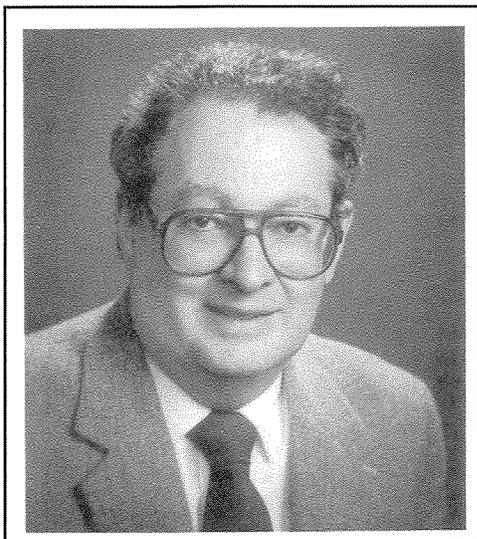


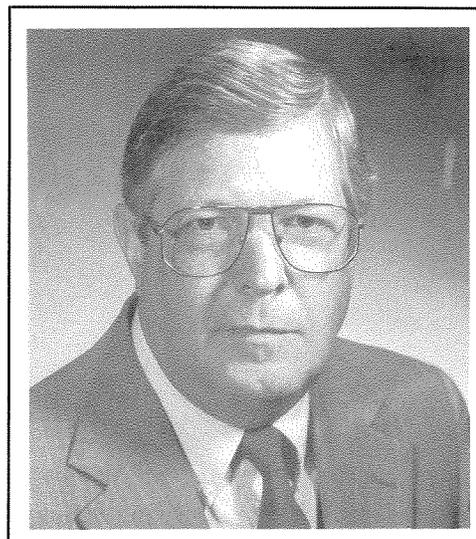
EDITORIAL

Much is said about quality in health care services by many organizations today. VA is proud of the hearing health services provided to our veterans, reflected in audiology and speech pathology clinics located in most of our medical centers. An important role for an organization like the Department of Veterans Affairs is to provide for links between applied research and actual benefit for these individuals. The veteran's needs for restored function and quality of life provide the focus of our mission. The Rehabilitation Research and Development Service is organized to provide such links, represented by merit-reviewed support for major studies in hearing aid and assistive device technology over the past decade.

In this special issue of the *Journal of Rehabilitation Research and Development*, we highlight the advances made since our last special publication on sensory aids for hearing impairment in 1987. With world-wide distribution of this journal, we expect broad interest in this topic on hearing loss, a problem which ranks as the third most prevalent chronic condition among people 65 years of age and older in the United States. The Guest Editors for this special issue are Harry Levitt, Ph.D., and Allen E. Boysen, Ph.D., both renowned leaders in the field of audiology.



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Harry Levitt obtained his Ph.D. in electrical engineering from the Imperial College of Science and Technology, London, in 1964. He then joined the Bell Laboratories where he did research on binaural hearing, adaptive testing in psychoacoustics, and digital processing of speech signals. During this time he became interested in the design, development, and evaluation of special telephones for hearing-impaired persons and other communication aids. In 1969, he joined the City University of New York, where he set up the Communication Sciences Laboratory. His research efforts since then have focused on applications of computer technology in speech and hearing sciences and, in particular, on the development of more effective sensory aids for hearing impairment using computer techniques. His many research contributions include the development of computer-assisted adaptive test procedures for use in speech and hearing, computerized visual tactile speech-training aids, computer speech synthesis for diagnosis of speech problems, a

pocket telecommunicator, a digital master hearing aid, digital signal-processing techniques for matching the speech signal to residual auditory function, noise reduction techniques for hearing aids, and computer synthesis of video speech signals for studies in lipreading. Dr. Levitt has received several regional and national awards for his work and was recently named Distinguished Professor at the City University of New York.

Allen E. Boysen, Ph.D., is the Director of Audiology and Speech Pathology Service, Department of Veterans Affairs. He holds a B.A. degree from the University of Iowa, an M.S. from Colorado State University, and a Ph.D. from the University of Oklahoma Health Sciences Center. His degrees are all in communication disorders. As a speech-language pathologist, Dr. Boysen devoted 15 years to clinical practice. He has also contributed to the design and development of multidisciplinary quality improvement systems for the Department of Veterans Affairs, and directed the agency's Rehabilitation Education Program, focused on VA-wide continuing education of professional staff. As Director of the largest program for clinical services in the nation, training and research in communication disorders, he has been involved in projects such as adaptive digital hearing aid development, cochlear implant center development, hearing aid consensus conferences, and an interagency agreement for hearing aid research with the National Institute on Deafness and Other Communication Disorders.

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TO THE READERSHIP

The *Journal of Rehabilitation Research and Development (JRRD)* is designed to serve the requirements of the scientific community for responsible reporting of original scientific data considered to have wide technological, clinical, and ultimately commercial applications.

Beginning with this issue of *JRRD*, Volume 30, No. 1, 1993, modifications have been made and descriptive material has been added. The Editorial Board of *JRRD* proposed these modifications and additions in order to further enhance the high quality of the *Journal* and to ensure that it continues to be the conservator of documentation of relevant research findings, speaking directly to the needs and interests of the veteran population and the private sector.

The following modifications and additions have been made:

- **Introduction of Structured Abstracts** to the authors' scientific papers which will present a concise summary of the essential facts as a means of explaining, in nontechnical terms, the purpose of the work, subjects (if any), procedures followed, the subsequent results, and the appropriate application for consideration by the veteran. A final explanatory sentence will state the clinical relevance of the information contained in the article. This information will be written by the author of the paper, in addition to the conventional abstract as written by the author and accepted by the peer review process as an integral part of the scientific paper.
- **Inclusion of Guest Editorials**, outlining the need for, and implications of, major research and development programs as they relate to the veteran.
- **Expansion of the Letters to the Editor Section.** Interested readers are encouraged to engage in an exchange of information through this Section. Letters should relate specifically to material published in *JRRD*. Authors of the article(s) in question will be asked to respond.

• **Expansion of the Clinical Reports Section.** This Section will report the results of rehabilitation technology clinical evaluations, final reports of R&D funded projects, surveys, and other subjects of interest to the clinician and veteran consumer in the Department of Veterans Affairs (VA) and elsewhere. By expanding this Section, we will bring clinical information to our readers from many sources, thus further assisting veterans in activities of independent and productive living.

It is our hope that the modifications and additions we have made will continue to enhance the quality of *JRRD*, reach out to the clinical community, and ultimately answer, through scientific research and development, the needs of the veterans we serve.

Tamara T. Sowell

Editor, *Journal of Rehabilitation Research and Development*

Rehabilitation Research and Development Service

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GUEST EDITORIAL

Just over 5 years ago, in the Fall of 1987, the *Journal* published a special issue on Sensory Aids for Hearing Impairment. This was a time of great excitement in the field in that digital hearing aids had just been introduced and offered great promise for the future. Among the many advantages offered by this new technology were more efficient methods of hearing aid prescription, powerful new methods of processing signals for improving speech intelligibility and reducing the effects of background noise, new measurement techniques, and improved diagnostic procedures. It is now five years later and the question to be asked is: Have digital hearing aids lived up to their promise? This special issue of the *Journal*, namely, *Part I: Advanced Hearing Aid Technology*, to be followed by a companion issue, *Part II: Clinical Evaluation of New Generation Hearing Aids*, in several months, addresses the question by providing concrete examples of recent positive results using this new technology. As shown in these papers, significant advances have been made in several areas. Although much of the early promise has yet to be fulfilled, the impact of digital technology on the field has already been profound. Hybrid analog/digital hearing aids providing superior performance (in comparison with older, conventional hearing aids) are now widely used, and significant improvements in cochlear implants have been obtained using digital signal processing techniques. Further advances are expected with the ongoing development of even more sophisticated digital chips. Veterans with hearing impairments have benefited substantially from recent advances in this area. It is our hope that the progress currently being made in applying advanced technology to clinical problems will continue with increasing momentum.

Harry Levitt, Ph.D.

Center for Research in Speech and Hearing Sciences

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