REMOVING BARRIERS

Tips and Strategies to Promote

Accessible Communication

NORTH
CAROLINA
OFFICE ON
DISABILITY &
HEALTH

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Foreword

As disability awareness and sensitivity increases, many professionals are looking for resources to help them improve their interactions with people with disabilities. To meet this need, the North Carolina Office on Disability and Health has created this guide to accessible communication to facilitate the inclusion of people with disabilities and increase the ease with which everyone relates to each other.

Removing Barriers: Tips and Strategies to Promote Accessible Communication is a compilation of materials submitted by a number of organizations and individuals (see Acknowledgements). Its purpose is to be an easy-to-read, quick reference guide that addresses the basics in communicating with people with disabilities. This document is not meant to be an exhaustive, comprehensive resource but rather a good starting point for communications professionals and others to use in their work as well as private lives.

This guide focuses on ways to effectively communicate and interact with people with disabilities by providing information and tips that can be incorporated in the workplace as well as in other activities of daily community living. Most of the recommendations are low- or no-cost approaches that would be easy to implement in a variety of settings including government, non profits, advocacy agencies, private businesses, the general public and the media.

This document is an excellent resource for a number of people including communications professionals, graphic artists, printers, educators, the media and people with disabilities. Even if you don't understand all the material or don't need it for what you do, share it with others who are responsible for those areas. People with disabilities can also share this guide with others to facilitate improved communications and greater use of alternative formats.

The information in this guide is limited to communicating with people who have more visible disabilities such as hearing, vision, mobility, speech and cognitive limitations. However, it is important to recognize there are also "invisible" disabilities, such as mental illness and serious environmental allergies, that people need to be sensitive to in their interactions with others.

Many of the suggestions in this guide constitute universal "best practices" in communications. By incorporating the recommendations, you are making improvements that will benefit a wide audience. We encourage you to use this and other resources to enable everyone to better communicate with each other and to promote full inclusion of people with disabilities.

Chapter One
Disability Awareness

A major component to successful communications is being comfortable with the person with whom you are interacting. For many people, there is some awkwardness in communicating with people with disabilities—they're just not sure how to act and what to say. Should you look at people with a mobility or disfiguring disability and risk them thinking you're staring at them, or do you ignore them, avoiding eye contact and risk making them feel ostracized? Should you help someone who seems to be having difficulty getting his/her wheelchair up an incline? What do you do when you can't understand someone with a speech disability?

Learning more about disabilities will increase the comfort level in interactions with people with disabilities. Because of medical advances, technology, the variety of services available and an attitude shift towards inclusion and integration, many people with disabilities are active members of their communities.

Debunking the Myths

In spite of significant changes in the world of disability, it is important to recognize that some people still have negative stereotypes and misconceptions about people with disabilities. One of the first steps in improving communications with people with disabilities is to discard and disprove these myths that can put people with disabilities in a separate "class."

Following are some common misconceptions and facts about people with disabilities.

Myth 1:   People with disabilities are brave and courageous.
Fact: Adjusting to a disability actually requires adapting to a lifestyle, not bravery and courage.

Myth 2:   Having a disability means you cannot be healthy.
Fact: Persons with disabilities can experience good health and full participation in community life. They benefit from the same health-enhancing activities as the general population.

Myth 3:   Wheelchair use is confining; users of wheelchairs are "wheelchair-bound."
Fact: A wheelchair, like a bicycle or an automobile, is a personal assistive device that enables someone to get around.

Myth 4:   Curious children should never be allowed to ask people about their disabilities.

Fact: Many children have a natural, uninhibited curiosity and ask questions that some adults might find embarrassing. But scolding children for asking questions may make them think there is something "bad" about having a disability. Most people with disabilities won't mind answering a child's uestions, but it's courteous to first ask if you can ask a personal question.

Myth 5:   People with disabilities always need help.

Fact: Many people with disabilities are quite independent and capable of giving help. But if you want to help someone with a disability, ask first if he or she needs it.

Myth 6:   The lives of people with disabilities are totally different than those of people without disabilities.

Fact: People with disabilities go to school, get married, work, have families, do laundry, grocery shop, laugh, cry, pay taxes, get angry, have prejudices, vote, plan and dream, just like everyone else.

Myth 7:   There's nothing one person can do to help eliminate the barriers confronting people with disabilities.

Fact: Everyone can contribute to change. You can help remove barriers by:
- Understanding the need for accessible parking and leaving it for those who need it;
- Encouraging participation of people with disabilities in community activities by making sure that meeting and event sites are accessible;
- Understanding children's curiosity about disabilities and people who have them;
- Advocating for a barrier-free environment;
- Speaking up when negative words or phrases are used in connection with disability;
- Writing producers and editors a note of support when they portray people with disabilities as they do others in the media;
- Accepting people with disabilities as individual human beings with the same needs and feelings you might have; and
- Hiring qualified persons with disabilities whenever possible.

Interacting with People with Disabilities

When interacting with people with disabilities, it is important to extend them the same courtesies and respect that are shown to others. However, there are some rules of etiquette that will help both you and the person with the disability feel more comfortable. Following are some general recommendations as well as some disability-specific tips to improve communication and interaction skills.

In general

- Relax. Be yourself. Don't be embarrassed if you happen to use accepted, common expressions such as "See you later" or "Got to be running along" that seem to relate to the person's disability.
- Offer assistance to a person with a disability if you feel like it, but wait until your offer is accepted BEFORE you help. Listen to any instructions the person may want to give.
- Be considerate of the extra time it might take for a person with a disability to get things done or said. Let the person set the pace in walking and talking.
- When talking with someone who has a disability, speak directly to that person rather than through a companion who may be present.
- It is appropriate to shake hands when introduced to a person with a disability. People with limited hand use or who wear an artificial limb do shake hands.

Hearing

This disability can range from mild hearing loss to profound deafness. Some persons who have hearing loss use hearing aids. Others may rely on speechread (lip reading) or sign language, but many do not. Following are some ways to improve communication with someone who is deaf or hard of hearing.

- To get the attention of a person who is deaf or hard of hearing, tap the person on the shoulder or wave your hand.
- Follow the person's cues to find out if he/she prefers sign language, gesturing, writing or speaking.
- Look directly at the person and speak clearly, slowly and expressively to establish if the person can read your lips. Those who do will rely on facial expressions and other body language to help in understanding. Remember, not all persons who are deaf or hard of hearing can lip read.

- Speak in a normal tone of voice. Talking too loudly or with exaggerated speech can cause distortion of normal lip movements. Shouting won't help.
- Place yourself facing the light source and keep your hands and food away from your mouth when speaking. Do not try to communicate while smoking or chewing gum. Keep mustaches well trimmed.
- Try to eliminate background noise.
- Written notes can often facilitate communication.
- Encourage feedback to assess clear understanding.
- If you have trouble understanding the speech of a person who is deaf or hard of hearing, let him/her know.

Vision

As with hearing loss, there is a wide range of vision loss. People with low vision have limited vision even with correction. Others may have a total loss of vision and experience blindness. These guidelines will facilitate better communication with people with vision loss.

- When greeting a person with a severe loss of vision, always identify yourself and others who may be with you. Say, for example, "On my right is Penelope Potts."
- When conversing in a group, remember to say the name of the person to whom you are speaking to give vocal cues.
- Speak in a normal tone of voice, indicate when you move from one place to another and let it be known when the conversation is at an end.
- When you offer to assist someone with a vision loss, allow the person to take your arm. This will help you to guide rather than propel or lead this person. When offering seating, place the person's hand on the back or arm of the seat.
- Let the person know if you move or need to end the conversation. Let the person know if you leave or return to a room.
- Use specifics such as "left a hundred feet" or "right two yards" when directing a person with a vision loss.

DeafBlindness

There are varying degrees of DeafBlindness. For example, one person may be completely deaf and partially sighted while another may be totally blind and hard of hearing. For this reason, a combination of communication guidelines listed previously may be appropriate for people who are DeafBlind. (NOTE: The words Deaf Blind are written as either DeafBlind or Deaf-Blind. There is some disagreement on the "right" way within the DeafBlind community.)

Speech

Speech disabilities are seldom related to intelligence. A person who has had a stroke, is severely hard of hearing or has a stammer or other type of speech disability may be difficult to understand. Following are some guidelines for communicating with people whose speech is slow or difficult to understand.

- Give whole, unhurried attention when you're talking to a person who has difficulty speaking. Allow extra time for communication.
- Keep your manner encouraging rather than correcting. Be patient—don't speak for the person.
- If necessary, ask short questions that require short answers or a nod or shake of the head.
- Never pretend to understand if you are having difficulty doing so. Repeat what you understand. The person's reaction will clue you in and guide you to understanding.
- Use hand gestures and notes.

Cognitive

Cognitive disabilities may be attributed to brain injuries, developmental or learning disabilities, or speech and language disabilities. The following techniques may be used in communicating with persons with cognitive disabilities:

- Be patient. Take the time necessary to assure clear understanding. Give the person time to put his/her thoughts into words, especially when responding to a question.
- Use precise language incorporating simpler words. When possible, use words that relate to things you both can see. Avoid using directional terms like right-left, east-west.
- Be prepared to give the person the same information more than once in different ways.
- When asking questions, phrase them to elicit accurate information. People with cognitive disabilities may be eager to please and may tell you what they think you want to hear. Verify responses by repeating each question in a different way.
- Give exact instructions. For example, "Be back from lunch at 12:30," not "Be back in 30 minutes."
- Too many directions at one time may be confusing.
- Depending on the disability, the person may prefer information provided in written or verbal form. Ask the person how you can best relay the information.

Mobility/Wheelchair Users

There are several rules for interacting with people with mobility limitations, especially those who use wheelchairs, that will make everyone more comfortable.

■ Remember that any aid or equipment a person may use, such as a wheelchair, guide cane, walker, crutch or assistance animal, is part of that person's personal space. Don't touch, push, pull or otherwise physically interact with an individual's body or equipment unless you're asked to do so.

■ When speaking with someone in a wheelchair, talk directly to the person and try to be at his/her eye level, but do not kneel. If you must stand, step back slightly so the person doesn't have to strain his/her neck to see you.

■ When giving directions to people with mobility limitations, consider distance, weather conditions and physical obstacles such as stairs, curbs and steep hills.

■ Always ask before you move a person in a wheelchair—out of courtesy, but also to prevent disturbing the person's balance.

■ If a person transfers from a wheelchair to a car, barstool, bathtub, toilet, etc., leave the wheelchair within easy reach. Always make sure that a chair is locked before helping a person transfer.

Service Animals

An important component of interacting with a person with a disability can be knowing how to interact with that person's service animal. Service animals, such as guide dogs for the blind and assistance dogs and monkeys, should not be considered as pets. They are working animals. Following are a couple of rules for interacting with service animals.

■ Service animals should not be petted or otherwise distracted when in harness.

■ If the animal is not in harness, permission from the animal's companion should be requested and received prior to any interaction with the animal.

People-first Language

The way a society refers to persons with disabilities shapes its beliefs and ideas about them. Using appropriate terms can foster positive attitudes about persons with disabilities. One of the major improvements in communicating with and about people with disabilities is "people-first" language. People-first language emphasizes the person, not the disability. By placing the person first, the disability is no longer the primary, defining characteristic of an individual but one of several aspects of the whole person. For example, it is preferred to say, "people with disabilities" instead of "the disabled."

An exception to this rule is for people who are deaf or hard of hearing. In general, the deaf community does not like to be referred to as having hearing impairments. It prefers deaf or hard of hearing. Use "hard of hearing" to refer to people who have hearing loss but communicate in spoken language. "People with hearing loss" is also considered acceptable. Many people who are deaf and communicate with sign language consider themselves to be members of a cultural and linguistic minority. They refer to themselves as Deaf with a capital "D" and may be offended by the term "hearing impaired."

Also, people with disabilities may use the words disabled and crip to refer to themselves. They would also be likely to say, "I am blind," or "I am a paraplegic." Using "crip" language is part of the disability culture. However, people without disabilities should not use this terminology.

If you don't know the appropriate words to use, simply ask the person what is preferred. Following is a chart of some examples of people-first language. The glossary in Appendix A also provides terms and definitions to assist you in better communicating with and about people with disabilities.

People First Language

Labels Not to Use	People-first Language
the handicapped or disabled	people with disabilities
the mentally retarded	people with mental retardation
he's retarded	he has a cognitive disability
my son is autistic	my son has autism
she's a Downs kid, a mongoloid	she has Down syndrome
he's learning disabled	he has a learning disability
she's crippled	she has a physical disability
he's a dwarf (or midget)	he's of short stature or he's short
she's emotionally disturbed	she has an emotional disability
he's wheelchair bound or confined to a wheelchair	he uses a wheelchair
normal and/or healthy kids	typical kids or kids without disabilities
he's in special ed	he receives special ed services or additional support services
handicapped parking, bathrooms, etc.	accessible parking, bathrooms, etc.
she has a problem with…	she has a need for…

Chapter Two

Communication Aids and Alternative Formats

Numerous communication aids and accommodations are available to enable successful communication. These may include the use of qualified interpreters (sign language, oral or tactile); materials in alternative formats such as large print, audio tape, Braille and computer disk; a reader; and assistive listening devices. This chapter addresses some of the aids available for people with disabilities.

Printed Materials

Printed materials can be a significant barrier for people who have vision, learning and cognitive disabilities. Therefore, it is important to have alternative format options available, typically in the form of large print, Braille, audio tape and computer disk. The original publication should include information about alternative formats that are available.

The following table outlines the pros and cons to each of these alternative formats. When possible, ask the recipient which format he/she prefers.

Pros and Cons of Alternative Formats

Disabilities	Formats	Pros	Cons
Vision	Large Print	Provides access for many persons with low vision	Long documents may cause eye strain.
	Braille	Good for complex information, short reference materials (less than 10 pages), and for information that is referred to repeatedly such as meeting agendas	Only 10 percent of individuals who are blind read Braille. Documents in Braille are bulky and heavy.
Vision and Mobility	Audio recording	Popular format that can be accessed and stored easily and conveniently Eliminates the need to manipulate a publication	If materials are long or complex, audio recordings present the information in one dimension that is difficult to reread, scan or use as a reference source. Audio tapes do not always illuminate word spelling or format of the text. Difficult to communicate large tables or complicated graphics/ illustrations.
Vision, Mobility and Hearing	Electronic	Users can access text on diskette or through online resources using adaptive devices such as Braille display, speech output, Braille printing, large-screen magnification or adaptive keyboard designs. TTYs with an ASCII option or PC-based TTY-compatible modems allow users to communicate electronically with an information center or bulletin board system, reducing the dependence on voice-only telecommunications. Easy and compact storage Easy to use as a reference document	Users must have access to a computer, be equipped with a modem (for online resources) and have adaptive devices. Many software interfaces are graphically based or use point-and-click menus for accessing the information. Braille translation software, speech output devices, and TTYs cannot access this type of information.

Large Print

Many people with vision loss have some sight and can read large print. Large-print material can be produced by using a photocopier or a computer where a large type size can be selected. There is some disagreement as to whether the minimum type size should be 16-point bold or 18-point bold. For people with low vision, 18-point bold should be the minimum standard. Even with type this size, most persons with low vision use high magnification to read it.

This is Times Roman bold 16-point type
This is Times Roman bold 18-point type

Here are some other tips for producing large-print documents.

- The best contrast with the least glare is bold or double-strike type on light yellow paper. White paper produces too much glare. Do not use red paper.
- If white paper needs to be used, use an off-white paper that will still give good contrast while producing less glare than white.
- Avoid glossy paper because it causes glare.
- The paper should not be larger than standard 8.5" X 11".
- Make sure the weight of the paper is sufficient to prevent "show-through" printing.
- Use one-inch margins and use right margins that are ragged, not justified.
- The gutter margins (the adjoining inner margins of two facing pages in a book, magazine, etc.) should be a minimum of 22 mm (7/8 in.), and the outside margin should be smaller but not less than 13 mm (1/2 in.).
- The line of text should be no longer than six inches (approximately 50-60 characters per line). Anything longer than six inches will not track well for people who use magnifiers.
- Simplify formatting. Remove formatting codes that make the document more difficult to read. For example, centered text is difficult for some people to track. Text should begin at the left margin. Avoid the use of columns. Use dot leaders for tables of contents.
- Avoid complicated, decorative, or cursive fonts for text and headlines. Use a simple serif font, such as Times New Roman, for text. Serifs are the fine lines projecting from a letter. For example, this "T" is a serif type style and has small lines projecting down from the top of the T and across the bottom. This "T" is san serif—it does not have any extra lines.

- The font should have normal white spaces between characters. Compressed fonts and italics are difficult to read.
- Set the main body of text in caps and lower case.
- Avoid hyphenation at the end of lines.
- Underlining should not connect with the letters being underscored.
- Use one and one fourth to double spacing between lines.
- There should be no broken letters.
- Make sure the ink coverage is dense.
- The color contrast of typeface to background–either dark on light or light on dark–should be high. A 70% contrast is recommended.
- The color contrast of drawings or other illustrations to background should be as high as the type contrast.
- Photographs need to have a wide range of gray-scale variation.
- Line drawings or floor plans must be clear and bold, with limited detail and minimum 14-point type.
- Don't place any type or illustrations, such as watermarks, over other designs, photographs, graphics or text.
- The document should have a flexible binding, preferably one that allows the publication to lie flat.

Producing large-print documents does not have to be cost prohibitive, and documents created on the computer can be converted to large print relatively easily. The following will affect the printing cost:

- Setup;
- Number of copies;
- Required turnaround time;
- Type size–the larger the type, the more paper is needed; and
- Type of paper; house-stock paper is less expensive.

Computer Disk

Providing computer disks/ASCII translation may be the most cost-effective means of alternative media. A growing number of people with low vision or blindness prefer to receive materials on computer disk that they can listen to by utilizing voice-output or read with print-enlarging hardware and software on their personal computers. Whenever possible, the material should be saved in several formats that can be made

available to consumers. These would include commonly used word-processing software packages, such as Word and WordPerfect, and in ASCII (American Standard Code for Information Interchange). In Windows, the NotePad Accessory and on the Macintosh, "Simple Text" are two applications that will insure you have a "text"-formatted document.

Some factors that will affect the cost of the electronic formatting are:

- Scanning or re-keying the document;
- Converting features such as special characters, graphics, tables, sidebars; illustrations, special symbols, columns and boxes to text; and
- Labeling with large print/Braille labels, which are expensive.
- Cost-saving tip: When having material transcribed into printed Braille, also ask the vendor to format the document on disk for access by adaptive technologies. They will do so at a minimal charge.

Audio Tape

All print materials—brochures, newsletters, training manuals, resource books, etc.—can be made available on audio tape. In the print materials, be sure to indicate that the same information is available on audio cassette. Even people without vision loss frequently use audio cassettes to "read" while they drive, do chores or other activities.

The audio cassette should be tone indexed for easy choice of starting and stopping points for listening. For tone indexing, you will want to beep each section of a short document. For longer documents with several chapters, double beep the beginning of each chapter before you say the title. Single beep each page so that the reader can find his or her place in the document. Beeps or tones are audible when the playback machine is in the fast forward or rewind mode. Make sure the audio cassette version presents clear, high-quality sound.

It is best to use professional readers for quality tapes. For referrals on readers, contact the local radio reading service (contact them through your area's public radio station), community service organizations or associations, and agencies and centers that serve people with low vision and blindness. If you can't find an experienced reader, here are some guidelines for reading materials onto tape.

1. Always leave 30 seconds of empty brown tape after the leader tape runs through. At the very beginning of the book or document, say, "This document contains ___ cassettes on ___ sides." Narrators usually say, "Read by (name)" at the beginning and end of the entire document or book. Also read: "Copyright (year)."

2. At the beginning of each side, including the first side of the first cassette, announce the cassette number, if you have more than one cassette. Always announce the side number of the cassette. For example, "Cassette # ___ Side # ___ title by author, beginning on page # ___ section ___" or "Continuing with section ___."

3. At the end of each side announce "End of side (#) on page (#)." Then say, "This book/publication is continued on the next cassette," or "To continue, turn the cassette over." If you are using 4-track cassettes, say, "End of side 2. Change side selector switch, and turn the cassette over" before you get to side 3. This may sound tedious, but it helps the reader locate materials more easily when using a reference guide.

4. Announce the following at the beginning of a section: page number, chapter number and name, number of print pages included in the section.

5. Announce page numbers at the beginning of each page.

6. Designate "heading" or "subheading" when appropriate.

7. The first time a name appears in the material, read, then spell out the name. Also spell all foreign or unfamiliar names.

8. Italicized words, single words and short phrases within quotation marks or parentheses may be indicated by the inflection of your voice. For longer quotations, read as "quote"..."end quote." For longer parenthetical statements, read as "parenthesis"..."end parenthesis."

9. Read footnotes immediately following the end of the sentence in which the footnote number occurs. Announce as "Note (number)." After reading the footnote, say, "End of note. Return to text on page # ___."

10. Describe any graphics or pictures from left to right horizontally and then vertically (for charts or figures). Describe pictures or cartoons used as illustrations of the text as they appear.

Be sure to label all tapes on side 1 with a large number. Also, label the cassette with Braille and print labels that give a brief title and the tape and side number. In the tape case or box, you can have a Braille and print description of the contents of each tape. You can make your own labels with a tape writer if you have someone who can check the Braille to make sure that the words aren't put on upside down. There may be a group of volunteer Braille transcribers in the community who could help with labeling.

Remember that materials for persons who are blind or have print-related disabilities qualify to be mailed postage free. You may wish to purchase a stamp that says "FREE MATERIAL FOR PEOPLE WITH BLINDNESS OR PHYSICAL DISABILITY." This designation must be located in the upper-right corner where postage stamps usually go. Note that delivery for items sent for free may be delayed. If there is a deadline for delivery of an item, use usual shipping methods and charges.

There are several factors that impact recording costs. These include:

- Quality of the narrator–Professional readers will cost more but make a noticeable difference.
- Recording studio–Commercial recording studios use high-quality equipment and professional recording technicians.
- Type of cassette–Chrome tapes are of better quality and more expensive.
- Packaging–Soft, plastic tape boxes are more expensive than hard plastic but are more durable, especially for mailing.
- Labeling–Large print labels overprinted with Braille are recommended, though expensive.
- Duplication–Recording studios will usually duplicate large quantities, but subcontracting for duplication services saves costs.
- Rush orders–Rush orders can increase costs significantly.

If recording costs are problematic, you might try working with a local university journalism department or college radio station. Students who are advanced in radio or TV reporting may be able to use campus recording studios.

Braille

Not all people with blindness can read Braille, but for those who can, provide printed materials in Grade 2 Braille. Include information in printed materials that Braille versions are available.

Some tips for creating a Braille document include:

■ 8.5" x 11" paper is preferred over the standard 11.5" x 13" for ease of handling. However, smaller-size paper will result in more Braille pages, which will affect cost.
■ Put page numbers at the top of each page in the right-hand corner.
■ Margins should be wider on the left-hand side of the page to allow for binding.
■ If you are printing your document from a Braille printer, be sure to have someone check the Braille printout. Printers will sometimes misalign a page or print gibberish.

The cost of Braille transcription depends on several things:

■ Format: When possible, provide the original material in disk format. Transcription is more efficient and less expensive when working from a disk instead of printed copy. There will be scanning or retyping charges if the document is not supplied in electronic format.
■ Length and complexity: Prices are estimated by the number of Brailled pages, but the translation price increases if the document includes complex formatting.
■ Binding: Binding is recommended for documents that are 10 pages and longer or that use interpoint printing. It is best to spiral bind Braille publications and have a flexible cover on the back and front of long documents. If a document is to be kept for reference purposes, it should have a cover to keep the dots from wearing down from the wear and tear of surface contact. Braille documents should lie flat for easier reading.

Interpreters

People who are deaf or hard of hearing may use a sign language or oral interpreter. Interpreters can be used for one-on-one conversations, group meetings and conferences as well as to translate concerts, plays, poems and dramatic literature readings.

Because there are several types of interpreters, be sure to ask the person who is deaf or hard of hearing what kind of interpreter he/she needs if you are responsible for securing the interpreter. The different types of interpreting are:

■ **American Sign Language (ASL)**—a manual language expressed through signs, finger spelling, formal gestures, facial expressions and mime. ASL is a language that is grammatically different from English and from sign language of other countries.

- **Pidgin Sign English**—use of ASL and finger spelling of English.
- **Signed Exact English (SEE)**—use of signs that represent English grammar. Signed English uses ASL and finger spelling in English word order.
- **Oral/aural interpreters**—work with consumers who are deaf or hard of hearing and who rely solely on speech reading for communicating. An oral interpreter enunciates, repeats and/or rephrases a speaker's remarks using natural lip movements and gestures. They carefully choose words that are visible on the lips.
- **Tactile interpreters**—used by people who are DeafBlind (vision and hearing disabilities). These interpreters work one on one with the individual because the interpreter makes signs by placing his or her fingers and hand directly on the hand of the person reading the sign language.

TTY—Text telephones for people who are deaf, hard of hearing or have speech disabilities

A TTY (often called a TDD—Telecommunications Device for the Deaf) is a device for people with hearing or speech disabilities that enables them to communicate on the telephone. The TTY allows conversations to take place between two people, at least one of whom has a hearing or speech disability. Rather than speaking on the telephone, a TTY user will place the telephone handset on the TTY (or just use the TTY if it is connected directly to a phone line) and carry on typed conversations. There is a screen above the rows of keys where the typed text is displayed. TTYs can also be purchased with paper printout capabilities to provide a typed record of the conversation.

There are several ways in which TTY calls can be placed. They can be placed directly from the TTY device. Relay services are also available to enable people who use text telephones (TTYs) or personal computers to communicate with those who use voice telephones, and vice versa.

If you have a TTY number, remember to list it in the telephone book, public recruitment efforts, agency directories, advertisements, etc. There is also a directory just for TTY numbers. List your TTY number as follows:
- ### - ####   (V/TTY)
or
- ### - ####   (Voice)
- ### - ####   (TTY)

For more information about placing a TTY call as well as TTY abbreviations, please refer to Appendix B.

Speech-to-Speech (STS) Service

Speech-to-Speech Service (STS) enables a person with a speech disability to use his or her own voice or voice synthesizer to call another person through Relay North Carolina. STS provides trained operators who function as live voices for users with speech disabilities who have trouble being understood on the telephone. The operator will repeat the words of the person with the speech disability to whomever that person is calling. The service also works in reverse so that anyone may initiate a call to a person with a speech disability using the Speech-to-Speech Service. STS users may also make relay calls to TTY users through STS. For more information, contact Relay North Carolina's customer service office at 800-676-3777 (Voice/TTY/ASCII).

Video Relay Service (VRS)

Video Relay Service (VRS) is a videoconferencing application for computers with a video system. The American Sign Language (ASL) user can dial Relay North Carolina and have a certified interpreter appear on his or her computer. The ASL user communicates to the interpreter through the video while the interpreter dials out to the hearing party and relays the call in ASL. For more information, contact Relay North Carolina's customer service office at 800-676-3777 (Voice/TTY).

Captioning

Captioning is the process of translating the audio portion of video programming into text captions (subtitles) onto a screen so people who are deaf or hard of hearing can read what they cannot hear. The most common use of captioning is with television programming. In 1993, television manufacturers were required by federal law to include closed captioning.

Captioning is not limited to television. You should consider using it for videotaped training and promotional materials. For more information on how to incorporate captioning in your communications efforts, visit the Closed Captioning Web at www.erols.com/berke/ or contact the National Captioning Institute (NCI) at 1900 Gallows Road, Suite 3000, Vienna, VA 22182; 703-917-7600 (V/TTY); (www.ncicap.org).

Chapter Three
Creating Inclusive Materials

Inclusive materials provide accommodations for people with disabilities to enhance communications and interactions. This chapter discusses how to make print materials, web pages, videos and other visual materials more accessible for people with disabilities.

Printed Materials

The size of the type, the colors used, the type of paper—all of these affect the inclusiveness of a printed piece. This section provides guidelines for creating printed materials for use by people with disabilities. Remember to note on the original material that alternative formats are available upon request.

Tips to Enhance Readability

■ Use one-inch margins and use right margins that are ragged, not justified.
■ The gutter margins (the adjoining inner margins of two facing pages in a book, magazine, etc.) should be a minimum of 22 mm (7/8 in.), and the outside margin should be smaller but not less than 13 mm (1/2 in.).
■ The line of text should be no longer than six inches (approximately 50-60 characters per line). Anything longer than six inches will not track well for people who use magnifiers.
■ Simplify formatting. Remove formatting codes that make the document more difficult to read. For example, centered text is difficult for some people to track. Text should begin at the left margin. Avoid the use of columns. Use dot leaders for tables of contents.
■ Avoid complicated, decorative, or cursive fonts for text and headlines. Use a simple serif font, such as Times New Roman, for text. Serifs are the fine lines projecting from a letter. For example, this "T" is a serif type style and has small lines projecting down from the top of the "T" and across the bottom. This "T" is sans serif —it does not have any extra lines. Sans-serif typestyles are not recommended for body text because many of the letters are too narrow to be easily read. Sans-serif typestyles can be used for headlines.
■ The font should have normal white spaces between characters. Compressed fonts and italics are difficult to read.
■ Set the main body of text in caps and lower case.
■ Avoid hyphenation at the end of lines.

- Underlining should not connect with the letters being underscored.
- Use one and one fourth to double spacing between lines.
- There should be no broken letters.
- Photographs need to have a wide range of gray-scale variation.
- Line drawings or floor plans must be clear and bold, with limited detail and minimum 14-point type.
- Don't place any type or illustrations, such as watermarks, over other designs, photographs, graphics or text.
- The document should have a flexible binding, preferably one that allows the publication to lie flat.

Use of Color

There are three primary attributes of color: hue, lightness and saturation. Essentially, hue allows us to identify basic colors such as blue, green, yellow, red and purple. These colors may also have other attributes such as lightness (e.g., dark vs. light green, brown vs. yellow) and saturation (e.g., slate vs. deep blue). Lightness refers to the amount of light that appears to be reflected from a surface in relation to nearby surfaces. Saturation is the measurement of the perceptual difference of a color from white, black or gray of equal lightness. For example, slate blue is similar to gray so it is considered a desaturated color. A deep blue of equal lightness to slate blue is more saturated because it is less like white, black or gray.

All of these attributes affect the ability of people with congenital or acquired color deficit to distinguish between colors. When preparing materials for people with color deficits, remember that they will likely see less contrast between colors, they may have difficulties discriminating between colors of similar hue and their perception of lightness can be markedly different. Creating materials using colors that compensate for these differences will make your visual displays more accessible for everyone.

Following are a few design guidelines for using color:

- Exaggerate lightness differences between foreground and background colors. Lighten your light colors and darken your dark colors for better color contrast.
- Colors such as blue, violet, purple and red often appear darker to people with color deficits. To produce an effective contrast, use these colors with lighter versions of blue-green, green, yellow, orange or white. Avoid contrasting lighter versions of blue, violet, purple and red against darker shades of blue-green, green, yellow, orange and black.

■ A color circle places colors in what people with normal color vision consider a natural sequence based on their similarity to one another. This order (going clockwise, starting at the "12 o'clock" position) is yellow, orange, red, purple, violet, blue, blue-green and green. Avoid using contrasting hues from adjacent colors of the color circle, especially if the colors do not contrast sharply in lightness.

Paper Selection

Using appropriate paper is important. Two primary factors in paper selection are contrast and glare. For example, white paper produces too much glare. The best contrast with the least glare is achieved on light yellow, non-glossy paper, such as copy paper. To produce a more aesthetically pleasing document, use an off-white paper. This will still yield a good contrast while producing less glare than true white. Avoid dark colors and especially avoid shades of red, orange and blue. The paper you use should not be larger than standard 8.5 x 11 inches. Double-sided printing to produce a less bulky document is appropriate provided the print doesn't bleed through.

Spanish

With the number of Spanish-speaking people in the United States growing, you may want to make all printed materials available in Spanish. You may also want to consider printing materials in other languages, depending on the audience of your materials.

Web/Computer-based Materials

In creating a web page or other computer-based materials, use good, general design techniques. The following is a list of basic guidelines that should be considered when reviewing or developing a web page.

Structure:

■ The page layout should be simple and consistent throughout the web site.
■ Backgrounds should be simple with high contrast to text and graphics.
■ Avoid using numerous graphic images that may be confusing for people who are using a screen reader.
■ Select colors that will make your pages easy to read by people with color deficits. One good test is to see if your pages are readable in black and white.

- In most cases, it is advisable to avoid background (wallpaper) patterns as the images and/or colors can impede accessibility for people with limited vision or who use screen readers.
- Text should be clear and uniform for easiest reading. Using a large font is not necessary, because most viewers will adjust the fonts on their browsers and a large font might then be too large to provide continuity if only a few words are visible at a time.
- General site layout should be easily recognized by the user through menu selections and navigation links.
- Standard, basic web authoring language (HTML) should be used for initial design considering the limitations of the tools used by the audience.

Navigation:

- Use clear, consistent navigation structure throughout the site. Use navigation buttons at the top and at the bottom of the page.
- Minimize scrolling. All critical information and navigation options should be at the top of the page.
- Make sure each page gives a clear indication of the sponsoring web site and where the user is on the site.

Alternative formats:

- An alternative text-only version should be provided for all graphics-laden sites. This choice should be available on the home page as well as throughout the site.
- All graphics should have a text caption that explains the purpose of the graphic. For example, for your company logo graphic, there might be a text caption that reads, "Logo for (company name)."
- Keyboard navigation should be available as well as mouse navigation.
- E-mail or telephone options should be provided as alternatives to web forms.
- Alternative language versions should be provided for all information directed to specific language audiences.

A good source for accessibility tips and guidelines is the Web Accessibility Initiative's web page. The address is www.w3c.org/WAI. Another source is http://www.itpolicy.gsa.gov/cita/wpa.htm.

Once you've created your web page—or if you're updating an existing one—Bobby test it. Bobby is a web-based service and a downloadable application designed to help make web pages accessible by the largest number of people. A free service, Bobby performs a

series of tests to determine the ways in which a web page is inaccessible to people with vision, hearing or physical disabilities. It identifies problems and gives warnings and suggestions to correct them. In addition, Bobby will help find design problems which prevent a web page from being displayed correctly on different web browsers, such as America On-Line, Netscape Communicator, Mosaic, Microsoft Explorer and Lynx, eliminating the need to individually test the page with each browser.

The Bobby program is easy to use. First, go to the Bobby web page at www.cast.org/bobby/. Type in a URL that you want Bobby to analyze and press the submit button. You can also download Bobby—directions are on the web page.

There are many software and hardware products that have been developed for pc users with disabilities. For example, The Productivity Works, Inc. has developed pwWebSpeak, a non-visual browser with a built-in speech processor and enlarging format that interprets from the HTML code rather than what appears on the screen. Microsoft Internet Explorer uses the Active Accessibility program to facilitate use of screen reader software, synthesizers, Braille displays and large-print programs. Zoomtext has the capability of reading Windows command menus aloud for computer users, and it is one of the most widely used screen-enlargement programs.

Videos

Following are some recommendations for making videos more accessible for people with disabilities. Remember that, in general, videos are the most inaccessible form of information for people with vision loss.

- Limit the length of the video, preferably to 5-10 minutes.
- Make sure the video has a primary focus or theme with about three to four main points.
- Use a balanced mix of visual and written information.
- Provide closed captioning and closed signing.
- Be sure to have good narration to describe written information flashed up on the screen.
- Make sure TV and VCR equipment are "user friendly" and accessible for all people with disabilities.
- Provide audio descriptions if scenery, actions, facial expressions, or gestures are important to the video.

Personal Computer Presentations, Overheads and Slides

Most of the guidelines for preparing personal computer presentations, overheads and slides are the same, whether you are presenting to a group with disabilities or not. The key word for all visuals is simplicity. Following are a few suggestions for creating effective visual presentations.

- Present only one idea per visual. It is better to use several simple visuals that are easier to understand than one complex visual.
- Simplify the information. Wording should be brief and concise.
- Limit the number of words on a visual to no more than 15.
- Use just key words, not complete sentences.
- Don't use all capital letters. Initial caps followed by lower case is more legible. Enlarge the font if necessary.
- Use at least 20- or 24-point type.
- Simple, bold, block-type print is the most effective. Good sans-serif type styles include Univers, Helvetica, Helios and News Gothic.
- Saturated colors project best. Pastels don't provide enough contrast for readable type.
- Limit the use of colors. Don't make each letter a different color.
- Test project your slides on the viewing surface prior to the presentation. Color contrasts that appear to be okay on the computer monitor are frequently difficult to visualize when projected on a large surface.
- Use simple graphics. Avoid large and/or complicated tables.
- Describe the graphics for those who have a hard time reading the slides.
- Avoid "busy" backgrounds.
- For automated pc and slide presentations, allow ample time for people to read each visual.
- Provide the visuals on hard copy and offer other alternative formats.

Chapter Four
Media Relations

People working in the media can exert a powerful influence over the way individuals with disabilities are perceived. By learning more about communicating and interacting with people with disabilities, the media can play a key role in breaking down some of the attitudinal barriers that people with disabilities face and in promoting inclusion in the community.

The same guidelines for etiquette that are presented on pages 3-6 apply in media relations with people with disabilities. This chapter provides additional tips on reporting on and interviewing people with disabilities.

Reporting on People with Disabilities

People with disabilities live everyday lives and should be portrayed as contributing members of the community. These portrayals might include:

- A discussion of the civil rights issues that directly affect people with disabilities, such as employment opportunities, accessibility in housing, education, public transportation and telecommunication systems. The disability movement is a civil rights movement.
- Coverage of a wide variety of people with disabilities, not just those—such as wheelchair users—who are most easily recognized by the general public.
- Employees/employers with disabilities working together in non-stereotypical jobs.
- Casting people with disabilities in background scenes and in parts that don't focus on their disabilities.
- Showing people with disabilities doing ordinary, everyday activities such as cooking dinner, paying bills, shopping, parenting or playing at the park.
- Focusing on abilities, not on limitations. If you mention adaptive tools such as crutches or canes, it should be in the context of how these mobility aids help someone to do a job or participate in an activity.
- Integrating a person's disability into that person's total identity. This might include showing someone with a disability experiencing the same pain/pleasure that others derive from competitive sports, recreational activities, work, parenting, sex, relationships, education and community involvement.
- Including people with disabilities in advertising since there are more than 54 million—not counting their families and friends—who eat, wear, use, drive and buy the products advertised.

Language is very important in presenting a realistic portrayal of people with disabilities. There are certain phrases and words that should be avoided because they promote negative stereotypes. Following are some guidelines for reporting on people with disabilities.

1. Use the word disability when referring to persons or people with disabilities—don't use the word handicapped. A disabling condition may or may not be handicapping. For example, someone who uses a wheelchair has a physical disability. This person is handicapped when faced with a set of stairs when there is no ramp alongside.
2. Emphasize the person, not the disability, by using people-first language. For example, it is preferable to say, "people with disabilities" instead of "the disabled." (See pages 6-7 for more on people-first language.)
3. Because people are not conditions, don't label individuals as "the disabled," "epileptics," "post-polio" or with other names of conditions. Refer, instead, to "people with cerebral palsy" or "someone who has a seizure disorder."
4. Omit, if possible, any mention of someone's disability if it is not a pertinent part of the story.
5. Whenever possible, depict the typical achiever who has a disability, not just the super-achieving individual.
6. When writing about people with disabilities, choose words that carry nonjudgmental connotations and are accurate descriptions.
7. Ask people with disabilities to provide technically correct information and assistance to insure that stereotypes and misinformation are avoided.

Interviewing People with Disabilities

In general, prepare and conduct your interview as you would with anyone. Put your subject at ease. Be clear in your questioning. Be candid and blunt when you need to be, and ask for clarification of terms or issues when necessary. And be up front about your deadlines, the focus of your story and when and where it will appear.

When interviewing people with disabilities, follow the general etiquette guidelines provided on pages 3-6. If possible, determine the best way of communicating prior to the interview. For example, does there need to be an interpreter present? Does the interviewee prefer that you communicate through written notes rather than speech?

To enhance the success of your interview, here are some tips for interviewing people based on their disability.

Hearing

■ You may need to get the person's attention by tapping gently on the shoulder or waving your hand or using some similar physical signal.

■ If you are interviewing someone with a partial hearing loss, ask where it would be best for you to sit.

■ If an interpreter is present, speak to the person being interviewed rather than to the interpreter.

■ If the person is lip reading, look directly at the interviewee. Speak slowly and clearly. Do not exaggerate your lip movements or shout. Speak expressively because the person will rely on your facial expressions, gestures and body movements to understand you. (Note: It is estimated that only 3 out of 10 spoken words are visible on the lips.)

■ Place yourself facing the light source and keep your hands and food away from your mouth when speaking.

■ Shouting does not help and can be harmful. You may want to use written notes.

Vision

■ When greeting a person with a severe vision disability, always identify yourself and introduce anyone else who might be present.

■ When offering a handshake, say something like, "Shall we shake hands?"

■ When offering seating, place the person's hand on the back or arm of the seat.

■ Let the person know if you move or need to end the conversation.

Speech

■ Give your undivided attention when talking with someone who has difficulty speaking.

■ Ask short questions that require short answers or a nod of the head when you can.

■ Don't pretend to understand if you do not. Try rephrasing what you wish to communicate or communicate by writing.

Cognitive

■ You may need to repeat yourself to fully communicate your question.

■ Communicate in a style that is age appropriate. Treat adults as adults and children as children.

■ Use brief, simple language.

- Reduce or eliminate distractions such as ringing telephones, loud talking, music or visual distractions.

Mobility/Wheelchair Users

- Don't lean on a person's wheelchair. The chair is part of the user's body space.
- Don't patronize people who use wheelchairs by patting them on the head.
- When conducting interviews that last more than a few minutes with a person who uses a wheelchair or crutches, place yourself at that person's eye level to avoid stiff necks.
- Make sure that the place where you plan to conduct the interview is accessible. Check the following:

  Are there parking spaces reserved for people with disabilities nearby?

  Is the path from the parking lot to the entrance free from barriers and obstacles?

  Is there a ramped or step-free entrance?

  Is the entrance door wide enough to accommodate a wheelchair?

  Are there accessible bathrooms?

  If the interview is not on the first floor, does the building have an elevator?

  Are there water fountains and telephones low enough for a person in a
       wheelchair to use?

  Is there a place for people who use other mobility aids, such as crutches and canes,
       to comfortably sit?

- Be sure to notify the interviewee in advance if there are problems with your location. Discuss what to do and make alternate plans with the person you plan to interview.

Appendix A

Glossary of Terms

The following terms and definitions will assist you in better communicating with and about people with disabilities.

ADA: The Americans with Disabilities Act, signed into law in 1990, is the first comprehensive civil rights legislation to protect people with disabilities.

able bodied: What people with disabilities call people without disabilities; a neutral term.

accessible: Buildings, structures, programs, transportation services, public services, etc., which are designed or modified to enable persons with disabilities (physical and/or cognitive) to utilize them without undue difficulty.

blind: Having no vision.

brain injury: Any level of injury to the brain caused by an impact with the skull. Mild symptoms include persistent headaches, mood changes, dizziness and memory difficulties.

cerebral palsy: Decreased muscular power and coordination due to an injury to the brain, occurring before, during or after birth. This developmental disability can result in difficulty in walking and/or speaking, problems with balance and/or loss of or decreased control over voluntary movements.

communicative disorder: An umbrella term for speech disabilities.

congenital disability: A disability that has existed since birth.

cystic fibrosis: An inherited condition characterized by chronic respiratory and digestive problems due to excessive mucus production.

deaf: Severe or profound hearing loss; unable to hear and understand at the ordinary conversational level with or without hearing aids.

developmental disability: A severe, chronic disability which is attributed to a mental and/or physical limitation, is manifested before the person attains age 22, is likely to

continue indefinitely and results in substantial functional limitation in three or more of the following areas of life activity: self-care, receptive and expressive language, learning, mobility, self-direction, capacity for independent living and economic self-sufficiency. In North Carolina, persons with severe head injuries occurring after age 22 are considered to have developmental disabilities if they meet the remaining criteria set forth in the definition.

diagnosis: The process of identifying a disease or injury. People are not diagnosed; diseases and injuries are.

disability: General term used for a functional limitation that interferes with a person's ability, for example, to walk, hear or learn. It may refer to a physical, sensory or mental condition. Use as a descriptive noun or adjective, such as *person living with AIDS, woman who is blind,* or *man with a disability.* Impairment refers to loss or abnormality of an organ or body mechanism, which may result in disability.

disfigurement: Refers to physical changes caused by burn, trauma, disease or congenital problems.

Down syndrome: A chromosome disorder which usually causes a delay in physical, intellectual and language development. Usually results in mental retardation. Mongol or Mongoloid are unacceptable terms.

environmental sensitivity: Hypersensitivity to everyday chemicals and products. Persons with environmental sensitivity have a systemic physical reaction to petrochemicals, formaldehyde and coal-tar derivatives present in auto exhaust, synthetic fabrics, artificial fragrances, cleaning products, fresh paint, new building materials, pesticides and tobacco smoke.

epilepsy: A general term for various central nervous system disorders typically manifested by seizures (involuntary muscle contractions). Do not use the term epileptic. While the term "epilepsy" is still used, "seizure disorder" is much more common.

handicap: A physical or attitudinal constraint imposed upon a person, regardless of whether or not that person has a disability.

hearing disability: Refers to the loss of auditory functioning, ranging from hard of hearing to deaf.

hemiplegia: Full or partial paralysis of one side of the body due to disease, trauma or stroke.

HIV/AIDS: Acquired immunodeficiency syndrome (AIDS) is an infectious disease resulting in the body's immune system losing the ability to ward off infections. The disease is caused by the human immunodeficiency virus (HIV). A positive test for HIV can occur without symptoms of the illness which usually develop up to 10 years later, including tuberculosis, recurring pneumonia, cancer, recurrent vaginal yeast infections, intestinal ailments, chronic weakness and fever, and profound weight loss. Preferred: *people living with HIV, people with AIDS* or *living with AIDS.*

impairment: Refers to loss or abnormality of an organ or body mechanism which may result in disability.

independent living: Control over one's life, based on the choice of options that reduce depending on others in making decisions and performing everyday activities. Living independently includes managing one's affairs, participating in the day-to-day life of the community in a manner of one's own choosing, fulfilling a range of social roles, including productive work, and making decisions that lead to self-determination.

learning disability: A group of neurological conditions (e.g., dyslexia, dysgraphia, dyscalculia) which affect the person's ability to receive, interpret and use information. A person with a learning disability may have normal intelligence; however, there is a significant discrepancy in intelligence level and his/her ability to learn and perform certain tasks. A learning disability is lifelong.

low vision: Corrected visual acuity of 20/200 or less in the better eye or visual field contraction of 20 degrees or less.

mental disability: The Federal Rehabilitation Act (Section 504) lists four categories under mental disability: psychiatric disability, retardation, learning disability and cognitive impairment.

mental retardation: Refers to substantial limitation in present functioning, usually resulting in a developmental disability. It is characterized by significantly subaverage intellectual functioning, existing concurrently with related limitations in two or more of the following applicable adaptive skill areas: communication, self-care, home living, social skills, community use, self-direction, health and safety, functional academics, leisure and work. Mental retardation manifests before age 18. (American Association on Mental Retardation, 1992) Preferred: *people with mental retardation.*

muscular dystrophy: A hereditary, progressive degeneration of the muscles with accompanying weakness.

multiple sclerosis: An unpredictable, potentially disabling disease of the central nervous system caused by hardening of patches of the brain and spinal cord. Onset usually occurs from age 20 to 40 resulting in difficulties in walking, talking, sensing, seeing and grasping.

non-disabled: Appropriate term for people without disabilities. Normal, healthy or whole are inappropriate.

occupational therapy: Therapeutic use of self-care, work and recreational activities to increase independence, enhance development and prevent disability; may include adaptation of tasks or environment to achieve maximum independence and optimum quality of life.

orthotic: Generally, a brace that helps support a limb and improve its functioning.

paraplegia/quadriplegia: Paraplegia is paralysis of the lower half of the body including the partial or total loss of function of both legs. *Quadriplegia* is paralysis of the body involving partial or total loss of function in both arms and legs. While a person may have paraplegia or quadriplegia, he or she is not a paraplegic or a quadriplegic.

prosthetic: Usually an artificial extremity, such as an arm or leg.

physical therapy: Treatment using biochemical and neurophysiological principles and devices to assist in relieving pain, restoring maximum body function and preventing disability.

rehabilitation: An organized program of medical and clinical treatment designed to maximize residual, physical, perceptual and cognitive abilities following disablement.

Section 504: Section of the US Rehabilitation Act of 1973 that protects people in federally funded programs from discrimination on the basis of a disability.

seizure: Describes an involuntary muscular contraction, a brief impairment or loss of consciousness, etc., resulting from a neurological condition such as epilepsy or from an acquired brain injury. Rather than epileptic, say girl with epilepsy or boy with seizure

disorder. The term convulsion should be used only for seizures involving contraction of the entire body.

small/short stature: Do not refer to people under 4'10" as dwarfs or midgets. Use *persons of small (or short) stature*. Dwarfism is an accepted medical term, but it should not be used as general terminology. Some groups prefer "little People." However, that implies a less than full, adult status in society.

speech disability: The inability or limited ability to communicate effectively through verbal and/or language skills. For a person with no verbal speech capability, use *woman without speech*. Do not use mute or dumb.

spinal cord injury: Describes a condition in which there has been permanent damage to the spinal cord. Quadriplegia denotes substantial or total loss of function in all four extremities. Paraplegia refers to substantial or total loss of function in the lower part of the body only. Say *man with paraplegia, woman who is paralyzed* or *person with a physical disability*.

stroke: Caused by interruption of blood to the brain. Hemiplegia (paralysis on one side) may result. *Stroke survivor* is preferred over stroke victim.

universal design: An approach to accessibility that concentrates on making all aspects of an environment accessible to all people, regardless of their level of ability.

Appendix B
Making a TTY Call

Directions for Making a Call

To make a call using a relay service, dial 7-1-1

■ To place a call to Relay North Carolina:
   1-800-735-8200 (Voice)
   1-800-735-2962 (TTY)
   1-800-762-2724 (Computer)

   From outside of North Carolina, you can use the numbers for the national relay service:
   1-800-676-3777 (Voice)
   1-800-676-3777 (TTY)

■ Tell the communication assistant (CA) the number you want to call. The CA will then dial the number.

■ The CA will stay on the line to "convey" the conversation between you and the called party. The CA relays TTY-typed messages verbally and spoken responses via TTY. All conversations are kept confidential.

■ When you use Relay North Carolina, you have several options. At the beginning of each call, tell the CA exactly how you want your call handled. Your choices include, but are not limited to:
   • Ask for no explanation of relay. You can also request that the call not be announced as a relay call.
   • Request a male or female CA.
   • Request translation services where your typed TTY-ASL messages are translated into conversational English and where spoken English is translated into typed TTY-ASL.
   • Request Voice Carry Over (VCO).
   • Request Hearing Carry Over (HCO).

■ To use your personal computer to make a call, the software settings should be:
   • 300-2400 baud   • 8 bit
   • No parity   • 1 stop bit
   • Half duplex, Chat or Local Echo ON

When calls are placed at 300 baud, follow the above settings and set your "time out" to 100 or more seconds.

Relay services are available 24 hours a day. There is no charge for using the relay service or for dialing the toll-free number. You are billed for long distance calls as if you dial the numbers directly.

For additional information about Relay North Carolina, contact its customer service at:
1-800-676-3777 (Voice / TTY/ ASCII)
1-800-676-3777 (TTY)

To make a TTY call from the workstation (with Direct Connect):

- Turn on the TTY.
- Dial the phone number by hitting Shift and the Dial Key and then Return.
- Check the signal light near the screen. A steady blinking light indicates that the phone is ringing. A rapid blinking indicates the phone is busy.
- If you make a mistake when you dial, hold down Shift/Select and press Dial to start over.
- When the person you are calling answers, begin your conversation (see TTY Communication Tips below).
- To hang up at the end of your conversation, turn off the TTY.

To make a TTY call from an individual office without a direct phone line:

- Turn on the TTY.
- Place your telephone handset in the acoustic cups of the TTY (be sure the cord is on the left).
- Hit Call A or Call B on your phone to access a phone line. Watch the signal light on the TTY or a dial tone (it glows steadily red when there is a dial tone).
- Dial the phone number with your phone.
- Check the signal light near the screen. A steady blinking light indicates that the phone is ringing. A rapid blinking indicates the phone is busy.
- If you make a mistake when you dial, repeat the process by accessing another phone line.
- When the person you are calling answers, begin your conversation (see TTY Communication Tips below).
- To hang up at the end of your conversation, turn off the TTY.

TTY Communication Tips

- Answer by saying: "Hello this is (Name and Agency) G A." Indicate the other person's turn to respond by typing GA, signaling "go ahead." TTY users cannot interrupt each other in the same manner as is comfortable in voiced conversation, because the TTY carries a message only one direction at a time. Some newer model TTYs are equipped with "Turbo Code" which enables the users to communicate at whatever speed they choose and interrupt one another whenever they need to.
- Punctuation marks are not commonly used during TTY conversations. Simply skip a couple of spaces between sentences.
- Don't worry about spelling errors or "bad typing." Continue on with the conversation without backtracking to make corrections.
- To end a TTY conversation, use SKSK which means "stop keying." However, before signing off, it is appropriate to inform the other person that you are ready to end the conversation to allow an opportunity for additional comments. Generally, the phrase "BYE GA TO/OR SK" is used for this purpose. When the conversation is complete, both parties will type SKSK.

TTY Abbreviations

TTY	Teletypewriter
TDD	Telecommunications Device for the Deaf
CUD	Could
GA	Go ahead
HD/HLD	Hold On
PLS	Please
U	You
NBR	Number
THX	Thank You
R	Are
UR	Your
MSG	Message
MTG	Meeting
SHD	Should
SK	Stop Keying
TMW/TMRW	Tomorrow
Q	Question (instead of using punctuation mark "?")
XXX	Misspelled word, e.g. "we are goiinxxx to the store"
CUZ	Because
OIC	Oh, I see
OPR	Operator
CUL	See You Later

Appendix C
Products for PC Users

Following is a short list of some companies and their products for pc users with disabilities.

Ai Squared—maker of software to assist people with vision impairments or low vision who use computers. Products include ZoomText Xtra, ZoomText for DOS and VisAbility.

Dolphin Computer Access—developer of computer software for people with low vision or blindness.

Eurisco Information Systems—speech-friendly software, custom programming and courses for people with low vision or blindness.

Henter-Joyce, Inc.—the developer of JAWS for Windows screen reader and MAGic (Magnification in Color) screen magnification software.

HomeTOVA—providers of an at-home computerized screening test for attention problems such as ADHD/ADD.

Innovation Management Group, Inc—input devices for kiosks, commercial controls, corporations, disabled/RSI and consumers.

IntelliTools Inc.—computer technology for people with disabilities. Makers of the IntelliKeys keyboard and a range of software.

Laureate Learning Systems—produce software for adults and children with language disabilities.

Mayer-Johnson Co. Mindplay—focuses on children with disabilities.

Parrot Software—produces computer programs for people with aphasia, cognitive, language, and memory disorders resulting from head injury or stroke.

RJ Cooper & Associates—software and hardware for persons with disabilities.

Simtech Publications / SofDesign International, Inc—software developed to assist in training of individuals with dyslexia. Based on the Orton-Gillingham methodology.

Syntha-voice Computers Inc.—research and development corporation whose mandate is the design of access technology for pc users who are blindness, Deaf Blind, low vision or learning disabilities.

WorkLink Innovations—A.D.A. Solutions by WorkLink offers DragonDictate voice-recognition software and adaptive and assistive technology.

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National Easter Seal Society
Chicago, Illinois

NC Council on Developmental Disabilities
People First
Raleigh, North Carolina

North Carolina Division of Vocational Rehabilitation Services
Raleigh, North Carolina

Rehabilitation Institute of Chicago
Straight Talk About Disability: A Guide to Basic Understanding and Common Courtesy
Chicago, Illinois

Relay North Carolina/Sprint Telecommunications Corporation
How to Connect to Relay North Carolina and other materials
Raleigh, North Carolina

Research and Training Center on Independent Living
Guidelines for Reporting and Writing about People with Disabilities
University of Kansas
Lawrence, Kansas

The Lighthouse, Inc.
Color Contrast and Partial Sight

Print Legibility and Partial Sight
New York, New York

The Medical Foundation
Handbook on Accessibility and Inclusion
Boston, Massachusetts

The Smithsonian Institute
Checklist for Publications
Washington, DC

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Additional copies of *Removing Barriers: Tips and Strategies to Promote Accessible Communication* may be ordered from The North Carolina Office on Disability and Health. Alternate formats are available upon request.

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Other books in this series

Removing Barriers to Health Clubs and Fitness Centers: A Guide for Accommodating All Members, Including People with Disabilities and Older Adults
North Carolina Office on Disability and Health. 2001. 40 pages.

This guide provides ways you can make a health club's facility and services more accessible to all people, including people with disabilities ane older adults. Illustrations demonstrate how barriers in the physical environment can be removed and how exercise equipment can be designed to create a welcoming facility.

Removing Barriers: Tips and Strategies to Promote Accessible Communication
North Carolina Office on Disability and Health and Woodward Communications. 1999. 40 pages.

This booklet is an easy-to-read, quick reference guide that addresses the basics on ways to effectively communicate and interact with people with disabilities. Provides information and tips that can be incorporated into the workplace as well as in daily community living.

Copies of both of these books can be downloaded in PDF or html format from the NCODH website at http://www.fpg.unc.edu/~ncodh/ Alternate formats are available on request.