



Recommended curriculum guidelines for family medicine residents

Nutrition

This document was endorsed by the American Academy of Family Physicians (AAFP).

INTRODUCTION

Each family medicine residency program is responsible for its own curriculum. The AAFP Commission on Education's Subcommittee on Graduate Curriculum has created this guide as an outline for curriculum development, and it should be tailored to the needs of the program.

Through a series of structured and/or longitudinal experiences, the curricula below will support the overall achievement of the core educational competencies defined by the Accreditation Council for Graduate Medical Education (ACGME) and provide guideposts to program requirements specific to family medicine. For updates and details, please refer to the ACGME website at www.acgme.org. Current AAFP curriculum guidelines may be found online at aafp.org/cg. These guidelines are periodically updated and endorsed by the AAFP and, in many instances, other specialty societies, as indicated on each guideline.

PREAMBLE

Nutrition plays a major role in the treatment of existing diseases, as well as in health promotion and disease prevention, and it should be included as an essential part of a treatment plan. Interprofessional patient care may best meet patients' needs. A number of diseases that are leading causes of morbidity and mortality in the United States may be considered nutrition-related or affected by nutrition; these include obesity, coronary artery disease, stroke, hypertension, diabetes and cancer. Evidence-based guidelines should be utilized in developing nutrition care plans. Brief counseling sessions by physicians can improve patients' nutrition and affect behavioral change.

Despite the overwhelming burden of chronic diseases and the benefits of counseling on nutrition, few patients receive nutrition counseling from their primary care physician. This set of nutrition competencies for family medicine residents, now aligned with the

six ACGME core competencies, assumes medical students will enter residency with the basic knowledge, skills and attitudes necessary to assess the nutritional status of their patients and provide brief counseling on diet and nutrition.

PATIENT CARE

At the completion of residency training, a family medicine resident should be able to:

1. Perform comprehensive nutrition assessment and apply findings to develop evidence-based, culturally sensitive care plans for their patients
2. Assess the nutritional status of a patient, and identify and address barriers to healthy eating using a brief diet and food history or questionnaire, anthropometric measurements, and focused laboratory and metabolic studies
3. Screen for food insecurity and nutrition-related complications using validated screening tools, and refer patients to appropriate community resources
4. Recognize patients who are at higher risk for nutrition-related complications
5. Assess diet and food intake and perform a nutrition-focused physical examination (NFPE) to identify factors affecting a patient's health status
6. Interpret physical examination data and biomarkers against reference ranges to identify patients at risk for malnutrition
7. Integrate evidence-based nutrition information from relevant nutrition guidelines, scientific publications and other sources into patient care
8. Provide evidence-based, culturally sensitive nutrition and food recommendations tailored to the stages of the life cycle and lifestyle to support prevention and treatment of disease and promotion of healthy weight
9. In consultation with a registered dietitian nutritionist (RDN), write diet prescriptions for patients based on assessed nutritional needs
10. Provide evidence-based counseling on nutritional habits, disease prevention and/or treatment of disease
11. Identify nutrient deficiencies and recommend foods, biotics and/or nutritional supplements based on scientific evidence
12. Evaluate laboratory data to determine patients' progress in improving nutritional status
13. Order and manage nutrition and hydration support across all family medicine practice settings
14. Counsel and manage patients with overweight and obesity using evidence-based, patient-centered strategies
15. Apply motivational interviewing and behavior change techniques to support sustainable dietary improvements

MEDICAL KNOWLEDGE

At the completion of residency training, a family medicine resident should be able to apply knowledge of:

1. General principles of nutrition, including:
 - a. The roles and major dietary sources of macronutrients and micronutrients, as well as the nutritional content of foods

- b. Evidence-based dietary recommendations and patterns—including, but not limited to, Dietary Guidelines for Americans, Dietary Approaches to Stop Hypertension (DASH), Mediterranean diet and Dietary Reference Intakes—and their effects on disease prevention, overall health and management of specific disease states
 - c. Benefits, efficacy, contraindications, cost and medical implications of special dietary patterns (e.g., vegetarian, vegan, ketogenic and intermittent fasting diets) across different stages of the life cycle, as well as considerations for dietary supplements
 - d. Clinically significant drug-nutrient interactions
- 2. Nutrition as an integral component of health promotion and disease prevention in accordance with national guidelines, with the potential to reduce mortality and morbidity throughout an individual's lifespan
- 3. Ways that energy and nutrient requirements differ across the lifespan
- 4. Role of nutrition in modifying disease processes and improving patient responses to medical interventions
- 5. Role of nutrition for prevention of noncommunicable diseases
- 6. Awareness of the broad range of patient- and system-level factors—including, but not limited to, culture, socioeconomic status, psychosocial elements, mental health, fund of knowledge, health literacy, lifestyle and health policy—that influence dietary intake and nutritional status
- 7. Potential interactions between foods, beverages, dietary supplements and medications, with an emphasis on drug-nutrient interactions that may affect safety, efficacy or nutritional status
- 8. Obesity as a chronic disease state, with recognition of contributing factors, including medical conditions and medications impacting the disease state and treatment
- 9. Nutritional differences between unprocessed, minimally processed and ultra-processed foods and the potential impact of each on overall health
- 10. Nutrition Facts labels, ingredient lists and health claims as a basis to make appropriate recommendations to support patients' individual needs and food choices
- 11. Pathophysiological and/or socioeconomic circumstances that may lead to chronic health conditions, metabolic syndrome and malnutrition
- 12. Breastfeeding and complementary infant feeding practices
- 13. Indications for and administration of clinically assisted nutrition and hydration support (oral, enteral and parenteral), as well as its complications
- 14. Safety and efficacy of dietary supplements
- 15. Food safety in maintaining overall health and preventing foodborne illness, with special consideration for vulnerable populations (e.g., infants, elderly patients, pregnant patients, immunocompromised patients)
- 16. Food allergies and food intolerances, including, but not limited to, celiac disease, inflammatory bowel disease, nonceliac gluten sensitivity and irritable bowel syndrome
- 17. The interaction between food, nutrition and physical activity, including:
 - a. Nutritional needs for various levels of activity (e.g., elite vs. noncompetitive athletes) and for different age groups
 - b. Recommendations for health and weight gain or loss
 - c. Hydration

18. Secondary malnutrition associated with systemic diseases
19. Weight loss strategies and counseling, including:
 - a. Behavior modification, motivational interviewing and goal-setting
 - b. Use of technology and apps for weight loss
 - c. Pharmacotherapy (e.g., prescription, herbal, OTC)
 - d. Popular diets and supplements
 - e. Surgical approaches, including care and recommended monitoring of the patient
20. Nutritional principles and considerations for specific populations, including:
 - a. Infants
 - b. Children
 - c. Adolescents
 - d. Adults
 - e. Pregnant individuals
 - f. Lactating individuals
 - g. Elderly individuals
 - h. Athletes
21. Ability to apply knowledge of the role of nutrition in medical management of the following conditions or disease states*:
 - a. Cancer
 - b. Cardiovascular disorders, including, but not limited to:
 - i. Coronary heart disease
 - ii. Hypertension
 - iii. Dyslipidemias
 - c. Endocrine disorders, including, but not limited to:
 - i. Diabetes
 - ii. Hypothyroidism/hyperthyroidism
 - iii. Polycystic ovary syndrome
 - d. Gastrointestinal disorders, including, but not limited to:
 - i. Celiac disease
 - ii. Inflammatory bowel disease and irritable bowel syndrome
 - iii. Metabolic dysfunction-associated steatotic liver disease (MASLD) and metabolic dysfunction-associated steatohepatitis (MASH)
 - e. Hematologic disorders
 - f. Renal disorders
 - g. Respiratory disorders
 - h. Bone and rheumatic disorders
 - i. Neurologic disorders, including, but not limited to:
 - i. Migraine
 - ii. Stroke
 - j. Skin conditions
 - k. Gynecologic disorders
 - l. Psychiatric conditions
 - m. Oral health conditions
 - n. Eating disorders

**For several of the diseases listed, there is epidemiological or associative evidence for the role of nutrition, although direct evidence for primary prevention and treatment has not yet been established.*

INTERPERSONAL COMMUNICATION

At the completion of residency training, a family medicine resident should be able to:

1. Initiate a conversation about food and lifestyle in a brief consultation within a primary or secondary care setting, utilizing a nonjudgmental, patient-centered approach that includes cultural awareness and humility throughout taking a patient's history, offering guidance and developing collaborative treatment plans
2. Assess patients' health literacy in the context of nutrition
3. Clearly and effectively communicate advice about the role of nutrition in overall health
4. Demonstrate awareness and consideration of the social, cultural, emotional, economic, educational, spiritual and psychological factors that may affect an individual's nutritional behavior, food choices and health status
5. Collaborate with patients to personalize nutrition recommendations by identifying individual factors that impact a patient's ability to engage in behavior change and incorporating this awareness into the treatment plan
6. Utilize evidence-based models of behavior change to assess readiness for change and tailor behavioral modification approaches for diet and food choices accordingly
7. Engage in shared decision-making to develop patient-centered nutritional goals for patient care
8. Demonstrate awareness of situations that may lead to patients feeling vulnerable and subsequently require more intentional sensitivity, such as counseling patients with obesity, eating disorders and other nutritional concerns
9. Communicate diet, food and nutrition information to patients using their preferred language (via interpretative services, when needed) and based on their education and health literacy level
10. Monitor patients' nutritional progress effectively and collaboratively using clear communication and appropriate, constructive feedback to support behavior change and overcome obstacles in meeting nutritional goals
11. Promote a safe environment in which patients and others involved in their care can actively engage in their care decisions
12. Help patients and others involved in their care locate reputable medical information on the internet and from other sources
13. Discuss internet safety and protection of health information

SYSTEMS-BASED PRACTICE

At the completion of residency training, a family medicine resident should be able to:

1. Collaborate with other health professionals to deliver a coordinated, interprofessional approach to the delivery of nutritional care in all patient care settings
2. Identify and refer patients with obesity and other high-risk nutrition-related complications to appropriate specialists—including RDNs, behavior specialists, obesity specialists, gastrointestinal specialists, nutrition support teams or bariatric surgery practices—that can provide comprehensive medical management,

- 3. Refer patients receiving enteral and parenteral nutrition to interprofessional nutrition support teams/professionals for appropriate management and monitoring
- 4. Refer patients at risk for, or diagnosed with, eating disorders and psychosocial concerns that impact nutrition intake to appropriate mental health and nutrition professionals
- 5. Recognize the Food Is Medicine framework as part of the broader social, economic and environmental factors that influence health
- 6. Utilize nutrition resources to support patients in accessing healthy foods while demonstrating awareness of food industry influences on food choices and accessibility
- 7. Understand how the built environment plays a role in nutrition and health
- 8. Utilize community- and family-based resources to support nutrition care, including engaging in family meetings and caregiver education, coordinating care with mental health professionals, and referring to community-based nutrition programs and support networks
- 9. Integrate nutrition care into population health strategies for chronic disease management, and apply interprofessional collaboration to improve outcomes, reduce costs and address social determinants of health in alignment with value-based care principles
- 10. Advocate for nutrition services and insurance coverage to insurance companies, schools and other groups that make policies impacting patients' nutritional health

PRACTICE-BASED LEARNING

At the completion of residency training, a family medicine resident should be able to:

- 1. Apply an evidence-based approach to assess nutritional status and evaluate the effectiveness of interventions
- 2. Implement and monitor the effectiveness of the Food Is Medicine approach (e.g., medically tailored nutrition interventions, medically tailored meals, groceries, nutrition therapy) to support individuals with diet-impacted health conditions
- 3. Identify and utilize appropriate professionals providing medical nutrition therapy and related nutrition services to enhance patient care through timely referrals
- 4. Utilize evidence-based models of behavior change to assess readiness for change and effectively counsel patients on modification of diet and food choices to improve health
- 5. Engage in shared decision-making to develop patient-centered nutritional goals for personal use and for patient care

PROFESSIONALISM

At the completion of residency training, a family medicine resident should be able to:

- 1. Recognize and reflect on personal biases related to food, dietary choices and body weight, and demonstrate a respectful, nonjudgmental attitude in clinical interactions

2. Counsel patients on nutrition without being judgmental or letting bias impact their language or recommendations
3. Demonstrate the ability to listen and respond to a patient's beliefs about nutrition in a respectful manner
4. Model personal and professional well-being by practicing evidence-based nutrition behaviors, and serve as a positive role model within clinical and community settings
5. Demonstrate awareness of and respect for interprofessional colleagues in order to collaborate effectively on nutrition-related patient care plans
6. Demonstrate awareness of implicit bias, particularly in relation to race and ethnicity

IMPLEMENTATION

This curriculum should be taught through both focused and longitudinal experiences. Residents with no documented nutrition education may need to complete some remedial work. (See the listed resources for possible opportunities.) The curriculum should be integrated into patient care settings, didactic conferences and community experiential learning activities. Nutritional status should be an integral part of case presentation, staffing, rounds and other clinical activities across all patient care settings. Qualified nutrition professionals or physicians with appropriate nutrition training should teach nutrition and mentor residents. Nutrition education should, as much as is feasible, be interprofessional with dietetic professionals. Family medicine faculty should model and teach nutrition and demonstrate practical and relevant applications. Team teaching is encouraged.

RESOURCES

Texts and curricula

Accreditation Council for Graduate Medical Education (ACGME), American Association of Colleges of Osteopathic Medicine (AACOM), Association of American Medical Colleges (AAMC). The Summit on Medical Education in Nutrition: references and resources recommended by summit panelists and attendees. March 12-14, 2023. www.acgme.org/globalassets/pdfs/nutritionsummit/nutrition-summit-proceedings-resources.pdf

American College of Lifestyle Medicine (ACLM)

- Culinary medicine curriculum. <https://lifestylemedicine.org/project/culinary-medicine-curriculum/>
- Lifestyle medicine residency curriculum. <https://lifestylemedicine.org/residency-lmrc/>

American Society for Nutrition (ASN). <https://nutrition.org/> – Case-based series

Curriculum Committee of the Nutrition Academic Award Program. Nutrition curriculum guide for training physicians: Practice behavior skills and attitudes the curriculum. 2002. www.nhlbi.nih.gov/sites/default/files/media/docs/NAA%20Nutrition%20Curriculum%20Guide.pdf – Developed by academic health centers with NIH funding

Deen D, Spencer E, Kolasa K. Nutrition education in family practice residency programs. *Fam Med*. 2003;35(2):105-111. – *Provides historical perspective*

Gaples Institute. www.gaplesinstitute.org – *Online nutrition courses*

Hark L, Deen D, Morrison G. *Medical Nutrition & Disease: A Case-Based Approach*. 5th ed. Wiley-Blackwell; 2014. – *Uses 29 cases to teach how to diagnose and manage nutritional problems, integrate nutrition into clinical practice and answer patients' most common questions*

Katz DL, Essel KD, Friedman RSC, et al. *Nutrition in Clinical Practice*. 4th ed. Lippincott Williams & Wilkins; 2022. – *Condition-focused reference/text great for preceptor room; available as an e-book*

MedEdPORTAL. www.mededportal.org – *Open-access journal of teaching and learning resources, with 131 entries under "nutrition"*

Medical Science Educator. www.medicalscienceeducator.org – *Peer-reviewed published articles that focus on teaching the sciences fundamental to modern medicine and health, including nutrition, basic science education, clinical teaching and the use of modern education technologies*

Mozaffarian D, Agarwal M, Aggarwal M, et al. Nutritional priorities to support GLP-1 therapy for obesity: a joint advisory from the American College of Lifestyle Medicine, the American Society for Nutrition, the Obesity Medicine Association, and The Obesity Society. *Obesity (Silver Spring)*. 2025;33(8):1475-1503.

Nutrition in Medicine. www.nutritioninmedicine.org – *Free online nutrition modules for medical students, residents and physicians. Published in 2014; not being updated.*

Other competency reports for medical education, residency education and CME

Accreditation Council for Graduate Medical Education, American Association of Colleges of Osteopathic Medicine, Association of American Medical Colleges. Proceedings of the Summit on Medical Education in Nutrition: documenting three days of discussion. March 12-14, 2023. Accessed June 18, 2025.

<https://www.acgme.org/globalassets/pdfs/nutritionsummit/nutrition-summit-proceedings.pdf>

Aspry KE, Van Horn L, Carson JAS, et al. Medical nutrition education, training, and competencies to advance guideline-based diet counseling by physicians: a science advisory from the American Heart Association. *Circulation*. 2018;137(23):e821-e841.

Bipartisan Policy Center. Provider competencies for the prevention and management of obesity. June 7, 2017. Accessed December 5, 2025.

<https://bipartisanpolicy.org/report/provider-competencies-for-the-prevention-and-management-of-obesity>

Craven K, Gay D, Foltz J, et al. Remaining relevant in a changing healthcare organization: registered dietitian nutritionists must listen up or lose out! *Nutrition Today*. 2024;59(1):27-36.

Devries S, Willett W, Bonow RO. Nutrition education in medical school, residency training, and practice. *JAMA*. 2019;321(14):1351–1352.

Eisenberg DM, Cole A, Maile EJ, et al. Proposed nutrition competencies for medical students and physician trainees: a consensus statement. *JAMA Netw Open*. 2024;7(9):e2435425.

Hitchell K, Holton L, Surdyk P, et al. Advancing nutrition knowledge, skills, and attitudes in medical education and training: key themes and recommendations from the 2023 Summit. *Am J Clin Nutr*. 2024;120(3):746-748.

Holton L, Hitchell KS, Surdyk PM, et al. ACGME Summit on Medical Education in Nutrition develops guidance for educators on improving education in nutrition. *J Grad Med Educ*. 2023;15(6):759-761.

Howley LD, Bannuru A. Nutrition in medical education curricula: a recipe for increased competency-based teaching and learning. AAMC Data Snapshot. AAMC; 2025. Accessed December 5, 2025.

https://www.aamc.org/media/85361/download?attachment&utm_source=sfmc&utm_medium=email&utm_campaign=geanewsle – *Includes Table 1. Competency-Based Teaching and Learning Opportunities, which is aligned with the six ACGME core competencies*

Kolasa KM, Eliot K, Craven K. Reflections on the journey to improve medical education in nutrition. *Nutrition Today*. 2024;59(5):220-231. – *Reference list includes relevant papers and early work on competencies*

Kris-Etherton PM, Akabas SR, Douglas P, et al. Nutrition competencies in health professionals' education and training: a new paradigm. *Adv Nutr*. 2015;6(1):83-87.

Nowson C, Roshier-Taks M, Crotty B. Nutrition competencies for the prevention and treatment of disease in Australian medical courses. *Med J Aust*. 2012;197(3):147.

The White House. Biden-Harris administration national strategy on hunger, nutrition and health. September 2022. Accessed December 5, 2025.

<https://bidenwhitehouse.archives.gov/wp-content/uploads/2022/09/White-House-National-Strategy-on-Hunger-Nutrition-and-Health-FINAL.pdf> – *Pillar 2 includes professional training to enhance nutrition education for physicians, nurses, dietitians and other health professionals.*

Van Horn L, Lenders CM, Pratt CA, et al. Advancing nutrition education, training, and research for medical students, residents, fellows, attending physicians, and other clinicians: building competencies and interdisciplinary coordination. *Adv Nutr*. 2019;10(6):1181-1200.

WEBSITE RESOURCES

Academy of Nutrition and Dietetics.

- Find a nutrition expert. www.eatright.org/find-a-nutrition-expert
- *Nutrition Care Manual®*. www.nutritioncaremanual.org – *Used in most hospitals*

MedlinePlus. DASH eating plan. <https://medlineplus.gov/dasheatingplan.html> – Gateway link to DASH eating plan and related documents, as well as patient education

National Center for Complementary and Integrative Health (NCCIH). www.nccih.nih.gov – Information on selected herbs and dietary supplements; evidence for efficacy and safety of complementary health approaches for certain conditions

National Heart, Lung, and Blood Institute (NHLBI).

www.nhlbi.nih.gov/health/educational/lose_wt/bmitools.htm – Body mass index (BMI) tools and calculator

National Institute on Alcohol Abuse and Alcoholism (NIAAA). Rethinking drinking. <https://rethinkingdrinking.niaaa.nih.gov> – Definitions of alcoholic drinks and tools to evaluate drinking and aid behavior change

National Institutes of Health Office of Dietary Supplements (NIH ODS).

- Nutrient recommendations and databases. <https://ods.od.nih.gov/HealthInformation/nutrientrecommendations.aspx> – Gateway to documents related to use of Dietary Reference Intakes
- Health information. <https://ods.od.nih.gov/HealthInformation/healthinformation.aspx> – Fact sheets on dietary supplements (e.g., vitamins, minerals, botanicals) and evidence summaries for professionals and consumers
- Botanical supplement fact sheets. <https://ods.od.nih.gov/factsheets/list-Botanicals/>

U.S. Department of Agriculture. Nutrition.gov. <https://www.nutrition.gov> – Evidence-based dietary guidance, including Dietary Guidelines for Americans, 2020-2025 and practical nutrition education tools

U.S. Food and Drug Administration. Dietary supplements. www.fda.gov/food/dietary-supplements

U.S. News and World Report. Best diets. <https://health.usnews.com/best-diet> – Best diets overall for the year and for specific health goals and conditions; describes methodology employed

Sports and performance websites and resources

American College of Sports Medicine (ACSM). www.acsm.org

American Sports and Performance Dietitians Association (ASPDA). <https://sportsrd.org/downloadable-resources/>

Gatorade Sports Science Institute. www.gssiweb.org/en/sports-science-exchange/All

Obesity Medicine Association (OMA) Academy. <https://academy.obesitymedicin.org> – Nutrition related-webinars, conference recordings, presentations and courses that carry CME credit

U.S. Department of Health and Human Services. Physical activity guidelines for

Americans. 2nd ed. https://odphp.health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf

Nutrition content from professional organizations

American Academy of Family Medicine (AAFP). Nutrition topics from *American Family Physician*. www.aafp.org/pubs/afp/topics/by-topic.nutrition.html

American Academy of Pediatrics (AAP). www.aap.org

American College of Lifestyle Medicine (ACLM). Lifestyle interventions for treatment and remission of type 2 diabetes and prediabetes in adults.

www.guidelinecentral.com/guideline/4663657

American College of Sports Medicine (ACSM). Physical activity guidelines.

<https://acsm.org/education-resources/trending-topics-resources/physical-activity-guidelines>

American Diabetes Association (ADA). <https://diabetes.org>

American Heart Association (AHA). www.heart.org

American Institute for Cancer Research (AICR). www.aicr.org

American Society for Nutrition (ASN). www.nutrition.org

EurekAlert! Medicine & health news. www.eurekalert.org/specialtopic/medicine/home

Healio. www.healio.com – *Can search under "Clinical Guidance" for advice on treatment of conditions with diet or nutrition relevance*

Medical News Today. Nutrition/diet. www.medicalnewstoday.com/categories/nutrition-diet

ScienceDaily. www.sciencedaily.com/news/top/health

The Obesity Society. www.obesity.org

REVISIONS

Developed 8/1989 by Crozer-Keystone Family Medicine Residency Program, Springfield, PA

Revised 7/1995

Revised 6/2000

Revised 1/2008

Revised 7/2013 by Kaiser Permanente Los Angeles Family Medicine Residency Program, CA

Revised 7/2017 by Cone Health Family Medicine Center, Greensboro, NC

Revised 10/2020 by West Virginia University Rural FMR, Harper's Ferry, WV

Revised 8/2025 by East Carolina University Brody School of Medicine Department of Family Medicine, Greenville, NC