# FLUENCY DISORDERS

## Stuttering, Cluttering, and Related Fluency Problems

***Second Edition***

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# Preface

The second edition of *Fluency Disorders: Stuttering, Cluttering, and Related Fluency Problems* provides professionals and students who are in the field of speech-language pathology with a thorough, up-to-date examination of the nature of speech fluency, the characteristics and etiologies of fluency disorders, and assessment and treatment practices that speech-language pathologists use when working in clinical settings with people who have fluency disorders. These issues are approached from the author's experiences as a researcher, clinician, graduate program director, and person who stutters. Like the first edition, the content in the second edition of the book deals mainly with neurodevelopmental stuttering (childhood onset fluency disorder); however, cluttering, acquired forms of stuttering, and disfluency patterns associated with other clinical populations are discussed at length as well.

Readers who are familiar with the first edition of *Fluency Disorders* will find a number of substantial changes in content, format, and organization in this second edition of the book. New features of the second edition include the following:

- *Expanded coverage of treatment/intervention concepts.* In the first edition of the book, these concepts were addressed in two primary chapters and presented in the context of six general intervention principles. The second edition of *Fluency Disorders* features five chapters that pertain directly to treatment/intervention concepts. The chapter on intervention principles has been revised substantially —nine general principles now are described, each with accompanying descriptions of practical implementation methods. Along with this, there are new chapters that are devoted to intervention approaches for young children who stutter, intervention approaches for older children, teens, and adults who stutter, and counseling practices for clients of all ages. There also is a new chapter devoted to the roles and responsibilities of the clinician when working with people who stutter. Overall, readers should find that the second edition of *Fluency Disorders* will provide them with a clear, well-rounded, and practical understanding of how to design, implement, and evaluate individualized intervention programs for clients of varying ages and degrees of severity. In short, upon reading the book, readers should develop a sense that they know what to do when working with people who stutter, and how to go about doing it.
- *A new introductory chapter and reorganization of chapters that were in the first edition.* The second edition of *Fluency Disorders* begins with a new introductory chapter, which provides readers with an overview of concepts that will be addressed in later portions of the book. Included in the first chapter are definitions of basic terms, and a discussion of the importance of establishing a "therapeutic alliance" between the clinician and client. In addition, several chapters from the first edition have been substantially revised and reorganized. As a result, some of the lengthier chapters from the first edition have been re-arranged into separate, shorter chapters, and/or merged with the content of other chapters, and the chapters themselves now are organized into five main sections (the first edition had four main sections). Readers should find that information in this edition of *Fluency Disorders* is presented in a clear, well-organized manner.
- *Updated content and many new figures and tables.* The professional literature on fluency disorders continues to grow at an ever-accelerating rate. Consequently, content

has been updated throughout the book to capture recent research findings and current clinical practices. The book features a mix of new sections (with new content) and updated content in most of the sections that were retained from the first edition, with many new figures and tables. With these revisions comes a fresh perspective on issues related to the nature, assessment, and treatment of fluency disorders and their impact upon people.

- *New pedagogical elements within chapters and an expanded table of contents.* Each of the chapters in the second edition of *Fluency Disorders* features introductory learning objectives and boxes that are embedded within chapter text to highlight topics of special interest. Each of the chapters closes with both a chapter summary and a "Questions to Consider" section in which readers are invited to consider various queries and to complete an assortment of "hands on" activities that are designed to consolidate and extend knowledge. In addition, the table of contents has been expanded so that it now provides readers with an outline of the first- and second-level headings from each chapter. The latter change will help readers locate information in the text easily.
- *Revised and expanded ancillary resources.* The second edition of *Fluency Disorders* features PowerPoint slides that have been revised from the first edition so that they correspond to the book's updated content and organization. The slides provide instructors and students with a clear, easy-to-follow outline of important concepts in the book. The PluralPlus companion website also offers a core set of exercises and materials that are intended to build key clinical skills that pertain to assessment and treatment. Some of the exercises are linked to the "Questions to Consider" sections that are presented at the end of the book's chapters.

As is evident from the information above, the second edition of *Fluency Disorders: Stuttering, Cluttering, and Related Fluency Problems* features many updates and improvements to the first edition and, overall, the book provides professionals and students in speech-language pathology with a robust context for developing the knowledge and skills that are essential to building effective, productive working relationships with clients in clinical settings.

# Acknowledgments

Many people assisted me during the process of writing the second edition of this book. I specifically would like to acknowledge the many students who have been enrolled in my undergraduate course, *Introduction to Speech Disorders*, and in my graduate course, *Stuttering*, at the University of Florida. Their questions, comments, and observations have shaped my thinking on fluency and fluency disorders in ways that otherwise would not have been possible. Drs. Sharon Millard and Lisa Scott provided helpful suggestions in their 2017 reviews of the first edition of *Fluency Disorders*. I also want to acknowledge Christina Gunning, Project Editor at Plural Publishing, Inc., for coordinating the writing and production process (and for keeping me on schedule), and Valerie Johns, Executive Editor at Plural Publishing, Inc., for offering many helpful suggestions during the planning phase of this edition. Also, I extend a big thank you to Kathie-Jo Arnoff, Copy Editor, whose superb attention to detail played an important role in polishing the final version of the manuscript, and to Martin Flanagan for his role in the book layout during the final stages of production. And last, but certainly not least, I thank my family—and especially my wife, Nancy—for all of the unwavering patience and support throughout the project.

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*To all of those who devote their time, energy, and talents toward improving the well-being of people who stutter.*

# SECTION
# I
# Foundational Concepts

# 1

# An Introduction to Fluency Disorders

## Chapter Objectives

After reading this chapter, readers will be able to:

- Describe the concepts of *fluency* and *fluency disorder*.
- Describe how fluency relates to communicative and social functioning.
- Describe how fluency fits into the scope of practice and clinical certification standards in speech-language pathology.
- Describe how the World Health Organization's ICF model applies to clinical practice in the area of fluency disorders.
- Describe basic types of fluency impairment and their speech characteristics.
- Describe the attributes and skills that are needed for clinical service provision in the area of fluency.

## Introduction

The term *fluency* is derived from the Latin word *fluere*, which means fluid. Consider, for example, the smooth and seamless movements that a gymnast makes while performing a routine on the parallel bars or the sweeping finger movements that a pianist makes while playing a classical music piece. Dictionary definitions for fluency typically include descriptors such as *ease*, *effortlessness*, and *proficiency*. Each of these qualities, as well, has relevance to how individuals perform during communication activities such as reading, writing, and speaking.

The focus in this book is on *speech fluency* and fluency disorders. The act of speaking fluently is dependent on the integration of both language and speech motor processes. Given the inherent complexities in speech production, it is perhaps surprising that more people do not experience difficulties with speech fluency. Fluent speech is commonplace during most daily activities, such that most people take little notice of this aspect of communication performance. At times, an individual's speech fluency proficiency can be quite impressive. Consider, for example, the rapid-fire remarks from an auctioneer or a radio announcer's brisk, lively descriptions of the action occurring in a basketball game. Marked difficulty with speech fluency is uncommon and unexpected. Thus, when a speaker's fluency deviates significantly from the norm, it literally can turn the heads of those who are within earshot of what is being said. Seemingly everyone wants a glimpse of the disfluent speaker. When fluency difficulties occur often enough and/or deviate too far from typical performance, a range of problems and challenges can ensue for the affected individual. In such cases even the relatively mundane activities of everyday

life—ordering a cup a coffee, saying one's name, or inserting comments into a conversation with a group of friends—can be significantly challenging. In such cases, speech-language pathologists (SLPs) can play an important role in helping the individual overcome these challenges and, in so doing, help an individual push his or her fluency difficulties from their spot on the top of the list of one's difficulties to well into the background.

## Speech Fluency Versus Language Fluency

As stated earlier, the focus of this book is on *speech fluency*—that is, fluency as it occurs when an individual is talking aloud. Speech is one of several modalities people use to express language codes; writing, typing, and manual sign production (as in American Sign Language) are examples of others. Speech is a complex motor activity, in that it requires the functional organization of more than 100 muscles distributed across the abdomen, chest, neck, larynx, pharynx, velopharynx, tongue, mouth, and face regions (Behrman, 2007). Thus, from a movement perspective, speech fluency pertains to the fluidity and ease with which an individual executes these coordinated movements while talking.

Speech fluency, however, encapsulates more than just movement. Specifically, it is reflected in the three main components of message production: (1) an individual's ability to arrive at communicative intentions that he or she wishes to express; (2) the individual's linguistic fluency (i.e., the person's knowledge of his or her language plus ability to retrieve and assemble the language codes that correspond to specific communicative intentions promptly and accurately); and (3) the individual's ability to convert the assembled language codes into sequential vocal tract movements that correspond with the linguistic codes and result in an acoustic representation (speech) that other people can hear and understand. In this way, speech fluency constitutes the "end product" of an individual's communicative efforts, and difficulties that a speaker has with any one of these three processes are manifested in the form of delays, hesitations, retraces and repetitions, and so forth. Breakdowns or disruptions in speech fluency such as these are termed *disfluencies.*

The term *linguistic fluency* refers to the smoothness, effortless, and proficiency with which a speaker selects and assembles the linguistic symbols that correspond to a message being conveyed. A speaker's linguistic fluency depends not only on the moment-to-moment selection and assembly of linguistic codes, but also on his or her knowledge of the language's lexicon (i.e., vocabulary) and rules for ordering words and phrases (i.e., syntax), sound units (i.e., phonemes), and meaning units (i.e., morphemes) within utterances. Sometimes the source of the disfluency is possible to discern—that is, whether the disfluency is indicative of difficulty in arriving at an intention to be conveyed, in formulating the linguistic codes that correspond the intention, or in executing the motor movements that convert a linguistic representation into a corresponding acoustic representation. Knowing the source of a disfluency can be useful in a treatment setting, as it may provide a clinician with information about the parts of the message production process that need to be addressed.

## Fluency as an Integral Component of Social and Communicative Functioning

Speakers who routinely produce disfluent speech at greater-than-normal frequencies often find it challenging to communicate the spoken messages that are essential for participation in daily activities. These challenges can affect not only the execution of the articulatory movements that are used to convey a spoken message, but also the words that a speaker selects for inclusion in the spoken message. Speakers with fluency impairment sometimes cope with their situation by settling for what they think they can say, rather than saying what they want to say. In such instances, speakers may end up saying words that, from a pragmatic perspective, are only marginally appropriate for the situation.

Speakers with impaired fluency also often find that the quality of their communicative interactions is disrupted or diminished by the ways in which conversational partners interact with them. For instance, an individual with highly disfluent

speech may find it difficult to initiate spoken messages with the promptness that is needed to obtain a conversational speaking turn, or the individual may find it difficult to complete a speaking turn if the conversational partner attempts to finish the speaker's disfluent words by guessing at what the speaker might be attempting to say. Consequently, in clinical settings, it is critical for SLPs to look beyond the linguistic and speech motor aspects of fluency to consider how the difficulties that go along with fluency impairment can impact an individual's communicative functioning and, more broadly, social functioning during daily activities.

## Fluency in the Context of Speech-Language Pathology

The American Speech-Language-Hearing Association's (ASHA's) *Scope of Practice in Speech-Language Pathology* (2016a) is a comprehensive document that includes a formal delineation of the areas and types of activities that an SLP performs. As such, the document is useful to SLPs in helping them communicate their roles and responsibilities to others. It also helps SLPs' in their endeavors to provide evidence-based clinical practice, conduct research, and participate in pre-professional educational training.

### Speech-Language Pathology as a Profession

In the United States, the roots of speech-language pathology go back nearly 100 years. According to its website (www.asha.org), ASHA, the modern-day professional organization for SLPs and audiologists, traces its origin back to 1925 and an organization called the American Academy of Speech Correction. By 1927, the Academy had transformed into the American Society for the Study of Speech Disorders. Members of these two early organizations came from a variety of academic fields and professional backgrounds, including psychiatry, otolaryngology, state-level educational policy organizations, and university and public-school settings. As suggested by the organizations' titles, their members shared an interest in speech production and speech disorders. What is less obvious from these titles is the fact that much of the interest in "speech correction" centered on service provision to individuals with speech sound disorders and to individuals who stuttered. The profession of speech-language pathology evolved further with the advent of clinical certification under the American Speech and Hearing Association in 1952 (which was later known as the American Speech-Language-Hearing Association). The development of a formalized process of clinical certification led to standardization in the content, scope, and quality of the educational and clinical experiences and corresponding areas of knowledge and skill that individuals had to have in order to engage in clinical practice in the field.

The scope of practice for speech-language pathologists (SLPs) encompasses the areas of communication and swallowing (ASHA, 2016a). Since the inception of clinical certification, SLPs in the United States have worked under an evolving set of national standards and an accompanying certification process, both of which are overseen by ASHA. The process leads to the Certificate of Clinical Competence in Speech-Language Pathology. Accordingly, SLPs are the primary providers of the services included under the *Scope of Practice in Speech-Language Pathology.* This means that SLPs decide which services to provide, when to provide them, and whom to provide them to.

SLPs provide clinical services across nine unique *service delivery areas,* which are described in Table 1–1. Each area constitutes an aspect of human functioning that is within the purview of SLPs to address as part of intervention. It is incumbent upon the SLP to know which types of clinical activities fall outside the scope of practice in speech-language pathology and thus warrant referral to professionals from other fields who are fully qualified to provide such services. As indicated in Table 1–1, fluency is one of the service delivery areas within the scope of practice in speech-language pathology, and it is the primary focus in this book.

Beyond being an autonomous profession, speech-language pathology also is a dynamic profession (ASHA, 2016a). Consequently, the roles and responsibilities of SLPs change over time and, at times, they overlap with the scopes of practice from other professions. As a result, SLPs commonly engage in *collaborative practice* with professionals from fields such as psychology, neuropsychology,

**Table 1–1.** Service Delivery Areas Within ASHA's (2016a) *Scope of Practice in Speech-Language Pathology*

| Service Delivery Area | Examples | |
|---|---|---|
| | **Relevant Variables** | **Disorders/Diseases/Conditions** |
| Fluency | Speech continuity, rate, rhythm | Stuttering, cluttering |
| Speech sound production | Motor planning, speech articulation | Developmental speech sound delay, childhood apraxia of speech; Down syndrome |
| Language | Spoken/Written; content, form, use, Literacy; Paralinguistic communication; Prelinguistic communication | Specific language impairment; dyslexia; aphasia; anomia; psychiatric disorder |
| Cognition | Attention, memory, problem-solving; executive functioning | Traumatic brain injury; dementia |
| Voice | Phonation quality, pitch, loudness | Vocal nodules, alaryngeal voice, vocal fold paralysis |
| Resonance | Hypernasality, hyponasality, nasal emission | Cleft palate; velopharyngeal dysfunction |
| Auditory habilitation/ rehabilitation | Communication and listening skills impacted by hearing impairment; auditory processing | Sensorineural hearing loss; conductive hearing loss; Auditory processing disorder |
| Feeding and swallowing | Swallowing phases; atypical eating patterns (e.g., food selectivity/refusal) | Dysphagia, oromyofunctional disorders; chronic cough |
| Elective Services | Speech, language, communication | Transgender communication, business communication; accent/dialect modification; professional voice use; preventative vocal hygiene. |

medicine, counseling, education, audiology, special education, and social work, as well as individuals from the areas of education and health care. As detailed later in this book, fluency difficulties sometimes co-occur with other forms of difficulty, which can lead to a range of limitations in areas beyond communication, including academic, work-related, and social functioning. In such cases, SLPs are likely to engage in *interprofessional collaborative practice* to best address patient needs. Thus, it is critical for

**Fluency in the Context of Clinical Service Delivery**

Fluency is one of the nine major clinical service delivery areas within the *Scope of Practice in Speech-Language Pathology* (ASHA, 2016a). It also is featured in the clinical competence standards set by the Council for Clinical Certification (CFCC) in Audiology and Speech-Language Pathology of ASHA (2018). Standard IV-C in the current version of the speech-language pathology certification standards states that candidates for the Certificate of Clinical Competence in Speech-Language Pathology (CCC-SLP) must "have demonstrated knowledge of communication and swallowing disorders and differences, including the appropriate etiologies, characteristics, anatomical/physiological, acoustic, psychological, developmental, and linguistic and cultural correlates in the [area of] . . . fluency and fluency disorders."

SLPs to develop professional competencies with implementing intervention in the context of interprofessional practice.

## Developing a Framework for Clinical Practice

ASHA's *Scope of Practice in Speech-Language Pathology* includes two substantial sections that delineate the activities that SLPs perform and the professional roles that they assume. The first of these sections, "Service Delivery Domains," consists of eight essential areas of clinical practice in which SLPs engage when providing services to individuals. Each of these has relevance to clinical practice provided to people who have fluency difficulties. In contrast, the "Professional Practice Domains," deal with activities beyond provision of direct clinical service. These domains are outlined in Figure 1–1. After glancing at the figure, one can envision some of the ways that fluency and problems that affect fluency interface with activities and roles included in ASHA's *Scope of Practice in Speech-Language Pathology*.

### Fluency in the Context of Service Delivery Domains

ASHA (2016a) delineates eight domains of service delivery in its Scope of Practice document. Taken together, the eight domains listed in Figure 1–1 encompass the types or levels of clinical services that SLPs provide. In the remainder of this section, each of the eight service delivery domains is discussed, including examples of how they can apply to clinical service provision to clients with fluency impairment.

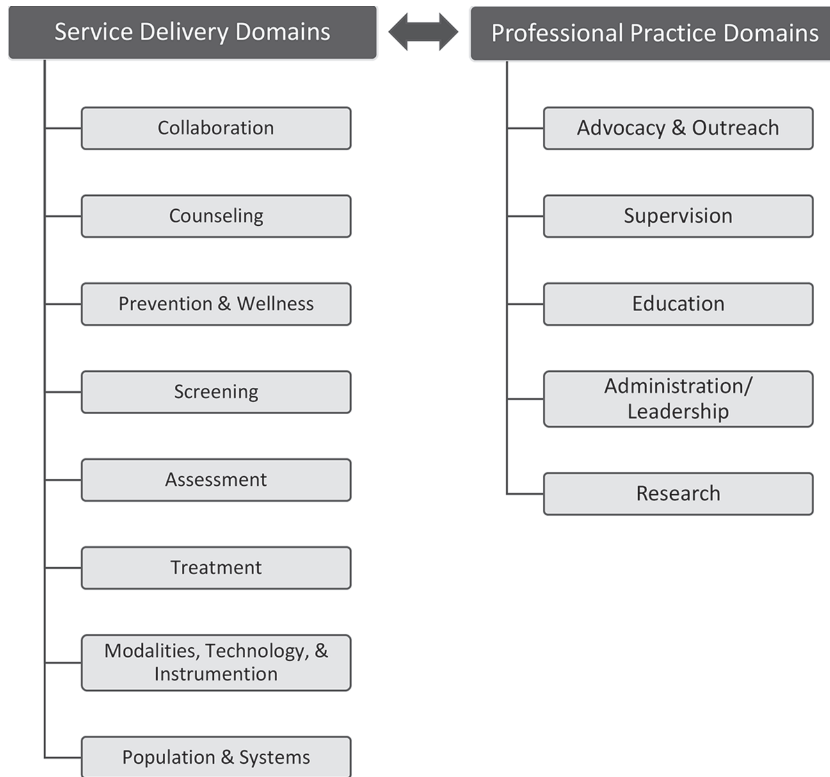


**Figure 1–1.** Domains of service delivery and professional practice that come under the scope of practice for speech-language pathology for certified clinicians in the United States. Service delivery entails the activities that SLPs perform in day-to-day service with clients. Professional practice entails activities beyond service delivery that assist and inform clients, the general public, professional colleagues, and future SLPs.

**Terms to Use When Referring to People Who Receive Clinical Services**

What term should an SLP use to refer to the people who receive speech-language pathology services? In a private practice setting, it might be *client* or *consumer*. In a hospital setting, *patient* is the most likely choice, and in a school setting, *student* or *pupil* is used often. Another option is the term *individual,* which ASHA uses in its most recent official documents. This text uses each of these terms interchangeably, along with other terms (e.g., *person* and *people*), based on which one seems most appropriate for the topic under discussion. Regardless of which term is used, it always should be presented in a format in which the person is mentioned before the disorder, disease, or disability; for example, *person who stutters* or *individuals with impaired fluency*. In the context of stuttering and other fluency disorders, person-first terminology conveys the important message that there is much more to an individual than the fluency difficulties that he or she experiences when talking.

### Collaboration

*Collaboration* involves the act of working cooperatively with other individuals toward the attainment of a common goal. In speech-language pathology, one main goal of collaboration is to enhance the value of the services that a clinician provides. In other words, through collaboration with others, the SLP seeks to improve or strengthen the quality of the services that he or she provides to a client by gaining access to the expertise and talents that others possess. Collaboration implies that at least some portion of the clinical services that a client receives are provided by a team of professionals who coordinate their efforts toward the goal of optimizing the client's functioning.

At a minimum, clinical practice involves collaboration between a patient and an SLP. Because communication disorders do not exist apart from other facet's of an individual's life; however, it often is worthwhile to involve other people (e.g., family members, other types of professionals) in intervention efforts as well. The success of a collaborative approach to intervention depends greatly on the effectiveness of communication among team members. In the case of communication disorders, the SLP assumes responsibility for communicating regularly and clearly with the other team members and for working with them in ways that lead to decisions and actions that are likely to maximize the client's functioning. In the context of fluency impairment, the SLP usually assumes a central or lead role on the intervention team. Engagement in collaborative practice also means that the SLP has a responsibility to educate stakeholders about the principles and competencies associated with interprofessional education (IPE) and interprofessional practice (IPP). In later chapters, examples are provided of how SLPs engage in collaboration as part of clinical service provision to individuals who have fluency concerns.

### Counseling

Counseling activities include the provision of education, guidance, and support (ASHA, 2016a). In the area of fluency, the SLP's counseling efforts usually are directed toward the client; but depending on the client's age or circumstances, efforts also may be directed toward the client's family members or caregivers. Counseling efforts typically are designed to help clients attain the following: (1) decision-making skills, particularly with respect to issues associated with fluency functioning and related clinical services; (2) accurate knowledge about communication challenges or concerns; (3) ability to self-advocate for one's needs; and (4) ability to minimize the negative effects that self-limiting thoughts, feelings, and emotions can have on communicative functioning in daily life activities. When a client's impairments, challenges, or other issues fall outside the scope of practice for speech-language pathology, the SLP refers to qualified professionals who can assist. The importance

of counseling activities to professional practice in speech-language pathology has long been recognized, and numerous authors have explored the principles and practices of counseling as they pertain to speech-language pathology (e.g., Crowe, 1997; Luterman, 1996; Murphy, Quesal, Reardon-Reeves, & Yaruss, 2013; Tellis & Barone, 2018). In Later chapters, the specific strategies, methods, and materials that SLPs can use when counseling individuals who have impaired fluency are discussed.

### Prevention and Wellness

The term *prevention* carries several connotations. Lay people are likely to think of prevention in terms of reducing the incidence (i.e., the number of new cases) of a specific disorder. This type of prevention (i.e., primary prevention) is, at present, not feasible for many communication disorders, particularly those that have a genetic or neurodevelopmental basis. Thus, in speech-language pathology, and particularly with disorders that affect speech fluency, prevention practices are more likely to focus on secondary or tertiary aspects of a disorder. Included under the latter are activities that promote early detection of disorders and those that are designed to mitigate the predictable future consequences of a disorder. For example, a clinician anticipates that a fourth-grade boy who stutters will face a growing risk of being bullied and thus takes preemptive steps. These might include a classroom education program about stuttering, engagement with the school's anti-bullying campaign, and instruction within the context of a school support group for students who stutter for a child to learn strategies for responding to bullying.

Prevention efforts also many be aimed at a client's thoughts and emotions related to stuttering. As clients receive negative, hurtful, or unpleasant reactions to their disfluent speech from others, they may begin to form self-limiting thoughts and self-defeating behaviors that exacerbate their communication difficulties. For instance, a child might restrict his or her participation in conversation as a way of coping with anticipated negative reactions from others about speech disfluency. In scenarios like this, an SLP's prevention efforts would be focused on helping the child to develop constructive, self-affirming thoughts and positive, proactive behavioral responses to the challenges that disfluency presents. Outcomes of this sort are likely to have a positive impact on an individual's quality of life and general sense of well-being.

Prevention efforts often are rooted in activities that are designed to educate people about nature and characteristics of communication disorders and that promote awareness of the attributes and experiences of individuals who are affected by the disorders. Prevention activities of this type often involve campaigns that are directed at the school, community, and/or societal levels. An example of the latter is ASHA's long-running *May Is Better Hearing and Speech Month* campaign, which targets specific aspects of speech, language, hearing, and swallowing over the course of the month. ASHA (www.asha.org) has an assortment of materials (e.g., pamphlets, posters, press releases, video recordings) available for download in support of prevention efforts. In later chapters, the specific strategies, methods, and materials that SLPs use to promote prevention and wellness are discussed.

### Screening

Early identification of communication difficulties is a central component of prevention efforts in speech-language pathology. *Screening* is an efficient means of achieving early identification of a disorder. Screenings are brief assessments that are designed to identify individuals in a population who are need of a comprehensive assessment. They are particularly useful when the goal is to identify individuals with fluency impairment because pertinent symptoms often can be detected in relatively brief samples of speech. In later chapters, specific screening-related activities that SLPs use to identify individuals who possibly exhibit impairment in fluency are discussed.

### Assessment

SLPs use the process of *assessment* to arrive at differential diagnoses of communication disorders. The assessment process is designed to provide information about an individual's functioning with respect to body structure (i.e., anatomy) and function (i.e., physiology, kinematics, proprioception, other related processes) across the activities that an individual performs during daily life. Through assessment, the clinician aims to capture how well

the individual performs during daily activities, the extent to which the individual participates during daily activities, as well as the extent to which factors in the individual's personal life and surrounding environment facilitate or hinder functioning. In Chapters 11, 12 and 13, the components, materials, and procedures that SLPs use to assess speech fluency are discussed at length.

### Treatment

*Treatment* consists of speech-language services that are conducted to optimize an individual's communication (or swallowing) abilities, and in turn, improve quality of life (ASHA, 2016a). As ASHA indicates, treatment activities are designed to help individuals develop skills or abilities that enable them to correct or compensate for whatever deficits they may exhibit. In the context of fluency disorders, treatment goals and associated activities are directed mainly toward improvement of an individual's communication-related functioning, how the individual and/or family members cope with or react to disorder-related limitations, and how to address aspects of the environment (e.g., listener behavior) that appear to precipitate, perpetuate, or aggravate the effects of the disorder.

SLPs are responsible for designing and implementing evidence-based treatment plans. This means developing treatment approaches that are likely to help clients successfully address issues of primary concern to them, and to do so in an efficient manner. Treatment plans of this sort incorporate practices or principles that are supported by empirical research and then modified as necessary based on both the preferences/desires of the individual being treated as well as other pertinent data that the clinician considers (e.g., the presence of concomitant communication disorders). The specific strategies, methods, and materials that SLPs use to treat disorders that affect speech fluency are discussed in the final section of this book.

### Modalities, Technology, and Instrumentation

With some clinical populations, assessment and treatment activities require the use alternate communication modalities, advanced instrumentation, and technologies. In the context of fluency disorders, speech usually is the primary mode of communication (even when fluency is impaired severely). Clinicians may incorporate technology to assess specific aspects of speech (e.g., a digital speech analysis system to measure disfluency duration) and/or to supplement treatment (e.g., an electromyograph instrument that provides the client with feedback on the activation level of lip and jaw muscles during speech). Concepts pertaining to this aspect of clinical practice are discussed further in the assessment and treatment sections of the book.

### Working at Population and Systems Levels

Communication disorders, including those that affect speech fluency, exist within broader contexts that affect not only individual clients but also others who care for and interact with them. For this reason, SLPs are charged with working to understand the population-level context in which communication disorders exist. Although this may sound daunting, there is much that the clinician can do at family, school, community, and state levels to identify and then alter or remove barriers to an individual's communicative functioning and well-being (Coleman, 2018). Examples of such barriers include local practices or policies that limit clinicians' ability to provide treatment in an optimally effective or efficient manner and local conditions that foster unfavorable or hostile attitudes and actions toward individuals who have fluency difficulties. In such instances, clinicians can take any number of actions, including the following: analyzing communication environments and, if necessary, taking steps to improve them; coaching teachers and early intervention providers in how they can facilitate children's speech and language development and performance; collaborating with school administrators and faculty to promote policies and practices that promote efficient scheduling for special services or that facilitate access to the curriculum for individuals who have communication disorders; and working with state-level speech-language-hearing organizations and legislative bodies to enact policies that promote the provision of optimal treatment practice for individuals with communication disorders.

## Fluency in the Context of Professional Practice

ASHA (2016a) identifies five professional practice domains, each of which pertain to professional roles that go beyond the activities that deal with direct clinical provision (see Figure 1–1). As can be inferred from the figure, the activities associated with these professional practice domains help to advance the profession of speech-language pathology and increase its visibility among the general public. Each professional practice domain has relevance to the work that SLPs do with people who have fluency difficulties. Accordingly, they are described in the text that follows.

### *Advocacy and Outreach*

According to ASHA (2016a), advocacy involves activities that are designed to promote and facilitate individuals' "access to communication, including the reduction of societal, cultural, and linguistic barriers." Included in advocacy are undertakings in the political arena such as providing expert advice to legislators and policy makers; promoting and marketing professional services; encouraging involvement in state, local, and national professional organizations; serving as an expert witness during legal proceedings; working with businesses to promote improved and open access to services for individuals with communication disorders; and speaking out for fair and equitable services for all individuals.

### *Clinical Supervision*

SLPs have a responsibility to supervise clinical experiences for clinical fellows, student clinicians, and other personnel, such as speech-language pathology assistants. ASHA (2016a) describes supervision as a complex activity that entails clinical as well as administrative and technical competencies. Many skills are required for effective supervision, including the abilities to educate, counsel, encourage, and support other people. SLPs who supervise the clinical activities of others must demonstrate that they have completed the appropriate amount and type of training in the area of supervision.

### *Educational Activities*

Another role for SLPs involves education. Typically, education activities occur in the context of working with university-level students who are enrolled in the study of communication sciences and disorders. Opportunities for education also exist through the provision of continuing education activities through which the SLP offers learning opportunities for other professionals. Such activities are common at regional, state, or national conventions of SLPs, as well as through local continuing education events such as clinical grand rounds seminars that take place in some work settings. In addition to these activities, SLPs sometimes provide in-service education to coworkers, including colleagues from other professions. The aim of in-service activities often is to inform others about topics such as recent advances in the understanding of a disorder's etiology, recent changes in treatment practices for specific communication disorders, and recent approaches to interdisciplinary practice within specific clinical populations.

Education activities can extend beyond the workplace to include community service organizations, local or regional self-help groups, local parent or senior citizen groups, and the like. Presentation content for audiences such as these often is designed to improve public awareness of communication disorders and their symptoms, symptoms that suggest the presence of a communication disorder or the need for assessment, the types of services and treatments that are available to address specific communication disorders, the role of SLPs in educational or health care settings, and so forth.

### *Engagement in Research*

Clinical practice is rooted in research. SLPs—even those who do not hold a research doctorate—are eligible to conduct or facilitate research in any of the service delivery areas included within the Scope of Practice. Most contemporary research activities are conducted in partnership with professional colleagues and in settings such as schools or hospitals, where students or patients are recruited for research participation. The research activities must be performed in accordance with the employers' policies regarding data privacy, ethical and safety

standards, and (in medical settings) delineation of billing and reimbursement procedures for medical services that may overlap with activities that are performed in the research protocol. Most hospitals and school districts have formal review boards (i.e., institutional review boards or IRBs) that evaluate research proposals, particularly with respect to ascertaining the extent to which a study's methods comply with state and federal laws pertaining to protected health information, educational records privacy, records retention, benefits and risks associated with the research, and so forth.

### *Administration and Leadership Roles*

Some SLPs pursue jobs in which their duties, in part or in full, pertain to administration and/or leadership. Positions like these are found in school/educational settings, hospital and related health care settings, corporations that provide speech-language pathology services to entities such as schools or nursing homes, state speech-language-hearing associations, and state boards for licensing and credentialing, as well as ASHA. Administrative positions typically involve activities that deal with the managerial aspects of clinical practice (e.g., caseload management, cost efficiency of clinical services, employee productivity, regulation and quality control for clinical practice, adherence to legal statutes). SLPs who work in positions like this may have opportunities to provide input into policies or practices that improve the quality, cost, access, or effectiveness of clinical services and related measures such as patient satisfaction. Within ASHA, clinicians can join Special Interest Group 4 (Fluency and Fluency Disorders) and get involved with colleagues who share a common passion for working to improve the lives of people with fluency concerns.

## Viewing Fluency as a Component of an Individual's Health Functioning

The World Health Organization's (WHO, 2001) *International Classification of Functioning, Disability, and Health* (abbreviated as ICF) is a clinical tool that SLPs and other health care providers can use to generate comprehensive descriptions of an individual's health functioning. According to WHO (2001), *health* is is more than just the presence or absence of disease or impairment. That is, it is a principle aspect of an individual's overall well-being. The ICF is a tool for capturing what a person does (irrespective of whatever impairment the person has) and does not do (disability) in various health-related domains. ASHA (n.d.) states that the ICF framework is particularly useful in the context of interprofessional collaborative practice and as a mechanism for fostering person-centered care. The ICF framework has been used for many years with people who have fluency difficulties (e.g., Logan, 2005; Yaruss, 1998; Yaruss & Quesal, 2004). Prior to delving into the details concerning the characteristics of fluency disorders and associated assessment and intervention practices, it first is useful to review the ICF framework more closely. Doing so will be helpful in establishing a conceptual basis and a common language for talking about the effects that communication disorders have on individuals' overall health.

The remainder of this section is a discussion of 13 concepts that are central to the ICF framework. Clinicians are likely to encounter the ICF framework regularly during clinical practice. In fact, ASHA (n.d.) states that the ICF has been adopted as "the framework for the field . . . of Speech-Language Pathology." Clinicians who are well versed with these concepts are well positioned to think, speak, and write coherently about the individuals they serve.

**ICF-Related Resources Available Through ASHA**

ASHA's website offers an assortment of ICF-related resources that are useful to SLPs in planning and conducting clinical activities. The website also features links to ASHA-produced webinars that deal with the use of ICF in speech-language pathology, occupational therapy, and physical therapy. Beyond the website, there is substantial literature on the applicability of the ICF framework to the assessment and treatment of fluency disorders.

The ICF framework offers clinicians a common conceptual structure and set of terms to use when describing clients, clinical intervention, and other related issues. The use of a common conceptual framework and terminology facilitates the accuracy, precision, and scope of clinical reporting within and among clinicians. The ICF also offers a system for organizing each bit of information that a clinician collects about a client, and it provides a structure around which assessment and treatment protocols can be constructed and treatment outcomes can be assessed. Essential components of the ICF framework are illustrated in Figure 1–2.

As shown the figure, the ICF framework is concerned with the following: (a) the interplay between functioning and disability, (b) the things that a person does in everyday life, (c) the extent to which these things are done in a manner that is comparable to most people in the population, (d) and the ways in which factors that are internal (personal) and external (environmental) to the person affect what the person does. In the remainder of this section, these concepts and several others that feature prominently in the ICF framework are discussed.

## Functioning, Performance, and Capacity

The terms *functioning*, *performance*, and *capacity* are similar in that each of the terms deals with activities that an individual does. The term *functioning* is the broadest of the three terms, as it refers to (a) the structure of an individual's body (i.e., anatomy), (b) the functioning of body structures

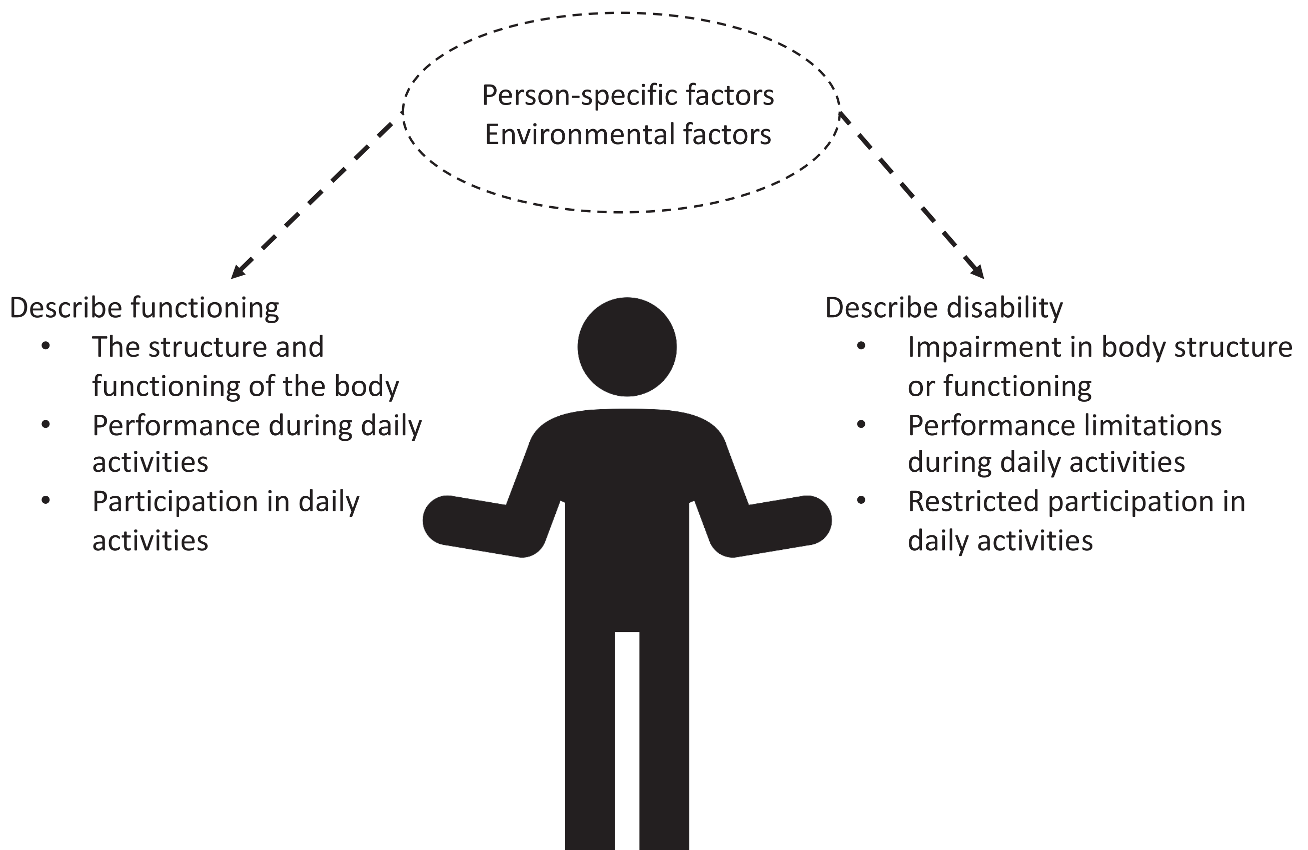


**Figure 1–2.** Essential concepts in the World Health Organization's (2001) ICF model. In the ICF framework, *functioning* pertains to a person's body structures and how they function, activities they perform, and the extent to which they participate in those activities. Disability is the inverse of functioning. It pertains to impairment in body structure or function, activity limitations, and participation restrictions. Both functioning and disability are inextricably related to the personal and environmental factors that are unique to the individual and comprise the broader context of the person's life.

(i.e., physiology, psychophysical functions), and (c) how an individual uses body structures and functions to perform daily activities. In the ICF framework, the notion of functioning is intended to identify *what a person does* (rather than what a person does not do). Over the years, researchers with an interest in speech-language pathology have developed an assortment of methods for describing fluency functioning.

The term *performance* pertains to how an individual behaves or acts within his or her current environment. The notions of performance and functioning are similar in that both deal with what an individual does during daily activities. Performance is a narrower concept than functioning, however, as it excludes matters related to body structure and function. Thus, when describing performance, a clinician is focused on what an individual *does* when engaged in daily activities, including the extent to which the individual engages in those activities.

*Capacity* refers to "the highest probable level of functioning that an individual may reach" within a uniform or standard environment (WHO, 2001, p. 20). In the context of fluency disorders, the uniform or standard environment for determining capacity often is a clinical context such as the SLP's office. Many individuals who experience fluency difficulties report that their "within-clinic fluency" often is substantially better than their "real-world" fluency; and because the individual likely will be returning to the clinical setting many times in the future, the individual's within-clinic fluency constitutes an appropriate environment for estimating the individual's highest probable level of functioning.

## Activities and Activity Limitations

The term *activity* refers to a task or action that an individual performs. In the context of fluency intervention, it is important to identify the types of communication activities an individual performs, how often the person performs the activities, and the level of importance the person assigns to the activities. On the surface, identification of an individual's communication activities may seem to be a straightforward task. After all, there is considerable overlap in the communication activities that people perform (e.g., nearly everyone engages in conversation, narrative storytelling, talking on the telephone, and asking questions to obtain information). However, there is a host of activities (e.g., lecturing, joke telling) that are performed only by some people or only on rare occasions. Further, across individuals, communication activities can assume an almost limitless number of permutations. Conversations, for instance, can vary in terms of the number of participants involved, the level of familiarity among the participants, the physical proximity of the participants, the amount of background noise during the conversation, the participants' familiarity levels with the topic, and so forth. Each of these variations has the potential to affect a speaker's communicative performance. In addition, some infrequently occurring activities (e.g., reciting wedding vows) are possibly ones that are of the utmost importance to an individual.

The term *activity limitation* refers to a problem or difficulty that an individual has when performing an activity. Thus, activity limitation has a negative connotation. In the context of speech functioning, activity limitation refers to how a client's performance falls short when compared to the performance of other speakers. As explained in later chapters, speakers with impaired fluency commonly exhibit situational difficulties; that is, they exhibit little or no limitation when performing one type of activity but marked limitations when performing another type of activity. Consequently, when designing intervention activities, it is critical for clinicians to consider information about the manner and extent with which a client's speech fluency varies across daily speaking situations.

## Participation and Participation Restrictions

*Participation* is an index of an individual's breadth and depth of engagement in life's activities. The concept of participation has a positive connotation in that it refers to what an individual *does,* regardless of how it compares to the participation characteristics of other people. Participation encompasses both the number of activities in which an individual is engaged as well as the degree to which the person is engaged in a particular activity. For activities that offer opportunities for speaking, verbal

output (e.g., number of words spoken) is one way to measure participation; the number, type, and variety of speaking activities engaged in is another. In assessments with people who stutter, it is common to find clients who participate verbally in a modest number of daily activities; but within those activities, the amount of talking the client does is extensive. As with daily activities, "participation profiles" vary greatly across clients who have fluency difficulties.

The term *participation restriction* refers to limitations in an individual's involvement in daily activities, which, in the context of fluency impairment, are activities that entail speaking. As with activity limitations, participation restrictions are determined by comparing an individual's participation patterns against the participation patterns of typically functioning individuals. Participation restrictions commonly exist in individuals who have fluency impairment. Consequently, they represent another way in which an individual's communicative functioning can be limited. The extent of an individual's participation restrictions often is commensurate with his or her activity limitations. That is, individuals with severe activity limitations in talking activities often also present with severe participation limitations in these activities. Nonetheless, there are cases where the severity levels of an individual's participation restrictions and activity limitations are dissociated, such that an individual who speaks disfluently when performing a particular task engages in that task as often and as extensively as a person without fluency impairment. A range of personal factors (e.g., the individual's feelings and beliefs about fluency impairment and expectations for personal performance) and environmental factors (e.g., the extent to which others accept the individual's fluency impairment) seem to contribute to the differences in participation profiles that exist across individuals (Yaruss, 1998; Yaruss & Quesal, 2006).

## Impairment and Disability

In the ICF framework, the term *impairment* implies the presence of structural or functional *deviations* or a *limitation* in an individual's body. These differences are viewed in relation to what is typical in the general population. Each of the fluency disorders discussed in this text are associated with deviations in neuroanatomy and/or neurophysiology that limit the ability of individuals to speak at fluency levels that are commensurate with the general population.

In the ICF framework, *disability* is a broad concept. That is, it refers to the impairments, activity limitations, and participation restrictions a person exhibits. Disability refers to what an individual *does not do*. In contrast, *functioning* focuses on what an individual *does do*. As such, disability essentially is the inverse of functioning. Like *impairment*, disability is defined in reference to how an individual without a specific health condition such as stuttering, would function in an activity.

## Environmental and Personal Factors

WHO (2001) defines *environmental factors* as the "physical, social, and attitudinal (context) in which people live and conduct their lives" (p. 12). The concept is a broad one in that it includes not only physical features of the world but also societal roles, attitudes, values, social systems and services, as well as policies, rules, and laws. Clinicians typically have little control over societal-level environmental factors; however, they often are able to alter or influence certain proximal environmental factors, such as how a classroom teacher responds to a student's disfluent speech. In this way, a clinician helps to create an environment around a person that helps the individual function optimally.

In contrast, the term *personal factors* refers to intrinsic characteristics that can affect an individual's functioning, such as age, gender, or religion as well as an individual's feelings, beliefs, and thoughts about the self and, more specifically, experiences associated with communication impairment. Personal factors can have profound effects on functioning. For example, a teenage boy who stutters may experience shame when stuttering around other people. The emotional intensity of the shame may lead the teenager to avoid participation in verbal interactions at school and elsewhere and, over time, the stuttering may have increasingly negative effects on not only the person's communication but also his or her quality of life and sense of well-being.

## Facilitators and Barriers

The term *facilitator* refers to features of the environment that improve an individual's functioning and thus reduce disability. As such, the term has a positive connotation. In the context of fluency impairment, facilitators can be features of the physical environment, such as the presence or absence of background noise, or, more commonly, behavioral characteristics of people who interact with the speaker who has impaired fluency. For example, a conversational partner acts as a facilitator when consciously refraining from interrupting a person who stutters after noticing that verbal interruptions tend to worsen the severity of the person's fluency difficulties.

*Barriers*, in contrast, are aspects of the environment that limit or hinder an individual's functioning and, in doing so, negatively impact the severity of the individual's disability. As such, the term has a negative connotation. Barriers can assume a variety of forms. Some barriers are financial (e.g., an individual's lack of financial resources to cover the cost of fluency intervention). Other barriers have to do with access to convenient or reliable transportation, which can hinder a person's ability to travel to a speech-language pathology clinic. Health insurance access can be another barrier to patient functioning (e.g., access/availability to a health insurance plan, the extent to which speech-language pathology services are covered under an insurance plan). Other barriers are multilayered, such as in the case of a school system that lacks qualified personnel to provide effective fluency services and that has challenges in recruiting such individuals because of other factors, such as salary or benefit structure.

## Fluency Disorders: A First Look

This section presents an overview of several fundamental concepts and terms that pertain to fluency disorders and explores some of the requirements for becoming an effective clinician in this area of clinical practice.

## The Concept of Disorder

ASHA's (1993) Ad Hoc Committee on Service Delivery in the Schools defined a *communication disorder* as "an impairment in the ability to receive, send, process, and comprehend concepts or verbal, nonverbal and graphic symbol systems (para. 2)." For the most part, the terms *impairment* and *disorder* are used interchangeably throughout this book, although *impairment* as defined in the ICF is narrower in scope than *disorder*. That is, the focus of *impairment* is on body structure and function); whereas, in ASHA's definition, *impairment* also encompasses elements of activity limitation.

ASHA (1993) states that communication disorders may affect hearing, language, or speech processes and that an individual may have more than one type of communication disorder at the same time. In some cases, the communication disorder can be the primary source of the individual's communication disability, and, in other cases, the disorder and its associated areas of disability occur secondary to other impairments the individual has. For example, a child with autism may also experience fluency difficulties that affect speech.

A fluency disorder is classified as a subtype of speech disorder, although as noted earlier in the chapter, difficulties in language formulation also can be manifested "downstream" in speech in the form of pauses, hesitations, word repetitions, utterance revisions, and so forth. Definitions of specific types of fluency disorders are explored at length later in the book. For now, however, the introductory discussion is limited to reviewing the prominent symptoms associated with two common types of disordered fluency: *stuttering* and *cluttering*.

## Stuttered Speech

*Stuttered speech* is the most familiar type of impaired fluency. It is characterized primarily by frequent disruptions in speech fluency that result in the following *disfluency* types: (a) *repeated speech*, particularly repetitions of parts of words (e.g. *a little b- b- boy*); (b) audibly *prolonged speech sounds* (e.g., the *l* in *a llllllittle boy*), and/or (c) *blocks* in speech sound production in which a speaker holds

the posture of a speech sound for an atypical length of time and/or with an atypical amount of physical tension, with little or no sound forthcoming (e.g., silently holding posture for the *b* in *a little boy* for 2 seconds). In addition to occurring frequently (i.e., several to many times per 100 words), instances of stuttering-related disfluency also can last for a relatively long time and thus consume time that the speaker otherwise would spend in productive communication. Stuttered speech is observed in two different types of fluency disorder—one that typically has its onset during childhood, and one that typically has its onset during adulthood.

### Symptom Onset in Childhood

Most often, the onset of stuttered speech occurs in the preschool years, in the absence of any frank neurological injury, trauma, or illness. In such cases, symptom onset often coincides with speech and language development. This type of stuttering, which traditionally has been assigned labels such as *stuttering*, *childhood stuttering*, or *developmental stuttering*, is characterized by an atypical pattern of disruption in the flow of speech (i.e., disfluencies). The primary disfluency types for the childhood onset form of stuttering are those that were mentioned earlier (i.e., part-word repetition, sound prolongation, and blocked speech sounds). Over time, these disfluencies may be accompanied by associated behaviors that the speaker uses either to facilitate fluency or to conceal or avoid impending disfluency. Affected individuals also may exhibit social anxiety, particularly in the context of activities that involve speaking, as well as reduced participation in social/communication activities.

The American Psychiatric Association (2013) adopted the label *childhood onset fluency disorder* as part of its revision to the *Diagnostic and Statistical Manual of Mental Disorders* (DSM–5). This label was introduced as a replacement for the traditional, but less specific term *stuttering*. Alternately, WHO (2018), in its recently revised *International Statistical Classification of Diseases and Related Health Problems* (ICD-11) used the label *developmental speech fluency disorder* when referring to stuttering and classified it under the broader heading of *neurodevelopmental disorder*. As explained in later chapters, there is now considerable evidence that neurodevelopmental anomalies are commonly present among individuals whose stuttered speech emerged during childhood, in the absence of other potentially explanatory events such as acute illness, head trauma, and anoxia.

### Symptom Onset in Other Types of Stuttering

The childhood form of stuttering is contrasted with a nondevelopmental form of stuttering. Traditionally, the latter form of stuttering has been regarded as *acquired stuttering*, meaning that after a substantial period of demonstrating typical fluency, the individual develops stutter-like speech under one of the following scenarious: secondary to acquired neurological damage (*neurogenic stuttering*), exposure to certain drugs (*pharmacogenic stuttering*), or, less common, acquired or adult-onset psychiatric illness (*psychogenic stuttering*). The term *neurogenic stuttering* is used today, particularly in cases where stuttered speech emerges soon after an individual experiences neurological insult (e.g., following stroke or closed-head injury) or when the onset of stutter-like speech occurs in the context of certain neurodegenerative conditions, such as Parkinson's disease. *Pharmacogenic* (or drug-induced) stuttering is a label that is used for stuttered speech that begins in conjunction with the introduction of certain pharmacological agents and then resolves when their use is discontinued.

In the most recent iteration of the ICD (ICD-11, WHO, 2018), acquired forms of stuttering most often would fit under the label *adult onset fluency disorder*. ICD-11 also includes alternative diagnostic labels that would apply to fluency disorders of this sort, such as *fluency disorder (stuttering) following cerebrovascular accident*, which would apply in cases where an individual begins to stutter following a stroke or other documentable injury that affects cerebral blood flow. The term *fluency disorder in conditions classified elsewhere* also is available and would be appropriate for cases in which stutter-like speech emerges as a secondary symptom of a more primary disease, such as Parkinson's disease. The latter label also would be

appropriate to use in cases where children with well-established histories of typical fluency begin to exhibit atypical fluency, including stutter-like speech that is secondary to acquired brain lesions. Aram, Meyers, and Eckelman (1990) reported on 33 such cases and found that the children demonstrated a number of quantitative and qualitative differences in their fluency when compared to a group of children with typical neurological functioning. Procedures for diagnosis and labeling various types of fluency disorder are discussed later in this book.

## Cluttered Speech

*Cluttered speech* is another type of disfluent speech pattern. It is characterized primarily by a rapid-sounding rate of speech articulation, intermittent bursts of rapid and/or unintelligible speech (particularly in conjunction with multisyllabic words), excessive production of certain disfluency types (particularly *revision* of previously spoken words), and interjection of meaningless filler. For example, revision might sound like this: *She wants, I mean, She ne- She needs to, like she has to find another person who.* And interjection of meaningless filler, which may be mixed in with the revision, might sound like this: *She um um like um She can't find a job she's qualified for*. Stutter-like disfluencies may occur in conjunction with cluttered speech, but in such cases, they usually are not the predominate form of speech disruption. If symptoms of both cluttering and stuttering are prominent enough, however, an individual would be diagnosed with both cluttering and stuttering.

The diagnostic terminology used with cluttered speech is more straightforward than it is with stuttering. For example, at present, a distinction between developmental and acquired forms of cluttering is not routinely made, nor is there a routine differentiation between childhood and adult-onset cluttering. Thus, the label *cluttering* seems to suffice as a descriptor for speech that is characterized by the rate, intelligibility, and fluency anomalies described earlier. Additional details about cluttering are presented later in the book; but for now it suffices to say that the range of symptoms that have been associated with cluttering is much broader than that for the various of types of stuttering. The reasons for this is that the impairment underlying cluttering seems to affect both the speech and the language production systems.

## Providing Clinical Services to People Who Have Fluency Concerns

Speech-language pathologists provide a range of clinical services to people who have fluency disorders. The topic of clinical service provision with this population is addressed extensively in this book.

## The Rewards of Being a Fluency Clinician

Many clients and clinicians find their participation in a speech fluency intervention program to be a rewarding experience. As described later in this book, fluency disorders can result in marked difficulty with spoken communication, which in turn, can lead to other difficulties, such as social isolation and self-limiting thoughts and beliefs. One of the greatest joys for a clinician who works with this population is to hear clients describe the important changes they have made in their lives through participation in a fluency intervention program. The changes that clients describe often go beyond those associated with speech mechanics to include improvements in situations that, from the client's perspective, were loaded with personal risk and/or stoked with unpleasant feelings and emotions.

For instance, after many months of avoiding certain important speaking activities because of anticipated difficulties with speaking fluently, a woman who stutters might decide at last to attempt these activities regardless of how fluent her speech is. A young man who stutters might report that after years of berating himself about his limitations in speech fluency, the skills and concepts he has learned during treatment have helped him reach a point where he now accepts that everyone has areas of relative strength *and* areas of relative weakness, and that one can feel satisfied about having communicated effectively, even if not per-

fectly fluently, in a given situation. Though speaking more smoothly is certainly an understandable and worthwhile goal for many clients to pursue, changes that affect one's level of social engagement and sense of self-acceptance are likely to be truly transformative in a person's life. SLPs are the professionals who are most qualified to assist clients in bringing about these transformative changes.

Historically, however, not everything has been positive in the world of providing clinical services in the area of fluency. In fact, research shows that SLPs have tended to view clinical service provision in the area of fluency with trepidation. For example, clinicians have ranked the fluency disorder stuttering lower than many other communication disorders in terms of the extent to which they feel confident about and comfortable with providing services (Cooper & Cooper, 1985, 1996; Sommer & Caruso, 1995; St. Louis & Durrenberger, 1993). In past decades, clinicians' attitudes toward providing services in this area have been linked to limitations in the breadth and depth of preservice (i.e., academic) and in-service (i.e., postdegree continuing education) training that clinicians have received (Crichton-Smith, Wright, & Stackhouse, 2003; Kroll & Klassen, 2007; Sommer & Caruso, 1995; Yaruss et al., 2017; Yaruss & Quesal, 2002). Although preservice training seems to have improved in some respects over the past 20 years, there still is considerable unevenness across academic programs and room for improvement in the United States in areas such as degree of expertise across instructional faculty and the extent to which fluency-related concepts and skills are addressed in academic and clinical curricula (Yaruss et al. 2017).

Another important contributor to clinicians' apprehension about providing services to clients with fluency difficulties is that quite often the clinicians with limited preservice training also have an incomplete or inaccurate understanding of basic issues, such as those that pertain to the nature of fluency disorders (e.g., *Why do certain people produce so many disfluencies when talking?*), procedures for arriving at a diagnosis (e.g., *How does one distinguish between typical and disordered fluency?*), factors that affect the developmental course of fluency disorders (e.g., *Why do fluency problems resolve in some children but not others?*), key treatment-related matters (e.g., *What constitutes a successful treatment outcome, and what is best way for helping my client attain that outcome?*), and perhaps most important of all, the impacts that fluency disorders have on individuals' quality of life. It is no wonder that a clinician who is wrestling with how to answer these basic questions would feel unsure about providing clinical services to individuals who have disordered fluency.

The good news is that, in recent decades, a dedicated group of professionals around the world has been hard at work studying these and other important aspects of fluency disorders. Their efforts have resulted in a proliferation of information about fluency disorders, which in turn, has led the community of scientists and clinicians who work in this area to develop a much more accurate and complete understanding of these disorders and how they impact people. Certainly, there remains much more for scientists and clinicians to discover about fluency disorders. Nonetheless, because so much has been learned and so many insights have been gained, it is fair to say that there has never been a better time in history to become a clinician who specializes in working with people who have impaired fluency. The information in this book is designed to provide readers with the opportunity to develop their baseline knowledge and clinical skills in ways that are necessary for providing competent services to clients of all ages who have fluency concerns.

## Developing the Necessary Knowledge

It is well recognized that to become an effective clinician in a clinical practice area, one must develop a rich, accurate understanding of the characteristics and the causes of the specific disorders in that clinical practice area. One also must have a solid understanding of the ways in which each disorder impacts the lives of the affected individuals. With a robust knowledge base in place, a clinician is then well positioned to implement the accompanying set of relevant clinical skills he or she has developed for the purpose of administering effective intervention programs.

The integration of a robust knowledge base and the ability to perform key clinical skills forms the core of the standards that ASHA has developed

for its Certificate of Clinical Competence. In the most recent version of these standards, the CFCC in Audiology and Speech-Language Pathology of ASHA (2018) details an assortment of content areas in which clinicians must demonstrate knowledge, including the following:

- Statistics and biological, social/behavioral, and physical sciences;
- Normal bases of speech fluency;
- Etiologies, characteristics, and correlates of fluency disorders and differences;
- Current principles and methods of prevention, assessment, and intervention for persons with fluency disorders;
- Standards of ethical conduct;
- Research methods and the role of research in evidence-based practice;
- Contemporary professional issues that affect clinical practice; and
- Professional certification and licensure credentialing, as well as regulations and policies that affect service provision.

## Developing the Necessary Skills

CFCC (ASHA, 2018) also specifies general standards that must be met with respect to clinical skills. These include the following:

- Demonstration of communication skills with the client and other relevant individuals that allow for competent professional practice;
- Demonstration of essential skills that pertain to client evaluation;
- Demonstration of essential skills that pertain to client intervention; and
- Demonstration of essential skills that pertain to the clinician's personal qualities and interactions with others.

Table 1–2 provides more detail about the specific clinical skills that pertain to evaluation, intervention, and personal qualities and interactions with others in the most recent version of the CCC standards. These standards for professional practice provide a framework for what a competent SLP must be able do. When working with people who have fluency concerns, however, there are a number of disorder-specific principles and skills that clinicians must acquire. Specific skills that pertain to assessment are discussed in Chapters 11, 12, and 13, and specific skills that pertain to intervention and the clinician's skills in the areas of professional communication, interpersonal interactions, and intervention practices are discussed in Chapters 14 through 18.

Although the requisite skill set is fairly wide —ranging from the skills associated with specific motor speech skills to the skills that go along with offering counsel to clients about their fluency-related emotions, feelings, thoughts, and beliefs—it is one that is quite feasible to develop, and there are many clinicians around the globe who have done so. Some clinicians have gone so far in pursuing their interests in treating people who have fluency disorders to gain recognition as a Board Certified Specialist in Fluency (BCS-F) by the American Board of Fluency and Fluency Disorders.

## Developing Competencies for Interprofessional Practice

Clinical service provision in speech-language pathology takes place in an interprofessional context. Thus, when providing clinical service to individuals who have fluency difficulties, SLPs are likely to interface not only with the client and the client's family, but also with a host of individuals from other professions. These include teachers, educational and counseling psychologists, occupational and physical therapists, and perhaps physicians and related medical personnel. For this reason, ASHA states that, beyond professional knowledge and skills, certified SLPs also must demonstrate a core set of attributes and abilities that are central to professional practice in an interprofessional setting. These include the following:

- *Accountability* (i.e., demonstrating mutual respect for and shared values with professionals with whom you engage);
- *Effective communication* (i.e., communicating with professionals, clients, and other individuals involved in intervention in a manner that is responsive, responsible,

**Table 1–2.** Summary of Skills Included in ASHA's 2020 Clinical Certification Standards for Speech-Language Pathology

| Evaluation Skills (Standard V-B-1) | Intervention Skills (Standard V-B-2) | Communication Skills, Interaction Skills, and Personal Qualities (Standards V-A and V-B-3) |
|---|---|---|
| Conduct screening and prevention activities. | Collaborate with clients (and others[1]) to develop setting-appropriate intervention plans. | Use appropriate clinical and professional communication (oral[2], written, and other modalities) interactions with clients (and others). |
| Collect case history information; integrate the information with other information. | Develop and implement intervention plans, while involving clients (and others[1]) in the process. | Communicate effectively with the client and other relevant individuals. |
| Select and administer appropriate evaluation procedures. | Select/develop and use appropriate materials and instrumentation for prevention and intervention. | Manage the client's care to ensure use of interprofessional, team-based collaborative practice. |
| Adapt evaluation procedures to meet the client's (and others'[1]) needs. | Measure and evaluate client's performance and progress. | Provide counseling to client/patient, family, caregivers, and relevant others. |
| Process data to develop diagnoses and make appropriate intervention recommendations. | Modify intervention plans, strategies, materials, or instrumentation as appropriate to meet the client's needs. | Adhere to ASHA (2016b) *Code of Ethics* and behave professionally. |
| Complete all administrative and reporting functions that are necessary to support the evaluation. | | |
| Refer individuals as necessary for appropriate services. | | |

[1]The term *and others* refers to the client's family members and other relevant individuals who are involved in treatment.
[2]CCC applicants must demonstrate oral language skills consistent with ASHA's current position statement on English-speaking competence.

and supportive of intervention team goals);

- *Professional duty* (i.e., having an understanding of how an interprofessional approach to assessment and treatment works and how it benefits clients, and having the ability to implement it effectively to coordinate speech-language pathology with other services the individual may be receiving); and
- *Collaborative practice* (i.e., having an understanding of the values and principles that are central to interprofessional practice; when appropriate, being able to effectively plan and implement team roles beyond those immediately associated with speech-language pathology, in a safe, timely, efficient, effective, and equitable manner).

## Engaging in Evidence-Based Practice

Clinicians who have a well-developed knowledge base about fluency disorders, an appropriate set of

clinical skills, as well as other key professional practice competencies are well positioned to engage in high-quality clinical practice. *Evidence-based practice* (EBP) is a concept that has gained widespread attention in professions such as speech-language pathology over the past 20 years. ASHA (2005) stipulates that principles of evidence-based practice must be incorporated as completely as possible into the clinical decisions that SLPs make.

Contemporary models of evidence-based practice include three components: (1) evidence that comes from current, high-quality research pertaining to assessment and treatment practices; (2) evidence that comes from the SLP's professional expertise in the area of practice (e.g., how a specific client is responding to an intervention, how similar clients have responded to an intervention in the past); and (3) preferences and values of a fully informed client (or, in some cases, informed parents). Knowledge about which clinical practices are and are not well supported by evidence from the current research literature is an excellent starting point for selecting an assessment or treatment approach. Clinicians who possesses such information are likely to spend most of the time in treatment engaged with the client in activities that are likely to be effective, and less time in activities that are either marginally effective or ineffective.

Because research-based evidence is *external* to the client, however, the SLP must supplement it with internal, patient-specific data (Dollaghan, 2007). Internal evidence includes things such as the clinician's records about client performance within and across treatment sessions and the clinician's accumulated knowledge from past clients about matters such as whether a particular treatment's effectiveness is affected by the client's age or presence of concomitant communication disorders. Such information is important to incorporate into clinical practice because treatments that have been shown to be effective for many people are not necessarily going to be effective for the client who the clinician currently is serving.

Patient preferences and values also are important to incorporate in an intervention plan. This component of evidence-based practice is important to address because, after all, the client is the one who lives his or her fluency disorder every day and is, therefore, *the* expert when it comes to how his or her disorder is experienced (Dollaghan, 2007; Zebrowski & Wolf, 2011), People who stutter often possess their own distinct impressions of and feelings toward fluency intervention. Their views typically are based on their past experiences in daily life and, in some cases, with fluency therapy (Yaruss, Quesal, & Murphy, 2002). Accordingly, nearly all clients *will* have opinions about what it is that they hope to accomplish in treatment and whether the clinician's treatment recommendations seem like a suitable way to approach these goals.

## Establishing Effective and Valued Working Relationships With Clients

As suggested in the preceding section, a critical component of evidence-based practice is the incorporation of the client's preferences and values (and, when appropriate, parents and other family members) in the therapeutic process. In this way, clients and other involved individuals have opportunities to shape the content and scope of intervention in ways that align with their values and goals, and in doing so, develop a sense of ownership in the intervention process and a sense of shared responsibility with the clinician for how the intervention will transpire. There is a large and long-standing body of research literature in the area of counseling psychology, and more recently in speech-language pathology, with respect to factors that affect how clients feel about the relationship they have with their clinician throughout the intervention process. The term *therapeutic alliance* is used to describe this construct, and it has been argued that client perceptions regarding the strength of this alliance plays a critical role in determining treatment outcomes. Bordin (1979) argued that therapeutic alliance is based on a sense of emotional attachment or bonding between the client and clinician. As such, it goes beyond having the client become acquainted with the clinician or the clinician asking the client to provide input into treatment design and goals. Some contend that the strength of the therapeutic alliance may play a bigger role in client change than the formal treatment approach that is often used (Wampold et al., 1997).

Plexico, Manning, and DiLollo (2010) examined responses from 28 adults who had partici-

pated in treatment for stuttering. The participants, whose lengths of therapy participation ranged from 6 months to 12 years responded in writing to a set of four standard prompts, which were designed to identify characteristics of clinicians who they felt were effective or ineffective in promoting successful changes in their ability to communicate. The participants also were asked to describe how they felt about each type of interaction, and the common content themes they expressed were identified and summarized. The participants described effective clinicians as having the following attributes:

- Passionate and committed, believing in the therapeutic process and in the client's ability to change;
- Making clinical decisions based on the client's needs, capabilities, and personal goals.
- Having a professional, confident demeanor and demonstrating understanding of the nature of stuttering and its treatment;
- Being able to build a trusting relationship with the client;
- Being an active listener and demonstrating a patient, caring demeanor;
- Encouraging client participation and *agency* (i.e., a person's ability to take the actions that are necessary to secure a desired outcome [Bandura, 2000]); and
- Acknowledging and/or promoting the client to realize cognitive change (e.g., thinking about fluency and communication in more positive and constructive ways).

As can be surmised from this list of characteristics, effective clinicians go beyond academic knowledge and speech-based technical skills in ways that put the person above the fluency disorder. Effective clinicians are invested in developing a rich understanding of what each client's communication challenges are like, including making an attempt to ascertain the client's unique perspective on the affective (feelings and emotions) and cognitive (thoughts, beliefs) elements that are associated with their communication challenges. They engage with clients in ways that convey a sense of caring for, listening to, and promoting the client's goals. Accordingly, such clinicians are able to help clients change not only their ability to communicate but also, more broadly, their lives. This type of outcome is much more encompassing and likely to be much more functional than an outcome that aims only to help a client reduce the frequency with which he or she produces disfluency. As such, it is likely to be an outcome that, once attained, will be one that clients recognize, value, and greatly appreciate.

## Summary

This chapter introduced the topic of fluency disorders and, along with it, an overview of the many and varied roles that SLPs assume when working with individuals who have impaired communication and/or swallowing. The term *fluency* was defined and discussed within the context of communication and as a contributor to an individual's overall health and sense of well-being. It was emphasized that fluent speech is best understood by examining with the broader contexts of speech production and human communication.

The roles and responsibilities of the SLP in the realm of fluency disorders were discussed within the context of the service delivery domains and professional practice domains described in ASHA's (2016a) *Scope of Practice in Speech-Language Pathology*. It was emphasized that professional practice with individuals who have impaired fluency goes well beyond the core assessment and treatment activities that many pre-service and beginning clinicians are familiar with, to include elements such as counseling, collaboration, prevention, advocacy, engagement in research, and assisting pre-service individuals and less-experience professional colleagues who are in the process of developing expertise in this area.

Essential concepts from WHO's (2001) *International Classification of Functioning, Disability, and Health* (ICF) were presented. These concepts constitute one of the major organizational frameworks for the discussion of information in this book. A brief overview of fluency disorders and associated terminology was provided. Each type of fluency disorder is discussed at length in later chapters. One major point of emphasis is the importance

of viewing the surface-level characteristics of a person's fluency disorder within the broader context of his or her unique personal and environmental setting, and the importance of adopting a broad view of the purpose for intervention—one where the focus is on the client's communicative functioning and overall social/emotional well-being rather than on simply the number of disfluencies he or she produces in conversation.

The chapter concluded with discussion of several components that are necessary for the provision of evidence-based clinical services in the area of speech-language pathology. Areas of knowledge and clinical skill that are essential to clinical service provision in the area of fluency disorders were outlined, along with competencies for interprofessional practice. These elements provide a platform for evidenced-based practice, wherein clinicians combine high-quality scientific data about intervention practices with their professional expertise, empirical data they have collected about the client, and input from the clients regarding what they hope to attain from clinical services, their priorities in intervention, and their preferences for how to attain them. The chapter concluded with a discussion of the clinician qualities that contribute to clients' feeling that they have a strong therapeutic alliance and productive working relationship with their clinician. These qualities go beyond the basic elements of evidence-based practice to include several key interpersonal skills as well as basic human qualities and attributes such as conveying a sense of respect for the client and a firm commitment to working toward the fulfillment of the professional duty that a clinician assumes when entering into a therapeutic relationship with a client.

## Questions to Consider

- In which social contexts is it most important for people to speak in a highly fluent manner?
- In which social contexts is it least important for people to speak in a highly fluent manner?
- Are there social contexts where it is expected that people will speak with less than perfect fluency?
- Are there social contexts where it is expected that people will speak very fluently?
- In what ways can a lack of fluency hinder a person's social interactions? Ability to communicate? Self-esteem?