

## Executive summary

**Research context** A teletypewriter (TTY) is a device that enables people who are deaf, hearing and/or speech impaired to communicate with anyone in the wider telephone network. In 2003, a review of TTY technology and usage in Australia was carried out by Network Strategies, which subsequently recommended that further research be conducted to complete an accurate profile of TTY users and usage patterns in Australia, including residential and organisational users. Accordingly, the current research sought to investigate the geo-demographic characteristics of TTY users, user preferences, usage patterns and reasons for TTY use, as well as attitudes towards, and satisfaction with, TTYs versus other technologies. (See Section 2 for full details of the background and objectives for this research.)

**Research design** The research design was comprised of three main components. First, a mail survey was distributed to customers of Telstra's Disability Equipment Program (DEP). An incentive was offered to encourage participation. A 'helpline' was established during this period and a follow up letter was sent to maximise the response rate. The fieldwork period was from 12 November to 21 December, 2004. A total of 911 questionnaires were returned by the cut-off date, giving a response rate of 41.4%. (See Section 3.1 for details of the quantitative methodology adopted in this research.)

Second, a separate qualitative research exercise was conducted with deafblind TTY users (via interpreters) to explore the needs of these users. This included six in-depth interviews with deafblind people from Sydney, Melbourne and regional Victoria and two interviews with community representatives. (See Section 3.2 for details of the qualitative methodology used with the deafblind community.)

The third component involved in-depth interviews with organisational TTY users to understand TTY usage in this context. Nine interviews were conducted across diverse private

and public sector organisations. (See Section 3.3 for details of the qualitative methodology used with organisations.)

**TTY user population** Based on comparison with the incidence in the Canadian population (0.064%), the Australian TTY user population was estimated at 12,800 (Section 4.1). The TTY user sample was comprised primarily of people residing in capital cities in the eastern states (Section 4.2). There was slightly higher female representation than male and a reasonable spread of age groups. With regard to education, 13% had attended university and 28% had attended TAFE, college or some other tertiary institution. Over a third of the sample were in the labour force. Most respondents were from low income households. Almost two thirds were deaf (or Deaf) with another third having hearing difficulties, although just over half were comfortable using speech to some extent. Three quarters had English as a first language, followed by 18% for Auslan. (See Section 4.3 for details of the remaining findings outlined above.)

**TTY usage in Australia** Respondents had been using TTYs in general for an average of 9.4 years (Section 5.1). The most common TTY models were the Uniphone 1150 and Superprint 4425 (Section 5.1). The majority of the sample had only one TTY in their household, typically obtained through the DEP (as the sample source would suggest) (Section 5.1). Overall, 94% had access to a TTY in their home, and 11% had access elsewhere (e.g. work, community centre etc) (Section 5.2). Half the sample had access to mobile phones, and this was relatively high among people ages 20-29 years (Section 5.2). Text to Voice and Voice Carry Over were the most common ways people had used the National Relay Service (NRS) (Section 5.2).

Across the sample, TTYs were not used very frequently. The percentage of TTY users who were using SMS on a daily basis was double that for either TTY to TTY calls or calls via the NRS. Email usage was also relatively frequent. However, the results were more comparable when looking at usage per week. The average number of TTY calls made in a given week was 4.7. SMS and email were the forms of communication most frequently used outside the home. Respondents perceived their usage of email, SMS and (to a lesser extent) the NRS to have increased over the past 2 years, yet the net change in TTY to TTY use seemed to be small. (See Section 5.2 for details of the findings outlined above.)

TTY to TTY calls were primarily used for calling deaf or hearing impaired family and friends, whereas NRS calls were typically used for calling hearing people (including family, friends and

organisations). SMS and instant messaging were generally used to contact friends and family, rather than organisations, yet email was commonly used for the latter purpose as well. (See Section 5.2 for details of the findings outlined above.)

Various questions in the survey assessed people's attitudes towards TTYs. (See Section 5.3 for details of the remaining findings outlined in the paragraphs below.) Overall, the key perceived advantages of TTYs were that they offered personal, real-time communication that was reasonably easy and inexpensive to use and that, through the NRS, TTYs could connect people who were deaf or had hearing or speech difficulties with the hearing community, including organisations. This gave TTY users a sense of independence. The main weaknesses of TTY were perceived to be technical malfunctions (e.g. breakdowns or scrambled text), the fact that calls took longer, and a lack of familiarity (and patience) with TTYs and the NRS among the general community (especially organisations). Overall, 84% of respondents were satisfied with TTYs. TTYs were still considered by many to be essential (especially for emergency situations), even if only used occasionally.

Awareness and usage of public TTY payphones was very low, with many people relying on a hearing person or SMS in order to contact people when outside the home. The main issues with public TTY payphones included low awareness, both that they existed and of their locations, as well as problems or concerns regarding how they function.

The evidence suggests that SMS and email have relatively high popularity among TTY users, which is similar to their increasing popularity in the general population over recent years. The reasons for this, as well as evaluations of a range of other technologies, are discussed in detail in the report. Participant preferences indicate that TTY, SMS and email are currently the most popular options among this sample, with videophone technology seen as becoming more relevant and appealing in the future (particularly once issues regarding cost, picture quality and availability are addressed).

**TTY usage in the deafblind community** Many attitudes held by deafblind participants regarding technologies were similar to those of the overall TTY survey sample. Deafblind people with only partial vision loss were able to use SMS and tended to prefer this over email. Yet those with total vision loss, who relied on Braille communication, lacked a portable communication solution for outside the home. Therefore the latter group tended to rely more heavily on email. The perceived strengths and weaknesses of various

alternative technologies are detailed further in the report. (See Section 6 for detailed findings regarding TTY usage in the deafblind community.)

### TTY usage in organisations

Based on the process of arranging the nine case studies, it would seem that the use of TTY technology in organisations that deal with the public is inconsistent. Many organisations have a TTY number listed in the TTY Directory but do not have the machine connected or have no organisational capability to handle incoming TTY calls. Those that can locate and use their equipment typically have the same TTY machine that was originally installed five to ten years ago. Practices vary. Some organisations have a single TTY machine, with no one trained in its use. Others have several machines and/or several trained users. Generally, the more the organisation aspires to inclusivity and equality of access, the greater the measures in place to make use of TTY as a communication channel. Organisations with a particular interest in the deaf and hearing impaired communities tended to have effective regimes in place, as did the Commonwealth agency and a university that were included in the research. Other organisations, while having taken the step of acquiring a TTY machine, lacked either the resources or the call volume to warrant supporting a dedicated, trained operator. (See Section 7 for detailed findings regarding TTY usage in organisations.)