

Supplemental Appendix: Evaluations of Individual Culinary Medicine Programs

This Appendix summarizes the 45 evaluations of individual culinary medicine programs that report on some level of the impact of the experiences on medical trainees. The table is categorized by trainee level and listed by publication authors. Abbreviations: IPE=interprofessional education, SOM=School of Medicine

Study (Author, year, Institution)	Participants	Overview of Experience	Overview of Study Design	Summary of Outcomes Reported
Medical Students				
An SJ et al, 2019, Duke University⁷²	Medical, nursing, physician assistant, and physical therapy students (n=39 paired responses out of 80 students enrolled)	Interprofessional student small groups participated in hands-on cooking with chef followed by nutrition discussion with experts over dinner. (4 sessions)	Pre/post-test survey evaluation of pilot program	1) Improved attitudes about nutrition in clinical practice (i.e., “nutrition assessment and counseling should be part of all routine appointments”) 2) Improved understanding about interprofessional team care and increased belief “patient satisfaction would improve as a result of treatment and management by an interprofessional team” 3) Qualitative feedback: “students appreciated learning about the practical challenges inherent in nutrition intervention and developed innovative ideas for addressing patients’ barriers to healthy diets”
Asano et al, 2021, West Virginia School of Osteopathic Medicine⁷³	Medical students, all years (n=42 participants; 42 completed the pre-survey and 34 participants	Students completed modules that included video lectures, handouts, and reading assignments and then participated	Pre/post-test survey evaluation of pilot program	1) Improved attitudes about nutrition in clinical practice (i.e., “Nutritional counseling should be included in any routine appointment just like diagnosis and treatment”) 2) Increased confidence in “lifestyle treatment” by 30%

	completed the post-survey)	in hands-on cooking sessions.		3) Students reported knowledge increases in nutrition (n=33/34) and diabetes counseling (n=34/34) 4) 82% (n=28/34) preferred culinary medicine to other nutrition training formats
Chou et al, 2018 and Pang et al, 2019, Keck SOM of USC ^{52,89}	Medical students (n=15 participants in 2016, n=16 in 2017, n=16 in 2018; 100% survey completion rate)	Originally taught in 2015 and modified slightly for 2 subsequent cohorts, the student-driven course was taught by an interprofessional team and specifically focused on serving low-income patients. Sessions began with a didactic nutrition lesson followed by 2 hours of hands-on cooking.	Pre/post-test survey evaluation of pilot program	Demonstrated increases in: 1) Nutrition and culinary knowledge 2) Food identification skills (2017, 2018) 3) Confidence in cooking and nutrition counseling High course satisfaction rate (4.87-5/5)
D'Adamo et al, 2021, University of Maryland ⁶⁹	First-year medical students (n=119 paired responses out of 125 participants)	Training included nutrition lectures followed by small group cooking and discussion. (3-hour sessions)	Pre/post-test survey evaluation of pilot program	Demonstrated improvements in: 1) Preparedness and confidence in dietary counseling 2) Nutrition knowledge Qualitative findings: 1) When asked, "How will you offer practical nutrition advice to your future patients?", themes of "addressing barriers to healthy eating" and offering

				personalized and evidence-based guidance emerged 2) When asked about personal integration of culinary medicine, themes of using strategies that save time/money, “trying different evidence-based diets,” and “making practical dietary changes to support personal health” emerged
Dreibelbis and George, 2017, and Dreibelbis and George, 2017, Penn State^{74,75}	Fourth-year medical students (4 medical students participated and provided reflections)	Medical students worked with an elder mentor to prepare healthy meals in a teaching kitchen. Sessions began with facilitator-led discussion on nutrition.	Overview of participant reflections and feedback following pilot program	1) “Students uniformly felt that they were able to improve their nutritional counseling skills and make an impact on elders’ lifestyle choices” 2) Students wrote that the elders “had lots to offer as teachers” and “their life experiences were an asset in discussing diet-changes”
Flynn et al, 2019, Brown University Warren Alpert Medical School⁷⁶	Medical students (n=44 participants; 43 completed the pre/post survey)	Students attended 30-minute weekly classes with a cooking demonstration focusing on plant-based cooking with olive oil followed by discussion of nutrition topics. Students were given a bottle of extra virgin olive oil and were assigned to prepare 3 meals at home each week.	Pre/post-test survey evaluation of pilot program	1) Change in dietary behaviors (increased vegetable consumption, vegetarian meals, and cooking with olive oil) 2) Improved nutrition knowledge 3) 33% of students with reduction in grocery spending

Flynn et al, 2019, Brown University Warren Alpert Medical School⁷⁷	First- and second-year medical students [n=55 enrolled in program with 98% (n=54/55) completion rate]	The study assessed the prevalence of food insecurity in medical students and evaluated the impact of a 4-week culinary medicine program on food insecurity and food costs. The intervention focused on a plant-based, olive oil diet through cooking demonstrations and “food as medicine” through nutrition discussion. Students were given a bottle of extra virgin olive oil and were assigned to prepare 3 meals at home each week.	Pre/post-test survey evaluation of pilot program	1) 37% (n=20/54) identified as food insecure at baseline 2) Reduction in average food insecurity scores for the 20 participants identified as food insecure from the baseline of “low food security” to slightly below “low food security” post-intervention 3) 26% of participants (n=14/54) with reduction in amount spent on groceries
Gannon and Mount, 2023, Joan C. Edwards School of Medicine at Marshall University⁶³	First- and fourth-year medical students, dietetic interns (n=69 first-year medical student and n=11 dietetic intern participants)	First-year medical students received nutrition education and culinary training. Fourth-year medical students have the option to complete an elective.	Survey evaluation of program	Medical Students: 1) Improved nutrition knowledge 2) Qualitative results: “medical students intend to make personal dietary changes” Dietetic Interns: 1) Increased leadership skills and cultural competency

				2) Increased “humility by recognizing the relational importance between dietitians and physicians”
Haggard-Duff et al, 2023, University of Arkansas for Medical Sciences College of Medicine ¹⁰¹	Students from 5 different professions (n=13, 3 of which were medical students)	Interprofessional group of students participated in a 3-hour session with didactics, cooking activity, and case-based discussion.	Pre/post-test survey evaluation of pilot	Participation in the experience resulted in: 1) Increased “belief that nutritional counseling should be included in routine appointments” 2) Improved “confidence in their ability to implement culinary medicine into practice” 3) High satisfaction with the experience, including willingness to recommend the experience to others 4) Most participants intending to “utilize culinary medicine within their respective practices”
Hashimi et al, 2020, University of Alabama at Birmingham ⁷⁸	Medical students (n=117 participated over 3 years; 49% completed post-test survey)	In this elective service-based learning experience, medical students participated in a 3-hour didactic training session before leading a 2-hour farmer’s market cooking demonstration.	Post-test survey evaluation	1) 91.3% would recommend the culinary medicine experience to their peers 2) Years 1 & 2 (n=38): 42.2% reported culinary learning; 60.5% reported nutrition learning 3) Year 3 (n=19): 94.7% reported nutrition education skills learning; 84.2% reported social determinants of health learning Themes from open-ended survey questions: 1) “the program is appealing because it provides hands-on, practical learning” 2) “students enjoyed the opportunity to interact with community members”

Hauser, 2019a, and Hauser, 2019b, Stanford University ^{79,131}	Medical students and physician assistant students (n=36 participants; n=28 controls)	Physician-chefs taught hands-on cooking classes. After cooking a healthy meal, students role-played providing dietary counseling to patients.	Pre/post-test survey with preliminary results	Compared to a waitlist control who showed no improvements, elective participants demonstrated improvements in: 1) Culinary skills 2) Personal dietary behaviors (healthy snacks, fruit and vegetable intake) 3) "Confidence around planning balanced meals" Qualitative findings: "numerous testimonials about how the course changed their personal eating habits and patient counseling practices"
Hennrikus, 2020, Penn State College of Medicine ⁸⁰	3 classes of first-year medical students (n=420 participants; 380 comments over 3 years)	Problem-based learning groups of medical students were each assigned a disorder of metabolism from the basic science curriculum and asked to prepare a meal meeting the dietary restrictions a patient with that disorder would need to follow.	Qualitative analysis of free-response course evaluation	Prominent themes: 1) "Increased relevance of basic science to life" 2) "Increased empathy towards complying with dietary restrictions" 3) "Increased student group cohesiveness"
Hurley et al, 2018, Northern Ontario SOM ⁶⁰	Medical students (n=12; 100% completed evaluations)	Hands-on cooking sessions led by RDs and dietetic interns. Sessions began with meal preparation and	Collation of written post-session evaluations of	"These hands-on culinary sessions increased medical students' personal nutrition knowledge and food skills and provided new concepts and strategies around nutrition"

		were followed by a lecture or discussion on nutrition.	pilot experience	
Hynicka et al, 2022, University of Maryland ¹⁰²	Interprofessional students from dentistry, law, medicine, nursing, pharmacy, and social work (n=62 students, including 7 medical students; 94% completed pre-test, 73% completed post-test)	Interprofessional elective of 5 workshops during which students received a nutrition lecture and cooking instruction then worked in interprofessional small groups to prepare recipes based on the lecture content followed by large group discussion. Adapted to virtual format for second offering.	Pre/post-test survey evaluation of elective	Participation resulted in significantly increased: 1) Self-reported nutrition knowledge of diets (popular, Mediterranean, Paleolithic, Plant-Based) 2) Confidence and preparedness in dietary counseling 3) Experience with interprofessional collaboration and confidence in knowledge regarding interprofessional roles 4) Personal “comfort with cooking in the kitchen” The only significant difference found between in-person vs virtual experiences was participants reporting higher levels of “comfort with cooking in the kitchen” when participating in-person compared to virtual
Jacob et al, 2015, University of Rochester ⁸¹	First-year medical students (n=102 participants; 90 completed the survey)	Day-long culinary lab taught by dietetic interns. Medical students made modifications to recipes based on the needs of the patient in a case before preparing the meal.	Post-test survey evaluation reporting preliminary results	At the conclusion of the culinary lab, students rated: 1) Personal confidence in nutrition and culinary knowledge and skills between average and above average (3.4-3.7/5.0) 2) Dietetic intern nutrition knowledge, skills, and helpfulness between above average and high (4.4-4.6/5.0)

				Qualitative findings: In a question asking participants to describe group discussion, 18/28 students commented on “difficulty in remembering micronutrients, vitamins or minerals, or were unsure of the mechanism of micronutrients relevant to health”
Jaroudi et al, 2018, Texas Tech University Health Sciences Center SOM⁶⁷	First- and second-year medical students (n=20 participants; 90% completed pre-elective survey, 85% completed post-elective survey)	Classes began with a didactic lecture on nutrition followed by local chefs teaching the hands-on cooking portion in a teaching kitchen. Students were assigned various cultural diets (Chinese, Mediterranean, Nigerian, Central American, US Southern) and special guidelines to follow.	Pre/post-test survey evaluation of pilot program	1) Improved confidence related to culinary knowledge and skills 2) Improved nutrition knowledge and practice intent (i.e., “in the pre-elective survey, 11 of 18 participants had never heard of the DASH diet, whereas in the post elective survey, 14 indicated that they would recommend that a patient continue this diet”) 3) Qualitative feedback: “we found that all of the students enjoyed the elective and found the elective to be a good learning experience”
Kaye 2018, Wake Forest University School of Medicine¹⁰⁸	First-year medical students (Required: n=120, Elective: n=16)	As part of a required wellness-focused orientation, 120 students worked in small groups in didactics, grocery shopping, and cooking activity based on an assigned budget. A longitudinal	Review of student feedback of pilot from existing curriculum evaluations	1) Feedback was overall positive: “curriculum was well received with students desiring to continue activities beyond the first year” 2) Sessions viewed as “informative and helpful” 3) Students desired to adopt what they learned into personal life 4) Favorite aspects: “experiential nature of the learning, particularly cooking

		elective was offered for 16 students with modules and cooking.		activities and those that provided a patient-level experience, and a focus on health habits” 5) Multiple comments that “they enjoyed activities and spending time with their peers outside of the medical classroom”
Kumra et al, 2021, Johns Hopkins⁸²	First- and second-year medical students (n=12) in multidisciplinary group with medical assistants, nurses, office assistants, and physicians (29/30 eligible participants completed surveys)	Multidisciplinary team, including first- or second-year medical students on an ambulatory clerkship rotation, from a primary care medical home participated in a workshop that included instruction in culinary skills, nutrition, dietary counseling, and motivational interviewing.	Pre/post-test survey evaluation of program	1) Improved self-efficacy and role-based efficacy regarding dietary counseling 2) No change in perceived amount that “personal knowledge of nutrition” impacts patient care and decrease in perceived amount that personal behavior impacts patient care 3) Improved comfort in and attitudes regarding nutrition in clinical practice 4) Increased knowledge about, confidence in, and intent to practice motivational interviewing 5) Increased confidence related to making dietary recommendations and intent to engage in dietary change discussion with patients
Leggett et al, 2021, Touro University Nevada College of Osteopathic Medicine⁸³	Medical students, all years (n=16 participants; 15 completed post-test survey)	Students participated in an experimental elective short course consisting of online didactics and 2 culinary workshops. In the workshops, a local culinary institute chef taught students	Post-experience survey evaluation of pilot program	1) Generally positive feedback: a. Students felt the elective content was “at least moderately useful to their needs as future healthcare providers” b. Greater than 93% would recommend the elective and likely take a future offering of the elective

		cooking techniques and how to prepare food for a patient following a sodium- and fat-restricted diet followed by discussion while sharing the meal prepared.		2) Students perceived nutrition to be “an essential aspect of a patient encounter, but do not feel prepared to counsel future patients on dietary changes for management and/or prevention of nutrition linked diseases”
Lemley et al, 2020, University of South Alabama Mitchell Cancer Institute ⁸⁴	Health sciences students and community members (n=14 participants)	Chef-led workshops taught hands-on meal preparation then discussed the nutritional content. After cooking, librarian-led instruction was provided on how to access additional nutrition information.	Post-module survey evaluation of program	Reported participant feedback: 1) “liked having a hands-on component” 2) “wanted more time to learn about MedlinePlus”
Levine et al, 2014, New York University School of Medicine ⁸⁵	Pre-clinical medical students (no details on number of participants)	Medical students attended didactic nutrition lectures as well as a 3-hour cooking session that emphasized Mediterranean and DASH diets.	Pre/post-test survey evaluation of pilot	1) Improved attitudes about nutrition in practice 2) Changed personal dietary behaviors (“reduced weekday calorie intake”) 3) Increased self-efficacy in “culinary skills, time efficiency and budget-appropriate meal preparation” 4) “>80% mean mastery of content objectives”
Lieffers et al, 2021, University of Saskatchewan ⁹⁷	Health professional students from	Health professional students attended a 3-hour workshop	Post-workshop survey	Content analysis of the open-ended survey questions revealed:

	dentistry, medicine, nursing, nutrition, pharmacy (n=58 completed surveys)	consisting of speakers, culinary instruction, small group food preparation, and participating in a case-based learning activity or learning game while sharing the meal prepared.	evaluation of program	1) Motivations for participation in workshops: “topic, cooking, free food, and interprofessional networking and socialization” 2) Generally enjoyable experience with participants particularly appreciating “the presentations and hands-on cooking, including the opportunity to work with a chef” 3) Improved knowledge of content covered in workshops 4) Regarding the interprofessional nature of the workshops, participants found: a) “they were a good opportunity to meet and work with students from other programs in an informal setting” b) “that food and cooking helped break down barriers between programs and make the interaction easier” c) “the workshops provided an opportunity to learn about other programs, scopes of practice, and hear different perspectives” d) Some “challenges interacting with students they just met while they were busy cooking”
Magallanes et al, 2021, University of	Medical students (n=64 participants; 64 completed pre-	Physician and RD co-facilitated teaching kitchen modules in	Pre/post-test survey evaluation	1) Increased comfort in counseling about diet (OR = 26.8), confidence in knowledge about RD’s role (OR = 23.3),

Texas Southwestern Medical School ⁸⁶	test survey, 60 completed post-test survey)	which students prepared recipes and discussed nutrition science.		and knowledge about Mediterranean diet (OR = 25.59) 2) Improved student confidence in and enjoyment cooking (OR = 3.26) and reduced perception that “Healthy eating is important, but it is expensive and time-consuming” (OR = 0.43) 3) The experience did not change “the number of students that made food for themselves at home” 4) High satisfaction with course: helpful content (100%), intent to incorporate knowledge into personal life (93%), and would recommend the elective (98%)
Monlezun et al, 2015, Tulane University ¹³⁵	Medical students [n= 954 students offered the survey; n=627 (65.72%) completed the survey]	Students participate in a problem-based learning elective with online video lectures, classroom discussion, and hands-on cooking. Students may engage in service-based learning through teaching community cooking classes.	Panel survey	Compared to traditional education, simulation-based medical education with deliberate practice through hands-on cooking and nutrition instruction improved participant: 1) Personal dietary behaviors (fruit and vegetable intake) 2) Attitudes and competencies regarding nutrition in clinical care (i.e., “physician counseling can improve patients’ diets”)
Moss et al, 2018, University of Cincinnati ⁴⁷	Medical, Nursing, Allied Health, Pharmacy and Health Promotion students	Wellness retreat for students that included a farm tour, didactic nutrition lectures, and a 2-hour culinary	Post-test survey evaluation	1) Positive feedback regarding presentation quality, location, and usefulness of content 2) 100% would recommend the wellness retreat to peers

	(n=75 participants; 100% completed survey)	experience with a chef and dietitian/physician in a teaching kitchen.		3) Reported positively changing personal dietary behaviors 4) “Opportunities for professional change” reported included nutrition counseling
Musick et al, 2020, Virginia Tech Carilion SOM⁸⁸	Medicine, Nursing and Physician Assistant students [252 student rating forms collected over 2 years; 84% completion rate by medical students (n=142/168), 33% by nursing students, and 34% by physician assistant students]	In addition to the traditional roles and scopes of practice track, students participated in a new culinary medicine track in a required IPE course. The new track involved students working in teams with a chef to cook and serve a healthy meal.	Post-test survey evaluation	1) When comparing roles/scopes IPE track to new culinary medicine track, there were no significant differences in core item means 2) Slightly higher rating of culinary medicine track when taken after roles/scopes track compared to when culinary medicine track taken first 3) Prominent themes from student comments included: a. “The course was enjoyable overall, but for some students the culinary medicine track did not make a strong ‘connection’ between the analogy of a commercial kitchen being similar to a busy patient care environment” b. “The clinically-focused activities (e.g., working through paper cases featuring nutrition issues, the simulation/OSCE experience) were well-received, and students desired more of these types of experiences wherein they could practice skills they had learned”

Patnaik et al, 2020, University of Texas Health Sciences Center¹³⁹	Medical students (n=60 UTHHealth students out of 3,248 medical trainees from 20 institutions)	After a pre-class lecture video, students participate in case-based learning on nutrition topics, followed by hands-on cooking instruction.	Post-test survey to assess competency in nutrition topics Machine learning analysis was performed on surveys sent to CHOP-Medical Students cohort (n=3,248)	In comparison to the 3,188 trainees from the 19 other study sites, UTHHealth medical trainees had increased likelihood of the following: 1) “Consume vegetables daily” (OR 1.82) 2) “Strongly agree that nutrition assessment should be routine clinical practice” (OR 2.43) 3) Strongly agree that “providers can improve patients’ health with nutrition education” (OR 1.73) 4) “Have mastered 12 of the 25 competency topics”
Poulton et al, 2021, University of North Carolina – MAHEC Asheville⁹⁰	3 rd and 4 th year medical students (n=21 participants; 21/21 completed pre-surveys, 18/21 completed post-surveys)	Lectures discussed nutrition and best practices in counseling patients on a healthy diet. Via a live zoom session, students cooked a plant-based meal in their own kitchen.	Pre/post-test survey evaluation of pilot	1) The elective improved confidence in the following: a. “comfortability counseling patients on nutrition” b. “knowing credible resources to refer patients for them to learn more about nutrition” c. “shopping for healthy ingredients/meals on a budget” 2) 100% would recommend elective to peers 3) 94% indicated “cooking together in a virtual setting helped improve their

				ability to counsel patients on cooking and nutrition”
Ring et al, 2019 and Ring et al 2018, Northwestern University ^{34,51}	Medical students (n=9 in cohort 1 with 89% survey participation, n=12 in cohort 2 with 100% survey participation)	Classes began with didactic nutrition lectures and readings related to nutrition in the first cohort and video content for the second cohort. Students practiced motivational interviewing in groups, then a chef led a hands-on cooking session. Included service-learning component of teaching nutrition in schools.	Pre/post-test survey evaluation of pilot program reporting preliminary evidence	Participation in the elective resulted in positively impacting: 1) Confidence related to dietary counseling, obesity counseling, and culinary skills 2) Attitudes regarding nutrition in clinical practice (cohort 1) 3) Personal dietary behaviors (decreased meat intake in cohort 1 and increased fruit and vegetable servings consumed in cohort 2) 4) Knowledge and confidence specific to plant-based diets (cohort 2)
Rothman et al, 2020, University of Pennsylvania ⁹¹	Fourth-year medical students (n=10 in 2018, n=9 in 2019, n=12 in 2019; 30/31 completed pre- and post-test surveys)	A physician, chef and RD co-led case discussions and hands-on cooking sessions. Students additionally taught nutrition and health topics to local high school students.	Pre/post-test survey evaluation of pilot program	Participation in the elective resulted in significantly improved: 1) Confidence in nutrition knowledge and dietary counseling 2) Belief in efficacy of their dietary counseling 3) Dietary behavior: students reported consuming more fruit Qualitative comments “suggested that students were contemplating or

				implementing changes in their dietary habits and food choices”
Scott et al, 2020, Nicholls State University/Louisiana State University – New Orleans⁵⁸	Third-year medical students (n=8; 88% completed pre-test, 50%, completed post-test)	Medical students participated in a 10-day culinary medicine rotation.	Pre/post-test survey evaluation of pilot program	Participation in the rotation resulted in: 1) Improved perception that “doctors should be able to demonstrate a good understanding of key nutritional issues in the management of patients” for 5 of 6 chronic diseases 2) Belief among all participants that the rotation was “beneficial”
Shafto et al, 2018 and Shafto et al, 2016, University of Minnesota^{48,92}	6 cohorts of health professional students, including a pilot of 18 medical students (n=17/18 completed pre- and post-test surveys)	Students participated in 3-hours of weekly class in a teaching kitchen over 6 sessions. Class began with didactic nutrition information then students participated in hands-on cooking. At the end of sessions, instructors led discussions while the cohort engaged in mindful eating.	Pre/post-test survey evaluation of pilot program with reporting of preliminary results of the evaluation over 6 cohorts	Medical Student Pilot: 1) Resulted in improvements in the 14 competencies covering a variety of areas, such as nutrition knowledge (i.e., “Link diets with signs/symptoms of chronic disease”), dietary counseling (i.e., “Guide patient through recommended dietary changes”), gut health (i.e., “Examine and measure gut health in patients”), and culinary skills (i.e., “Prepare balanced meals”). 2) Qualitative results: “the course was effective in teaching nutrition in an experiential manner and improved confidence in applying nutrition knowledge to clinical situations” Preliminary results from the 6-cohort evaluation indicate the elective is most prominently impacting: “confidence around

				knowledge of dietary patterns, whole foods preparation and clinical application”
Torres et al, 2022, California Health Sciences University College of Osteopathic Medicine⁶⁵	Preclinical students (n=200 received access; n=55 completed pre/post-test) and dietetic interns	Preclinical students received access to brief videos with practical nutrition and cooking content to complement curriculum, reporting specifically on the “Salt-free Seasonings” video complementing the Renal System course.	Preliminary results from pre/post-test questionnaire for medical students and dietetic intern survey evaluating the video project	Medical Students: 1) 109 views/downloads of the “Salt-free Seasonings” video by 75 “unique users” 2) 62% of the 55 students who completed the pre/post-test assessment demonstrated increased knowledge after viewing the “Salt-free Seasonings” video Dietetic Interns: 1) Preliminary results: “positive experience”; “enhanced confidence in communicating nutrition information to a physician”
Vanderpool et al, 2020, University of South Carolina SOM – Greenville⁹³	Medical students (n=5 participants; 100% survey completion)	The summer course (10 modules), began with a nutrition lecture, followed by a chef-led, hands-on cooking session and a post-meal discussion of the recipes prepared.	Mixed-methods evaluation of pilot program with pre/post-test survey, observation checklist, and focus group	1) Participation in the pilot course resulted in: significantly improving confidence, practices, and attitudes relevant to cooking; however, participants reported “decreased enjoyment in cooking with an increased frustration related to cooking through the course” 2) Observation checklist showed: “high levels of participant engagement” and “increased participant knowledge as the course progressed” 3) Focus group demonstrated: “increased interest in cooking techniques, knife skills, recipes, food ingredients, and chef demonstrations”

				4) Participant feedback showed: satisfaction with the course content, participants indicating they would recommend the experience, belief that the experience was “beneficial to their career,” and improvements in personal dietary behaviors
Wattick et al, 2022, West Virginia University School of Medicine¹⁰⁰	Fourth-year medical students (n=16; 100% survey completion)	Fourth-year medical students participated in a 2-week culinary medicine elective with lectures and experiential learning activities.	Pre/post-test survey evaluation of pilot and course evaluation	1) The elective significantly improved participant nutrition knowledge and “self-efficacy in providing nutrition advice” but did not change attitudes regarding “providing nutrition advice” 2) The following curricular components received the highest ratings for helpfulness: a) Lectures: “Nutrition Needs for Mental Health,” Carbohydrates/Proteins/Lipids and Health, “Fad vs. Evidence-Based Diets” b) Activities: “Preparing vegetarian proteins,” “Ranking bread,” “Substituting fats,” “Meal planning and budgeting,” “Grocery store visit,” and “Cooking meal for disease state final project” 3) The following curricular components received the lowest ratings for helpfulness: a) Lectures: Behavior Change Theories, Food Safety and Culinary Techniques

				b) Activities: Beginner culinary and knife skills, Mock counseling with Mediterranean Diet Score Review of course evaluations revealed positive feedback: students appreciated “that the course provides education that they do not receive in medical school” and “valued the hands-on cooking experiences that solidified lecture content”
Westfall et al, 2018, University of California Los Angeles⁵⁵	Medical, Nursing, Public Health, and Dentistry students (n=32 participants, with 25 attending only one class and 7 attending all classes; survey participation unknown)	Dietitians and a chef offered 3 classes teaching nutrition and cooking skills to a group of interprofessional students.	Pre/post-test survey evaluation of pilot program	The pilot study positively impacted participants’: 1) “nutrition knowledge and confidence in preparing healthy affordable meals” 2) “confidence advising patients about meal preparation”
Wood et al, 2021, Wayne State University³⁵	First-year medical students (n=10; 98.8% survey item completion)	2-hour sessions began with didactic instruction on culinary nutrition, then students participated in supervised cooking in small groups. (4 sessions in total)	Pre/post-test survey evaluation of pilot course with 2-month follow-up survey	At the conclusion of the course and at 2 months follow-up: 1) Participants reported increased dietary counseling preparedness 2) Participants had higher culinary knowledge scores At 2 months follow-up, participants were preparing more meals at home compared to baseline

Yousef et al, 2022, Keck School of Medicine of the University of Southern California ⁹⁸	Fourth-year medical students (n=24 students over 3 offerings)	Students participated in a 2-week or 4-week virtual elective with pre-work and daily live sessions that included chef-led cooking instruction, lectures, coaching, and student presentations.	Pre/post-test survey evaluation of pilot; review of comments from course evaluation	The elective resulted in significantly improving average participant: 1) Knowledge (2.3/4 to 4/4) 2) Confidence in coaching (2.4/4 to 3.8/4) 3) Cooking skills (2.8/4 to 3.9/4) 4) Attitudes/behaviors (3.4/4 to 3.8/4) Review of Comments: 1) Generally positive feedback: "Students particularly highlighted improved skills, knowledge, and patient coaching strategies as critical benefits" 2) Some areas noted for improvement, including "a few commented that the cost of food and required textbook was unexpectedly high"
Medical Students and Residents				
Lawrence et al, 2019, University of Alabama ⁷¹	48 total participants consisting of medical students/residents (n=32; n=22 completed surveys) and nutrition students (n=16; n=13 completed surveys)	Modules began with online didactic readings and lectures. In class, students in small groups prepared healthy recipes and discussed nutrition and patient care. The program consisted of 5 sessions.	Pre/post-test survey evaluation of pilot program	The interprofessional pilot course significantly improved team performance scores, even with high scores at baseline

Residents				
Craven et al, 2023, Brody School of Medicine at East Carolina University⁹⁴	Family Medicine residents and culinary arts high school students (n=37 out of 42 participants completed immediate feedback survey, n=19 out of 25 residents completed evaluation survey)	Residents completed reading and video assignments before working in teams with culinary arts high school students in a 4-hour workshop during which they received culinary training and prepared recipes based on the Mediterranean diet.	Post-test feedback survey (residents and high school students) and evaluation survey (residents)	Immediate Feedback Survey (n=37) 1) All participants (100%) strongly agreed that they “enjoyed learning how to prepare healthy food at low, moderate, and liberal cost levels” 2) Most participants strongly agreed the pre-work (76%) and cooking demonstration (84%) were “helpful” Resident Evaluation Survey (n=19) 1) 79% of resident participants felt they “can confidently recommend following the Mediterranean diet to my patients even if they have limited resources” and felt “more confident to address the cultural needs of my patients”
Ehrmann et al, 2020, University of Colorado⁵⁶	Pediatric residents (n=7; survey participation rate unknown)	Residents took part in a 4-week elective that included a visit to a farmers market, gardening, and cooking sessions in a teaching kitchen. Residents also took part in small group discussions on pediatric nutrition.	Mixed-methods evaluation of pilot elective with pre/post-test surveys and focus groups	1) Participation in the elective resulted in significantly improved awareness of “local community resources for nutrition and wellness” 2) Focus group themes: “Positive impact on resident-patient interactions” and “residents choosing and enjoying healthier food”
Johnston et al, 2021, Penn State Health Family Medicine⁶⁸	Family and community	A 3-hour culinary medicine course was taught by RDs in a	Post-test survey	After taking the course, resident participants reported:

	medicine residents (n=13; 100% survey completion)	teaching kitchen. Class began with a group discussion on nutrition topics, then residents participated in hands-on cooking.	evaluation of pilot course	1) Improvements in knowledge (100%), confidence (92%), and intent to change clinical practice behaviors (84.6%) 2) They would participate in future classes/programs (84.6%) 3) Relevance of content to clinical practice (100%), “daily practice” (69%), and “>25 of their patients per week” (69%)
Lang et al, 2019, Johns Hopkins Preventive Medicine Residency Program ⁷⁰	Preventative medicine residents (n=16 participants, n=9 attended 2 workshops and n=5 attended all 3 workshops; n=11 completed pre-test and n=9 completed post-test)	In a 3-workshop series, residents attended a nutrition lecture by a physician-chef then worked in small groups to cook a healthy meal.	Pre-/Post-test survey evaluation of pilot program	The pilot program resulted in: 1) Significantly increased “residents self-reporting as ‘competent’ cooks” 2) No change in participants’ “self-assessed comfort with providing nutritional or cooking counseling to patients” Qualitative data from participant feedback revealed the following themes: “importance of providing basic nutritional knowledge, of adapting materials to local culture and resources, and of considering the socioeconomic status of many patients from inner-city Baltimore”
Nyenhuis, 2019, University of Central Florida ⁵⁷	Physician residents (number of participants unspecified)	In a half-day experience, residents reviewed and discussed nutrition research articles and cases followed by making a healthy	Pre/post-test survey evaluation of session	1) At baseline, 76% of participants wanted more nutrition training 2) The culinary medicine experience positively impacted participants’ “nutrition knowledge and communication skills”

		meal and presenting nutrition recommendations.		
Shannahan, 2023, Northwestern McGaw Family Medicine Residency at Lake Forest⁹⁶	Family Medicine residents (n=23 participants in program; unknown survey completion rate)	Residents completed independent prework including videos and reflections before virtual chef-led cooking instruction followed by teaching nutrition education to middle schoolers.	Survey evaluation of pilot program	1) Significantly improved confidence, knowledge, and skills relevant to culinary medicine: a) Dietary counseling confidence b) Culinary skill confidence, plant-based cooking and knowledge, and making plant-based protein substitutions c) 13/16 participants felt there was either a “positive or neutral impact on their knowledge due to the virtual nature of the cooking classes”