

Food as medicine? It's not as simple as it sounds.

Research shows food prescriptions by medical professionals can improve well-being. But food isn't a pill and knowing what to prescribe is complicated.

Perspective by Daphne Miller

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Ever since I was a doctor fresh out of residency, I have prescribed food to my patients to prevent and treat chronic health problems, such as diabetes and heart disease. But health insurance had never covered the cost of a healthy meal, which means some patients cannot afford the healthy diet I've given them.

That has recently changed in California and a handful of other states, where Medicaid now covers some food targeting patients with diet-related conditions. As a result, I now prescribe "Medically Supportive Food," or MSF, for some patients — a weekly bag of groceries, or up to three daily meals — paid for by insurance as if it were a medication.

This move to embrace "food as medicine" is bolstered by [research](#) showing that food prescriptions by medical professionals can cut health-care costs and improve well-being, especially for those who do not have the resources to access healthy food.

In a recent [study](#), researchers estimated that offering a nationwide "medically tailored meal" benefit to individuals with such conditions as heart disease, cancer and diabetes could save \$185.1 billion in medical costs and avert more than 18 million hospitalizations over a 10-year period.

For those who see food as an integral part of healing, this is a monumental step forward. But prescribing food is not as straightforward as it sounds.

Food is more complex than any pill. This makes it difficult for doctors and patients to know which medically tailored foods are the best medicine and which suppliers can best deliver these edible therapies.

Food is not a pill

First, there's a real challenge in identifying which suppliers provide the most nutritious food. A pharmaceutical drug, whether it is generic or brand name, has a near-identical makeup regardless of who makes it. But food varies dramatically in nutrient content depending on seed, season, farming and processing method, and how long it was stored before it was eaten. Combine foods to make a meal and the nutrient variability gets even greater.

The lack of standardization made it hard, for instance, for Dennis Hsieh, a physician and chief medical officer of the Contra Costa Health Plan based in California, to choose among the food vendors bidding to fill the food prescriptions for his plan's enrollees.

Hsieh has extensive experience contracting with medical supply companies for drugs and other health-care products, but this is his first foray into the food sector. He said he received little guidance from California's Department of Health Care Services about what he should be buying. Its policy guide merely suggests he offer "appropriate dietary therapies based on evidence-based nutritional practice guidelines."

"At the end of the day, my basic criteria [for vendors] is that they get healthy food to patients and that they are not giving them McDonald's and charging us for it," he said.

Ultimately, Hsieh contracted with six vendors. He said he hopes these vendors will offer meals and groceries that reproduce the cost savings and health benefits of the "food is medicine" studies, but he doesn't "have the experience" to judge which vendors will accomplish this.

Michelle Kuppich, a registered dietitian and director of the California Food Is Medicine Coalition, is also concerned about the quality of some of the food entering this growing medical marketplace.

"There are many new companies coming into this space because there is money involved and people want the health-care dollars," Kuppich said. She said she suspects that some of them "started off selling prepared meals for weight loss and then rebranded."

Kuppich has found it challenging to get information about the nutritional value of some of the food being sold. "There is a lack of transparency in terms of ingredients," she said.

Some of the vendors are offering food that is just as ultra-processed as fast-food meals that Hsieh hopes to avoid. Ultra-processed foods have been linked with chronic diseases and a higher risk of early death.

For example, GA Foods, a Florida-based vendor of medically supportive food, offers over 50 "nutritionally balanced" meals that contain additives, including corn syrup and other sweeteners, food coloring, flavor additives, hydrolyzed protein and preservatives. "We follow guidelines from the top organizations around each disease state and update guidelines as they are released," said Mary O'Hara, senior marketing manager for GA Foods. "Our medically tailored meal portfolio continuously evolves to meet patient needs and new innovations around health and wellness."

And Tracy Smith, vice president of marketing for Mom's Meals, an Iowa-based company that serves over a million meals per week nationwide, said some of their meals include a micronutrient blend of magnesium, zinc, iron, calcium, and vitamins C, B1 and B6 to “ensure that the meal fully meets one-third of a person's Dietary Reference Intake. We do that instead of including additional servings of food that would then take that meal above recommended calories, sodium or carbohydrates per serving, for example.”

Fortifying foods with vitamins and minerals can prevent anemia and other diseases linked to deficiencies of specific nutrients, but it cannot reproduce the more complete nutrition offered in a whole food. A carrot, for example, has all the nutrients in a Mom's Meals blend, plus dozens of additional disease-fighting compounds, which work together to influence our health.

Cathryn Couch, founder and chief executive of Ceres Community Project, a nonprofit MSF supplier based in Sonoma County, Calif., said, “We use high-quality, nutrient-dense food and we don't need to add anything to meet the nutrient requirements for our clients.” Couch said sourcing food regionally and limiting storage and transit time helps ensure higher nutritional quality. (It also can help support the local economy and diminish the environmental footprint.)

Taste matters

Health-care providers also face a challenge of identifying which vendors offer food that appeals to the taste buds — and the soul.

“None of these food interventions work if the people don't want to eat the food,” said Seth Berkowitz, a researcher who led some food is medicine pilot studies and is now an associate professor in general medicine and clinical epidemiology at the University of North Carolina School of Medicine. He described food as offering gastronomic pleasure, cultural connection and family memories.

Berkowitz said national vendors offer “an economy of scale” that keeps costs down, but the pilot studies he was involved with in Boston that showed positive results had received their food from a nonprofit group that says it serves “scratch-made” meals and buys from local farmers.

“Mission-driven organizations may offer benefits,” Berkowitz said. “It remains to be seen whether the secret sauce that made those small efforts work can be scaled.”

Nutrition and lifestyle coaching

Beyond supplying food, MSF vendors in California are expected to offer nutrition and lifestyle coaching to their clients, since research shows that coupling food assistance with education is more likely to promote healthy eating patterns.

As with the food, these services vary. Some vendors give enrollees access to a brief nutrition consultation or a healthy eating app, while others provide real-time cooking and shopping classes.

“The number one thing I hear from our clients is ‘I learned how to use a knife,’” said Sarah Nelson, executive director of 18 Reasons, an MSF provider in the San Francisco Bay area. She has discovered that her clients are more likely to try new vegetables if they are given a recipe and practice prepping them in a group setting.

“Nutrition education and counseling is as important as the food, so that people can prepare healthy meals once their prescription ends,” Kuppich said.

How it works in a doctor’s office

Recently, I wrote a food prescription for a 50-year-old woman with poorly controlled Type 2 diabetes. She was enrolled in MediCal, California’s health insurance program for children and adults with limited income and resources.

I tried my best to direct her to the vendor that would deliver the tastiest, most nutrient-dense, culturally relevant food. But even with my nutrition know-how, I found it challenging to figure out which one that might be.

She ultimately chose a nonprofit group that sources most of its food locally and delivered meals to her doorstep. Two months into her prescription, her blood sugars improved, and I called her to give her the good news. I asked her what she thought of the meals. “They are so nice, it is really good to see them,” she said.

It took me a moment to realize she was referring to the delivery person, not the food.

Her comment left me wondering what had produced the positive change in blood sugar. Was it the food? The social connection? Both?

Regardless, it was a bracing reminder that food is not a pill, it’s a much more complicated medicine.

Daphne Miller is a family physician and clinical professor at the University of California at San Francisco, and a research scientist at the University of California Berkeley School of Public Health. She is also founder of the Health From the Soil Up Initiative.