to sustainable healthcare that don't compromise patient health. The hospital team's goal this year was to address purchasing. UCLA Health has massive buying power and the capability to influence even one or two products in the healthcare system has

potential for significant savings, both in terms of carbon emissions and cost.

The previous SAR Hospital team in 2016 worked on making UCLA Health more sustainable through an education module that focused on educating the health center's entire medical staff and employees. However, based off the 2016 team's final report, little progress was made in regards to influencing employee habits and greening the hospital. This year, our team has taken a different path to tackle hospital sustainability through the area of green purchasing in order to reduce environmental impacts of the hospital. More specifically, our focus of green purchasing is to find initiatives or alternatives that have a reduced cost to human health as well as the environment relative to other products in use. The team has aligned its focus around practices of healthcare facilities at the forefront of sustainability through their supply chain practices.

Initially, preliminary research provided valuable information to the team about general practices that can contribute to hospital sustainability. This was a beneficial first step to learning about possible sustainable practices in general such as the implemented sustainability scorecard from Kaiser Permanente used to influence the company's supply chain (Kaiser Permanente, 2010) or the just-in-time inventory strategy that has the ability to reduce unnecessary waste generated from a surplus of supplies (PricewaterhouseCoopers 2012). Hospitals are not restricted to a single action in which they have the ability to make an impact; hospitals have various opportunities to reduce waste and their environmental impact in particular aspects of their operations as seen with the recyclability of blue wrap used to keep surfaces sterile (Campanale 2011) and the implementation of reusable medical devices that are recollected and refurbished to extend a product's life cycle (Sherman et al. 6). The initial research in its entirety assisted the

team not only by providing a gist of the magnitude of a hospital's operations but also by aiding in the discovery of items for environmentally preferred purchasing.

Our second round of research on healthcare institutions narrowed the components of hospital sustainability to the area of green purchasing. A compiled list of initiatives and practices for environmentally preferred purchasing was useful to guide our attention centered around what works best for UCLA Health and assisted in streamlining our focus to target initiatives. We are seeing what it takes for UCLA to adopt sustainable initiatives researched from other successful healthcare institutions with hopes that UCLA Health can leverage its purchasing power to choose the more sustainable options.

Methodology

Our Stakeholder, Sara Lindenfeld, was readily prepared at our first meeting. Sara updated us briefly on the current state of UCLA Health's Sustainability and hospital sustainability in general. Coming into this project, no member of our team had significant experience with healthcare sustainability so Sara advised we start by reading Practice Greenhealth's Benchmark Report in order to obtain a baseline understanding of the industry we would be working with.

Our first major assignment, as previously mentioned, was to create and develop a spreadsheet of initiatives that other hospitals have tested in attempts to green their own supply chain. Practice Greenhealth featured a couple of examples of successful initiatives in greening

healthcare, but not a sufficient amount pertaining to the supply chain. Thus we continued our efforts in research outside the platform. Sara did not specify any given direction other than Practice Greenhealth and allowed us to explore and learn various strategies on our own. When we still needed a little guidance she suggested to examine a few of the hospitals leading the way in sustainability, such as UCSF and Kaiser Permanente, to see what they have recently tested. We also searched via a few of the databases provided by UCLA's library, but could only locate old, outdated, and irrelevant information. Thus, we found the best method of locating other initiatives to be through Google searches and then verifying the credibility of the source and the hospital itself. The spreadsheet we created describes the action of the initiatives themselves and then also highlights the estimated cost savings, time periods, and facilities where they were tested. While this project has been ongoing the past ten weeks, up to date we have 67 initiatives from other hospitals that have greened their supply chain which for most of them simultaneously cut costs in their annual spend regarding supplies.

Our next task was to conduct research on what Sara considered to be an uncomplicated area to start: office supplies. Although this area is not the hospital's biggest effect on the environment, we think it could be the most feasible for change in our duration of work with UCLA Health. The medical devices themselves have a much larger impact, and higher price, but there are way more things that need to be considered, such as patient safety, for those items rather than for office supplies. Thus, we were provided with a list of thousands of office supplies and quantities that UCLA Health purchased in September. However, we were not provided with the prices they were purchased for which were retained from us due to discounted Group

Purchasing Organization (GPO) confidentiality. Our task was to find items that are both environmentally friendlier and cheaper. However, we could not know the prices that UCLA had actually received for its products so we chose to compare the market prices of those purchased with potential replacements, assuming that they could bargain products at the same rates. We searched for alternative products on OfficeMax, UCLA Health's main supplier, and a few other small suppliers. We found 22 possible replacements for UCLA Health's office supplies that fit our criteria. It was very tedious research examining every single item, our list featured over 270, to evaluate if a cheaper and eco-friendlier alternative existed. We searched for a simpler method, either a guide or eco-label in this industry. We discovered that the 2016 Housing Sustainability Action Research Team created a guide for sustainable office supplies that we considered a satisfying report and forwarded it to our stakeholder, Sara.

These have been our two major tasks that have helped our team get a much better feel for the process and knowledge of the industry. We have put in the hours of research and learned which of these items would be most beneficial to the hospital and UCLA Health, environmentally-wise and also cost-effect. Our goal is to implement a product change in the hospital and put something we researched into use at the hospital. While we have learned first-hand the difficulties the bureaucracies of the hospital can cause for little tasks, we yearn to see our hard hours of research pay-off with an actual effect on the hospital and its waste.

After working through some confidentiality issues, our team was granted access to the UCLA Medical Center's purchasing report for the month of September. This report contains

information on items, vendors, manufactures, and quantities of products being bought. With so many items on this report, we first looked at which products were being bought in the greatest quantity. Of the top 20 products 13 of these were textiles belonging to the laundry department. Thus, we became more so aware of the importance laundry and textiles have on the operation of hospitals. Any improvement in the environmental impact of textiles will have a substantial effect considering the huge quantities purchased each month. Currently, we are still analyzing the purchase history report to discover which products will have the most impact when their more sustainable alternative is implemented.

Furthermore, another resource that we are utilizing to find better alternative products is Vizient, which is a platform for the procurement of medical devices and a hub of management supply strategies. Through Vizient we have been able to discover price ranges for certain devices, who the suppliers are, and distribution methods. Information on suppliers is especially important because we need to discover who could potentially supply UCLA Medical Center with more sustainable yet cost effective products. Moreover, on Vizient's website when searching for products there is an environmentally preferred filter which narrows down products to those that are meeting certain criteria. Such criteria are: is the product latex free, CA Proposition 65 compliant, and non-hazardous in its disposal among other things. Overall, Vizient has been a very helpful tool in discovering environmentally friendly products.

Our team has also been conducting interviews with experts on sustainability and supply chain management. Most notably, we conducted a phone interview with Hillary Bekmann the

Associate Director of Sustainability at University of California, Office of the President. Her expertise in sustainable procurement proved quite insightful, navigating us through the process of supply chain management. Firstly, she recommended that we start with spend analyses and life cycle assessment of certain products. From this we can identify which products are having the biggest impacts and thus have the most room for improvement. Bekmann also recommended we look at products that hit multiple environmental, health, and economic criteria. In her professional opinion a product that is fairly small, yet fulfills many criteria is more impactful and preferred over a big product that does not check off as many boxes. A product hitting many criteria tells a more complete story of a hospital's commitment to sustainability and adds credibility to budding environmental programs. Lastly, Bekmann highly advised us to understand what is important to hospital decision makers. If we are cognizant of where their priorities lie we can ensure our alternative products are aligned, which will increase the likelihood of the new products being adopted. We will continue to conduct such informative interviews with experts in our remaining weeks.

Challenges and Difficulties

Although we dedicated a lot of time into accomplishing our goals, we faced numerous setbacks and difficulties. Our main objective with our research is to provide recommendations to the stakeholder, Sara, and have the UCLA Health system implement sustainable initiatives within their healthcare practice based on our research. However, this led us to many dead ends

and we felt as if we weren't actually causing sustainable change due to the fact that we weren't working with any tangible solutions. We were just continuously doing research, and it was easy for each one of us to get lost amidst the endless compilation data, which was organized into our team's drive. In order to tackle this issue of feeling stagnant, we decided to switch our methodology and strategize differently. Instead of retrieving numerical and abstract data from online sources, we have decided to pursue research orally as well by conducting direct interviews with key figures from significant hospitals that are in the lead of hospital sustainability.

One of the primary challenges faced by most student organizations is the bureaucracy that we have to work around in order to make effective change. Students have a lot of agency in wanting and demanding change, but we are not always the ones that have the final say. The decision makers still hold power in the sense that they do make the final and official decision on how a certain system should be run. In the earlier stages of our research project, we experienced bureaucratic hurdles when we weren't able to get access to the purchasing history of the UCLA medical centers. Our stakeholder tried her best to reach out to her supervisor to find out what next steps we had to go through in order to fulfill the confidentiality requirements.

Unfortunately, this was an extremely long process, so we were given access temporarily to just the purchasing history of the office supplies instead of the medical supplies. When we were given access to more data, it was an analysis and graphical representation of the general medical supplies purchased based on their detrimental effects on the environment. We have successfully made it through that obstacle, but there's no way to be sure that we won't run into other bureaucratic issues in the future.

Lastly, a looming challenge that we have been facing is the inability to prioritize

sustainability over other key factors that impact a business. In the case of working with hospitals, their main focus is patient safety and cost effective measures. Most corporations and health centers have a management side taking care of their finances, and they value money more than the environment. This is the unfortunate truth, and it's difficult to convince certain organizations to switch over to producing and maintaining more sustainable options when sometimes it is more expensive. As difficult as it may seem, this is where our team comes in to tailor to our stakeholders values and interests by prioritizing patient safety while ensuring that we can minimize the detrimental impacts that the hospital has on our environment by implementing sustainable alternatives in today's healthcare system.

Plans for Spring and Conclusion

Fortunately for our team, our stakeholder, Sara Lindenfeld immediately focused us in the direction of sustainable procurement within UCLA Health. Our initial goal was to ultimately compile health care best practices to identify key sustainable product alternatives. These alternatives could be determined through numerous options including new manufacturers, reprocessing products, finding products with different materials, or the recyclability of the item. We also began our project looking at UCLA Health's office supplies but determined the previous SAR Housing 2016 team guidelines had already accomplished what we were on for, and we decided to not invest the majority of our time narrowing in on office supplies. While compiling best practices and product alternatives remains an essential part of our scope, we have also decided to enhance our goal by pursuing a more tangible outcome such as implementing a trial

period for one of our recommendations.

Now that our team has had time to familiarize ourselves with UCLA Health's purchasing history, one of our first steps in spring quarter is to tour the hospital. This tour will allow us to see many of the products we've read about in use which will enhance our understanding of current practices. Having a visual of how the hospital operates will also allow us to better anticipate who will be affected by changes to hospital procedures. Building off of this idea of how our recommendations will ultimately impact those involved, we also plan to conduct interviews with subject matter experts. These experts will include vendors, specialized staff, and other health care facilities. Specifically, we plan to contact individuals from UCLA Health's Materials Management department, University of California San Francisco Medical Center, Kaiser, McKesson, and UCLA Health staff. Ideally, these communications will provide further insight, potentially additional individuals to reach out, establish a working relationship to collaborate with, focus our best practices recommendations to UCLA Health, and understand the implications of a change from many perspectives.

Another highlight of our spring goals will be to negotiate prices with manufacturers in order to develop a proposal for hospital leadership. As we've discovered in our research, retail prices and contract prices can vary quite drastically, and we want to make recommendations as palatable as possible. As we have emphasized, key drivers for UCLA Health sustainable initiatives include patient health as well as cost. Because of this, we aim to encourage a path towards sustainability by starting with strategies that can also reduce costs and/or improve the quality of patient care.

Appendix

Link to Excel Sheet of our compiled initiatives and products list:

<https://docs.google.com/spreadsheets/d/1I8kubFtUgm3Y2rfoMRDQWI7Ha6sb-OT8b6AamOnSIi8/edit?usp=sharing>

Works Cited

Campanale, Mark. "Environmental, Health & Safety Blog." *Blue Is*

the New Green for Hospital Waste Management, Triumvirate Environmental, 4 Mar.

2011,

www.triumvirate.com/blog/bid/57814/Blue-Wrap-is-the-new-Green-for-Hospitals.

"Kaiser Permanente Launches Sustainability Scorecard for Medical Products." Kaiser

Permanente Share, Kaiser Permanente , 4 May 2010,

share.kaiserpermanente.org/article/kaiser-permanente-launches-sustainability-scorecard-for-medical-products/.

PricewaterhouseCoopers. "Hospital Procurement Study: Quantifying Supply Chain Costs for

Distributor and Direct Orders." *Health Industry Distributors Association*. May 2012.

http://www.hida.org/App_Themes/Member/docs/Hospital_Procurement.pdf

Sherman, Jodi D., et al. "Life Cycle Assessment and Costing Methods for Device Procurement."

Anesthesia & Analgesia, 2018, p. 1., doi:10.1213/ane.0000000000002683.