



ELSEVIER

Technology and Disability 5 (1996) 1-2

Technology
and Disability

Introduction

Wheeled mobility and seating is, arguably, one of the largest segments of assistive technology. Its size carries with it a diversity of subjects and in the people involved. Hopefully, this issue of *Technology and Disability* has captured this diversity along both fronts. The articles cover a wide variety of topics and the authors represent the varied backgrounds of the professionals in the field. One-third of the authors had never written for a peer-reviewed journal. The strength of the field can only be enhanced by utilizing everyone's knowledge and encouraging clinicians to test and document their approaches. Furthermore, we will all benefit from better knowledge and awareness of areas outside of our own specialty. Therefore, I hope readers will enjoy the many topics presented by professionals reflecting a wide range of clinical and research experiences.

This issue begins with an interesting overview of wheeled mobility and seating. Rory Cooper, Elaine Trefler and Douglas Hobson of the University of Pittsburgh offer both historical and current perspectives of the topic. They introduce wheelchair technology, service delivery, education and reimbursement issues which nicely set up the other articles.

Two very important service delivery issues, functional outcomes and quality assessment and improvement (QAI), are explored by articles which highlight two service delivery programs. Adrienne Bergen describes the efforts of Dynamic Medical Equipment, Ltd. to track the effectiveness of their involvement in wheelchair

evaluation and delivery. Jon Schuch provides a look at the QAI efforts of Rehabilitation Engineering Services at the University of Virginia. Both articles are designed to provide the readers with insight into the respective topics as well as useful information that readers can apply to their own service delivery programs. Another important issue affecting service delivery is reimbursement for wheeled mobility. Courtney Eagles reports the findings of an extensive survey of state Medicaid policies regarding reimbursement. This article illustrates the many differences in how states define and view wheeled mobility devices.

Powered mobility issues are covered by three articles. Pediatric powered mobility is addressed by two articles describing innovative approaches to improve children's independent mobility. Jan Furumasa and her colleagues have designed a power mobility program to help assess a child's ability to operate a powered wheelchair. Paul Nisbet presents a description of the Smart Wheelchair currently in use in Scotland and includes case studies to illustrate the clinical usefulness of its many unique features and capabilities. Determining the appropriateness of integrated versus distributed control is becoming more common as people must operate multiple electronic devices. Paula Geurette and Richard Nakai report the results of a retrospective review of clients identified as potential candidates for integrated control and offer suggestions to assist decision-making.

Issues of safety and function are addressed by four diverse articles. Lee Kirby offers his perspective on the importance of wheelchair stability in preventing injury and methods to measure and modify it. He provides an extensive literature review on wheelchair injury and standards which support his thesis. Maureen Linden and I present the results of a study which measured the accelerations experienced by wheelchair users as they sat in a moving van. This study, performed at the University of Virginia, was part of a larger initiative relating sitting stability and the ability to operate a motor vehicle. Anita Perr studied another aspect of seated function by determining the preferred headrest position of people in different degrees of tilt. The increased availability of tilt and recline wheelchairs accentuate the importance of maximizing function in different postures. Finally, in the anchor position, is an article on wheelchair problems experienced by frail elders. William Mann and his associates report the

findings of a survey and offer case studies illustrating these findings.

Stephen Sprigle

About the Author

Stephen Sprigle, Ph.D. has recently joined the staff of Helen Hayes Hospital as the Research Director in the Center for Rehabilitation Technology. Previously, he was on faculty at the University of Virginia where he taught rehabilitation engineering and biomechanics and performed research within the Wheelchair and Transportation Engineering Centers. Stephen was recently a research scientist in the Rehabilitation Engineering Research Center on Technology Evaluation and Transfer at SUNY-Buffalo where he worked on the commercialization of assistive devices.