

The Profession *of* Dietetics

SIXTH
EDITION

A TEAM APPROACH



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P R E F A C E

The Profession of Dietetics: A Team Approach is written for students interested in finding out more about the profession of dietetics. Understanding who dietetics professionals are, what dietetics professionals do, and how to become a certified dietary manager; a nutrition and dietetics technician, registered; or a registered dietitian nutritionist is a complex task. Few other professions offer so many educational routes for entry or so many ways to practice one's trade. While this diversity is a strength, it often confuses those who wish to enter the profession, as well as prospective customers who are trying to understand who dietetics professionals are or why they should consult one.

It is the goal of this book to present a clear and up-to-date picture of the profession of dietetics and to try to answer some basic questions:

- What is a profession and how does dietetics qualify as a profession?
- How has the history of the profession shaped dietetics practice today?
- Who are members of the dietetics team and how do they work together?
- What is the Academy of Nutrition and Dietetics (formerly the American Dietetic Association) and why should one become a member?
- What is involved in the credentialing of dietetics professionals and why is it important?
- What kinds of positions do dietetics professionals fill?
- Why are communication and teamwork so important in the dietetics profession?
- How can a person develop effective communication skills and become a good team player?
- What are some ways to successfully make the transition from student to professional?
- What does the future hold for dietetics practice?

Features throughout the text are designed to help students connect with the material presented. Suggested Activities at the end of each chapter allow students to explore topics further and offer opportunities for thought-provoking research outside the classroom. Selected websites direct students to view related content online and to peruse a variety of Web pages pertaining to the field of dietetics. The ever-popular Profile of a Professional feature includes real interviews with individuals who work in various positions as dietetics professionals. Each professional who is profiled offers advice and words of wisdom for students entering the field.

Qualified instructors can also receive access to instructor resources including a test bank, slides in PowerPoint format, and an instructor's manual.

The profession of dietetics is dynamic, exciting, and in need of enthusiastic, energetic, and visionary men and women who wish to join the team. It is our hope that this book enlightens, informs, and inspires those who read it. If this occurs, then our dream for this book will have been achieved.

NEW TO THIS EDITION

This edition of *The Profession of Dietetics: A Team Approach* reflects the latest standards, developments, and data in the dynamic and constantly evolving field of dietetics. Key changes for this edition include the following:

- Seventeen all-new *Profile of a Professional* features, spotlighting the experiences and accomplishments of both dietitians and dietetic technicians
- The latest numbers relating to the growth of the profession, including employment outlook, median salary expectations, and new program accreditation
- The highlighting of digital portfolios and the utility of LinkedIn and other digital career resources
- Updated information regarding education requirements, reflecting the most recent changes announced by the Academy of Nutrition and Dietetics

Major chapter-specific updates are listed below.

Part I: The Past

Chapter 1: The Profession Is Born

- Adds references to the recently introduced RDN and NDTR credential
- Updates timeline of selected milestones in dietetic history
- Includes discussion of Marjorie Hulsizer Copher's contributions during World War I

Part II: The Present

Chapter 2: The Dietetics Profession

- Updates the discussion surrounding the various titles and credentials a dietitian may use
- Features the latest statistics on
 - RDN and NDTR median salaries
 - Top-paying states and metropolitan areas for professionals
 - Projected growth in employment through 2022
- Integrates today's understanding of food's role in preventing and treating diseases
- Discusses the Academy's development of Board Certification in some specialty areas of dietetic practice

Chapter 3: Join Together: The Team Approach

- Incorporates current titles and credentials for all team members

Chapter 4: Beginning Your Path to Success in Dietetics

- Updates portfolio (now profile) information to emphasize digital career resources like LinkedIn and other social media platforms
- Adds a section on digital portfolios (e-portfolios)
- Incorporates new formatting and stylistic tips for résumés
- Adds and updates interviewing tips
- Supplies a variety of online resources for assistance with online self-marketing, job searching, e-portfolios, and interviews

Part III: Preparing for Practice

Chapter 5: Dietetics Education and Training

- Describes the two current options for becoming a dietetic technician
- Details ACEND's recommendation that the master's degree become the standard for all entry-level dietitians and the controversy surrounding this move
- Incorporates information regarding the differences in salaries between RDNs with a master's degree and those with a bachelor's degree

Chapter 6: The Supervised Practice Experience

- Addresses the dietetic internship shortage in a new section, providing the latest statistics and explanations for why the shortage is occurring
- Delves into reasons why students are increasingly taking more than 4 years to graduate with a bachelor's degree
- Provides more detail regarding distance internships and their admission criteria

Chapter 7: Credentialing

- Provides the latest statistics for the number of dietitians, dietetic technicians, and various specialty credentials
- Addresses the Academy's new Fellow of the Academy of Nutrition and Dietetics program
- Provides advisory information on researching and preparing for state licensure

Part IV: Professional Organizations

Chapter 8: Why Join a Professional Association?

- Updates the distinction between active members, retired members, and academy associates of the Academy of Nutrition and Dietetics
- Updates the presentation of the Academy's vision, mission, and values

- Adds the Academy's Governing Structure Infographic to outline the membership, functions, management responsibilities, and frequency of meetings for both the Board of Directors and the House of Delegates
- Updates the listing of Dietetic Practice Groups (DPGs) and Member Interest Groups (MIGs)
- Expands the list of awards and grants offered by the Academy
- Lists and describes affiliate award programs

Part V: The Future

Chapter 9: Trends, Predictions, and Your Future

- Describes the change drivers and trends for the dietetics profession that have been identified by the Council on Future Practice
- Delves into the implications of these change drivers and trends on dietetic practice

Chapter 10: Crossing the Bridge: From Student to Professional

- Distinguishes Standards of Practice (SOP) from Standards of Professional Performance (SOPP) and describes by whom and how they are used

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PART I

The Past



The Profession Is Born

The Very Beginning

When the professional association that represents most of the individuals practicing dietetics turns 100 in 2017, many will consider that it is also the 100th birthday of dietetics itself. These 100 years have been characterized by an ever-changing landscape. World events, legislation, social and economic changes, and scientific discoveries have all impacted the profession. With dynamic and dedicated leadership, the profession of dietetics has become a strong and viable career option.

So we begin with the history of the dietetics profession. History provides people with an opportunity to learn from past mistakes and can also show which of the seeds that were sown blossomed into successes and why. As stated on Radford University's Department of History website:

The study of history is a window into the past that provides understanding of the present day, and how individuals, nations, and the global community might develop in the future. Historical study instructs how societies came to be and examines cultural, political, social, and economic influences across time and space.¹

Prior to the establishment of the professional association 100 years ago, dietetic practice had an interesting, rich, and diverse past that stems from the much older history of food and health. Some very old sayings advise “An ounce of prevention is worth a pound of cure” and “An apple a day keeps the doctor away.” The role of food in preventing, curing, treating, or causing illness has been recognized since the beginning of recorded human history. “If a man has pain inside, food and drink coming back to his mouth . . . let him refrain from eating onions for three days” is the first known written dietary recommendation, carved on Babylonian stone tablets around 2500 B.C.² The typical daily regimen during this time consisted of barley paste or bread, onions, a few beans, and beer.

The Book of Judges in the Old Testament contains a prenatal dietary prescription that has withstood the test of time: “Therefore beware, and drink no wine or strong drink, and eat nothing unclean, for lo, you shall conceive and bear a son.”³ The Book of Daniel contains what is probably the first controlled dietary experiment. Daniel and the other young men from Judah asked their guards to allow them to maintain their ancestral traditions and eat pulses (legumes) and bread and drink water rather than the king’s rich food and wine allowance for 10 days. At the end of the 10 days, they were healthier and better nourished than all the young men who had lived on the food assigned to them by the king.⁴

Scurvy, which is caused by a vitamin C deficiency, was described as early as 1500 B.C. in the Ebers Papyrus, and other descriptions appear in ancient Greek and Roman writings.⁵ The word *diet* is from the Greek *diatta*, which means “manner of living.”⁶ It appears in many early writings, including those of Hippocrates and Galen.⁷ The oldest known cookbook, Apicius’s *De re Culinaria* (approximately 100 B.C.), contains many dietary principles that are still sound today.⁸ One entire book of the 10 books contained in the cookbook attributed to Apicius is devoted to pulses, or legumes, which are mentioned in the Old Testament. In ancient China, food therapy was practiced as a special branch of medicine.⁹ Chinese observations about diabetes date to the third century, and descriptions of night blindness and its correct dietary cure date to the seventh century.^{10,11}

The Middle Ages

During the Song Dynasty (960–1279) in China, Ben Cao Tu Jing, in the *Atlas of Materia Medica* (1061), described a “clinical trial” to determine the efficacy of ginseng. He suggested, “In order to evaluate the efficacy of ginseng, find two people and let one eat ginseng and run, and the other run without ginseng. The one that did not eat ginseng will develop shortness of breath sooner.”¹²

William the Conqueror was probably one of the first famous names in history to go on a weight-loss diet. In 1087, he tried to lose weight by going on a liquid diet, taking to his bed and consuming nothing but alcohol!

Hospital records from St. Bartholomew’s Hospital (**Figure 1–1**), which was founded in Britain in 1123, provide the first written evidence of a typical hospital menu. Bread and beer formed the basis of the diet.¹³ This obviously inadequate and unpalatable diet led to a prevalence of **scurvy** (a condition characterized by weakness, joint pain, skin lesions and bruising, bleeding gums, and loosening of teeth) among patients. Other conditions in early British hospitals were also poor. Sanitation was nonexistent, overcrowding was common, buildings were unsafe, and stern disciplinary measures were used on noncompliant patients.

With the publication of *De re Medicina* in 1478 in Florence, Italy, diet became an important part of medical practice. In this publication, medicine was divided into three branches: diseases treated manually, diseases treated by medicine, and diseases treated by diet. In 1480, the first printed cookbook appeared, containing reference to quality and varieties of meat, fish, fruits,

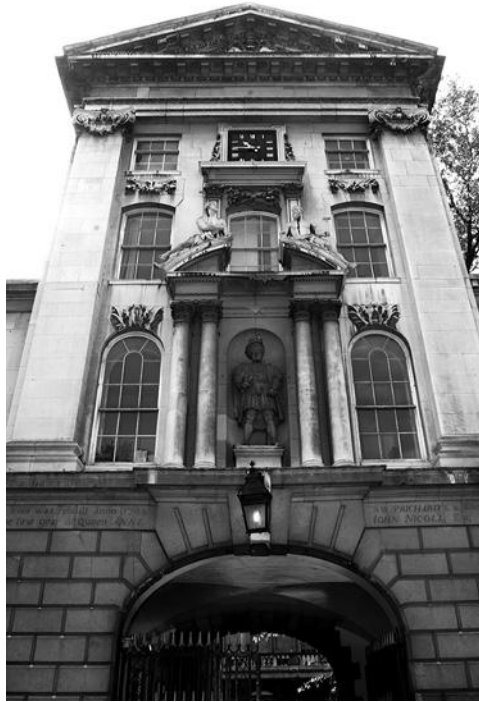


FIGURE 1-1 St. Bartholomew's Hospital, London.
Courtesy of Barts and the London NHS Trust

and vegetables; information on how they nourish the body; and directions on how they should be prepared.¹⁴

Weight-loss books appeared in the late 1600s to early 1700s. A Scotsman, Dr. George Cheyne, wrote two popular books, *An Essay of Health and Long Life* and *The English Malady*, in which he described a milk diet, which he claimed kept him “lank, fleet and nimble.”¹⁵

Progress (?) in the Eighteenth and Nineteenth Centuries

The first hospitals in the United States were in Philadelphia—Philadelphia General Hospital was built in 1731, and Pennsylvania Hospital (Figure 1-2) was built in 1751.¹³ In these hospitals, little thought was given to food, and conditions were very poor. Mush and molasses were the usual fare, with a pint of beer included for supper.¹⁶ After the War of 1812, fruit was added to the menu as a garnish.

Until the eighteenth century, beliefs and writings about diet were based on insufficient scientific evidence. But with advances in chemistry and physics came the foundation necessary to establish dietetics as a profession. The work of Antoine-Laurent de Lavoisier (1743–1794) on digestion is generally regarded as the first modern, scientific research on nutrition (Figure 1-3). The son of a wealthy Parisian lawyer, Lavoisier was trained as a lawyer. Chemistry was his hobby.¹⁷



FIGURE 1–2 Pennsylvania Hospital, one of the first hospitals in the United States.
Copyright © 2006 by Sarah B. Hecht



FIGURE 1–3 Antoine Lavoisier is shown with the chemistry apparatus he used to study digestion.
Courtesy of the National Library of Medicine



FIGURE 1–4 A portrait of James Lind holding his book *Lind on Scurvy*.
Courtesy of the Royal College of Physicians of Edinburgh

Nutritional epidemiology, the study of the relationship of diet to human disease, is often dated to 1747, the same year as the earliest known clinical trial was conducted by Dr. James Lind (**Figure 1–4**). Lind was the ship doctor on the HMS *Salisbury* when it set sail from England to the Plymouth Colony. During this time, scurvy and typhoid were often responsible for the deaths

of more than half of the crewmembers of sailing ships. A British report in 1600 indicated that in the previous 20 years more than 10,000 mariners had died from scurvy alone. On board the *Salisbury*, Lind took 12 men ill with scurvy and divided them into six groups of two each. All ate the same food for breakfast, lunch, and dinner, but each group received a different supplement each day:

1. Quart of apple juice
2. Twenty-five drops of elixir vitriol (sulfuric acid and aromatics)
3. Two spoonfuls of vinegar three times a day
4. Concoction of herbs and spices
5. Half-pint of seawater daily
6. Two oranges and one lemon

The two men who ate the oranges and lemons recovered almost immediately. Both were fit enough to return to work in 6 days, and one became the nurse to the others. The two who drank the apple juice improved, but were not well enough to work. None of the others showed any improvement. Lind concluded that citrus fruit contained something that counteracted the ravages of scurvy; he gave all the men oranges and lemons, and they were cured. This discovery was followed by the development of a method for the concentration and preservation of citrus fruit juices for use at sea. In 1795, the British Royal Navy provided a daily ration of lemon or lime juice as an **antiscorbutic** (protects against scurvy). Because at the time both lemons and limes were called limes, Americans and Australians began to call English ships and sailors “lime-juicers,” and later “limeys.” Much later, a deficiency of vitamin C, ascorbic acid, was determined to be the cause of scurvy.⁵

Still, progress was slow. A patient in an English hospital in the eighteenth century would receive the only menu served each day:

- Four to five ounces of meat (usually already boiled for the broth)
- Three-quarters to one pound of bread
- Two to three pints of beer
- Pottage or pudding

Fruits and vegetables were missing from this daily allowance—they were suspected by some as being harmful and by others as having medicinal, rather than nutritive, value. Small amounts of cheese, butter, roots, and greens were sometimes included in the daily fare. Family and friends could bring food to supplement the meager hospital offerings, or patients could buy food from the food sellers who came through the wards.

The most expensive item on the menu was beer. Doctors at the time believed that alcohol was necessary to treat illness. Because water often was contaminated, beer was used extensively. When cost-cutting measures were instituted, the beer allowance was reduced or completely eliminated.

Patients who were unable to eat the full diet or who complained about the food were disciplined. Punishments included cutting the food allowance in half, omitting some meals entirely, or restricting patients to toast and water for a week.¹⁸

Meanwhile, famous individuals continued to go on diets, and other individuals became famous because of the diets they promoted. In 1811 the

romantic poet Lord Byron reduced his weight from 194 to 130 pounds by drenching his food in vinegar. In the 1830s in the United States, the Reverend Sylvester Graham, nicknamed “Dr. Sawdust,” railed against the sin of gluttony, which he said led to lust, indigestion, and the rearing of unhealthy children. His recommended Spartan diet included coarse, yeast-free, brown bread (including his famous Graham cracker), vegetables, and water.¹⁵

Little improvement in hospital conditions occurred until the humanitarian movement of the late nineteenth century. Great progress was made between 1850 and 1920.

Florence Nightingale (1820–1910) (Figure 1–5), a superintendent of nurses in British military hospitals in Turkey during the Crimean War (1854–1856), established foodservice for the troops. With the help of a French chef, Alexis Soyer, she reduced the death rate of injured soldiers by improving diet and sanitary conditions. Later, in her writings and nursing practice, Nightingale continued to demonstrate her belief in the importance of nutrition and foodservice management by emphasizing the selection and service of food and the art and science of feeding the sick.¹⁹

At around the same time, the low-carbohydrate, high-protein diet was first introduced. London undertaker William Banting lost 50 pounds on a high-protein regimen consisting of lean meat, dry toast, soft-boiled eggs, and vegetables. His 1864 book, *Letter on Corpulence*, became a bestseller, and by



FIGURE 1–5 A portrait of Florence Nightingale.

Courtesy of Library of Congress, Prints & Photographs Division [reproduction number cph.3a09175]

1880 “Banting” had become the foremost American weight-loss strategy. Yet another proponent of high-protein diets, Dr. James Salisbury, recommended minced meat patties (what we know as Salisbury steaks) and hot water for improving health and aiding weight loss.¹⁵

The Iowa Agriculture School in Ames in 1872 was probably the first college to offer courses in cookery. A yearly course in “household chemistry,” which included cookery, was started in 1877 at the Kansas State Agricultural College in Manhattan.²⁰ Other colleges and universities soon followed their lead.

In 1876 Dr. John Harvey Kellogg became the staff physician of the Battle Creek Sanitarium in Michigan. Kellogg invented granola and toasted flakes, for which his name is well known. At the time, he was known as a diet guru who crusaded for vegetarianism, pure foods, slow chewing, calorie counting, colon cleansing, and individualized diets.¹⁵

The first American dietitian is considered to be Sarah Tyson Rorer (1849–1937) (Figure 1–6). Her training consisted of some medical school lectures and a 3-month cooking course. In 1878 Rorer opened the Philadelphia Cooking School where students learned about food values, protein, and carbohydrates, but nothing about calories and vitamins. Students took 10 classes in chemistry, several in physiology and hygiene, and 10 on cooking for the sick. Twelve students graduated each year for 33 years, and they secured positions planning meals and supervising production in hospital kitchens.²¹

In 1877, the American Medical Association formed a Committee on Dietetics and asked Rorer to edit a new publication entitled *The Dietetic Gazette*.²² Later, she published *Household News* on her own, in which she wrote articles on topics such as feeding the sick and designing a kitchen and answered readers’ diet-related questions.²³ In her lifetime, she authored more than 50 books and booklets and wrote articles for such magazines as *Ladies’ Home Journal*, *Table Talk*, and *Good Housekeeping*.²⁴ Rorer also established



FIGURE 1–6 Sarah Tyson Rorer, first American dietitian (left) and Lenna Frances Cooper (right) in a carriage at the Battle Creek Sanitarium.
Courtesy of the Academy of Nutrition and Dietetics

the first diet kitchen and dietary counseling service, at the request of three well-known physicians.

Meanwhile the popular diets continued to evolve. Milk diets, earlier prescribed for indigestion and weight gain, now became popular for weight loss. Dr. Edward Hooker Dewey recommended skipping breakfast and a moderate fast as a weight-loss strategy. Other doctors of the time touted substituting carbohydrates with protein and limiting consumption of alcohol.¹⁵

Previously thought to be an infectious disease, beriberi received attention from several researchers around the world. In 1884, Kanehiro Takaki linked Japanese sailors' diet of polished rice to the disease **beriberi** (a condition characterized by weakness in the legs, hands, and arms and, later, weakening of the cardiac muscles, leading to heart failure). By adding milk and vegetables to the sailors' diet, he eliminated the disease.²⁵ In 1889, Christiaan Eijkman in the Dutch East Indies took the research one step further by proposing a nutritional hypothesis for the cause of beriberi. His experimentation with chickens led to the conclusion that unpolished rice contained an "anti-beriberi factor."²⁶ As with vitamin C, the identification of vitamin B₁ as the deficient nutrient came much later.

In 1896, the U.S. Department of Agriculture (USDA) published *Bulletin* 28, which featured the first food composition tables.²⁷ The *Bulletin* was an indispensable resource for dietetic practitioners for many years.

In 1898, when businessman Horace Fletcher was denied life insurance because of his weight, he lost 40 pounds by chewing every mouthful of food to liquefy it before swallowing. The slow-chewing movement (Fletcherism) took off, supported by diet guru Kellogg, whose patients were instructed to chew every mouthful of food 32 times before swallowing. This became known as "Fletcherizing."¹⁵

At the Lake Placid Conference on Home Economics in 1899, the term *dietitian* was first defined. The conference attendees determined that the title **dietitian** should be "applied to persons who specialize in the knowledge of food and can meet the demands of the medical profession for diet therapy."²⁸

The Young Profession in the Twentieth Century

Florence Corbett established the first internship for dietitians in 1903 at the New York Department of Charities. Applicants for the 3-month course had to be older than 25 years of age, have 1 year of teaching experience, and be a domestic science graduate.⁷

In 1907, an English doctor, William Fletcher, conducted an experiment on inmates of a lunatic asylum in Kuala Lumpur, Malaysia, which provided definitive proof that certain types of rice were either the direct or indirect cause of beriberi. His experiment was rigorous and mimicked several features of a modern randomized trial.²⁶

Working at the famed Lister Institute in London in 1912, Casimir Funk (1884–1967), a Polish-born biochemist, took Fletcher's thinking to the next level. He isolated the active substances in the husks of unpolished rice that were preventing beriberi and named them *amines*, because he believed they

were derived from ammonia. Because these substances appeared essential for life, he added the prefix *vita*. Later, he postulated the existence of four such substances (B₁, B₂, C, and D), which he stated were necessary for normal health and for the prevention of deficiency diseases. Discovery and synthesis of all of the individual vitamins would come much later, but this initial discovery was a milestone in nutritional history.²⁹

In 1910, dietitians were practicing in poorly defined roles with a diversity of titles. Few people could define the role of the *dietist*, *dietician*, *dietitian*, or *nutrition worker*, as dietitians were variously called. The title *nutritionist* appeared in the early 1920s, and the spelling of *dietitian* was agreed upon in 1930.³⁰

Fighting faddism and quackery was an issue in 1910, just as it is today. Fletcherizing was just one example of a harmless but ineffective popular notion of that day. Calorie counting, high-protein or low-protein diets, and natural foods were other popular fads. Food scales, developed for diabetics, became central to diet plans.

Nutritional research received an unexpected boost in importance with the outbreak of World War I. The examination of 2.5 million military draftees in Great Britain in 1917 found 41% to be in poor health and unfit for duty, most commonly because of nutritional status.³¹ In the United States, the American Red Cross enrolled dietitians for military duty. The initial qualifications were 2 years of college study majoring in home economics and 4 months of practical experience in hospital dietetics. The National Committee on Dietitian Service of the American Red Cross established these qualifications. The first military dietitian to serve overseas was deployed in May 1917. In World War I, 356 dietitians served in the armed services.³² Mary Pascoe Huddleson, a dietitian with Base Hospitals No. 8, No. 117, and No. 214, was among them. Marjorie Hulsizer Copher was another dietitian who served overseas with Harvard U.S. Army Base Hospital No. 5, with British Expeditionary Force, May 1917–December 1918, and then with Base Hospital No. 57, American Expeditionary Force. She was decorated by King George V of England and by the French government for improving food services delivery systems in field hospitals and for introducing the relatively new profession of dietetics into the British Army. She later served as Chief Dietitian at Barnes Hospital in St. Louis. The highest honor bestowed by the Academy of Nutrition and Dietetics is named in her honor and described in Chapter 8.³³

The nutritional expertise of these brave dietitians provided leadership for both the nourishment of hospitalized soldiers and the general public at home. Conservation of food was encouraged, and dietitians advised the government on efficient methods of food production, distribution, and preparation.

When the American Home Economic Association decided not to hold its annual meeting in 1917 because of the war, two dietitians, Lenna Frances Cooper (previously shown in **Figure 1–6**) and Lulu G. Graves (**Figure 1–7**), organized a special meeting of hospital dietitians to discuss emergency war needs. Out of the meeting of 98 people, the American Dietetic Association (ADA) was formed (**Figure 1–8**). This association, with 39 charter members and dues of \$1 per year, was formed to address the interests of dietitians. Its



FIGURE 1-7 Lulu Graves, first president of the ADA, now known as the Academy of Nutrition and Dietetics, in her office with her assistant.
Courtesy of the Academy of Nutrition and Dietetics



FIGURE 1-8 Attendees at the 1917 conference where the ADA, now known as the Academy of Nutrition and Dietetics, was founded.
Courtesy of the Academy of Nutrition and Dietetics

first president was Lulu Graves, who was head of the department at Lakeside Hospital in Cleveland (**Figure 1-9**). The first meeting of the ADA (now known as the Academy of Nutrition and Dietetics) was held in the basement at Lakeside Hospital. Graves served as president for the first 3 years. Lenna Frances Cooper served as the first vice president.⁷

In 1918, *Diet and Health with a Key to the Calories*, written by the best-known and best-loved woman physician in America—Dr. Lulu Hunt Peters—was a bestseller. The diet began with a fast and then transitioned to Fletcherism and calorie counting, with a 1,200-calorie-a-day regimen prescribed for life.¹⁵



FIGURE 1-9 Lakeside Hospital kitchen, 1905. The first meeting of the American Dietetic Association was held in the basement of this hospital in 1917.
Courtesy of the Academy of Nutrition and Dietetics

Dieto-therapy as practiced in the early 1900s consisted of many special diets, such as the Sippy Diet for ulcers, which consisted of cream and poached eggs. Diabetic diets varied widely, even after the discovery of insulin in 1921. Doctors prescribed very-low-calorie diets of 600 to 750 calories a day for severely obese patients beginning in 1928. Ten years later, the regimen was reduced to 400 calories a day.

The 1920s saw a dizzying array of food-limiting regimens. The 18-day Hollywood diet allowed 585 calories a day, limited mostly to grapefruit, oranges, eggs, and Melba toast. The lamb chop and the pineapple diets were also popular. The first food-combining diet was introduced, in which dieters were admonished not to combine starches, fruits, and proteins in the same meal.¹⁵

On a more scientific level, the successful treatment of pernicious anemia with a special diet was reported in the *Journal of the American Medical Association*.³⁴ The passage of the federal Maternity and Infancy Act in the 1920s allowed state health departments to employ nutritionists.³⁰ The passage of Title V of the Social Security Act in 1935 provided major impetus for the employment of nutrition consultants in state and local health departments by making federal funds available for this purpose.^{30,35}

In 1922, the Medical Department Professional Service School at Walter Reed General Hospital was established, becoming the first Army training program for dietitians. The program met ADA requirements and was the only training course provided for dietitians by the Army from 1922 to 1942 (Figure 1-10). World War II contributed to the public recognition of the role of dietitians. Nearly 2,000 dietitians were commissioned in the armed services, and many others educated the public at home. The practice of dietetics broadened to include institutions such as restaurants, airlines, and industrial plants. After the war, dietitians were granted full military status, and their



FIGURE 1-10 Dietitians at Walter Reed General Hospital in 1922.

Courtesy of the Academy of Nutrition and Dietetics

position in the healthcare setting was strengthened with the emphasis on allied health professions and the healthcare team concept.⁷

Passage of the National School Lunch Act in 1946 expanded dietetics to include the establishment of school lunch programs, including the training of personnel in foodservice and nutrition education. The Hill-Burton Hospital Facilities Survey and Construction Act (1946) and the Medicare and Medicaid legislation of the 1960s created demand for the services of consultant dietitians in healthcare facilities such as nursing homes.³⁵

In 1948, Take Off Pounds Sensibly (TOPS) became the first national group dieting organization. The TOPS program focused on calories, scales, food diaries, and mutual support. Still going strong, TOPS has added physical activity and the use of exchange lists to its weight-loss program.¹⁵

Dietitians were actively recruited for service during the Korean War (Figure 1-11). At this time, the role of the military dietitian started to expand to include not only therapeutic dietetics, but also the supervision and operation of the entire hospital foodservice.³²

Overeaters Anonymous was founded in 1960 and Weight Watchers in 1961. During this same time, Mead Johnson introduced a diet formula, Metrecal, whose success spawned many imitators. The 1960s saw a number of diet book bestsellers. Touting the low-carbohydrate, high-protein diets were *Calories Don't Count* and *The Doctor's Quick Weight Loss Diet*. In the alcohol-friendly, low-carbohydrate category were *The Drinking Man's Diet* and *Martinis and Whipped Cream*.¹⁵

The civil rights movement of the 1960s brought the issues of poverty and hunger into the political spotlight. The government instituted its war on poverty, and Senator Hubert Humphrey worked with the Senate Select Committee on Nutrition and Human Needs.³⁶ As a result of these and other efforts, USDA food assistance programs to low-income families were established or



FIGURE 1-11 A recruiting poster for dietitians and physical and occupational therapists during the Korean War.
 Women's Medical Specialist Corps recruiting poster. U.S. War Poster Collection (MSS044), Betty H. Carter Women Veterans Historical Project, University of North Carolina at Greensboro, NC, USA

expanded in the 1970s. Important among these were the Food Stamp Program and school lunch and breakfast programs; child care and summer food-service for children; supplemental feeding programs for Women, Infants, and Children (WIC); and nutrition for the elderly.³⁷

During the Vietnam conflict, 26 Army dietitians were assigned to all four combat tactical zones. They formulated meals for hospital patients on modified diets, planned the basic troop-issue menus for all Army personnel in the country, and implemented the menus for all personnel in medical treatment facilities. These tasks were complicated by the fact that in 1966 there were 385,000 troops in Vietnam and refrigeration was minimal. Air Force dietitians developed a system to order, prepare, and serve therapeutic in-flight meals for patients who were being evacuated from combat zones.³⁸

Food assistance programs have developed more rapidly and with more support than nutrition education programs. In 1968, the Cooperative Extension Service of the USDA began the Expanded Food and Nutrition Education Program (EFNEP), which provides nutrition and food education for low-income families. In 1975, 3 years after the start of the WIC program, an education component was legislated. And, in 1977, nutrition education was incorporated into the Food Stamp Program. The Food and Agriculture Act of 1977 included the Nutrition Education and Training Program (NETP or NET), the first federal nutrition program for children.³⁶

TABLE 1-1

Timeline of Late-Twentieth-Century Diets

1970s	Astronauts' diet—liquid meals.
1972	Dr. Atkins' Diet Revolution—lots of meat. Carbohydrates are banned.
1976	The Last Chance Diet—fasting and liquid drinks made from animal tendons and hides. Fifty-eight deaths were attributed to these and similar liquid formulas that lack essential nutrients.
1978	Scarsdale Diet—high protein, 700 calories per day.
1979	Pritikin Program for Diet and Exercise—very-low-fat regimen.
1981	The Beverly Hills Diet—food-combining diet with lots of fruit.
1983	Jenny Craig is founded.
1992	Dr. Atkins' New Diet Revolution.
1993	Eat More, Weigh Less—low-fat, vegetarian diet.
1995	The Zone—low-carbohydrate, high-protein diet soon joined by Sugar Busters, Protein Power, and The Carbohydrate Addicts' Diet.
1996	The New Beverly Hills Diet (see 1981).
1998	Lose Weight with Apple Vinegar—Lord Byron's strategy resurfaces!
1999	Dr. Atkins publishes yet another revision.

The Academy of Nutrition and Dietetics and others expressed the need for making nutrition education a primary component of all food assistance programs.³⁹

As the general public continued to seek ways to lose weight quickly and easily, a steady stream of diet books rolled off the presses (Table 1-1). Most were slight variations on old themes.

Entering the Twenty-First Century

In 2003, *The South Beach Diet* hit the bookstores. It is a moderate diet falling midway between the low-fat, high-carbohydrate recommendations of trained dietitians and the low-carbohydrate, high-protein Atkins diet.

Today, dietetics is an honored profession with members striving to achieve the highest professional standards of integrity, service, competence, and vision. Two leaders of the profession wrote recently:

*Our profession today is marked by achievement and change.... [We] have come a long way in a relatively short period of time. We have become valued professional members of health-care teams and recognized experts in food and nutrition, foodservice management, and wellness.... We need the courage to perceive ourselves succeeding in new roles, to attract a diversity of people to dietetics, and to polish and practice marketing, management, leadership, and sales skills.*⁴⁰

Change is occurring rapidly in all areas of the dietetics profession—education, research, and practice. At an address to the ADA in 2003, the Surgeon General of the United States, Richard Carmona, commended the

professional association for its leadership in advancing healthcare quality through nutrition. One of his main priorities as surgeon general was disease prevention. He stated that 7 out of 10 Americans who die each year die of a chronic disease, most of which are preventable by relatively simple steps: healthy eating, being active, and not smoking. Current efforts to encourage Americans to adopt healthy behaviors to prevent disease have not been successful. One of the reasons for this failure is low health literacy. **Health literacy** is an individual's ability to access, understand, and use health-related information and services to make appropriate health decisions. The inadequacy of nutrition education in medical schools is another concern, as 8 of the 10 leading diseases in the United States are linked to nutrition.⁴¹

The surgeon general challenged dietitians to make sure that their patients understand what they can do to stay healthy. He said:

*Nutrition education is your business! Every single day you translate complex nutrition principles into an array of healthy eating options for the American public ... your expertise is valued at the highest levels. Wherever you are—in clinics, hospitals, outpatient or long-term care settings, in sports, education or the restaurant and food industry—your work is tremendously important to the health and well-being of Americans. And your work is becoming more and more important as we move towards a national prevention agenda. We need you—your passion, your expertise and your experience as nutrition professionals.*⁴¹

A recent president of the Academy of Nutrition and Dietetics stated that trends toward preventive care and people's interest in achieving and maintaining an overall healthy lifestyle are two of the most dramatic developments affecting dietetics in the last two decades. To best adapt to these positive changes, she advised dietitians to sharpen their professional skills, gain deeper understanding of the unique needs of diverse populations, use critical-thinking skills to solve the difficult problems facing their communities, and seek opportunities for leadership.⁴²

The priority areas at this time are aging, child nutrition, healthcare reform, nutrigenomics, sustainability, medical nutritional therapy, nutritional monitoring, nutrition research, obesity, and state government issues related to dietetics. Other food and nutrition areas of current importance are hunger, food insecurity, HIV/AIDS, food safety, allied health, and physical activity.

On January 1, 2012, the ADA officially became the Academy of Nutrition and Dietetics. The name change was enacted to better reflect the strong science background and academic expertise of members and the academy's mission, vision, philosophy, and values.⁴³ The following year, in 2013, the optional credential registered dietitian nutritionist (RDN) was approved for registered dietitians (RDs).⁴⁴ And in 2014, dietetic technicians, registered (DTRs) were allowed to begin using nutrition and dietetics technician registered (NDTR).⁴⁵ Both were approved to better reflect to consumers who these professionals are and what they do.

Summary

Although there is a long history of the relationship of food to health, the profession of dietetics is very young. Much of the progress in the profession has been made in the last 100 years (Table 1–2). Advances in scientific research, legislation, social and economic factors, military conflicts, and the leadership of some dynamic and dedicated dietitians have contributed to the advancement of the profession.

“Remember the ‘old girls,’ as they made it possible for us to work for our dream.” This statement was made by Marion Mason, PhD, RD, Ruby Winslow Professor of Nutrition, Emerita, at Simmons College in Boston, in an address to the Massachusetts Dietetic Association.⁴⁶ It was Lulu Graves, the first president of the ADA, who first sounded the call for teamwork between physicians and dietitians. “The future of dietetics is assured. It is the privilege of those of us who are now in the work to conduct it along such lines that, in the not very distant future, it will be recognized as part of the medical team.”⁴⁷ That time has arrived!

TABLE 1–2

A Timeline of Selected Milestones in Dietetic History

2500 B.C.	Avoidance of onions is the first known dietary prescription.
1500 B.C.	Nutrient deficiency disease, scurvy, is described.
100 B.C.	Apicius’s <i>De re Culinaria</i> is the first known cookbook.
1061	Ben Cao Tu Jing tests efficacy of ginseng.
1087	William the Conqueror goes on liquid diet to lose weight.
1123	St. Bartholomew’s Hospital, London, is founded.
1478	<i>De re Medicina</i> is published in Florence, Italy. Diet becomes part of medical practice.
1480	First cookbook is printed.
1731	First hospital in United States is built in Philadelphia, Pennsylvania.
1747	James Lind conducts clinical trial on scurvy patients.
1792	Lavoisier outlines process of the “physiology of nutrition.”
1811	Lord Byron uses vinegar to lose weight.
1854	Florence Nightingale uses nutrition to reduce death rate of soldiers.
1864	William Banting’s bestseller touts high-protein diet for weight loss.
1872	Iowa Agricultural School offers courses in cookery.
1876	Dr. John Harvey Kellogg develops toasted flakes and granola.
1877	Kansas State offers course in household chemistry, and the American Medical Association forms committee on dietetics.
1878	Sarah Tyson Rorer opens Philadelphia Cooking School.
1884	Kanehiro Takaki adds milk and vegetables to Japanese sailors’ diet of polished rice in order to cure beriberi.
1889	Christiaan Eijkman proposes nutritional hypothesis for beriberi.
1896	USDA publishes first food composition tables.
1898	Horace Fletcher proposes “Fletcherizing” for weight loss.
1899	The title of <i>dietitian</i> is defined.

1903	New York Department of Charities offers the first dietetic internship.
1907	William Fletcher conducts randomized trial on cause of beriberi.
1912	Casimir Funk isolates “vitamins” and suggests that dietary deficiencies of vitamins cause beriberi, rickets, pellagra, sprue, and other diseases.
1914	World War I boosts impetus for nutrition research.
1917	The American Dietetic Association is founded.
1920	Title nutritionist first appears, and the Maternity and Infancy Act allows states to employ nutritionists.
1921	Insulin is discovered.
1930	Spelling of <i>dietitian</i> is agreed upon.
1933	Robert R. Williams synthesizes and names vitamin B ₁ .
1935	Title V of the Social Security Act—federal funding for nutrition positions.
1938	Conrad Elvehjem identifies niacin as the missing nutrient causing pellagra.
1939	World War II contributes to public recognition of dietitians.
1946	National School Lunch Act expands dietetics to include school lunches.
1947	First national dieting group is founded—TOPS.
1960	Overeaters Anonymous is founded.
1961	Weight Watchers is founded.
1968	Expanded food and nutrition education programs for low-income families.
1969	Registration of dietitians is begun.
1972	Women, Infants, and Children (WIC) program is started.
1975	Nutrition education program added to WIC.
1977	Food and Agriculture Act includes a nutrition education component.
1983	Certification of dietetic technicians is begun.
1993	Specialty board certification for RDs is started.
1999	Registration exams first administered by computer.
2010	2009 Code of Ethics for the Profession of Dietetics goes into effect.
2012	American Dietetic Association becomes the Academy of Nutrition and Dietetics.
2013	RDN title option for RDs approved.
2014	NDTR title option approved for DTRs.

The increasing diversity of the profession through the years has created the need to broaden the focus of this goal. The ADA was founded at a time when most dietitians worked in acute-care hospitals. Just 32% of dietitians and 44% of dietetic technicians are now employed in this setting.⁴⁸ At the beginning of the twenty-first century, Lulu Graves’s quote could be modified to read: It is the privilege of those of us who are now in the work to conduct it along such lines that, in the not very distant future, it will be recognized as the best source for nutrition information and the professionals as those best trained to help consumers make individualized food choices. This comprehensive goal is exemplified in the words inscribed on the Academy of Nutrition and Dietetics seal, adopted in 1940, *Quam Plurimis Prodesse*—“to benefit as many as possible.”



Profile of a Professional

Natalie Petro, RD, LD, CLC

Lead Dietitian

Women, Infants, and Children (WIC) Program. Located in Norcross, Georgia

Education

BS in Nutrition and Food Science, Georgia Southern University, Statesboro, Georgia
Dietetic Internship, Georgia Department of Public Health, Atlanta, Georgia

How did you first hear about dietetics and decide to become a registered dietitian nutritionist?

I have always loved food, people, and fitness, but I did not know about dietetics when starting college. I began college in a nursing program. Part of the nursing curriculum included a nutrition course. My nutrition professor was so enthusiastic about nutrition and how it impacted life! That class was one of the only classes I enjoyed in the nursing curriculum. I subsequently decided that nursing was not for me. Nutrition incorporated everything I loved. I transferred in-state to another school that had a dietetics major, and the rest is history!

What was your route to registration?

I started college at the University of Alabama in Tuscaloosa but transferred and graduated with a BS in Nutrition and Food Science from Georgia Southern University. I completed the Georgia Department of Public Health dietetic internship.

Are you involved in any professional organizations?

I am currently an Academy of Nutrition and Dietetics member and serve at the state level on the Nutrition Education Committee and Nutrition Task Force.

What has been your career path in dietetics, and what are you doing now?

I have worked for the Women, Infants, and Children (WIC) program for 8 years. Currently I serve WIC families as Lead Dietitian.

What excites you about dietetics and the future of our profession?

I am passionate about serving people. Dietetics is the one profession that gives you the opportunity to make an impact through prevention, meet people where they are, and encourage constant progress to maximize quality of life. The science of nutrition, tools, and techniques are constantly changing so RDNs are always learning. The more you learn, the more you want to learn! As you learn, you start to see how nutrition fits into the bigger picture of health and how it all connects. Working for something bigger than yourself is the most rewarding experience.

How is teamwork important to you in your position? How have you been involved in team projects?

I rely heavily on my colleagues. One person cannot know everything, so recognizing your colleagues' strengths and their areas of expertise helps you to know who to call on if you need help or advice so you can best serve your clients. Working with great colleagues increases your knowledge and experience in every area. We collaborate daily with healthcare professionals to develop a common plan of care for the families we serve to maximize the effectiveness of our interventions. Dietitians working closely with physicians, nurses, and other health professionals bring a variety of perspectives, techniques, and tools to treating a problem, not just the symptoms.

What words of wisdom do you have for future dietetics professionals?

Aim to be a part of something bigger than yourself. To serve and contribute to something like that is more amazing than you can imagine! Do not limit yourself. Continue

to learn and grow wherever you are. The more you learn and grow, the more opportunity God has to use you in His plan to make an impact, changing you and those you serve in the process. Never be too busy for people or too busy to listen. Life is too short, so serve wholeheartedly. Make your profession your passion. Lastly, “Be the kind of person when your feet hit the floor in the morning the Devil says, ‘Oh no! They’re up!’” (Dwayne Johnson).

Suggested Activities

1. Search the Internet to find additional contributions Lavoisier made to the practice of dietetics, specifically in the areas of food hygiene and hospital sanitation.
2. The James Lind Library has been created to introduce people to the characteristics of fair tests of medical treatments. Visit the Library’s website (www.jameslindlibrary.org) to find out the characteristics of a “fair test.” Compare your findings to the definition of the scientific method.
3. Use the Internet to research the history of pellagra. When was it determined that pellagra was a vitamin deficiency disease? Who made this discovery? Which vitamin was missing from the diets of those who became ill with pellagra? Why was this vitamin not present in their diet?
4. What are the most recent developments within the dietetics profession? Visit the website of the Academy of Nutrition and Dietetics (www.eatright.org) to read the latest news. Read the press releases and list five of the most significant recent developments within the profession.
5. How does dietetic practice differ in other countries? Do an Internet search to compare international dietetic associations.
6. Many of the weight-loss regimens listed in this chapter would be considered “quackery.” Visit www.quackwatch.com to see what is being done today to combat such practices.
7. Read one of the autobiographies in *Legends and Legacies* (C. E. Vickery and N. Cotugna, Kendall/Hunt Publishing, 1990) and give an oral report to your class.
8. Secure a very old book on health or cooking from a library or used bookstore. Compare its content to present-day beliefs and practices.
9. Interview a 50-year member of the profession to obtain a personal history of changes that have occurred in the dietetics profession.
10. Read a journal article chronicling the history of dietetic practice during World War I or II. Two examples are:
 - Hodges PA. Perspective on history: military dietetics in Europe during World War I. *J Am Diet Assoc.* 1993;93:897–900.
 - Hodges PA. Perspective on history: military dietetics in the Philippines during World War II. *J Am Diet Assoc.* 1992;92:840–843.

Selected Websites

- www.chemheritage.org—The Chemical Heritage Foundation fosters an understanding of chemistry's impact on society.
- www.eatright.org—The Academy of Nutrition and Dietetics is the world's largest organization of food and nutrition professionals.
- www.jameslindlibrary.org—The James Lind Library seeks to help people understand the fair tests of treatments in healthcare.
- www.prbm.com—The Philadelphia Rare Books and Manuscripts Company offers a variety of old and rare nutrition- and health-related books.

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PART II

The Present



The Dietetics Profession

“To benefit as many as possible” appeared on the seal of the American Dietetic Association (and is still in use today on the seal of the Academy of Nutrition and Dietetics). It is an even more relevant goal of the profession today than it was in 1940 when it was first adopted. The scope of professional practice is continuously widening, and the knowledge base of nutrition is deepening. Since that first meeting in Cleveland in 1917, the Academy of Nutrition and Dietetics has grown to be the largest food and nutrition organization in the world. This growth has occurred because of members who are willing to seize and/or create opportunities and who have solid educational foundations that are diverse enough to allow practice in a myriad of areas.

What is dietetics? What makes it a profession? Who are today’s dietitians? Where do they work, and what do they do? What kind of compensation and benefits do they enjoy in their positions, and what are some of the issues facing the profession today? These are the questions that are addressed in this chapter (Figure 2–1).



FIGURE 2–1 Just what is dietetics?

What Is Dietetics?

At the center of the professional association seal, adopted in 1940, are images representing the three main characteristics of the profession: a balance, representing science as the foundation of dietetics; a caduceus, representing the close relationship between dietetics and medicine; and a cooking vessel, representing cooking and food preparation. Surrounding this is a shaft of wheat, representing bread as the staff of life; acanthus leaves, representing growth and life; and a cornucopia, representing an abundant food supply. The name of the association and its founding date in Roman numerals are printed around the edge. The seal appears on registration certificates for registered dietitians and for registered dietetic technicians and on the gold member pin. Consider the following definitions of *dietetics*:

- “The scientific study of food preparation and intake.”¹
- “The science of applying nutritional principles to the planning and preparation of foods and regulation of the diet in relation to both health and disease.”²

These definitions are woefully inadequate for what dietetics has grown to become. The basis of dietetics is the firm belief that optimal nutrition is essential for the health and well-being of every person. This is why dietetics is an integral component of the healthcare field. A team effort by doctors, nurses, and dietitians is usually necessary to return a patient to health. However, it is possible that no other profession offers such a diversity of opportunities outside of the traditional healthcare arena as the field of dietetics. Early dietetic practitioners were usually found in an institutional kitchen—for which the dictionary definitions would have been adequate. Today, dietitians can be found almost anywhere. For this reason, a recent survey of dietetics made use of a very broad definition of *dietetics*:

*A dietetics-related position is considered to be any position that requires or makes use of your education, training, and/or experience in dietetics or nutrition, including situations outside of “traditional” dietetics practice.*³

What Is a Profession?

A general definition of a *profession* might be “an occupation for which preliminary training is intellectual in character, involving knowledge and learning as distinguished from mere skill, which is pursued largely for others and not merely for oneself and in which financial return is not an accepted measure of success.”⁴

The Goals Committee of the Academy of Nutrition and Dietetics interprets a profession as a calling requiring the following:

- Specialized knowledge and often long and intensive preparation
- Maintenance, by force of organization or concerted opinion, of high standards of achievement and conduct
- Instruction in skills and methods as well as scientific, historical, or scholarly principles underlying such skills and methods

- Commitment of its members to continued study
- A kind of work that has as its primary purpose the rendering of a public service⁵

A professional is one who represents or belongs to a profession.

How Is Dietetics a Profession?

Five main characteristics of dietetic practice qualify it for professional status:

1. A specialized body of knowledge
2. Specialized services rendered to society
3. An obligation for service to the client that overrides personal considerations
4. Concern for competence and honor among the practitioners
5. An obligation to continuing education, research, and sharing of knowledge for the common good⁶

What Is a Registered Dietitian Nutritionist?

A dietitian has been defined as “a professional person who is a translator of the science and art of foods, nutrition, and dietetics in the service of people—whether individually or in families or larger groups; healthy or sick; and at all stages of the life cycle.”⁶

Some titles need to be clarified at this point: *dietitian*; *registered dietitian*; *registered dietitian nutritionist*; *nutritionist*; *licensed dietitian*; *dietetic technician, registered*; and *nutrition and dietetics technician, registered* (Figure 2–2). The title of dietitian usually implies a registered dietitian (RD or RDN). There is no difference between an RD and an RDN. For the sake of simplicity, the acronym RDN will be used throughout this book. An RDN has completed

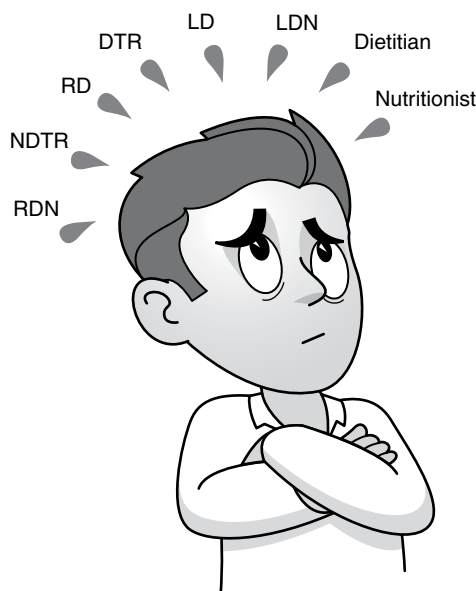


FIGURE 2–2 Titles used in the dietetics profession.

the required academic training and supervised practice program (described in Chapters 5 and 6) and has successfully passed the national credentialing exam. There are no such requirements for the use of the title “nutritionist”; the term has no standards of education or training. This means that anyone can use the title nutritionist with little or no training in the field—and many do. A few states restrict the use of these titles unless the person has completed a certain amount of education and training.⁷

Many states have regulatory laws that either require or permit dietitians to be licensed. A licensed dietitian or licensed dietitian/nutritionist (LD or LDN) is a person who has been licensed by a state to ensure competence. State requirements for licensure are frequently met through the same education, training, and national exam required for RDNs.⁷

Registered dietitian nutritionist (RDN) is a nationally recognized title for a nutrition expert. This title reflects the high level of entry-level education and training and the continuing education required to achieve and maintain RDN status. In addition, some RDNs have achieved additional certification in specialized areas of practice, such as pediatric nutrition (CSP, Board Certified Specialist in Pediatric Nutrition), renal nutrition (CSR, Board Certified Specialist in Renal Nutrition), sports nutrition (CSSD, Board Certified Specialist in Sports Dietetics), gerontologic nutrition (CSG, Board Certified Specialist in Gerontological Nutrition), and oncology nutrition (CSO, Board Certified Specialist in Oncology Nutrition).⁷

The title *dietetic technician, registered* (DTR) or *nutrition and dietetics technician, registered* (NDTR), like dietitian, implies that the person is a registered dietetic technician or nutrition and dietetics technician. There is no difference between a DTR and an NDTR. For the sake of simplicity, the acronym NDTR will be used throughout this book (Figure 2–3). NDTRs are



FIGURE 2–3 A registered nutrition and dietetics technician (NDTR) at work.
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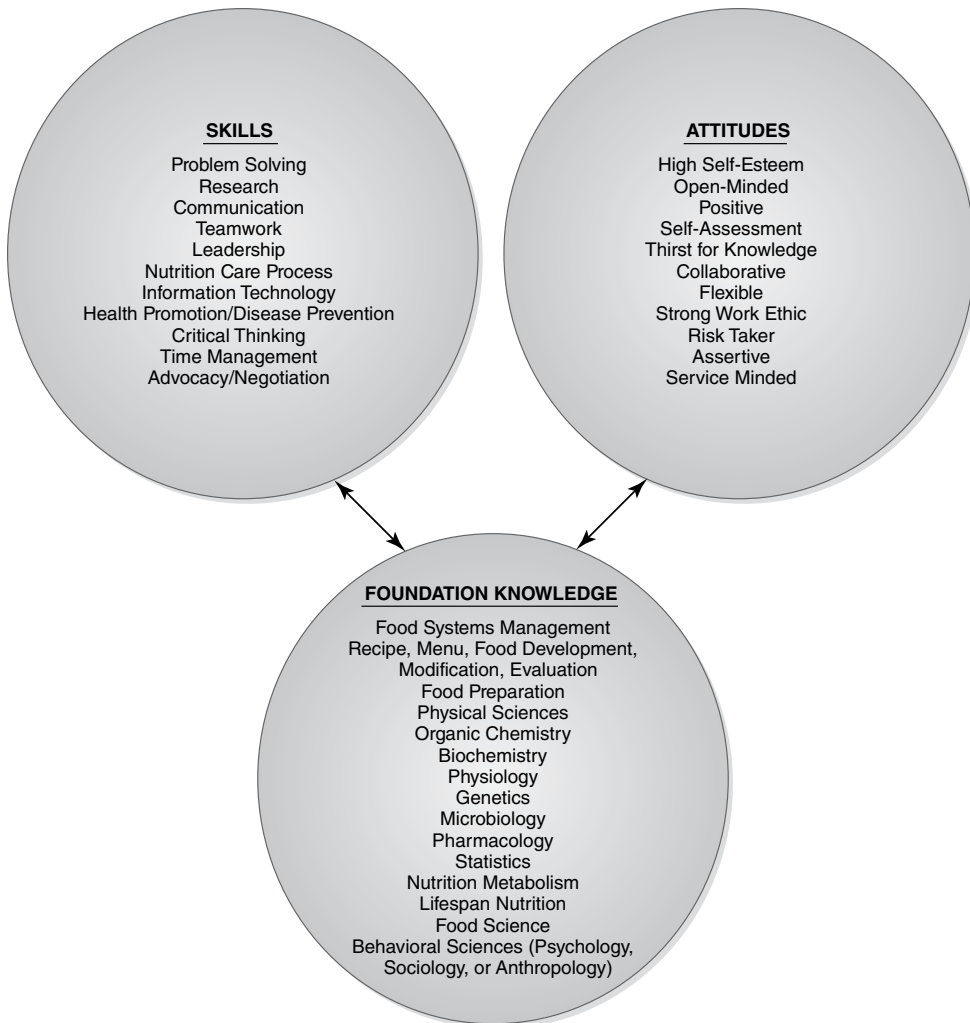


FIGURE 2–4 Model for dietetic practice.

trained in food and nutrition and are an integral part of healthcare and food-service management teams. Like RDNs, NDTRs must complete an academic program and a supervised practice experience and must pass a national written exam in order to use the title.⁷

Dietetic practice is based on the application of principles derived from the integration of knowledge from many disciplines. Successful dietetic practitioners then apply skills and attitudes to translate this knowledge in order to achieve and maintain the health of people. **Figure 2–4** is a graphic depiction of the knowledge areas, skills, and attitudes essential for successful dietetic practice.

Who Are Dietitians?

A recent survey, which included a sample of 9,058 members of the Academy of Nutrition and Dietetics, found that 95% of dietetic practitioners are female, with a median age of 46. The field is predominantly white; 9% of

respondents indicated a race other than white, and 4% identified themselves as Hispanic. The median number of years of work experience was 16. Almost all RDNs hold bachelor's degrees, with 47% having a master's degree and 4% a doctorate. Sixty-seven percent of RDNs are members of the Academy of Nutrition and Dietetics, 44% have a state license, and 21% hold one or more specialty certifications.³

Thirty-nine percent of NDTRs hold a bachelor's degree or higher, and 40% are members of the Academy of Nutrition and Dietetics. Five percent of NDTRs hold a state license, and 11% hold one or more specialty certifications.³

Where Do Dietitians Work, and What Do They Do?

Dietitians seem to work everywhere and do everything. More specifically, the professional association's 2013 Compensation and Benefit Survey found that the most common employment setting is the hospital: 24% of dietitians and 33% of NDTRs work in a hospital setting. Ten percent of RDNs and 27% of NDTRs work in an extended-care facility, 12% of RDNs and 1% of NDTRs work in a clinic or ambulatory care center, and 7% of RDNs and 8% of NDTRs work in a community or public health program. The remaining practitioners work in a wide variety of other settings (**Figure 2-5**). Eight percent are self-employed (primarily RDNs), 38% work for a non-profit firm, 30% work for a for-profit company, and 19% work for the government.³

Dietetic practice can be divided into seven key areas: clinical—acute care/inpatient, clinical—ambulatory care, clinical—long-term care, food and nutrition management, community, consultation and business, and education and



FIGURE 2-5 A dietitian who works for a foodservice facility design company.

Courtesy of Christine Guyott, RD

TABLE 2-1

Percentage of Dietitians in the Seven Practice Areas in the Field of Dietetics

Practice Area	RDNs	NDTRs
Clinical nutrition—acute care/ inpatient	32%	44%
Clinical nutrition—ambulatory care	17%	1%
Clinical nutrition—long-term care	8%	13%
Food and nutrition management	12%	19%
Community	11%	11%
Consultation and business	8%	2%
Education and research	6%	2%

NDTRs, nutrition and dietetics technician, registered; RDNs, registered dietitian nutritionist.
Data from: Academy of Nutrition and Dietetics. 2013 *Compensation and Benefits Survey of the Dietetics Profession*. Chicago: Academy of Nutrition and Dietetics; 2014.

research. Within these seven areas, 40 different job titles account for 80% of all dietetic employment.⁸ The percentage breakdown for those working in these seven practice areas is shown in Table 2-1.

The following are the most commonly held position titles in dietetic practice (note that the percentages of the top 12 positions for RDNs and the top 5 for NDTRs are given in parentheses):

Clinical—Acute Care/Inpatient

- Dietetic technician, clinical (42%)
- Clinical dietitian (16%)
- Clinical dietitian, specialist—cardiac
- Clinical dietitian, specialist—diabetes
- Clinical dietitian, specialist—oncology
- Clinical dietitian, specialist—renal
- Clinical dietitian, specialist—other
- Pediatric/neonatal dietitian (3%)
- Nutrition support dietitian (3%)

Clinical—Ambulatory Care

- Outpatient dietitian, general (4%)
- Outpatient dietitian, specialist—cardiac rehabilitation
- Outpatient dietitian, specialist—diabetes (4%)
- Outpatient dietitian, specialist—pediatrics
- Outpatient dietitian, specialist—renal (3%)
- Outpatient dietitian, specialist—weight management
- Outpatient dietitian, specialist—other
- Home-care dietitian

Clinical—Long-Term Care

Clinical dietitian, long-term care (8%)

Dietetic technician, long-term care (12%)

Food and Nutrition Management

Executive-level professional

Administrative dietitian—patient care

Assistant director of foodservices

Clinical nutrition manager (3%)

Director of food and nutrition services (5% of RDNs and 6% of NDTRs)

School foodservice director

Dietetic technician, foodservice management (10%)

Community

Women, Infants, and Children (WIC) nutritionist (6% of RDNs and 8% of NDTRs)

Cooperative extension educator/specialist

Corrections dietitian

Public health nutritionist (3%)

School/child care nutritionist

Nutrition coordinator for Head Start program

Nutritionist for food bank or assistance program

Consultation and Business

Private practice dietitian—patient/client nutrition care (2%)

Consultant—communications

Sales representative

Consultant—community and/or corporate programs

Public relations and/or marketing professional

Corporate account manager

Corporate dietitian

Director of nutrition

Manager of nutrition communications

Research and development nutritionist

Education and Research

Instructor/lecturer

Assistant or associate professor

Chair, Department of Nutrition and Food Science

Clinical research dietitian

Administrator, higher education

Didactic program director

Dietetic internship director

Professor³

In summary, most RDNs are found in the following settings:

- **Hospitals, health maintenance organizations (HMOs), and other health-care facilities.** RDNs educate patients about nutrition and administer medical nutrition therapy (MNT) as part of the healthcare team. They also manage the foodservice operation, where they oversee everything from food purchasing and preparation to managing the staff (Figure 2–6).



FIGURE 2-6 A clinical dietitian.
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- **Schools, day care centers, and correctional facilities.** RDNs manage the foodservice operations, including planning menus, purchasing food, supervising preparation, and directing the staff (Figure 2-7).
- **Sports nutrition and corporate wellness programs.** RDNs educate clients about the connections among food, fitness, and health (Figure 2-8).



FIGURE 2-7 A dietitian who works in school foodservice and one of her employees.
© Monkey Business Images/Shutterstock



FIGURE 2–8 Two dietitians who work in sports nutrition.
© stockimages/Shutterstock

- **Food- and nutrition-related businesses and industries.** RDNs work in communications, consumer affairs, public relations, marketing, and product development.
- **Private practice.** RDNs work under contract with healthcare or food companies or in their own business. RDNs provide services to restaurant and foodservice managers, food vendors and distributors, athletes, nursing home residents, and company employees.
- **Community and public health settings.** RDNs teach, monitor, advise, and help the public to improve their quality of life through the promotion of healthy eating habits.
- **Universities and medical centers.** RDNs teach physicians, nurses, dietetics students and interns, and others the science of food and nutrition.
- **Research facilities.** RDNs direct and collaborate on experimental research to answer critical questions at food and pharmaceutical companies, universities, and hospitals.⁹

NDTRs may also be found working independently or in teams with RDNs in a variety of work settings, including health care, business and industry, public health, foodservice, and research. NDTRs most commonly work in:

- **Hospitals, HMOs, clinics, nursing homes, retirement centers, hospices, home healthcare agencies, and research facilities.** NDTRs treat and prevent disease and administer MNT as an important part of the healthcare team.
- **Schools, day care centers, correctional facilities, restaurants, healthcare facilities, corporations, and hospitals.** NDTRs manage foodservice operations, including food purchasing and preparation, supervising employees, and teaching nutrition classes (Figure 2–9).
- **WIC programs, public health agencies, Meals on Wheels, and community health programs.** NDTRs develop and teach nutrition classes for the public.



FIGURE 2–9 An NDTR teaching a nutrition class for preschoolers.
© matka_Wariatka/Shutterstock

- **Health clubs, weight-management clinics, and community wellness centers.** NDTRs educate clients about the connections among food, fitness, and health.
- **Food companies, contract food management companies, food vendors, and food distribution companies.** NDTRs develop menus, oversee foodservice sanitation and food safety, and prepare food labeling information and nutrient analysis.⁹

What Is the Salary Range for RDNs and NDTRs?

As is true for most professions, the salary range and fees charged vary by region of the country, employment setting, scope of responsibility, and supply and demand for RDNs. According to the professional association's 2013 Compensation and Benefits Survey, the median annual income in the United States for dietitians who have been working at least 1 year is \$61,000, and for NDTRs who have been working in a position for at least 1 year, it is \$40,000.³ The U.S. Bureau of Labor Statistics 2014 data found the median salary for RDNs was \$57,000 and the median salary for NDTRs was \$26,000. It is unclear why these discrepancies exist.

The statistics generated by the survey from the Academy of Nutrition and Dietetics show that the dietitian's salary increases as the number of years in the field increases, as the number of years in the position increases, as higher graduate degrees are held, as the level and scope of responsibility increase, as the size of the budget that is managed increases, as the size of the employing organization increases, and as the number of people being supervised increases.³

Two other factors have an influence on salary—the area of practice and the area of the country. The highest paying practice areas are food and nutrition management, consultation and business, and education and research.

The lowest paying areas are in clinical and community nutrition practice. According to the Bureau of Labor Statistics, the highest salaries were found in California, Maryland, Nevada, Connecticut, and New Jersey. The top-paying metropolitan areas were all in California:

- San Francisco Bay Area
- Oakland
- Vallejo
- Salinas

In addition to pay, fringe benefits are an important employment consideration. When compared with benefits of other professional technical employees in private industry, dietetic professionals’ benefits are very favorable. The percentage of practitioners offered various benefits is shown in Table 2–2.

TABLE 2–2

Benefits Offered to Dietetics Professionals	
Benefit	% of Employers Offering Benefit
Paid vacation, personal time off	82
Paid holidays	72
Paid sick days	68
Medical insurance, high deductible	54
Medical insurance, lower deductible	66
Dental insurance or group plan	81
Prescription drug benefit	73
Vision insurance or group plan	75
Life insurance	78
Disability insurance (long- and/or short-term)	74
Defined contribution retirement plan	72
Defined benefit retirement plan (pension)	25
Stock options	8
Profit sharing	8
Funding for professional development	55
Professional society dues	20
College tuition assistance	46
Employee assistance or wellness program	53
Comptime or flextime	32
Fitness benefit	42
Extended and/or paid parental leave	40
On-site child care or allowance	10
Telecommuting	13

Data from: Academy of Nutrition and Dietetics. 2013 Compensation and Benefits Survey of the Dietetics Profession. Chicago: Academy of Nutrition and Dietetics; 2014.