

Best Practices for Culinary Medicine Programming¹

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Nutrition and lifestyle habits are recognized as essential for health across the lifespan (CDC 2021). A new approach to promote healthy practices is through culinary medicine (CM) or culinary nutrition (CN) programs. The optimal content, format, and timing varies across types of CM/CN programs. The purpose of this publication is to provide an overview of CM/CN and best practices for implementation by nutrition educators with a range of populations.

Research Recap—What Is Culinary Medicine?

CM is a growing field that blends the art of preparing and presenting food with the science of medicine to target disease processes or overall health (Mauriello and Artz 2019; Parks and Polak 2020; Hirsch et al. 2019). CN integrates culinary arts with nutrition science for other disease-free populations to promote health, wellness, and enjoyment of cooking and healthy eating (Kerrison et al. 2017). CM/CN aims to combine the expertise of many disciplines, including chefs, food service managers, registered dietitian/nutritionists (RDN), doctors, researchers, and other healthcare providers. Teaching kitchens are often, but not always, part of CM/CN. This avenue allows for hands-on practice of cooking skills in a translational kitchen setting. Studies looking at the effects of CM/CN programs have started to show benefits for cooking skills and knowledge, diet quality, and clinical outcomes (Eisenberg et al. 2019; Hasan et al. 2019; Monlezun et al. 2015; Reicks et al. 2018).

First Steps: Food for Thought

Identifying the overall goals, objectives, and vision of a CM/CN program is an important step to help guide your approach. For example, if your purpose is to carry out a health intervention using a teaching kitchen, choosing what you hope to change and how the program can support this can be helpful in promoting behavior change (Rigby et al. 2020; Asher et al. 2021). This was applied in a virtual CM program (five 90-minute sessions) among patients with type 2 diabetes that specified program inputs (like materials and training), change objectives (like culinary skills), and desired outcomes (including healthy eating and food practices, better access to food, and improvements in disease risk factors) (Sharma et al. 2021). Patients who participated in this CM/CN program had higher fruit and vegetable intake and lower hemoglobin A1c, a long-term measure of blood glucose (sugar) control, compared to when they started (Sharma et al. 2021).

Personalized, technique-driven approaches are also part of best practices. When researchers reviewed 59 cooking studies, recommended practices included giving both general and individualized information, showing when, where, and how to carry out tasks, and practicing cooking (Hollywood et al. 2018). Value-based lifestyle goal-setting, problem-solving, and meal-planning exercises are more tools used in CM/CN programs (van Horn et al. 2016). While other CM/CN applications, such as culinary therapy or medically tailored meals (Hirsch et al. 2019), may change your approach, planning for your target population is key for all programs.

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Plan for Your Population

CM programs can be applied to the prevention or management of a variety of diseases. To support medical conditions, CM translates Medical Nutrition Therapy (MNT), the individualized nutrition-based process provided by an RDN specific to a disease, into appropriate meals (Academy of Nutrition and Dietetics). Different populations have unique nutritional and medical needs that can be adapted in CM/CN programs. Nutrient composition, weight status, food volume, texture and consistency, and medical treatment goals are among these factors. CM sessions should emphasize practicing preparation of recommended nutrition guidance.

Beyond food and nutrient recommendations, it is important to consider food access and environment, individual and cultural preferences for flavorful meal preparation, social support, and health literacy. Appropriate screening and assessment of applicable nutrition and lifestyle practices as well as cooking background and food insecurity should be conducted. When possible, allow participants to have input in recipe selection.

Making the Menu

Recipe techniques selected for a CM/CN program lead the rest of your choices. This may involve providing food items or instruction on cooking methods for which patients purchase ingredients (Hirsch et al. 2019; Downer et al. 2020). An overall focus on the culinary technique and food patterns (rather than just recipes) may support development of long-term skills or food agency, which is connected to better nutrition intake (Wolfson et al. 2020). After knowing your audience and desired outcomes, recipe skill development should reflect specific population needs, desires, and challenges. Researchers have created a basic framework for healthy cooking for chronic disease prevention that considers healthy ingredient choices, flavoring techniques, and cooking methods (Raber et al. 2016). Collaboration between a nutrition expert or RDN, chef or specialist with culinary training, and patient helps inform the cooking plan. Consider evaluating recipe content for adequacy and balance along with texture, consistency, color, cost, and garnish as appropriate. Depending on logistics, recipe selection may change or come after deciding on your setting, available supplies, and budget.

Pick Your Platform

CM/CN programs may be implemented in in-person or virtual settings, with evidence suggesting both can be effective. Virtual culinary coaching telemedicine classes have

shown improvements in cooking skills, diet quality, and blood glucose control (Polak et al. 2017, 2018; Sharma et al. 2021; Silver et al. 2021). Across clinical and community settings, CM/CN programming may take place in an on-site teaching kitchen facility, mobile education kitchen, pop-up carts, or community kitchen space partnerships.

While CM programs can be effectively designed in many ways, the Teaching Kitchen Collaborative organization recommends a facility location that supports hands-on instruction, group teaching with fewer than 20 participants, and home kitchen tools rather than commercial-grade equipment (“Resources & Events,” n.d.).

Evaluate Your Equipment

Based on the CM/CN program, cooking supplies may need to guide the recipes or purchasing decisions after recipe development. To determine proper tools for the kitchen task, consider the techniques used in selected recipes. If your participants will be cooking at home, confirm available equipment and offer alternative culinary techniques as needed. Standard home cooking equipment may also be purchased if funding opportunities to provide kitchen tools are available.

Create Content, Consistent Structure, and a Flexible Flow

Developing a cooking session plan or curricula may include preclass communication, during-session activities, and postproduction discussion or follow-up. This general structure is practiced in the largest researched culinary medicine platforms to date, such as the Health Meets Food and American College of Lifestyle Medicine curricula (Hauser et al. 2020; “Health Meets Food: The Culinary Medicine Curriculum,” n.d.). When preparing for a CM/CN class, consider the best form of communicating with patients and any support needed for technology challenges. Preclass communication can include supporting instructional videos, recipes, or nutrition education handouts. Cooking demonstration, nutrition education, and interactive practice occur during teaching kitchen CM/CN sessions. It may be helpful to plan guiding questions and discussion points for each phase of the session. After cooking, it may be valuable to talk through the nutritional benefits of the food prepared, provide lifestyle education, discuss challenges and barriers, and guide participants in goal setting. Other practice recommendations include providing multimodal instruction (written, verbal, hands-on experiential) for different learning styles, repeating core concepts with a similar class structure, and building in time

for learner-led questions. Peer or provider social support is considered a key feature of successful CM/CN programs (Black et al. 2020; Farmer et al. 2018; Kakareka et al. 2019).

Prepare Personnel

Lack of training in culinary nutrition has been a reported barrier to effectively implementing CM/CN programs (McWhorter et al. 2021). Training needs will depend on the type of teaching kitchen, target population, complexity of classes, and curriculum content. Importantly, a multidisciplinary team that works together to facilitate CM/CN may lead to better outcomes (Black et al. 2020). CM/CN programs are usually led by or include time with specialized healthcare providers (such as RDNs or doctors) with culinary training or by medical trainees in collaboration with chefs. Nutrition educators, coordinators, and volunteers are critical to a CM/CN team.

Summary

Successful CM/CN programs can look many different ways. Identifying purpose, patients, and planning needs are key practices for implementing culinary medicine programming.

Recipe for Culinary Medicine

Many recipes that may help reduce risks for one health condition (like heart disease) are also great choices for other diseases (like type 2 diabetes). The recipe below shows an example of connecting wholesome ingredients with tasty culinary techniques and heart-healthy nutritional benefits through:

- Fiber-rich plant protein in black beans and black-eyed peas
- Vegetable-centric meal
- Lower-sodium flavor-building ingredients: fresh herbs, spices, sources of acid (vinegar, lemon, and lime), olives, salsa, and hot sauce
- Unsaturated fat in cashews and avocado

Recipe and images provided by Andrea Krenek, RDN, LDN.

Cowboy Caviar Nachos with Cashew Queso

Prep time: 20 minutes

Cook time: 15 minutes



Figure 1. Cowboy Caviar Nachos.
Credits: Andrea Krenek, RDN, LDN

INGREDIENTS

Cowboy Caviar

- 1 15 oz can low-sodium or no-salt-added black beans
- 1 15 oz can low-sodium or no-salt-added black-eyed peas
- ¼ c red onion, diced
- 1 ½ c fire-roasted corn
- 3 green onions, sliced
- 1 ½ c cilantro, finely chopped
- 1 red bell pepper, diced
- Juice of 2 lemons
- Juice of 1 lime
- ¼ c balsamic vinegar
- 1 tsp garlic powder
- 1/3 c black olives, chopped
- 2 c cherry tomatoes, cut in halves
- Salt and pepper to taste

Cashew Queso

- 1 c cashews, soaked
- 1/3 c nutritional yeast
- 1 ½–2 c salsa

Optional Cashew Queso Add-Ins

- 2 TB lemon juice
- 1 tsp turmeric
- 2 tsp garlic powder
- 1 tsp cumin
- 1 tsp chili powder
- ¼ c water, as needed to thin to desired consistency



Figure 2. Cashew Queso.
Credits: Andrea Krenek, RDN, LDN

Base and Bonus Toppings

- Corn tortillas
- 2 c lettuce, shredded
- Guacamole or sliced avocado
- Hot sauce, optional

INSTRUCTIONS

Soak cashews overnight or at least 3–4 hours by covering with water in a bowl.* For a quick soak, add to boiling water and set aside for 30 mins.

Preheat oven to 365°F and line a baking sheet.

Combine all cowboy caviar ingredients in a large bowl. Stir together to mix and set aside in the refrigerator.

Cut tortilla chips into triangles and sprinkle with juice from ½ a lemon. Bake for 10–15 mins or until crispy, shuffling halfway through.

While tortilla chips bake, make the cashew queso by combining all ingredients in a blender or food processor. Blend until creamy, adjusting water, spices, or salsa to desired consistency and taste.

Assemble the nachos by adding tortilla chips to a plate and topping with cowboy caviar mixture, cashew queso, guacamole, lettuce, and optional hot sauce.

*For in-person settings, facilitator would complete this step in advance when preparing remaining ingredient items or similarly advise participants for virtual classes.

Learn More

Teaching Kitchen Collaborative How-To Tool Kits for setting up your own teaching kitchen: <https://teachingkitchens.org/resources-events/>

American College of Lifestyle Medicine Free Culinary Medicine Curriculum: <https://www.lifestylemedicine.org/culinary-medicine>

Diet and Health Conditions: <https://www.nutrition.gov/topics/diet-and-health-conditions>

Nutrition and Health: <https://www.niddk.nih.gov/health-information/diet-nutrition>

Teaching Kitchen Collaborate How-To Teaching Kitchen Toolkit: https://teachingkitchens.org/wp-content/uploads/2020/08/TKC_facilities_toolkit.pdf

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