

The Service Delivery System

Chapter 4

The service delivery system is a complex of interrelated components that work together to provide a service to the customer. It includes the people, processes, and technology that are involved in the service delivery process. The service delivery system is designed to meet the needs of the customer and to provide a high-quality service experience. The service delivery system is a key component of the service organization and is essential for the success of the organization. The service delivery system is a complex of interrelated components that work together to provide a service to the customer. It includes the people, processes, and technology that are involved in the service delivery process. The service delivery system is designed to meet the needs of the customer and to provide a high-quality service experience. The service delivery system is a key component of the service organization and is essential for the success of the organization.

The Service Delivery System

The existing service delivery system¹ does not provide access to optimal treatment, devices, and services for many hearing impaired elderly people. Listed below are some of the most common problems that need to be addressed:

- Some hearing impaired elderly people are never evaluated by a hearing specialist. Data from the Health and Nutrition Examination Survey, collected from 1971 to 1975, showed that 61 percent of elderly people with significant hearing impairments had never had any audiometric testing. Low-income elderly people were particularly unlikely to have been tested (50).
- A 1984 survey showed considerable improvement in this problem over the past decade. However, of the 16 million people with hearing impairments in the United States, about 3.7 million (23 percent) have not seen a hearing specialist even though they are aware of their hearing impairment. Another 2 million (12.5 percent) are unaware of or deny that they have a hearing impairment (49). No age breakdown is available for these data.
- At least 75 percent of all hearing impaired people do not own a hearing aid, and some people buy hearing aids that are not well matched to their needs.
- Some elderly people who have had a hearing aid and/or a hearing evaluation in the past refuse further evaluation and treatment because they were disappointed with the previous experience (73).
- Many elderly people are not aware of available assistive listening devices, telecommunication devices, and signaling and alarm systems.
- Few elderly people receive aural rehabilitation services despite the potential benefit of these services.

The service delivery system involves three types of hearing specialists—physicians, audiologists, and hearing aid dealers—each with a substantially different orientation to hearing impairment. Although there are always exceptions to any generalization, it can be said that physicians generally approach hearing impairment from a medical point of view and their primary objective is curing or ameliorating disease in their patients. Audiologists generally approach hearing impairment from a service point of view and their primary objective is assessing the individual's communication deficits and recommending or providing services and devices to improve communication ability. Hearing aid dealers generally begin from a business point of view and their primary objective is providing an effective and satisfactory product for their customers. An increasing number of audiologists are now selling hearing aids, and these “dispensing audiologists” can be expected to share attitudes and objectives with both hearing aid dealers and audiologists.

These differences in points of view and objectives among the three types of hearing specialists can lead to disagreement. What is the best form of treatment for hearing impaired people? Which hearing specialist should a person see first? Should one type of specialist coordinate or supervise hearing services provided by other specialists? Changes in patterns of patient referral and treatment have both theoretical significance and financial implications for each type of hearing specialist. As a result, rivalry among them has been intense at times. This rivalry has been and will continue to be exacerbated whenever proposed Federal legislation and regulations appear to designate one type of specialist as the primary provider of hearing services.

The rivalry among hearing specialists contributes to fragmentation of delivery system and results in a lack of continuity of care. A client who is unaware of the differences between the three types of hearing specialists must often seek out services on his own. Frequently, each type of hearing specialist works in a different setting and clients

¹ As used in this report, the term “service delivery system” refers to service providers, referral patterns, and the settings in which hearing services are delivered.

must make numerous trips to obtain all the necessary services. This is particularly difficult for many elderly people.

These problems have been solved in some hospital- and university-based speech and hearing clinics that combine medical and audiological services and the capacity to dispense hearing aids and other devices. The Veterans Administration (VA) also has a comprehensive delivery system. In addition, a growing number of hearing specialists are

setting up private practice groups that provide a full range of hearing services in one setting. Finally, the professional societies that represent each type of hearing specialist have sponsored programs at the national, State, and local level to increase communication and cooperation among the providers of hearing services. Continued efforts to coordinate the delivery of hearing services would benefit hearing impaired people of all ages.

SERVICE PROVIDERS AND REFERRAL PATTERNS

Physicians, audiologists, and hearing aid dealers are the principal providers of hearing services. Speech therapists, social workers, psychologists, nurses, and other health care and social service providers are sometimes involved in referring the elderly for hearing evaluation and treatment.

Physicians

Many elderly persons enter the service delivery system via a primary care physician, such as a general practitioner, family practitioner, or internist.² Some individuals are referred by the primary care physician to another physician who specializes in diseases of the ear—usually an otolaryngologist or otologist.

Otolaryngology is a medical/surgical specialty, requiring 5 years of specialty training in the diagnosis and medical/surgical treatment of conditions affecting the ear, nose, throat, head and neck, and facial, cosmetic, and reconstructive plastic surgery. Otolaryngologists also receive some training in hearing measurement and aural rehabilitation. An otologist is a board certified otolaryngologist who chooses to limit his practice to medical/ surgical treatment of diseases of the ear.

Some hearing specialists believe that the first step in the delivery of hearing services should be an evaluation by a physician, specifically an otolaryn -

gologist or otologist, and that the physician should supervise treatment. Physician involvement is seen as essential because the physician is the only hearing specialist who can diagnose diseases that cause hearing loss (62, 42). Even though few of the hearing impairments common among elderly people are medically treatable, prompt identification of those few is clearly important. In addition, hearing impairment is sometimes the earliest symptom of serious pathology, such as an acoustic tumor, that requires immediate medical attention (10).

Physicians, including otolaryngologists, otologists, general practitioners, internists, and others, often play a key role in determining which hearing services are provided for elderly people. Private insurance and government funding programs often require that a physician approve hearing services as a condition of payment. Yet physicians who do not specialize in diseases of the ear generally receive very little training about auditory problems and almost no training in the management of auditory impairments that are not medically treatable. As a result, many of these doctors lack the expertise necessary to identify the hearing services needed by most elderly people (10).

Some hearing specialists express similar reservations about the role of otolaryngologists and otologists in determining what hearing services are provided for elderly people. These people argue that although otolaryngologists and otologists are the acknowledged experts in diagnosis of ear diseases, they are primarily trained in medical and surgical treatment and therefore are not well-qualified to advise hearing impaired adults about

²Although no data are available, anecdotal evidence indicates that only a small proportion of primary care physicians include a hearing test as part of a regular physical examination (106). Thus, it is likely that most of the elderly people who discuss their hearing with a primary care physician initiate the discussion themselves, or it may be brought up by a family member.

hearing aids and alternative approaches to compensate for hearing loss (33). It is said that they are particularly unlikely to know about assistive devices, telecommunication devices, and signaling and alarm systems (108).

In contrast, others argue that otolaryngologists receive substantial training in amplification and management of hearing impairment. The American Academy of Otolaryngology-Head and Neck Surgery also provides postgraduate education programs and self-instructional courses for physicians on the rehabilitation of hearing impaired people (43). It is interesting to note that a Federal Trade Commission survey of people who purchased hearing aids from 1983 to 1985 found that 6 percent purchased their aids from a physician (75). Some observers believe that the number of physicians who dispense hearing aids is increasing and that this trend will continue (106).

Audiologists

Audiologists are nonmedical hearing specialists trained in the identification, measurement, and rehabilitation of hearing impairment. Audiologists take courses in speech, hearing, and language mechanisms, culminating with a master's or doctoral degree in audiology. Many also hold a Certificate of Clinical Competence from the American Speech-Language-Hearing Association (ASHA). The practice of audiology is currently licensed in 35 States, and State licensing requirements are generally as rigorous as those for the Certificate of Clinical Competence (10).

Evaluation by an audiologist includes an assessment of hearing threshold sensitivity, speech discrimination ability, and residual peripheral and central auditory function. While audiological testing often reveals information that is useful to physicians in establishing a medical diagnosis, the primary purpose of the audiologic assessment is to determine the impact of impaired hearing on a person total communication ability. The assessment usually includes a comprehensive history covering:

- the onset and development of the hearing impairment;
- its relationship to physical, social, and emotional well-being;
- previous treatment;

- the relationship of the hearing impairment to other sensory or perceptual dysfunctions; and
- the effect of the hearing impairment on the person's speech (10).

Some hearing specialists argue that a comprehensive audiologic assessment is needed to determine the potential benefit of a hearing aid, the type of hearing aid that is needed, whether the fitting should be monaural or binaural, and which ear should be fitted (10). Others argue that parts of the audiologic assessment are not relevant to determining the potential benefit or selection of a hearing aid and that these tests can be unnecessary, time-consuming, and expensive for some hearing impaired people (62, 90, 133).

Until recently, audiologists did not sell hearing aids. There was a commitment to establish audiology as a profession that would provide hearing services, not products, and as a scientific discipline that would not be involved in commercial activities (41). The practice of audiology has changed considerably in recent years, however, and 35 to 40 percent of audiologists now sell hearing aids (18).³ Some analysts believe that the traditional commitment of audiologists to remain uninvolved in commercial aspects of hearing aid sales has resulted in skeptical or negative attitudes about hearing aids among some audiologists and that they may, therefore, fail to recommend a hearing aid even when the aid might benefit the patient (41).

Some audiologists sell assistive listening devices and telecommunication, signaling, and alarm devices. Survey data indicate that these devices account for about 2 percent of the gross profits of dispensing audiologists (23). Other audiologists provide clients with information about these devices, but do not sell them. Still others neither sell nor provide information about them, and some are not knowledgeable about them. Few professional training programs for audiologists include courses on

³Audiologists who dispense hearing aids are subject to any relevant State regulations. In some States, licensed audiologists are required to take a hearing aid dealer's exam to dispense hearing aids, while in other States they are exempt from this requirement. Some States require that audiologists complete an apprenticeship under the supervision of a licensed hearing aid dealer, while others do not. These variations in regulations can cause confusion and tension between audiologists and hearing aid dealers and impede reciprocity agreements between States (10).

assistive devices and the certification program for audiologists administered by ASHA does not require comprehensive training about these devices (33). Training programs such as those developed by Vaughn and Lightfoot of the VA Medical Center in Birmingham, Alabama, described later in this chapter, are designed to inform audiologists and other hearing specialists about these devices. In addition, ASHA has sponsored training workshops for audiologists on assistive listening devices.

Most audiology training programs have not emphasized the special problems of hearing impairment in elderly people. However, ASHA has recently developed a model curriculum for this purpose.

Hearing Aid Dealers

Hearing aid dealers sell hearing aids and hearing aid accessories, such as batteries, tubing, and earmolds. Hearing aid dealers do not have lengthy formal education in hearing impairment like otolaryngologists, orologists, and audiologists. Yet many have considerable experience and expertise in the remediation of hearing loss. They are generally well qualified to select and fit hearing aids, make earmold impressions, and instruct people in the use and care of hearing aids. Many dealers also repair hearing aids. Both hearing aid dealers and audiologists provide hearing aid orientation. All three types of hearing specialists provide counseling for hearing impaired people, although the focus and content of counseling may differ substantially depending on who provides it.

Hearing aid dealers have been harshly criticized in the past. Other hearing specialists and some consumer advocates have charged that hearing aid dealers focus too much on sales, that their sales tactics are too aggressive, and that they are not adequately trained to evaluate hearing impairment. The National Hearing Aid Society (NHAS) offers a 20-week home-study course for hearing aid dealers, but the course has been criticized as inadequate, incorrect, and outdated (10, 126).

Despite these criticisms, a recent nationwide survey showed that 72 percent of the people who bought hearing aids from hearing aid dealers were satisfied and would return to the same dealer. Only

16 percent would not return to the same dealer, and 12 percent were undecided. Consumer satisfaction with hearing aid dealers was lower than satisfaction with dispensing physicians and audiologists, however; 78 percent of those who bought a hearing aid from a physician and 81 percent of those who bought an aid from an audiologist said they would return to the same seller (75). While the validity of the sampling procedure for this survey has been questioned (107), and consumer satisfaction was greater among those who purchased aids from physicians and audiologists, these data do indicate considerable satisfaction with the performance of hearing aid dealers.

Hearing aid dealers are the only hearing specialists available in some geographic areas, and as such they provide hearing services to people who would otherwise have no access to services. In addition, it is likely that over the years hearing aid dealers as a group have had more experience with *elderly* hearing impaired people than other hearing specialists. Their understanding of the practical realities of providing amplification for elderly customers—problems of acceptance and adjustment and the kinds of listening situations that are particularly difficult for elderly people even with a hearing aid—could be a valuable source of information about the physical and psychological aspects of hearing loss in elderly people.

Hearing aid dealers are licensed in 45 States. A substantial number of dealers are also accredited by NHAS and/or the National Board for Certification in Hearing Instrument Sciences. NHAS has conferred the title “certified hearing aid audiologist” on dealers who pass the NHAS home-study course. Audiologists object to the use of this title by hearing aid dealers, saying that it can be confusing to consumers because it implies that the dealer possesses expertise which he does not have (10). ASHA has recently won a U.S. Patent Office ruling that only audiologists can use the word “audiologist” in their title. NHAS has appealed this ruling (133).

Most hearing aid dealers do not sell assistive listening devices or telecommunication, signaling, and alarm devices. These devices account for less than 1 percent of the gross sales of hearing aid dealers (23). Some hearing aid dealers do not sell these devices because they believe that assistive

listening devices are a low-cost alternative to hearing aids and could therefore reduce hearing aid sales. The profit to the dealer on assistive devices is generally less than on hearing aids. Some dealers also complain that they do not have enough space to display the devices. Others may not know about available devices (33, 68, 74). yet interest in these devices is increasing and some observers believe that more hearing aid dealers and dispensing audiologists will begin to offer them in the near future (29, 74).

Referral Patterns

Elderly people with hearing impairments can enter the service delivery system through a primary care physician, a physician specialist, an audiologist, or a hearing aid dealer. Each hearing specialist can provide services himself and/or refer the person to one or more other specialists. In one pattern of service delivery, the point of entry is a primary care physician, who may treat the individual, refer him directly to an audiologist or hearing aid dealer, or refer him to an otolaryngologist or otologist. The otolaryngologist may conduct hearing tests in his office or refer the patient to an audiologist for testing. When testing indicates sensorineural or other irreversible hearing loss, the otolaryngologist may refer the patient directly to a hearing aid dealer or he may refer the person to an audiologist for assessment of the potential benefit of hearing aid use, selection of the appropriate instrument, and other rehabilitative measures. The audiologist may supply the hearing aid or refer the patient to a hearing aid dealer (10).

A second pattern of service delivery involves entry through the audiologist or audiology clinic. If the initial audiologic evaluation suggests the possibility of medically significant pathology, the individual is referred to a physician, usually an otolaryngologist. When no such pathology is apparent, the audiologist proceeds with hearing aid evaluation and aural rehabilitation services. If a hearing aid is recommended, it may be dispensed by the audiologist or the individual may be referred to a hearing aid dealer (10).

In a third pattern of service delivery, the hearing aid dealer is the point of entry, with contact initiated by the consumer or as a result of solici-

tion by the dealer. The dealer may refer the consumer to a physician or an audiologist for medical or audiologic evaluation, or he may dispense the hearing aid on the basis of his own evaluation (10).

Federal Food and Drug Administration (FDA) regulations require that hearing aid purchasers must present a written statement from a licensed physician to the dealer or dispenser, dated within the previous 6 months, certifying that their hearing loss has been evaluated by the physician and that the individual is a candidate for a hearing aid. However, people over 18 years of age can sign a form waiving the requirement for a physician's evaluation (10). No information is available about how many hearing aids are sold on the basis of these waivers. However, only 42 percent of those who bought hearing aids from 1983 to 1985 recalled being told about the requirement of a physician's evaluation or a signed waiver, 46 percent said they had not been told about the requirement, and 12 percent could not remember (75).

Many physicians and audiologists are concerned that people who see a hearing aid dealer first frequently are not referred to a physician for medical evaluation or to an audiologist for comprehensive audiologic evaluation. Although data on referral patterns are not conclusive, a nationwide survey of people who purchased hearing aids from 1983 to 1985 indicates that 64 percent of respondents saw a physician about their hearing problems before purchasing a hearing aid. Of these individuals, 92 percent saw an ear specialist and 15 percent saw a general practitioner or internist. Clearly, some individuals saw both (75).

Survey data also show that about 45 percent of respondents received information about hearing aids from an audiologist prior to purchasing an aid and 53 percent said that an audiologist recommended the performance characteristics for their aid (75). Thus at least half of those who purchased a hearing aid had seen an audiologist before buying the aid.

Anecdotal evidence suggests that some people who are referred by a hearing aid dealer to a physician or audiologist for evaluation prior to purchasing a hearing aid are not referred back to the dealer to buy the aid (133). In some cases, the physician or audiologist may recommend against pur-

chasing an aid, while in other cases the person may purchase the aid from the audiologist or a different dealer recommended by the physician or audiologist. Obviously, alleged instances of the latter type are troublesome to hearing aid dealers.

Also troublesome to dealers is the finding that physicians and audiologists often recommend against hearing aids for people who, in the opinion of the dealer, would benefit from using an aid. One national survey showed that among hearing impaired people who do not own hearing aids, 63 percent have discussed their hearing problems with a hearing specialist. Of those who saw an otolaryngologist or otologist, 34 percent received a recommendation against buying a hearing aid. Of those who saw an audiologist, 27 percent received a recommendation against buying an aid (49). While *no* information is available about whether hearing aid dealers would recommend hearing aids for all of these people, it is clear that there is disagreement among hearing specialists about who can benefit from a hearing aid.

This information about hearing specialists, referral patterns, and recommendations about hearing aid use raises many questions about the most appropriate hearing services for hearing impaired elderly people. For example:

- Is physician evaluation essential for all elderly hearing impaired people?
- Should a physician, or a physician who specializes in ear diseases, supervise all hearing services?
- Is a comprehensive audiologic evaluation necessary for all elderly hearing impaired people?
- Which hearing tests are necessary to determine the potential benefit of a hearing aid and/or to select the appropriate aid?
- Are there categories of individuals with partial hearing loss who cannot benefit from a hearing aid? If so, can these categories be agreed on by the three types of hearing specialists?

These questions relate both to the quality of hearing services and to their cost, and hearing specialists disagree strongly about the relative merits of different patterns of service delivery.

This OTA report reaches no conclusions about these important questions or the relative advan-

tages of different patterns of service delivery. The two nationwide surveys of the service delivery system that have been cited throughout this report (49, 75) provide valuable information about the existing service delivery system. Further research is needed to determine the costs and benefits of alternate patterns of service delivery. Such research would require a prior determination of which hearing services are essential and/or desirable for elderly people—a determination that can best be made by drawing on the expertise and experience of all three types of service providers. It is possible that the Federal Government could initiate or support a joint effort of this kind.

The Role of Other Health Care and Social Service Providers

Speech therapists, social workers, psychologists, nurses, and other health care and social service professionals also provide advice, referrals, and emotional support to hearing impaired elderly people. Unfortunately, many of these professionals know very little about hearing impairment or available treatments, devices, and hearing services. **All** health care and social services professionals should be educated about hearing impairment and appropriate procedures for referring people to hearing specialists (10). Training materials are also needed for health care and social service providers who have completed their professional education.

ASHA received a grant from the Administration on Aging to develop training materials for hearing specialists and other health and social service providers who work with elderly people. One example of such materials is the recent ASHA and the National Information Center on Deafness publication *Hearing Loss: Information for Professionals in the Aging Network* (137).

The Suzanne Pathy Speak-Up Institute, based in New York City, has developed a program to train hospital personnel to recognize and respond effectively to hearing impaired patients. Hospitalization is an anxiety-producing experience for most people. For hearing impaired elderly people, hospitalization can be especially frightening because they are often unable to hear instructions and explanations given by nurses, physicians, and other hospital personnel. The National Center for Law

Figure 14.— Materials Supplied to Participating Hospitals by the Suzanne Pathy Speak-Up Institute

HEARING PROBLEM
SPEAK UP!



RULES TO REMEMBER WHEN SPEAKING TO SOMEONE WITH A HEARING LOSS:

- DO NOT SHOUT.
- SPEAK CLEARLY AND SLOWLY.
- REPHRASE A MISUNDERSTOOD SENTENCE.
- MOVE AWAY FROM BACKGROUND NOISE.
- STAND IN CLEAR LIGHT FACING THE PERSON WITH WHOM YOU ARE SPEAKING.
- DO NOT OBSCURE YOUR MOUTH WITH A CIGARETTE OR HANDS AND DO NOT CHEW FOOD WHILE SPEAKING.
- ASK THE PERSON WHAT YOU MIGHT DO TO MAKE CONVERSATION EASIER.

To increase awareness of hearing impairment, the Suzanne Pathy Speak-Up Institute has developed this large sign to place above the bed of the hearing impaired patient. Smaller gummed stickers are also available to mark the medical chart of each hearing impaired patient. They also supply a gummed card for the medical chart of each patient to remind hospital staff of rules for communicating with the hearing impaired,

SOURCE: Suzanne Pathy Speak-Up Institute

and the Deaf points out that when patients cannot hear explanations of their condition and proposed treatment, their “informed consent” could be considered legally invalid. In addition, there is a risk of wrong diagnosis for patients who cannot completely understand questions about their symptoms and consequently provide inaccurate information to the physician (80).

The Suzanne Pathy Speak-up program provides stickers to mark patient charts and instruction cards to remind staff how to communicate with hearing-impaired patients (see figure 14). As of July 1984 the program was in effect in more than 50 hospitals across the country (110) and is being extended to home health care agencies (85).

SETTINGS FOR SERVICE DELIVERY

Most hearing services for elderly people are provided in the offices of physicians, audiologists, and hearing aid dealers. To a lesser extent, hearing services are also provided in health care and educational settings and in multi-service community agencies. Although certain services, such as medical and surgical treatment, can only be provided in health care settings, others such as aural rehabilitation can be provided in a variety of settings. In some instances, the character of apparently similar services may differ when they are delivered in different settings. In other instances they may be virtually identical. Reimbursement for services, however, depends heavily on the setting where they are provided (10).

Health Care Settings

Except for surgery, few hearing services are delivered in hospitals on an inpatient basis. This may become even more rare because of restrictions on admission and length of stay resulting from the Medicare prospective payment system. Diagnostic services are sometimes provided in hospitals, but aural rehabilitation services are seldom available (10).

Most hearing services provided by health care institutions are delivered on an outpatient basis, in either hospital-based or independent speech and hearing clinics. Diagnostic and rehabilitative services are usually provided, but the emphasis is on short-term care. Because of the relatively high overhead costs in most medically based outpatient facilities, long-term rehabilitative services in these settings are often prohibitively expensive. Occasionally, hearing services for older people are provided by local health departments and even mobile medical clinics.

Extended care facilities, such as nursing homes, would seem to be an optimal setting for the delivery of hearing services. Speech pathology services often are required as a condition of licensure for extended care facilities and speech pathologists sometimes refer elderly residents for hearing evaluations. However, comprehensive hearing services are seldom available in these facilities and it is often difficult for nursing home residents

to go out to the offices of hearing specialists because of their other physical impairments. Some hearing aid dealers do visit nursing homes to evaluate patients and fit hearing aids, but few otolaryngologists and audiologists are available to treat residents in nursing homes.

Home health programs also offer an optimal setting to deliver hearing services, but unfortunately these services are rarely provided. In a study of 206 home health agencies, only 5 percent provided hearing services (72). Adult day care centers that serve people *who* require long-term care but can be maintained at home at night and on weekends are another possible setting for the delivery of hearing services to some older people (10). It is not known how many adult day care centers now provide hearing services.

Educational Settings

Hearing services are provided by some adult education agencies, community colleges, and university speech and hearing clinics. Adult education agencies first offered lipreading instruction for hearing impaired people during the 1920s and 1930s. Some of these programs have been expanded and now offer a comprehensive range of aural rehabilitation services (10).

During the past decade, several States have encouraged community colleges to initiate programs for disabled students. While some of these programs offer primarily vocation-oriented instruction to students, others offer comprehensive hearing services to adults of all ages (10).

University speech and hearing clinics are another source of hearing services and in some communities they are the major provider of services. These clinics are usually affiliated with the speech and hearing or audiology department of a university. This makes low-cost hearing services available since virtually all services are provided by students under careful supervision. However, this use of students gives an unrealistic impression about the true cost of hearing services (10). University speech and hearing clinics often provide a wider range of hearing services than other settings (115), in-

cluding comprehensive evaluation, aural rehabilitation, and fitting for hearing aids. Some also supply assistive listening devices (140).

Community Agencies

Many communities offer hearing services in multi-service agencies. For example, senior centers generally provide recreation, education, counseling, and other social services for elderly people; some also offer hearing screening and other hear-

ing services.⁴ Some communities also have speech and hearing centers that offer a wide array of services including hearing aid dispensing. They may also sponsor satellite programs in other community agencies where older people are likely to be served (10).

⁴A recent study of hearing services in senior centers, *Study of Programs and Services for the Hearing Impaired Elderly in Senior Centers and Clubs in the United States*, will be published by Gallaudet Research Institute in 1986 (100).

ALTERNATE APPROACHES TO SERVICE DELIVERY

Alternate approaches exist that can help improve the delivery of hearing services. These include programs of the Veterans Administration, the elderhostel program of Gallaudet College, and assistive device centers. Self-help groups for hearing impaired people are also effective in educating people about hearing impairment, appropriate treatment, and methods for dealing with the fragmented delivery system. Two projects to provide hearing services for nursing home residents also have been developed and are described below,

Veterans Administration Hearing Services

The VA program of hearing services is one model of comprehensive service delivery. The VA program is an outgrowth of military aural rehabilitation centers established during World War II. At VA medical centers across the country, hearing services include: 1) evaluation by an audiologist; 2) evaluation by an otologist or otolaryngologist; 3) hearing aid dispensing; and 4) rehabilitation services such as speechreading, auditory training, and speech training to correct speech or voice problems associated with a hearing impairment (83).

Veterans with service-connected hearing impairments are eligible to receive all hearing services at no cost. Veterans who do not have service-connected hearing impairments but are over 65 or cannot afford hearing services are eligible for a free hearing test. Certain categories of veterans are also eligible for free hearing aids. These include veterans with service-connected hearing im-

pairments, those who have 50 percent or more service connected disability, those who are receiving home care benefits from the VA, prisoners of war, and World War I veterans. Other veterans are referred to hearing aid dealers or speech and hearing clinics to purchase a hearing aid. In fiscal year 1984, the VA distributed more than 36,000 hearing aids to eligible veterans (47). Large volume purchasing arrangements lower the cost of each aid, but it is difficult to compare the cost of aids distributed by the VA with the cost of aids distributed by other dispensers because the professional costs associated with testing hearing and selecting an aid are sometimes not included in the VA figures.

The VA model of service delivery has been adopted in other institutional settings where medical, audiologic, and hearing aid dispensing services are offered "under one roof." One such program is at the Albany Medical Center, where over the past 7 years more than 1,900 hearing impaired people of all ages have been treated. The program provides otolaryngologic, audiologic, and rehabilitative services, including evaluation for hearing aids, hearing aid dispensing, hearing aid orientation and counseling, speechreading, auditory training, and hearing aid repair (134). Similar programs have been developed by health maintenance organizations, particularly those that operate comprehensive medical centers (10).

The VA Medical Center in Birmingham, *Alabama*, has a program of service delivery that goes beyond what is provided in other VA medical centers. One of its primary objectives is the provision of com-

prehensive services and followup for veterans who have difficulty coming to the medical centers VA staff point out that many people, not only veterans, live far from centers where comprehensive hearing services are provided and are unlikely to return for regular reevaluation, aural rehabilitation, and counseling. Even when long distances are not involved, lack of transportation and physical impairments that interfere with travel cause many people to drop out of treatment. Consequently, the Birmingham VA program provides many services by telephone.

In this program, the initial evaluation and treatment are done in the hospital or the clinic, but after the initial treatment the clinic staff regularly initiate telephone contact with clients to review their progress, provide auditory training exercises and supplemental drills, and answer questions from the client or his family. Conference calls are used to conduct "group meetings" among individuals with similar impairments so they can give each other moral support and helpful hints about coping with mutual problems (130). This use of the telephone spares clients from repeated trips to the medical center. The alternative-sending staff members out to provide services away from the medical center—is prohibitively expensive.

The Birmingham VA program also emphasizes the use of assistive devices, both for telephone communication and for one-to-one and group listening. Many kinds of devices are given or loaned to clients. They encourage clients who wear hearing aids and those who do not to use assistive devices and have created a videotape explaining the kinds of assistive listening devices that are available.⁶

The Birmingham VA program also stresses training for hearing specialists and other health care and social service providers. VA staff have been involved in many conferences and training workshops across the country where they explain their method of telephone contacts for client education, reevaluation, and treatment, and educate pro-

viders about assistive listening devices, telecommunication devices, and signaling and alarm systems. They also provide telephone consultation to clinicians in VA and non-VA facilities.

A final component of the Birmingham VA program is REMATE, Remote Machine-Assisted Treatment and Evaluation. REM ATE is a computer-based delivery system. The computer is programmed by the clinician to provide drill sessions by telephone for veterans nationwide and to store client responses for later review by the clinician. This system can also be used to gather and store data for long-term evaluation of treatment procedures (130).

Elderhostel Program for the Hearing Impaired

Another innovative approach to the delivery of hearing services is the elderhostel program conducted at Gallaudet College since 1981. Hearing impaired persons over 60 and their spouses or "significant others" are invited to the college in Washington, DC, for a week in the summer. They attend presentations about the nature of hearing loss and its impact on relationships, strategies for coping with hearing loss, and the roles of various hearing specialists. Lists of hearing specialists in the participants' home States are provided and assistive devices are on display. Participants also attend sessions on nonverbal communication and deaf culture. Participants have particularly appreciated the information on assistive devices and self-help techniques. Small group activities are also important; they allow hearing impaired elderly people to interact with others and realize they are not alone in coping with hearing loss. The originators of this elderhostel program believe it could be repeated at colleges and community agencies throughout the country (61).

Assistive Device Centers

Assistive device centers for the hearing impaired are locations where a variety of devices used to compensate for hearing loss are displayed and demonstrated. Hearing impaired people, their families, and health care and social service providers can visit these centers to learn about available devices. One assistive device center at the Fort Lauder-

⁶These services are supported by the VA Exchange of Medical Information and Rehabilitation, Research, and Development Programs.

⁷The videotape was prepared by Gwennyth Vaughn and Robert Lightfoot for the Sertoma Foundation, with partial funding from Siemens Hearing Instruments, Inc.

dale oral School is manned by volunteers from the Telephone Pioneers of America. Demonstration devices have been contributed by the manufacturers (34). Appendix B contains a list of assistive device centers in the United States. Centers are needed in other locations throughout the country,

Self-Help Groups for Hearing Impaired People

Self-help groups for hearing impaired people provide information for their members about devices and techniques that help compensate for hearing loss and about the role and expertise of different types of hearing specialists. The names of some of these groups are listed in appendix A. Some of them have assistive listening devices and telecommunication, signaling, and alarm devices available at their meetings so that attendees can try them. One self-help group, Self Help for Hard of Hearing People (SHHH), in cooperation with the Birmingham VA, has produced a series of six pamphlets on assistive listening devices and their uses.

Some self-help groups are primarily for deaf people, while others are primarily for hard-of-hearing people. Membership is open to people of all ages, but many members are elderly, particularly in the groups oriented to people with partial hearing loss. While younger people with hearing impairments and other handicaps have become increasingly assertive about the rights of the handicapped, many elderly people are still reluctant to call attention to their handicaps and to demand appropriate services. Self-help groups emphasize the rights of hearing impaired people and the rights of the consumer, an approach that may be particularly appropriate for elderly people (105).

The Suzanne Pathy Speak-Up Institute is a self-help group that focuses on improving communication between hearing impaired and normal hearing people. Members are encouraged to disclose their hearing loss and wear a symbol to indicate it. The organization provides information to community groups about how to communicate effectively with hearing impaired people.

Nursing Home Initiatives

Despite the high prevalence of hearing impairment in nursing homes and its often severe effects on residents' ability to interact with others, give

and receive information, and adjust to the facility, little attention has been given to this problem. As one nursing home administrator pointed out: "To be perfectly frank, communication is at the bottom of my priorities. We care about nutrition, hygiene, medication; that's it" (14). Even when nursing home staff attempt to address the problems of hearing impairment among residents, few are knowledgeable about the devices and treatments available. Access to hearing services is often limited because some residents cannot pay for them and because it is difficult to take residents out to a specialist office or get the specialist, particularly an otolaryngologist or audiologist, to come to the nursing home. As a result, many people who might benefit from hearing services and devices do not receive them.

The Nursing Home Ombudsman Program of Monroe County, New York, is an example of one approach developed to help solve this problem. Beginning in 1981, as a result of the effort of one ombudsman volunteer, the program has provided sensitivity training for all ombudsman volunteers to increase their understanding of the impact of hearing impairment on residents. The volunteers are taught how to communicate with hard-of-hearing and deaf people. They are trained to be aware of residents whose hearing aids are not working properly or who may need new batteries. The ombudsman Program has also provided workshops for nursing home staff to increase their understanding of hearing impairment, hearing aids, and other devices that can benefit residents. The success of these approaches in nursing homes has prompted a recent expansion of the program into local hospitals (14).

A second program initiative for nursing home residents is being developed by SHHH and the American College of Health Care Administrators (ACHCA). In the first stage of this program, SHHH will train volunteers to help residents better use their hearing aids by teaching them to insert and remove the aids, encouraging regular use, and assisting with cleaning and battery replacement. ACHCA will notify nursing home administrators of the availability of the program and provide SHHH with the names of interested administrators (4).

⁷The Federal Government provides funds to each State to develop and run a nursing home ombudsman program. Design of the program is up to the State and some States have contracted with local agencies to implement the program.

SCREENING PROGRAMS

Screening programs are an important method of identifying people who have hearing impairments and need treatment. The goal of these programs is to identify all those who need further evaluation, but hearing specialists continue to debate the best methods for doing this. As discussed in chapter 2, interview methods fail to identify some people with hearing impairments because the people are unaware of their hearing loss or deny it to the interviewer. This may be particularly true in some minority groups. Pure tone air and bone conduction tests miss individuals who can hear pure tones but have difficulty with auditory discrimination. Since this is frequently a problem among elderly people, speech reception and speech discrimination tests are an important element of an effective screening program for them. In addition, elderly people often have particular difficulty with background noise and some measure of hearing in a noisy environment is needed (54).

Ventry and Weinstein (131) have developed a screening program for elderly people that includes both audiometric tests and a self-assessment instrument to identify the social and emotional ef-

fects of hearing loss. The self-assessment instrument is the first designed for and standardized on elderly people. Further testing of this screening program is being funded by the National Institute on Aging (59).

Some elderly people who are very withdrawn and apparently cognitively impaired do not respond to the usual audiometric tests and self-assessment instruments. A technique that has been used with very young children can also be used to measure the hearing of these people. This technique measures brain wave response to sound, or *auditory evoked potential*, and does not require active cooperation from the person being tested. A hearing aid can be put on the person to determine whether amplification increases the brain wave response. Finding hearing loss in a very withdrawn person does not necessarily mean that a hearing aid or other treatment will be effective because the patient may be too cognitively impaired to benefit from the device (140). Nevertheless, the availability of a technique to measure hearing in these patients is important for diagnostic purposes.

REGULATION OF THE DELIVERY SYSTEM

Federal legislation and regulations affect the delivery of hearing services both directly, through FDA regulations on hearing aids, and indirectly, through Medicare and Medicaid regulations on reimbursement for hearing services. Medicare and Medicaid are discussed in chapter 5. This section reviews FDA regulations. The Federal Trade Commission (FTC) recently decided against industrywide regulation of various aspects of hearing aid sales, and the history of this decision is also discussed briefly.

Federal investigation of hearing aid sales practices began in the 1960s. Early efforts led by Senators Kefauver and Church resulted in news releases and other reports that alerted the public to widespread problems but did little to prevent or control them. During the mid-1970s, the FTC

initiated a major effort to develop regulations for hearing aid sales. The results of their investigations and recommended regulations were published in 1978. The recommended regulations would have restricted advertising, in-home sales, marketing of used hearing aids, and the use of screening programs to identify potential customers. The most important and most vigorously contested recommendation was a provision to allow a hearing aid purchaser or renter to cancel the sale or rental within 30 days and receive a refund (10, 77).

Hearings were held in 1978 and FTC staff recommended issuance of the regulations after reviewing the "compelling testimony (about) the numerous experiences reported of unusable hearing aids, purchased at great financial sacrifice, and

of a multitude of abusive sales transactions and sales tactics” (48). However, the Commission did not rule on the staff recommendations at that time.

In 1985, with the regulatory procedure still pending, the FTC contracted for a survey of hearing aid users to determine whether regulation of hearing aid sales was needed. The results of the survey many of which have been reported in this OTA background paper, convinced FTC staff and commissioners that no industrywide regulation is needed (86). The regulatory procedure subsequently has been dropped.

Regarding the 30-day trial period, the survey indicated that 64 percent of the respondents purchased hearing aids with a trial period, 16 percent could not remember whether a trial period was available, and 20 percent purchased aids for which a trial period was not available. Some States require a trial period, while others do not.⁸ However, the survey showed that people who purchased hearing aids in States that require a trial period were no more likely to be offered a trial period than people who purchased aids in States that do not require a trial period (75).

The FTC concluded from these data that trial periods are widely available and that State laws requiring trial periods may not increase their availability (86). A staff memo to the FTC Commissioners concluded: “Market forces appear to have been as effective as legal requirements in promoting the proliferation of trial periods” (86).

The FTC reliance on these survey findings has been criticized because the sampling procedures used produced very few respondents in the States that require a trial period. Thus, the difference in availability of trial periods in States that require a trial period and those that do not could have occurred by chance (107). In addition, although the survey indicates that almost two-thirds of those who purchased hearing aids were offered trial periods, at least 20 percent purchased aids for which a trial period was not available. To hearing specialists and consumer advocates who believe

that the availability of a trial period is important, these figures are not reassuring.

ASHA and the American Association of Retired Persons (AARP) submitted testimony opposing the FTC decision to drop the regulatory procedure. They cited experiences of their members that support continuing need for regulation of the hearing aid industry. AARP testimony emphasized the need for an FTC-sponsored consumer education program to inform the public about hearing impairment, hearing specialists, and devices to compensate for hearing loss (3).

In the mid- 1970s, almost simultaneously with the initial FTC efforts, FDA began to develop regulations for hearing aids under its mandate to regulate medical devices. The purpose of the FDA effort was quite different from that of FTC. FDA was concerned about the “safety and effectiveness” of hearing aids as medical devices, not with sales practices per se. The proposed FDA regulations were much less restrictive than the FTC regulations, met with less opposition, and were adopted in 1977. The FDA regulations were at odds with the laws and regulations of several States, and those States applied for exemption from the new Federal rules. In virtually all instances the State regulations were more restrictive than the new FDA regulations. FDA reviewed these applications and granted some exemptions but most were denied (10).

The FDA hearing aid regulations relate primarily to labeling and conditions of sale. Labeling requirements specify that the hearing aid must show the name of the manufacturer or distributor, the model name or number, serial number, year of manufacture, and an indication of the correct battery position. The requirements also specify essential information that must be contained in an instructional brochure to illustrate and describe the operation, use, and care of the aid; sources of repair and maintenance; and a statement to the effect that the use of a hearing aid may be only part of a rehabilitative program that may also involve speechreading or auditory training. This brochure must be provided with the aid. The regulations also require a warning to dispensers and purchasers that certain conditions make medical consultation advisable prior to purchase of an aid. The warning to dispensers also advises caution when fitting the more powerful hearing aids.

⁸Connecticut, Maine, New Hampshire, New York, Oregon, Texas, Vermont, and the District of Columbia require a trial period. California, Kentucky, North Carolina, Tennessee, and Washington have laws or regulations that require a trial period under some circumstances. Other States have no requirement for a trial period (75).

As discussed earlier, FDA requires that the consumer provide the hearing aid dealer or dispenser evidence of a physician's evaluation or sign a waiver of this requirement before purchasing a hearing aid. Although there is no information about the number of aids that are sold on the basis of waivers, some hearing specialists believe that the number is high and that the use of waivers undermines the basic purpose of the FDA regulations. In 1980, ASHA testified to this effect before the Senate Subcommittee on the Handicapped:

Under the FDA's regulation, hearing aids can and are being sold to persons without either a medical examination or a test of their hearing. This is leaving the hard-of-hearing, especially the elderly, vulnerable to the pressures of hearing aid salesmen. Without testing, it is impossible to know the type, nature, and degree of loss or even whether a hearing aid is necessary or will be beneficial. Without requiring a hearing test, State consumer protection officials or private parties lack the fundamental evidence to prove whether or not a hearing aid was appropriately sold . . . The FDA's regulation, its preemption of State laws providing greater protection to consumers and its pressure on other

agencies to follow its suit has been a *major setback* in providing quality care to the hearing impaired, especially the elderly (6).

Other hearing specialists disagree and argue that the FDA regulations are fulfilling their intent (133).

Assistive listening devices are generally not regulated by FDA. Hearing specialists are concerned about the need to protect consumers from devices that may be useless or harmful. At the same time, many hearing specialists do not favor FDA regulation of these devices because FDA rules about the distribution of medical devices affect how devices can be marketed and could ultimately raise costs and limit use (33).

In addition to FTC and FDA regulations, the delivery of hearing services to elderly people is affected by Medicare and Medicaid regulations that control reimbursement. In many instances, these regulations determine point of entry, who may provide services, the services that may be delivered, the setting in which the services are provided, and the way in which the services are offered. These programs are discussed in the next chapter.