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# Implementing Healthy and Sustainable Food Practices in a Hospital Cafeteria: A Qualitative Look at Processes, Barriers, and Facilitators of Implementation

K. N. DAUNER,<sup>1</sup> L. J. LACAILLE,<sup>2</sup> J. F. SCHULTZ,<sup>3</sup> J. HARVIE,<sup>4</sup>  
J. KLINGNER,<sup>5</sup> R. LACAILLE,<sup>2</sup> and M. BRANOVAN<sup>6</sup>

<sup>1</sup>*Health Care Management Program, University of Minnesota Duluth, Duluth, Minnesota, USA*

<sup>2</sup>*Department of Psychology, University of Minnesota Duluth, Duluth, Minnesota, USA*

<sup>3</sup>*Department of Economics, University of Minnesota Duluth, Duluth, Minnesota, USA*

<sup>4</sup>*Institute for a Sustainable Future, Duluth, Minnesota, USA*

<sup>5</sup>*Labovitz School of Business, University of Minnesota Duluth, Duluth, Minnesota, USA; Upper Midwest Rural Health Research Center, University of Minnesota, Minneapolis, MN*

<sup>6</sup>*St. Luke's Hospital, Duluth, Minnesota, USA*

*The health care industry is in the unique position to model healthfulness in food systems. However, there is little available information on the processes that hospitals have used to change food environments. To assess such processes, interviews were conducted with hospital and community members involved in food management and service at a mid-sized Midwestern hospital. Results indicate that incorporating more nutritious and sustainable foods in a hospital is a dynamic process that must capitalize on institutional strengths and minimize barriers. Disseminating information to the community and gaining resources from top-level administrators are challenges that point to future directions for research and practice.*

**KEYWORDS** *sustainable, hospital food service*

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Address correspondence to K. N. Dauner, PhD, MPH, Assistant Professor, Health Care Management Program, University of Minnesota Duluth, 1318 Kirby Drive LSBE 111K UMD, Duluth, MN 55811. E-mail: kdauner@d.umn.edu

## INTRODUCTION

In recent decades the food system has undergone a dramatic transformation as a result of economic, technological, and social changes. These changes have resulted in an industrial agricultural model that has substantially lowered food costs and increased availability; however, a number of detrimental effects have become increasingly evident in recent years. For instance, there have been numerous environmental impacts including pollution, overconsumption of fossil fuel and water, fish die-offs, soil depletion, and decreased biodiversity.<sup>1</sup> Researchers have begun to find links between modern food production practices and a number of health problems, including obesity, diabetes, cancer, and antibiotic resistance.<sup>2</sup> Industrial food production practices result in food that is less nutritionally dense and filled with a myriad of corn-derivative and nonnutritive additives. In fact, major health care organizations including the American Public Health Association (APHA), American Medical Association (AMA), and American Nursing Association (ANA) have recently made policy statements on the relationship between food production and health.<sup>3-5</sup> Consequently, a consensus is emerging among key experts in health, nutrition, sustainable agriculture, economics, business, and policy that a systems-based approach is needed to improve the food system to make it more healthy, equitable, affordable, and sustainable. Moreover, there is a call to action by the nursing and medical communities to promote policies and practices that model a healthy and sustainable food system within hospitals and other health care facilities.

The ongoing reform of US health care policy provides an opportunity for policy makers to promote—and the health care community to adopt—primary prevention strategies that shift our food system to a more resilient and sustainable model. In fact, health care systems (as well as the individual hospitals within those systems) are in the unique position of providing leadership in the move toward food policy reform. For instance, by creating healthy food environments, health care facilities provide health benefits to patients, staff, and visitors, which is consistent with their mission. The health care providers who work in major health care facilities may also have the leverage to help transform food systems by educating their consumers (both patients and coworkers) about the connection between food production practices and health. Moreover, given that the food procurement budget for one hospital can top \$5 million,<sup>6</sup> hospitals may be able to actively influence the market with their purchasing power.<sup>7,8</sup>

Notably, a number of hospitals have already made substantive changes to their own food systems. In fact, as of January 2011, over 340 hospitals and health care systems have signed the Healthy Food Pledge that was developed by the Healthcare Without Harm (HCWH) organization.<sup>9</sup> By signing this pledge, hospitals agree to initiate steps to work with local producers to procure local and sustainable food, educate their communities, and minimize

waste and compost. A 2008 survey by HCWH revealed that pledge signers are engaged in the following practices designed to increase the amount of healthy and sustainable fare available in their institutions: purchasing sustainable and seasonal produce, rBGH-free (recombinant bovine growth hormone free) dairy products, cage-free eggs, meat produced without hormones or antibiotics, sustainably harvested seafood, and certified organic and fair-trade coffee; using reusable or biobased foodware; changing menus to increase the amount of fruits and vegetables served while decreasing the number of high-fat and processed foods available; establishing on-site gardens; and food composting.<sup>10</sup>

Though numerous tools, case studies, and webinars on how to make a foodservice more sustainable exist,<sup>11–13</sup> implementing such changes remains challenging for hospitals and other institutions<sup>8</sup> as the current industrial food system model prevails. At present, there is limited guidance detailing how hospitals should interpret and implement best practices, gain support from their consumers and administrators, prioritize various components of sustainable food systems, find new suppliers, or evaluate the return on investment. Further, a number of institutional, community, and individual factors may contribute to the decision to be more sustainable, including hospital size, food budget, geographic location, demographic and food preferences of those the hospital serves, the prevailing institutional culture toward change, and the attitudes and beliefs of those running the hospital and its food services. The AMA, ANA, and APHA resolutions are still relatively new, so the incorporation of the principles articulated by these health-based resolutions is still not the norm for national hospital leadership, and the health care business model promotes treatment over prevention.<sup>14</sup> Research that identifies key individual, institutional, and community influences on the implementation of healthy and sustainable food systems needs to be conducted and disseminated. Ultimately the adoption of healthy food systems in health care may lead to a change in agricultural production that promotes improved health, reduces obesity and chronic and certain infectious diseases, and reduces environmental degradation.

The purpose of this study was to examine (through collection of in-depth qualitative information) the processes associated with the selection, purchasing, and pricing of healthy and sustainably produced food within a hospital system and to gain further insight into how the hospital culture facilitates and/or hinders these processes. Our research was conducted at St. Luke's Hospital in Duluth, Minnesota, a 247-bed, level II trauma center. St. Luke's serves northeastern Minnesota and northwest Wisconsin, has approximately 2400 employees, and admits approximately 13 000 patients annually. Since 2005 the hospital has introduced organic fruit, rBGH-free milk, fair-trade coffee, and locally grown, organic, and sustainably produced food items. St. Luke's also composts its food waste and has a comprehensive food-recovery program where unused food is provided to the local

food bank. They also eliminated their fryer, stopped purchasing and selling bottled water, constructed a roof-top garden, and eliminated almost all trans-fats. Consequently, St. Luke's was an early model for other hospitals regionally, nationally, and internationally, though the exact steps in their program development had yet to be documented and formalized.

## METHODS

Semistructured interviews were conducted with key persons involved in food acquisition, preparation, and service for both in-patient and cafeteria services at St. Luke's Hospital. Interviews were also conducted with hospital administrators, a key community leader who serves as a resource consultant to the hospital, and a representative of the hospital's group purchasing organization (GPO). The research team developed a semistructured interview guide using an iterative process among the team. Interview questions were tailored to each respondent's (eg, administrator, foodservice director or employee, dietitian) unique vantage point. A trained interviewer and a note-taker from the research team were present at each interview and the same trained interviewer completed all of the interviews, with the exception of the interview with the GPO representative, which was completed by a second trained interviewer from the research team. At the beginning of each interview, the interviewer reviewed the study purpose and interview protocol, received permission to record the interview, and emphasized the confidential nature of the interviews. Interviews lasted between 45 min and 2 hours and were also recorded to guarantee accuracy of content. The note-taker's handwritten notes were later typed and used to supplement the audio recording. Because of their central roles in the procurement and delivery of food within the hospital, the director and managers of the Hospitality Services Department were interviewed twice and these interviews were transcribed verbatim. Field notes taken during team meetings, and meetings with hospital foodservices staff were used to augment interview responses. Data were analyzed using qualitative software (NVivo 2, QSR International, Victoria, Australia) to identify, code, and categorize patterns and themes and then reduce the overall number of themes by selecting, ordering, and clustering them.<sup>15</sup> The interview guides and procedures were approved by the Institutional Review Board of the University of Minnesota and the Scientific Review Committee at St. Luke's Hospital.

## RESULTS

### Characteristics of Interview Respondents

A total of 25 persons were interviewed in either individual or group interviews. These included the hospital's chief executive officer, 2 vice presidents,

the director of hospitality services, 3 hospitality service managers, 2 dietitians, 2 marketing specialists, a quality improvement staff member, the foodservice inventory coordinator, 10 persons involved in food preparation and service, a key community leader who serves as a resource person for the hospitality managers, and a representative of the hospital's GPO. The experience level of interviewees ranged from 3 to 34 years.

### Key Themes of the Interviews

Interview respondents described the processes of change, pricing decision making, facilitators and barriers to change, and the promotion and communication of changes to consumers and the broader community.

#### THE PROCESS OF CHANGE

A number of themes emerged as interviewees described the process by which St. Luke's has incorporated more healthy and sustainable alternatives into food offerings: (1) a strategic approach of making incremental changes; (2) taking advantage of opportunities; (3) prioritizing types of changes; (4) working closely with GPOs; and (5) working with a variety of local food producers. Common to these themes is the fact that the process is one of constant flux.

These processes have taken place over several years and without fanfare. This approach has led to the elimination of most trans-fats, the elimination of monosodium glutamate (MSG), the incorporation of hormone-free dairy products, the elimination of bottled water, and the removal of the deep fat fryer. As affordable products have become available that replace less healthy products, the foodservices staff have worked to incorporate these new products and discontinue old. Changing recipes with trans-fats and MSG has also occurred slowly over the last 6 years.

Similarly, unique opportunities have provided a basis for some changes. For example, when the fryer broke down, the food managers ultimately decided not to fix it and stopped serving fried foods. This decision was reinforced in a conversation with a local expert on improving food systems. Staff were able to see the opportunity in a broken fryer to further their agenda of increasing the amount of healthy food available in the cafeteria. In the meantime, cafeteria patrons became accustomed to eating baked versions of fried foods and did not protest changes. Upon reflection, foodservices staff believed that letting cafeteria patrons try out a change first often produced greater buy-in from employees than if they had decided to announce they were eliminating the fryer. This sentiment was reflected across the interviewees' comments who believed that the overall food quality was good and that good food mattered more than how it was cooked.

The “just try it” approach has been a major component of success in that it has minimized resistance from employees, provided food managers an opportunity to qualitatively assess changes, and allowed for changes to happen without a substantial commitment of resources or expenditures. Further, it was felt that if a change did not work out in the way intended, it could be reversed. This approach has the added benefit of taking pressure off of staff to conduct a major overhaul of the food system and reflects a systematic push to align their practice with their organizational values to put “the patient above all else.” This term *patient* also encompasses the potential patients living in the community who benefit from good stewardship of the environment.

Setting priorities has also guided the process by which St. Luke’s has implemented changes in their food system. Food managers indicated they often needed to make choices between purchasing local, organic, or sustainably produced foods. They believed that purchasing local food should take priority over organic and sustainably produced food when possible or when 2 alternatives are similar otherwise. Purchasing local foods has the benefit of helping the local economy and, in Duluth, is usually organically produced. The following quote illustrates this weighing of 2 similar foods.

It’s not always all about organic . . . here are two products that are almost identical, one is made locally and the other is organic. This one’s made locally but it’s not organic, we would still always buy that locally produced because right now [as my colleague mentioned] it’s organic but it’s shipping from the Salinas Valley in California versus somebody who is doing pretty much the exact same thing, but it’s here. We’ll buy the here versus there.

Oftentimes the change process involved seeking out opportunities to purchase local foods “off-contract,” meaning from outside of the GPO. Hospitals voluntarily contract with a GPO to purchase certain items from specified vendors and distributors and then get rewarded through rebates and incentives for doing so. Group purchasing can harness the buying power of multiple consumer groups to lower prices. Single-source purchasing also increases the simplicity of the ordering process, resulting in staff time and money savings. Therefore, the hospital can lose monetary incentives for going off contract with either the product purchased or the distributor used, but because it is a voluntary contract there are no lasting consequences. For a more thorough discussion of hospital foodservice processes, see Kulick.<sup>16</sup>

For St. Luke’s, going off-contract has resulted in the need to shift financial and food resources around to stay on budget and avoid wasting food that has been purchased on contract. At other times, the hospital has used its purchasing power to change foods offered through their GPO contracts, but

this is not something that happens regularly for a small hospital. In general, the GPO seemed responsive to individual change; they have an advisory panel of purchasers that make suggestions and vet changes. The GPO discussed responding to increased demand for green, healthy, and sustainable products with solid business practices: buying locally when possible and providing compostable products and more environmentally friendly packaging. The US Food and Drug Administration's (FDA) requirements drive some of these changes, and members drive others.

Another important part of the process for hospital personnel was to work directly with numerous local producers. Instead of dealing with one GPO, foodservice managers now work with approximately 9 food suppliers. Consequently, more staff time is needed to manage food coming in from multiple sources and conduct the paperwork required by the hospital to have these relationships.

So then when we wanted rGBH-free milk and liquid dairy is on contract [so] when US Foods couldn't access it we chose to go and get it from another manufacturer and have it distributed by a different company.

We used to have a prep who got whole fruit in . . . and through cost saving measures, we would reduce our staff because now we can get this stuff prepped, and now we're going to the farmer's market every Wednesday . . . so now we're cutting and slicing and dicing again. We don't have the labor that we did ten years ago and so that's been kind of the challenge too that we want to bring this stuff in, we want to grow it, but we don't have the labor to produce it. So it's trying to figure that out.

Although not currently a component of the change process, interviewees felt that the process could be enhanced by promoting the increased availability of healthy and sustainable food and educating employees on the reasons behind doing so. Several respondents felt that though most employees seemed to have a basic knowledge of heart-healthy eating (ie, eating low-fat, low-sodium foods), employees did not recognize the broader impact of eating local and/or organic foods on their health. A few interviewees also noted a need to help employees develop the skills to interpret information on the availability of healthier alternatives.

## PRICING

Price also factored into the decision-making process. Each decision to include a healthier food option has to fit with prior decisions and, for the most part, the overall operating budget, unless the additional expense could be justified. Prices for food sold in the cafeteria are primarily determined

by the cost to purchase an item and market value (ie, what employees will pay). There is no standard price markup for items. Prices for similar items and anticipated volume also factored in. For example, regular and organic yogurt sell for the same price in the cafeteria due to pressure from cafeteria consumers to keep prices similar for similar items even if organic yogurt would cost more in a market. New items, because there is no past reference point for consumers to compare to, allow the managers to recapture some costs to offset foods that have been there longer or foods where the profit margin is smaller. Likewise, some changes (like eliminating paper tray liners) have saved money.

#### FACILITATORS OF CHANGE

Respondents discussed how the hospital's corporate culture helps the change process. The predominant culture in this organization is to trust the employee closest to an issue to address it. Interviewees believed that they did not need to seek approval via the "chain of command" for every decision they were expected to make. This sense of empowerment and ownership over decisions was evident in several interviews as respondents at all levels commented on the freedom they experienced in conducting their work. Further, several people mentioned that this management approach encouraged employees to look at their job "as if it were their own business."

Another facet of the corporate culture cited was an openness to try new things. The attitude is "just see if it works." Foodservice staff is open to hearing about new ideas, trying new things, and getting input from others on how their food system can continually improve. This attitude is underscored by the fact that the organization is implementing the lean cycle of quality improvement. The lean process uses techniques pioneered by Toyota to improve production capacity and reduce waste in processes by incorporating continuous improvement into daily activities of work at every level of the organization.<sup>17</sup>

Shared responsibility, internal communication, and teamwork among those involved in food purchasing and preparation were also cited as facilitating changes. At St. Luke's there are 3 managers within the hospitality division, and though all have their own areas of expertise within hospitality (which includes laundry and housekeeping as well as foodservices), all 3 are cross-trained in the food area. This means that the food system does not rely on just one person. Further, the communication process is facilitated by weekly meetings between the director and managers.

Other facilitators of change that were mentioned included organizational and community support, the responsiveness of food managers to suggestions, and the good reputation that the cafeteria enjoys among St. Luke's employees.

I think what's been a huge success for us is kind of making everybody responsible for everything and that way there's for the most part really good clear communication and there's no silos. You know in management you always talk about knocking down those silos and I think that's been a huge success for us.

Finally, with specific regard to waste, there are city-wide programs and policies that simplify waste reduction. For instance, a food bank supplies St. Luke's with pans, lids, and labels in which cafeteria workers pack, label, and store leftover food. The food bank then arranges for the pick up these leftovers in a refrigerated truck. Similarly, the local sanitation department has made composting easy by providing receptacles and biodegradable bags, as well as subsidized pickup and tipping fees to make it cost-effective.

#### CHALLENGES AND BARRIERS TO IMPLEMENTING CHANGES

A number of challenges to implementing healthier alternatives in the cafeteria were mentioned in the interviews. By far the greatest and most complicated barrier involves the acquisition of food from multiple sources. Additional barriers include a lack of human, physical, and financial resources to focus on change, fear of negative responses by staff, the evaluation of changes, and difficulties associated with explaining and marketing their changes both internally and externally.

There are numerous complexities that arise when obtaining food for an institution, particularly when, as is the case with St. Luke's, there is the need to strike a balance between contracts with national manufacturers and distributors and the values of local and organic food. As mentioned previously, St. Luke's belongs to a national GPO that establishes agreements on prices and incentives with food manufacturers and distributors for hundreds of hospitals, thus reducing the number of contracted food producers. St. Luke's has a voluntary, "two-pronged contract" with the GPO, which means that it saves the most money (in rebates and incentives) by using one manufacturer and one distributor. Going off-contract incurs higher costs due to lost rebates and incentives; thus, the net price for a local food is higher than just the cost of the local food itself. St. Luke's also uses other distributors that focus on local food and/or organic food and thereby add additional individuals and contracts with which to deal.

There are incredible complexities to this work. So, for example, if a hospital purchases a certain Sara Lee cake for example, or a certain amount, there are tons of hidden rebates that go to the hospital and/or GPO. So it is not clean by any means, and very confusing. Even some hospitals don't understand these things.

In obtaining locally sourced food there is the need to work directly with a number of producers, often individual farmers. Dealing with 9 suppliers takes time. Further, St. Luke's is only one small, independent hospital out of the hundreds in the GPO, and thus they have little leverage and buying power. However, according to the GPO, they are seeing a trend toward greater demand for healthy, local, and/or organic foods and are responding to this demand.

Using locally sourced food brings a distinct set of challenges to the table. Individual local farmers do not cultivate enough produce to meet the volume needed for an institution the size of St. Luke's and it takes time away from other duties for staff to find and develop relationships with various farmers. By buying produce at the weekly farmer's market, St. Luke's is able to buy larger amounts of food because more farmers are present at one time. St. Luke's has worked to develop a relationship with one vendor who sources local foods, but it is still not enough to meet demand.

I was on a panel a couple of years ago for a farmers beginning class and I expressed that we have a \$1 million dollar budget and from this farmer I got 30 lbs. in 6 weeks of season. I [said] I can use that in one day. And they're like "Ohhh" [indicating surprise that the hospital used so much food].

For other locally sourced items, such as bison, fish, and dairy products, the hospital food managers go through each individual producer. The hospital itself also requires paperwork from each vendor, which has been a barrier for some local producers due to the complexity of the paperwork. There is a subsequent burden placed on staff time in training each vendor on how to fill out the hospital's paperwork.

In many of the interviews, respondents expressed a concern for negative reactions or complaints from fellow employees to changes. Given that most consumers at the hospital are employees, the food managers want to be especially responsive to their colleagues. This theme was mentioned in discussing prior changes as well as in anticipating current and future efforts. Although this concern did not prevent changes from being made, it was felt that complaints and comments needed to be addressed. This also takes time and effort from the foodservice managers. As was the case when the fryer was eliminated, by taking advantage of opportunities and notifying employees of changes after the fact, employees have time to experience a change and adjust, thereby minimizing negative reactions.

Foodservice staff also discussed the challenge of educating consumers within and outside of the hospital on what the foodservices changes were and how the changes benefit the community. This challenge also speaks to the need for more resources devoted to marketing the changes both internally and externally. Though several respondents understood the

connections between food, health, and the environment, it was not clear to what extent those connections were understood by all stakeholders. Food managers do not have the time or the expertise to focus on marketing the changes they have made to incorporate healthier alternatives in the cafeteria, and the dietitians do not have time for it when the current reimbursement model provides incentives for individualized patient education. Likewise, marketing staff do not have the content expertise but could help efforts with their media connections and expertise. Further, foodservices staff have limited time or resources to attend national conferences specific to healthy and sustainable foods such as FoodMed and/or participate in webinars or other trainings.

At present there is no systematic evaluation of changes to the hospital's food system, though the value of having such an evaluation in place is recognized. When changes are made, front-line foodservices personnel will ask consumers for informal feedback. Likewise, unsolicited comments are made by consumers. It is hoped that through the university-hospital partnership, a more thorough evaluation can be conducted; however, currently a comprehensive evaluation is cost and time prohibitive.

Many of the aforementioned issues place a demand on staff time that is symptomatic of the much larger problem of resource allocation. Though the culture at St. Luke's has clearly provided an environment of innovation, there are also limits to what can be done without prioritization and resources from leadership on these issues.

## CONCLUSIONS

Overall, the processes associated with the purchasing and offering of more healthy and sustainable foods at St. Luke's have been characterized by taking incremental steps toward their goals, capitalizing on opportunities that arise, and a constant balancing of nutritional, sustainability, and cost concerns. This approach appears to be working to balance prices and costs, maximize opportunities, and minimize challenges.

The major challenges for St. Luke's have had to do with implementing sustainable food practices and food procurement and the allocation of resources to further system change. Kulick,<sup>16</sup> in a series of case studies, found that common implementation challenges for health care systems included staff skills, food safety considerations, food availability, and cost. In addition, the results of this study are similar to findings from a series of case studies of European hospitals that identified time spent identifying suppliers, time needed to manage these new partnerships, effort spent getting support from senior management, time spent in increased food preparation, and effort spent on communication with staff and patients as challenges in changing hospital food systems.<sup>18</sup>

Although St. Luke's has strong managerial support, they are also under-resourced. There are already numerous demands placed on food staff time. Learning what is local, procuring it, preparing it, and the subsequent need to update contractual obligations in response are time-intensive challenges. Alternatively, changing contractual policies for vendors requires institutional time and commitment. There is now a need to invest time to communicate changes and the benefits of such changes to hospital stakeholders. Hospital administrators need to make sure that resources are allocated such that staff and community are made aware of the benefits of what has been done for the community. Limited budgets and time constraints precluded the hospital from developing a focused educational and marketing initiative to its internal and external customers. Certainly, with similar hospital cultures, it may be important to engage and educate the marketing and/or communication departments to get the support of both customers and hospital leadership to continually further a sustainable food policy and plan. Changing the food system may necessitate culture change within the organization. Some hospitals have found that the investment in healthy, sustainable food work has more than paid for itself with respect to positive media and brand management.<sup>19</sup> Hospitals have educated patients and community members by including the names of local producers on the patients' menus and explaining their rationale. Others have provided a link to their food system initiatives on their facility website and incorporated this education and communication at local health fairs and similar health-oriented venues. It is important to engage the community because the community is the consumer and can help advocate for change within their hospitals.

Given that the cafeteria and catered food for hospital employees and visitors comprises the largest percentage of a hospital's food budget (55%–70%),<sup>20</sup> educating employees and visitors on the health and environmental benefits of healthful food is key. In fact, the *Green Guide for Health Care*<sup>21</sup> prioritizes education by creating a credit aimed at educating hospital staff, patients, and the community about foodservice sustainability. Similarly, a variety of hospitals have posted their food vision and commitment to local food systems on patient menus, in their cafeterias, and on their websites and hosted regional or national workshops. These have, in turn encouraged other hospitals and the local university to purchase locally. If directed at employees, point-of-purchase nutritional messages may also precipitate behavior changes that may ultimately impact obesity and other nutrition-related diseases.<sup>22,23</sup> Educating GPOs has also instigated changes. Some GPOs are now offering more sustainably produced products and requiring disclosure from suppliers on products containing genetically engineered ingredients and other production methods. Thus, the more hospitals communicate their preferences to the GPOs, the greater the likelihood of change.

The research conducted at St. Luke's points to a number of directions for future practice. There is a need to increase the dissemination of successes

stories of healthy and sustainable foods practices in health care. A variety of distribution models in which regionally based and often independent or cooperatively owned distributorships that bridge institutions and family farmers provide a replicable models for hospitals. The Farm-to-School Program is one such example.<sup>24</sup> Likewise, Red Tomato and EcoTrust provide models of not-for-profit food brokers that work with the interests of local producers to facilitate food distribution. In Eau Claire, Wisconsin, Sacred Heart Hospital committed 10% of its food purchasing power to local food producers.<sup>19</sup> This commitment was sufficient to leverage state financing that has resulted in the completion of a local food producer cooperative. Hospitals such as Fletcher Allen Health Care (Vermont) and Oregon Health and Sciences University develop contracts with producers before the growing season to allow the farmer to grow produce the hospital requires. Hospitals should understand both their own culture and that of the local agricultural community to foster mutually beneficial relationships.

Moreover, hospitals need to systematically evaluate changes. Short surveys or taste tests may be able to be used to gauge success and provide a learning opportunity that healthy can taste good. It would also be helpful to track changes using common metrics such as the percentage of locally or sustainably sourced foods procured. Measurement will help formalize successes and market the value of what a hospital is doing internally and externally. Several hospitals are now using the *Green Guide for Health Care Food Credits*<sup>21</sup> as a tool to benchmark and track progress. Measurement will also help to quantify environmental impact as there is evidence that local, healthier fare reduces environmental impact.<sup>25</sup>

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