

Balanced Menus: **A Pilot Evaluation of Implementation in Four San Francisco Bay Area Hospitals**

Developed for San Francisco Physicians for Social Responsibility and
Health Care without Harm

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April 20, 2010

Executive Summary

Balanced Menu is a voluntary program that seeks to improve nutrition and benefit the environment by reducing meat purchasing among participating hospitals by 20 percent within 12 months. The program also promotes shifting towards serving more sustainably produced meat. Developed and piloted by San Francisco Physicians for Social Responsibility, Balanced Menu was first implemented in 2008 in four San Francisco Bay Area hospitals. In September 2009, Health Care Without Harm launched the program nationally. At the time of this report, 32 hospitals have taken the “Balanced Menu Challenge”.

This report describes a pilot evaluation of Balanced Menu program implementation in four San Francisco Bay Area hospitals: Santa Rosa Memorial Hospital, the San Francisco VA Medical Center, the John Muir Health Medical Center, and one anonymous hospital. The hospitals vary in size as well as medical and food services provided, representing a broad range of possibilities for the program.

Meat Nutritional and Environmental Health Impacts

The U.S. produces about 8.7 ounces of red meat and chicken per person per day, while federal dietary guidelines recommend consuming 5.5 ounces of protein each day, including a diverse array of meat, poultry, nuts, beans, and eggs as part of a 2,000-calorie diet. High levels of meat consumption and production have significant implications for nutritional and environmental public health. In terms of nutrition, animal products are the primary source of saturated fat and cholesterol, both of which are shown to negatively impact health if consumed in excessive quantities. Overconsumption of meat has been demonstrated to increase risks for a range of negative health outcomes, including the development of cardiovascular disease, obesity, Type II diabetes, and certain cancers.

Eating meat is also inextricably linked to environmental health. Most food animals in the U.S. are raised in confined and densely populated facilities utilizing industrial methods. Industrial food animal production (IFAP) is associated with significant water and air contamination and high use of resources including water and fossil fuels. The heavy use of antibiotics at non-therapeutic levels in animal feeds is documented to contribute to the epidemic of antimicrobial-resistant infections affecting humans and threatening the effectiveness of our antibiotic supply – a significant concern in hospitals. Livestock production is a key contributor to global climate change, generating an estimated 18 percent of global greenhouse gases, and half the U.S. food-related greenhouse gases. Different meats have different GHG profiles, with beef and other red meats having the highest emissions, followed by pork, then poultry.

Hospitals: A Key Intervention Target

Changes to hospital menus can make a significant impact on these environmental and potentially also nutritional health impacts, due to the significant buying power of the hospital foodservice sector. Further, as health institutions, hospitals have the opportunity to reflect the primary prevention messages delivered through their health services in the food they provide. Hospitals may also be in a key position to communicate health education messages and promote healthful behavior change, both because they are viewed as respected sources of health information, and because they may see patients and visitors at a time when they may be especially open to such health behavior change messages. Hospital staff members, aware of

the high burden of chronic disease, may also be a receptive audience for health messages. Further, through increased demand for sustainably and locally produced meats, hospitals could drive increased availability of such products in the marketplace.

Balanced Menu was initially adopted by members of the Hospital Leadership Team (HLT), an active group of food service administrators in the Bay Area who seek to increase institutional procurement of healthy and sustainable foods.

Evaluation Aims and Methods

This pilot program evaluation employed both quantitative and qualitative methods to demonstrate impact of the program in these four hospitals during the initial period, as well as the feasibility of and fidelity to the implementation plan. Quantitative methods focused on demonstrating the environmental and institutional impact of Balanced Menu. Based on hospital-reported data, we calculated change in purchased quantities and dollars spent by protein item (beef, pork, poultry, lunchmeats, vegetarian proteins) during the pilot study period. We were able to assess changes in meat purchasing, but in this pilot analysis we did not have adequate data to assess replacement foods and net changes in spending. Further, in this pilot study, there was some variation in the data provided and time periods covered. Carbon footprint impacts were calculated using three different carbon footprint calculator tools for comparison. Interviews were conducted following data collection to assess the process by which the program was implemented and identified barriers to areas for improvement as the program expands to other hospitals.

Results

Purchasing

If purchasing remained constant across time, the three hospitals that provided relevant data would have purchased in total an estimated 109,000 lbs of beef, 70,000 lbs of pork, 237,000 lbs of poultry, and 261,000 lbs of vegetarian protein sources (including in some cases, milk) annually and spent a total of approximately \$1.519 million per year on these food items, based on reported data. In the follow-up period, the four hospitals had reduced meat purchasing by an average of 28 percent. Assuming the hospitals continued purchasing at the new level for a year, they would save a total of \$402,000 on meat purchases in a year. There were inconsistent data collection methods used by the various sites so calculating replacement costs and net savings was not possible.

Carbon Footprint Impacts

We examined the potential greenhouse gas emissions impacts of the purchasing changes, using three calculators that use different methods to arrive at their results. Despite the different methods and the challenges in estimating food-related greenhouse gas emissions, the calculators yielded similar estimates, strengthening confidence in the findings. For the three hospitals that provided relevant data, the included meat and vegetable proteins at baseline would have accounted for 2,627 tons of CO₂-equivalent GHG emissions annually if purchasing was constant through the year. Through participation in Balanced Menu, the hospitals reduced meat-related GHGs to a total of 1,648 tons annually (if the new purchasing quantities were maintained for a year). Adding in the fourth hospital, there would be a 1,004 ton/year reduction,

the equivalent of CO₂ emissions from burning 102,454 gallons of gasoline or sequestering carbon by growing 23,354 tree seedlings over 10 years. Over 85% of the observed emissions reductions came from beef, reflecting beef's exceptionally large carbon footprint. We emphasize that these calculator tools are simply a way to get a general sense for GHG emissions and that the numbers should not be taken literally.

All of the hospitals described the program as an ongoing effort, and expressed that they hoped to further reduce meat purchasing and further increase purchasing of sustainably produced animal products, meaning that in the future, reductions and savings could be even greater.

Interview Summary

The four pilot hospitals set a variety of benchmarks and goals to try to accomplish the Balanced Menus aims. For example, one focused on adding fish and “combination dishes” to the menu, while another did not set a specific target but aimed to use saved money to increase purchasing of sustainably produced meats. The food service staff responsible for the Balanced Menus program felt for the most part that supportive administrative climates facilitated their work. A key challenge was developing menus that would satisfy taste preferences for patients and cafeteria customers, while, in the case of patients, meeting complex dietary needs and restrictions. They reported anecdotally that Balanced Menus was being well received, however at this point, there were no focused formal evaluations completed. (One hospital reported a steady rise in patient satisfaction ratings for meals following Balanced Menus implementation, rising 24 percentage points over several months.) Their three top recommendations for those considering implementing Balanced Menus were: 1) ensure management support, 2) involve clinicians early in the process of menu development, and 3) ease into the program by making small menu changes that could be expanded over time.

Conclusions

This pilot investigation shows that the Balanced Menus program implementation across these four hospitals yielded substantial savings in costs and greenhouse gas emissions that exceeded the initial 20 percent reduction goal. Continued evaluation of Balanced Menus implementation is needed to understand the program's impact in a larger sample of hospitals and with a longer time horizon.