Introduction

The field of assistive technology is increasingly concerned with being consumer responsive. This concern is reflected in federal funding requirements for research programs, the development of impact and outcome measures, and dialogue among the participants in research, education, and service delivery programs. The editors broadcast a call for papers to report how consumers are being involved in research, and the results of their involvement. The articles in this issue reflect a wide range of ways consumers are involved, and an equally diverse array of results. The small number of article submissions, and the even fewer number passing review, indicates that consumer involvement is not yet a widespread practice, and that some of the practices are not yet compelling additions to the literature. We hope this issue lends support for consumer responsiveness in principal, and provides incentives for more widespread practice.

Rory Cooper sets the issue's tone in 'Building research capacity among people with disabilities'. He acknowledges that life experience is a form of expertise, and that including consumers in research projects is a means for tapping into that expertise. The paradigm for rehabilitation research is evolving from a medical care model to a client-centered model, which encourages consumer inclusion in research as advisors and participants. He argues that this paradigm should continue to evolve into a client-driven model — where people with disabilities become qualified as researchers. However, this shift requires systematically developing the capacity within research programs, to provide consumers with education and training in research methodologies. The training can be designed into work responsibilities within on-going research programs, while the education requires enrollment in formal graduate education programs. The author challenges federal agencies, institutions of higher education, and individual scientists to assume their respective roles and responsibilities in building this research capacity among people with disabilities.

Within the current paradigm of client-centered research, various research programs are implementing consumer participation in various programs, and assessing the value of this consumer participation. How can consumers be involved in research and what do they actually contribute to these research projects? Lane provides specific examples in 'Consumer contributions to technology evaluation and transfer'. He recounts how consumers played a role in research and development projects addressing invention evaluation, new product development, ideal product characteristics, and commercial market assessment. In the examples provided, consumers contribute substantial information about product features and functions. This information appears to have clear utility for product developers, manufacturers, vendors and professional service providers. However, all research activity occurs within a broader context. Applied research typically involves variables outside the control of the research program. In the case of product development, consumer input through research must be reconciled with the constraints imposed by the commercial marketplace. This may be the next frontier for consumer involvement.

Studies of consumer experiences with assistive

devices typically involve small samples and short timeframes. Bill Mann provides an unprecedented look at the experience of 500 people over a 7-year period. 'Perspectives on assistive devices among elderly persons with disabilities' analyzes data addressing the value of assistive devices for older persons living independently in the community. The reported high frequency of device use, along with the generally high level of satisfaction, dispels several myths about assistive device use among older persons. The exceptionally detailed look at specific problems encountered with specific devices offers a unique opportunity to study the origins and potential solutions for consumer problems in device use. These consumers' perspectives provide numerous examples of device and service improvements available to product developers, designers, manufacturers, prescribers and service providers. Consumers offer much insight if we seek out their experience.

While certain projects look at designing assistive devices or accessible products, others work to develop design parameters that accommodate all potential users. This approach is called 'universal design' in North America, and 'design for all' in Europe. The late Ron Mace coined the term 'universal design' and founded the Center for Universal Design. Jon Sanford, Molly Story and David Ringholz provide an overview of this Center's work in 'Consumer participation to inform universal design'. The authors define the terms and processes associated with the principals of universal design, and how it is distinguished from other design approaches. They also describe a wide range of studies that collectively are developing the requisite knowledge base for product designers in industry and academia. These studies are particularly relevant to consumers, because they examine actual products and activities within the actual environments of the home and community. The authors also report the direct value of these studies to the consumers who participate in them. Consumer involvement appears to be a win–win for the design of products and environments.

Consumer responsive research is not limited to North America. In 'USERfit — A design framework for user-centered design in assistive technology', David Poulson describes the development of detailed protocols for conducting user-centered design and development. The article explains why the protocols were developed, how they are being used, and what feedback the creators have received about their utility. This project is part of the European Commission's initiative to develop new and useful products for people with disabilities. The design protocols are available on-line, to encourage their dissemination and use. The reader may assess their utility through examination and use. For this issue's purpose, it is encouraging to know that these activities exist and that research and development programs are becoming more mindful of incorporating end-user input.

As with other topics explored within the pages of *Technology and Disability*, the on-going activity progresses even while current results are reported.

Joseph P. Lane
Editor-in-Chief