

Chapter 1 Overview

THE SCOPE AND IMPACTS OF HEARING IMPAIRMENT IN ELDERLY PEOPLE

Hearing impairment is a serious problem among elderly people in the United States. It is the third most prevalent chronic condition among the non-institutionalized elderly population, exceeded only by arthritis and hypertensive disease (118, 120, 122).

Elderly people are much more likely to have a hearing impairment than younger people. Slightly more than 1 percent of all people under 17 years of age suffer some hearing impairment. But prevalence rises to about 12 percent of all people between 45 and 64, about 24 percent of those 65 to 74, and about 39 percent of those 75 and over (121).¹ The prevalence of hearing impairment among elderly people in nursing homes is even greater (98).

While only 11 percent of the Nation's population is over 65, about half of all hearing impaired people are over 65 (41). As this older segment of the population grows, the number of hearing impaired individuals will rise dramatically. The over-75 population, which has the highest prevalence of hearing impairment, is growing at a faster rate than the elderly population as a whole, thus increasing the number and proportion of hearing impaired people in the population. At present, about 7 million elderly persons have significant hearing loss. If current rates persist, by the year 2000 more than 11 million elderly persons will be significantly affected.

Hearingimpaired individuals include those who are deaf and those who are **hard-of-hearing**. Hard-of-hearing refers to a partial hearing loss that results in difficulty with speech comprehension, although some auditory function remains. Deaf refers to a degree of impairment that renders hear-

ing nonfunctional for ordinary purposes of life (117). Most people with hearing impairments are not deaf, but even the partial hearing loss that is common among elderly people can limit their independence and reduce the quality of their lives,

Although hearing impairment is not life-threatening and does not directly restrict physical activity, it can cause severe disability. Hearing loss limits a person's ability to interact socially with family and friends and to receive and interpret information (10). Many warning devices such as fire alarms rely on sound signals. Furthermore, hearing is an important method of identifying dangers in the environment, such as approaching vehicles. Thus, hearing impairment can affect personal safety. It can also interfere with important activities of daily living, including shopping; using public transportation; and communicating with health care professionals, tradespeople, and community service providers. When hearing impairment limits a person's ability to function independently, it can result in a need for formal and informal long-term care services.

The importance of hearing and the problems posed by hearing loss in elderly people have long been recognized. In 1968, the Senate Special Committee on Aging noted the high prevalence of hearing loss among elderly people and directed its attention to three problem areas: 1) delivery of services to older people with hearing loss; 2) hearing aid sales; and 3) the effects of increasing noise on future generations of Americans (127). During the past 18 years we have made some progress combatting these problems, but much remains to be done.

This background paper examines the kinds of hearing impairments that are most common among elderly people and the technologies that are available to compensate for them. Chapter 2 reviews the types, causes, and prevalence of hearing impairment and its impact on elderly people. Chap-

¹ These figures are based on the results of interview surveys. Estimates of prevalence based on audiometric testing are considerably higher. Ch. 2 discusses the differences between the prevalence estimates determined by these two methods of measuring hearing ability.

ter 3 discusses treatment methods, including prevention, medical and surgical treatments, and devices and procedures to compensate for hearing loss. These include hearing aids, assistive listening devices,² telecommunication devices, and aural rehabilitation techniques. The chapter also dis -

²Assistive listening devices are devices that transmit amplified sound more directly from its source to the listener; examples are audio loops, infrared, and radio frequency (AM and FM) devices (74).

cusses obstacles to the use of these technologies and looks briefly at problems of device development. Chapter 4 describes the existing systems that provide treatment for hearing impaired people, including the service providers, settings, and patterns of service delivery. The chapter emphasizes the need for improved delivery systems that are adapted to the needs of elderly people. Chapter 5 discusses funding for hearing devices and services.

SUMMARY OF MAJOR FINDINGS AND ISSUES

The Federal Government is concerned about hearing impairment among elderly people because of its impact on their safety, quality of life, and ability to live independently. Federal initiatives that have addressed the problems of hearing impairment include funding for research, legislation to guarantee access to public facilities for hearing impaired people, and regulation of hearing aid sales. These efforts have benefited hearing impaired individuals of all ages. In addition, some funding is available to treat hearing disorders through Medicare, Medicaid, the Veterans Administration (VA), and other Federal programs.

Despite these Federal programs, many elderly people with hearing impairments are not receiving appropriate treatment or using potentially beneficial devices. Some do not seek treatment because they are not aware of their hearing loss or because they believe that nothing can be done to treat or compensate for it. Negative social attitudes about growing old and becoming hard-of-hearing cause some elderly people to deny their hearing impairments. Others are aware of their hearing loss but avoid the use of hearing aids and assistive listening devices because they do not want to call attention to their loss.

Public education is needed to increase awareness about the extent and types of hearing impairment among the elderly. Elderly people, their families, and health care professionals also need information about treatments, devices, and services that can compensate for hearing impairment. Federal, State, and local governments, private industry, and organizations representing elderly and

hearing impaired people must share responsibility for public education programs that promote awareness of the problem and encourage the use of appropriate treatments, devices, and services.

Self-help groups are an increasingly strong and effective force in promoting awareness of hearing impairment and the needs of hearing impaired people. While self-help groups for deaf people have existed for some time, groups for people with partial hearing loss have developed more recently. Some of these groups are organized on a national level, sometimes with local chapters, while others function only on a local level. One example of a national group is Self Help for Hard of Hearing People, an organization with more than 15,000 members and 170 local chapters and affiliates in 41 States.

While self-help groups differ in their primary focus and mode of operation, they tend to emphasize several important points:

- the severe impact of hearing loss on many individuals;
- the need for hearing impaired individuals to admit their hearing impairments, to overcome the sense of shame that many hearing impaired people feel, and to be more assertive about their communication needs; and
- the need for families, friends, and others who interact with hearing impaired people to be aware of and use devices and communication techniques that promote effective communication.

Self-help groups also stress the heterogeneity of hearing impaired people, both in terms of the



oto credit. Pete Souza, *The White House*

President Reagan has acknowledged his hearing loss and is using a small, canal-style hearing aid to compensate for it. By his example, the President has encouraged other hearing impaired people to acknowledge their impairments and consider the use of a hearing aid or other hearing assistive device for themselves.

type and severity of each individual's hearing loss and other physical, emotional, and social characteristics of the person and his environment that affect his communication needs. This heterogeneity creates a need for a variety of hearing devices and services and a process for determining the needs of each individual. Self-help groups point out that the hearing impaired individual is usually the best source of information about his hearing loss and that too little attention has been paid to what hearing impaired people, especially those with partial hearing loss, say about their needs.

In addition to increased awareness of hearing loss in elderly people, there is a need for increased research. Although the prevalence of hearing impairment far exceeds most diseases and disabilities of later life, the magnitude of this problem has not been reflected in the amount of research that has been conducted on underlying pathologies, prevention, treatment, and rehabilitation. As a result, the state of the art in this field has progressed more slowly than in many other fields (10).

Most hearing research has been focused on very severe impairments, and particularly the problems of deaf children. While the results of this research are sometimes applicable to elderly people, the characteristics of hearing impairments that are common in elderly people often differ from those of severely hearing impaired younger people. Hearing impairment in the elderly is often mild or moderate, but it is widespread. It is often progressive, with a gradual onset, and may not be recognized for some time. In addition, a significant but as yet undefined number of elderly people have decreased ability to tune out background noise and thus have more difficulty hearing in noisy settings than younger people with comparable hearing ability (31, 44). Finally, hearing impairment in elderly people often coexists with other health problems that can complicate treatment and limit the effectiveness of hearing devices. Research focused on the mechanisms of hearing impairment in elderly people and appropriate treatment approaches is needed.

Few of the hearing impairments common among elderly people respond to medical or surgical treatment. However, a variety of approaches, such as the use of hearing aids, other assistive listening devices, and aural rehabilitation techniques, can be used to compensate for hearing impairment.

These approaches can improve communication ability even when the underlying problem cannot be cured.

Hearing aids are the most widely used devices, but most people with hearing impairments do not use hearing aids. Estimates from various studies indicate that between 8 and 25 percent of hearing impaired people use a hearing aid³(41, 49,94,119). Some of those who do not use hearing aids have been told that a hearing aid will not help them; others deny that they need a hearing aid or resist using a hearing aid for cosmetic reasons. Still others buy hearing aids but never learn to use them and eventually stop trying.

Hearing aids function well for many elderly people but do not compensate for hearing loss in others for several reasons:

- Some people buy hearing aids that are not well matched to their needs. Sometimes this occurs because they purchase an aid without having a complete hearing evaluation to identify their specific hearing deficits. Lack of Medicare reimbursement for a hearing evaluation to select a hearing aid exacerbates this problem.
- Even when a person's specific hearing deficits have been identified, lack of information comparing different types of hearing aids can make it difficult to identify the most appropriate aid.
- Hearing aids generally amplify all environmental sound, including background noise. Although design modifications can improve the speech-to-noise ratio, some hearing aid users continue to have problems tuning out background noise.
- Current hearing aid technology does not allow custom design of a hearing aid in the way that eyeglasses can be prescribed and ground specifically for an individual. Within five years, microprocessor technologies may make "prescription hearing aids" available.

In addition to hearing aids, assistive listening devices such as infrared and FM devices can benefit many hearing impaired people. These devices can

³Estimates of the percentage of hearing impaired people who use hearing aids vary depending on the source of the data and the figure that is used for overall prevalence of hearing impairment,

be particularly effective for those with mild or moderate hearing loss and in situations where background noise is a problem. Some profoundly impaired persons can also benefit from them. Yet most elderly individuals do not know about assistive listening devices and the existing service delivery system does not promote their use. Relatively few hearing specialists offer a full range of the assistive devices. The VA Medical Center in Birmingham, Alabama, has developed a program to distribute these devices, and hearing specialists at the center receive inquiries about the devices from hearing impaired people all over the country. They refer many people to hearing specialists in their local areas, but in some areas there are no specialists trained in the use of these devices (129).

Medicare, Medicaid, and private insurance do not reimburse for assistive listening devices or for professional advice to determine which devices are appropriate. (See ch. 5 for a discussion of funding for hearing devices and services.) Legislation to provide Medicare and Medicaid reimbursement for these devices was introduced in Congress in 1984 and again in 1985. Many observers doubt that this legislation will pass because of current budget limitations, but supporters argue that reimbursement for these devices would encourage their use, thus increasing the independence of hearing impaired people and ultimately reducing Federal spending for other services.

Aural rehabilitation services, including counseling, training in speechreading,⁴ and hearing aid orientation can help hearing impaired elderly people by reducing anxiety, facilitating better use of residual hearing, and achieving more realistic expectations regarding remediation of hearing loss. Yet few hearing impaired elderly people receive aural rehabilitation services. Public education and education of health care and social service providers is needed to encourage the use of these essential services.

Hearing impaired people who cannot hear over the telephone face serious problems. They are not able to talk with family and friends, arrange nec-

essary services, and obtain assistance in an emergency. Some people with mild or moderate hearing loss can manage well with a telephone that has an amplifier in the handset. Others have hearing aids designed with a "telephone switch"⁵ and they can use compatible telephones. But not all telephones are compatible with hearing aids, and most telephones do not have amplifiers. In addition, many hearing aids are manufactured without a telephone switch. Some hearing impaired people and hearing professionals advocate Federal legislation to require that all new telephones be compatible with hearing aids. Some also advocate strengthening the Federal and State regulations that require telephone companies to make specialized equipment available to hearing impaired people for use at home.

Adapting public facilities so they are accessible to the hearing impaired is an area where progress has been very slow. Section 504 of the Rehabilitation Act of 1973 prohibits discrimination against disabled individuals by any program or activity receiving Federal assistance. The law requires that all facilities receiving any form of Federal support must provide access for people with all kinds of handicaps, including hearing impairment (80). So far, however, efforts have emphasized adapting facilities for people with problems in mobility. This has occurred even though the costs of installing an audio loop, infrared, or radio frequency (AM or FM) amplification system is usually minimal compared to the costs of the major architectural changes needed to accommodate people with mobility impairments. Although it seems incongruous, public funding has been available for architectural modifications while the cost of amplification systems has been paid primarily by the private sector (10).

The needs of older people with hearing impairments should be considered in any plans to adapt facilities for the handicapped. In addition, environmental design technologies to compensate for hearing impairment could be applied in public facilities. These technologies are discussed in chapter 3.

⁴Speechreading is another term for lipreading. The term speechreading emphasizes that the hearing impaired person watches facial, throat, and body movements of the speaker in addition to his lip movements in order to understand what he is saying.

⁵A telephone switch, or "T switch," is a feature built into some hearing aids that allows the aid to pick up electronic signals directly from compatible telephone receivers, thus bypassing the hearing aid microphone and eliminating unwanted sound.

A final concern is the apparent tension and rivalry among the three groups of hearing specialists: physicians who specialize in hearing disorders, audiologists, and hearing aid dealers. Physicians who specialize in hearing disorders are medical doctors with training in diseases of the ear. Audiologists are nonmedical hearing specialists who have a master's or doctoral degree in audiology, the science of hearing. Hearing aid dealers are individuals who sell hearing aids who are neither physicians nor audiologists. This report refers to individuals in each of these groups as "hearing specialists." The training and unique skills of each of these groups are discussed in chapter 4,

Each group plays an important role in providing hearing services for elderly people. The continuing rivalry among them interferes with the development of service delivery systems that make the full range of devices and services available to hearing impaired elderly people. Any Federal legislation or regulations related to hearing services should discourage this rivalry and encourage the development of coordinated service delivery systems that use the expertise of each type of hearing specialist.