SCOPE OF PRACTICE

INTRODUCTION

The Certified Nutrition Specialist® (CNS®) is the most advanced credential for personalized nutrition practitioners. CNSs are trained to practice science-based personalized nutrition therapy to provide health care to patients, clients, and communities.[1] CNSs focus on identifying and addressing root causes of medical conditions and diseases and moving patients toward optimal health.

The CNS credential demonstrates that certified individuals have the knowledge and proficiency required for advanced professional nutrition practice. The CNS certification program is administered by the Board for Certification of Nutrition Specialists℠ (BCNS℠), a separate and independent credentialing organization affiliated with the American Nutrition Association® (ANA). The ANA is the professional association for the science and practice of personalized nutrition. The ANA envisions a society of healthy people, powered by nutrition, and champions the science and practice of personalized nutrition to move nutrition to the core of health care.

The CNS certification program is accredited by the National Commission for Certifying Agencies (NCCA), the accrediting arm of the Institute for Credentialing Excellence, which provides impartial, third-party validation that the certification program meets recognized national and international credentialing industry standards. In addition, the CNS is specifically recognized in the US Bureau of Labor Statistics' Occupational Outlook Handbook section on Dietitians and Nutritionists.

To be eligible for the CNS credential, an individual must meet each of the following requirements:

- Education: have a minimum of a master's degree in nutrition or a related health science, including meeting specified coursework requirements;
- Experience: document achievement of a set of clearly defined practice competencies in 1,000 hours of Supervised Practice Experience (SPE); and
- Examination: achieve a passing score on the psychometrically validated Certification Examination for Nutrition Specialists℠.

To maintain the credential, CNSs are required to recertify every five years by demonstrating completion of continuing education requirements, currently 75 hours.

[1] Use of the terms "client" and "patient" are determined by laws and regulatory structure in the place of practice. For the purposes of this document, they are used interchangeably.

As with other health professions, the legal scope of practice of the CNS is often established by state statute and implementing rules and regulations. Administrative agencies regulate the practice of nutrition and dietetics by establishing rules and procedures, by interpreting the applicable language, by licensing or certifying qualified practitioners, and by enforcing the provisions of the law. Regulation of the profession is usually carried out by the agency or licensing board that is appointed by the governing leadership of the state. CNS certificants are eligible for state licensure or certification in a growing number of states.

OBJECTIVE: CNS SCOPE OF PRACTICE

The objective of this document is to outline the full spectrum of personalized nutrition (PN) services, including medical nutrition therapy (MNT), that all CNS-credentialed nutrition professionals are competent to perform based on the requirements necessary to obtain and maintain the CNS credential. While there is no universal definition of MNT (definitions vary by state), it often refers to the provision of nutrition care services for the management or treatment of a medical disease or condition. This document does not address *legal* scope of practice, which is determined by the jurisdiction(s) in which the CNS practices.

CNSs PRACTICE PERSONALIZED NUTRITION (PN)

According to the American Nutrition Association, PN is "a field that leverages human individuality to drive nutrition strategies that prevent, manage, and treat disease and optimize health delineated by three synergistic elements: PN science and data, PN professional education and training, and PN guidance and therapeutics."[2]

Personalized nutrition is "rooted in the concept that one size does not fit all; differences in biochemistry, metabolism, genetics, and microbiota contribute to the dramatic inter-individual differences observed in response to nutrition, nutrient status, dietary patterns, timing of eating, and environmental exposures."[3] The CNS provides evidence based PN to a broad range of individuals and diverse sociodemographic populations using the PN care model described below.

Interdisciplinary connections: CNSs collaborate with other healthcare professionals in the gathering of data relevant to the PN care process and may share assessment data as appropriate, in accordance with HIPAA guidelines, with other members of the individual patient's care team. The CNS does not diagnose medical conditions and works with medical diagnoses assigned by appropriate medical practitioners. The CNS refers clients with medical conditions that are outside of personal scope of practice to other qualified medical professionals.

THE PN CARE MODEL

The scope of practice of the CNS is based on the PN care model, which creates a framework that enables the CNS, as a PN practitioner, to provide a greater level of personalization to individuals and groups of people

[2] Bush, C. L., Blumberg, J. B., El-Sohemy, A., Minich, D. M., Ordovás, J. M., Reed, D. G., & Behm, V. (2020). Toward the Definition of Personalized Nutrition: A Proposal by The American Nutrition Association. *Journal of the American College of Nutrition*, 39(1), 5–15. https://doi.org/10.1080/07315724.2019.1685332.
[3] Id.

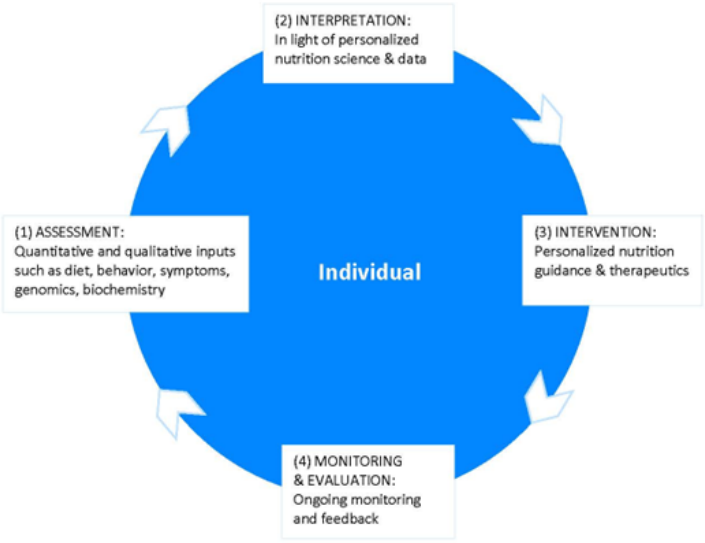
based on their unique traits and circumstances.[4] This nutrition care model reflects four aspects of accepted care models utilized across healthcare professions: assessment, interpretation, intervention, and monitoring/evaluation.

The personalized nutrition approach empowers the CNS to create nutrition intervention plans that match the unique needs of individuals and populations by leveraging:

1. research in nutrition science, including emerging science;
2. a broad range of laboratory and assessment tools; and
3. knowledge and skills to tailor interventions to the individual for optimal health outcomes.[5]

The illustration below depicts the cyclical nature of the PN care model.[6] The model allows the CNS to engage in a client-centered process, always engaging with subjective and objective data in a continual feedback loop and refining interventions to achieve the desired health and wellness outcomes. The CNS dynamically supports clients with personalized care as the extensive evidence-informed field of nutrition science continues to advance. Effective and sustainable health outcomes require the CNS to review and refine care interventions in partnership with the patient/client and with the health care team, as applicable. As nutrition science evolves, CNSs will continue to gain even greater ability to tailor interventions and optimize health outcomes.

The Personalized Nutrition Care Model[7]



[4] Id.

[5] Id. See also American Nutrition Association Website, available at: https://theana.org/certify/CNScandidate/nutritionpros, accessed 11/15/20.

[6] Bush, C. L., Blumberg, J. B., El-Sohemy, A., Minich, D. M., Ordovás, J. M., Reed, D. G., & Behm, V. (2020). Toward the Definition of Personalized Nutrition: A Proposal by The American Nutrition Association. *Journal of the American College of Nutrition*, 39(1), 5–15. https://doi.org/10.1080/07315724.2019.1685332.

[7] Id.

1. Assessment

The PN assessment is the first step in the determination of the nutrition diagnosis - a specific nutrition problem that can be resolved or improved through nutrition intervention - and provides a baseline from which to measure improvements. It is an ongoing, dynamic process that incorporates a systematic approach to collecting and recording quantitative and qualitative inputs regarding an individual's health status and lifestyle to enable effective data interpretation.

It begins with the initial encounter between an individual and the CNS and continues throughout the client relationship. CNS scope of practice includes ordering and assessing qualitative and quantitative aspects of health status, such as, but not limited to:

- Comprehensive medical nutrition health history, including linking signs and symptoms of dysfunction and health status;
- Biochemical and laboratory assessment data and functional testing of cellular biomarkers, including nutrient, hormone, metabolism, and neurotransmitter imbalances, with the identification of optimal value ranges;
- Laboratory assessment data and identification of optimal value ranges, including but not limited to: Biochemical, environmental, and functional testing of nutrient, hormone, metabolism, and neurotransmitter imbalances; inflammation, methylation and oxidative stress; microbiome/gastrointestinal imbalances; essential and toxic elements; amino acids; essential fatty acids; food allergies/sensitivities, and environmental allergies;[8]
- Genetic/genomic factors;
- Family health history;
- Anthropometrics;
- Dietary assessment (food records, dietary recalls, food frequency questionnaires, others including computerized analysis of food intake);
- Eating behaviors;
- Movement and exercise;
- Clinical status and referral needs;
- Lifestyle and cultural/socioeconomic factors impacting nutrient needs;
- Nutrition physical examination;
- Social history; and
- Readiness and motivation for change.

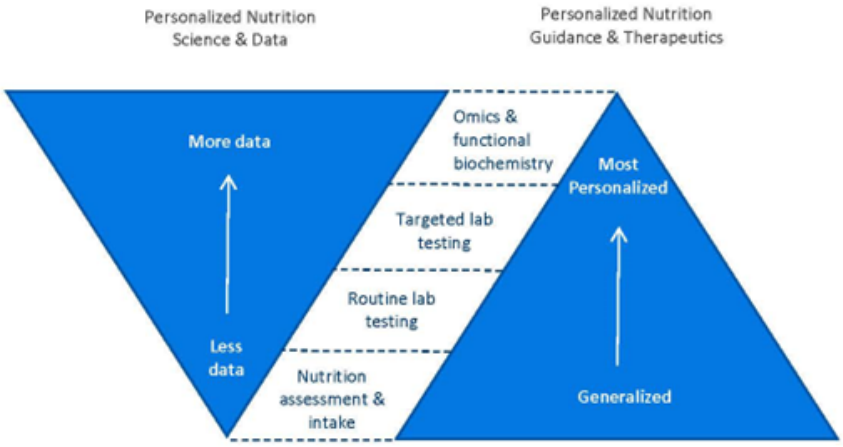
2. Interpretation

Based on the data gathered in the Assessment phase, the CNS identifies connections between systems imbalances and underlying nutrition-related drivers, in the context of current research and evidence, to identify a nutrition diagnosis. A nutrition diagnosis is distinct from a medical diagnosis, which is outside of the scope of the CNS who does not possess a medical license. This ability to identify relevant connections and patterns unique to each individual is a key feature of PN and a key aspect of CNS scope of practice. CNSs are trained in the use of health technology tools and applications that support data interpretation. These tools are

[8] The type of testing utilized by a CNS may depend on personal scope of practice, referenced later in this document, but all CNSs are trained to interpret biochemical and laboratory assessment data.

increasingly necessary due to the growing body of information related to nutritional status such as microbiome health, epigenetic, and nutritional genomic data. Interpretation of combined assessments inform how the CNS will create the PN intervention plan and deliver care, as depicted below.

Interaction of PN Science with PN Guidance & Therapeutics[9]



3. Intervention

The CNS is trained to use the data collected during the Assessment and Interpretation phases to develop evidence-based medical nutrition therapies specific to a client or group of clients. These therapies are aimed at optimizing health, preventing disease, effectively managing chronic health issues, and addressing both symptoms and the underlying causes of system imbalances that manifest as symptoms. Therapies are prioritized based on the individual client's level of readiness and health objectives. Consideration of a client's personal and cultural beliefs is key when developing the PN intervention plan.

Interventions within the CNS scope of practice may include:

- Recommending dietary changes, specialized or personalized diets, dietary patterns (including chrononutrition) and specific food types to include and/or avoid;
- Targeted interventions and supplements, including but not limited to: nutraceuticals (vitamins and minerals, herbs/botanicals, probiotics, prebiotics), amino acids, enzymes, and medical foods;
- Behavioral and motivational counseling;
- Client-centered goal-setting; and
- Lifestyle recommendations.

CNSs are trained to formulate and apply actionable personalized nutrition therapies for health optimization and disease prevention interventions for a broad range of chronic and acute health conditions across the

[9] Bush, C. L., Blumberg, J. B., El-Sohemy, A., Minich, D. M., Ordovás, J. M., Reed, D. G., & Behm, V. (2020). Toward the Definition of Personalized Nutrition: A Proposal by The American Nutrition Association. *Journal of the American College of Nutrition*, 39(1), 5–15. https://doi.org/10.1080/07315724.2019.1685332.

lifespan, including but not limited to medical nutrition therapy to address: underweight, overweight, malnutrition, and obesity; cardiometabolic; endocrine; immune and autoimmune; and gastrointestinal disorders. In practice, CNSs may choose to specialize with certain populations, conditions, or groups of conditions, and they may expand their knowledge to include other specialties or areas, such as enteral and parenteral therapies, cancer care, eating disorders, etc[10]

Intervention considerations within the scope of practice for the CNS:

- Nutrient Interactions:
    - Determination of drug-nutrient and drug-herb interactions
    - Identification of dietary factors that affect the actions of common drugs and the underlying mechanisms of action; identification of nutrient depletions which can occur related to commonly used drugs; identification of interactions between drugs and foods (including herbs) and their constituents
    - Assessment of the interaction of nutrients with chemical substances including alcohol
    - Interactions between nutrients, including the synergistic effects and antagonistic interactions of nutrients in foods and supplements and how they may impact the health status of an individual

- Dietary therapeutics and behavior optimization:
    - Assessment of the advantages and limitations of various diets
    - Identification of the therapeutic usefulness of specific foods including the use of "food as medicine," customized diets and food plans
    - Application of scientific evidence and methods in the development of specific dietary recommendations
    - Assessment of the link between learned behaviors and their impact on obesity and other health issues in adulthood
    - Assessment of disordered eating and eating disorder behavior
    - Application of motivational skills to enhance clinical outcomes
    - Gauging and optimizing compliance with recommendations
    - Prescribing diets in outpatient settings
    - Prescribing diets/therapeutic diet orders in hospitals, government healthcare facilities, and long-term care facilities in collaboration with the patient's care team and in accordance with any facility regulations, guidelines, and protocols, so long as providing these services is within the CNS's personal scope of practice[11][12]

[10] Source: BCNS job analysis surveys (performed every 5 years).

[11] U.S. Department of Health and Human Services. State Operations Manual, Appendix A – Survey Protocol, Regulations, and Interpretive Guidelines for Hospitals. Centers for Medicare and Medicaid Services. N.d. Updated February 21, 2020. Accessed December 1, 2020. https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_a_hospitals.pdf

[12] U.S. Department of Health and Human Services. Appendix PP – Guidance to Surveyors for Long Term Care Facilities. Centers for Medicare and Medicaid Services. N.d. Updated November 22, 2017. Accessed December 1, 2020. https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_pp_guidelines_ltcf.pdf

4. Evaluation & Monitoring

CNSs provide ongoing monitoring and evaluation, which are crucial to an effective PN care process. This step offers further options for personalization through refinement and evolution of client progress with the recommended interventions, considering the client's priorities and goals. This continuous process of assessing, monitoring, and re-evaluating reflects a partnership between the CNS and the client, as well as the understanding that individual responses to the same intervention may vary. The CNS uses data to guide and refine interventions as well as to provide feedback to the client to build self-efficacy and reinforce lasting lifestyle and behavior change. The timing and frequency of follow-up monitoring and evaluation is based on the individual client's health status and objectives.

SUPPORTING THE PERSONALIZED NUTRITION CARE PROCESS

Foundational and continuing education and training allow the CNS to react to emerging science, tools, and trends in PN for ongoing enhancement of competencies at each stage of the career. For example, new developments in artificial intelligence and technologies such as omics support CNS practitioners in managing the volume of data at each stage of the PN care process.

- The CNS is required to understand and apply principles of food safety, including:
    - a working knowledge of the causes and preventative measures for the most common food borne illnesses
    - current developments and outbreaks of food borne illnesses
    - translation of popular nutrition information into science-based educational materials and client recommendations
    - identification and assessment of populations at risk for food safety issues
    - assessment of environmental toxicity factors that may negatively affect food quality (pesticides, xenobiotics in genetically modified organisms, hormones, food additives, PCB, heavy metals)
- The CNS is required to comply with the CNS Code of Ethics.
- The CNS is required to:
    - maintain recertification and continuing education requirements with the Board for Certification of Nutrition Specialists (75 credits every 5 years);
    - maintain licensure in good standing, in order to practice in jurisdictions where such licensure is required;
    - maintain client/patient confidentiality; and
    - comply with the Health Insurance Portability and Accountability Act (HIPAA), including obtaining appropriate consent to obtain records, and maintaining and sharing progress notes with referring clinicians and/or the client's care team as appropriate.
- The CNS must be familiar with and abide by state licensure and certification requirements that impact their practice authority, including:
    - laws, rules, and regulations regarding the practice of nutrition/dietetics, including the use of MNT to treat or manage diseases and medical conditions;
    - laws, rules, and regulations related to telehealth/telemedicine, as applicable; and

- laws, rules, and regulations related to insurance coverage and reimbursement, as applicable.

PRACTICE SETTINGS FOR THE CNS

CNSs may practice in a wide variety of settings, including but not limited to those shown below.

Examples of Practice Settings & Roles[13]

Clinical and Institutional Settings	
Work in private practice performing medical nutrition therapy, personalized nutrition, functional medicine-based nutrition, integrative nutrition and integrative health for groups and individuals.	Work in mental and community behavioral healthcare centers, agencies and initiatives, and rehabilitation centers as clinical nutritionist.
Provide clinical nutrition services as part of team-based care in outpatient clinics and institutional settings such as public and private hospitals. May include managing and supervising grand rounds.	Work as laboratory nutrition science advisors and clinical nutrition educators for laboratories and testing companies.
Academia & Leadership	
Conduct, design, manage and lead clinical and laboratory-based nutrition science research, and publish in peer-reviewed journals.	Serve as nutrition scientific advisors, researchers, professors, and lecturers. Translate and apply research from peer-reviewed journals into clinical practice guidelines for practitioners.
Serve as professor, lecturer, leadership positions such as dean or administrator in graduate and undergraduate nutrition degree programs.	Serve as grant officers, grant recipients, grant applicants and directors for nutrition organizations.
Serve as founders, board members, directors at non-governmental agencies, businesses, and not-for-profit organizations in nutrition and healthcare.	Provide supervision and oversight as CNS Supervisors.
Public Policy & Public Health Outreach	
Work in public policy and services in areas such as nutrition, integrative health, healthcare insurance, healthcare access and equity, food access and security, food justice, food systems, healthcare access and equity, health, and nutrition care quality.	Work on public nutrition education campaigns, and public and clinically oriented workshops, classes, conferences, symposiums, forums.
Work as nutrition practitioner for governmental healthcare agencies, committees, institutions, and in an advisory role to governmental officials, programs and institutions.	Work in community-based nutrition: Serve in organizations supporting food access, food rescue organizations, food banks, food pantries, community service organizations, agriculture, and community gardens.
Provide public outreach services such as professional speaking engagements, journalism, video and social media, conferences.	Provide professional development services for nutritionists and other healthcare providers: continuing education courses, articles, books.
Food and Supplement Industry	
Work as nutritionists in food and supplement production, education, sales, systems management, safety, and more.	Work as culinary nutritionists in food demonstration and workshops, entertainment industry, cookbook author, culinary nutrition.
Health Care Industry	
Provide nutrition services for fitness centers, gyms, sports nutrition centers, health and wellness centers or businesses, longevity, weight loss or wellness programs.	Provide nutrition consultation services for supermarkets, farmers markets, public affairs, cookbook author, research, development of retail products, menus, supplements, medical foods, healthcare technology companies.

[13] Source: BCNS job analysis surveys (performed every 5 years).

INDIVIDUAL SCOPE OF PRACTICE

This document outlines the knowledge and skills of all CNSs based on the BCNS's credentialing requirements and processes. Specific knowledge and skill sets vary from practitioner to practitioner and, as is the case with most professions, each CNS's competencies grow with experience. The BCNS Code of Ethics requires that all CNSs practice within their individual competencies; thus, it is the responsibility of each CNS practitioner to self-reflect and identify their individual scope of practice for a given practice situation based on the following factors:

1. CNS scope of practice: As outlined in this document. The CNS scope of practice applies to all CNSs based on the certification's requisite education, experience, and exam requirements.

2. Individual education, training, credentials, and certifications: This includes the competencies acquired by an individual CNS as a result of their specific education, supervised practice experience, professional clinical experience, specialty certifications and credentials, and continuing education.

3. Federal and state laws and regulatory guidelines.[14] This includes federal and state statutes and regulations that establish policies and procedures affecting the nutrition profession, both broadly and in specific regulated health care facilities, as determined by the individual CNS's place of practice and the client's or patient's residence. In the case where activities in the CNS scope of practice are not permitted by law or regulation, the law or regulation takes precedence over the CNS scope of practice.

4. Individual workplace/facility guidelines, including the guidelines, policies, and procedures at the CNS's place of practice such as: private practice, clinic, hospital, school, university, institution, or agency.

[14] For information regarding each state's laws, rules, and regulations, see www.theana.org/advocacy.

The graphic below illustrates the multiple factors that impact each CNS's individual scope of practice.

CONCLUSION

This document outlines the full spectrum of personalized nutrition (PN) services, including medical nutrition therapy, that all CNS-credentialed nutrition professionals are competent to perform based on the requirements necessary to obtain and maintain the CNS credential. It is the responsibility of each CNS practitioner to practice in accordance with their individual scope as outlined above. A key consideration for each is legal scope of practice, which is not covered here and is determined by the jurisdiction(s) in which the CNS practices.

Notwithstanding individual scope of practice, each CNS is equipped and positioned with the foundational skills and knowledge to help patients optimize their health in a variety of practice settings and in the specialties of their choosing.

For more information, please go to www.theANA.org