Does the Internet open up opportunities for disabled people?

The Government intends to make all government information and transactions available electronically by 2005. An increasing proportion of useful commercial and social information is available online. However, disabled people can face particular challenges using the Internet – for example, cost, access difficulties and unfamiliarity with electronic technology. (These limiting factors can be exacerbated for older age groups to which many disabled people belong.) This research - by Doria Pilling, Paul Barrett and Mike Floyd - examined whether the provision of information, goods and services through the Internet removes many of the access barriers faced by disabled people, or adds to them. Views were obtained from enquirers to AbilityNet, a UK charity giving free computing advice to disabled people, and from focus group participants. The study found:

- Almost all questionnaire respondents welcomed the Government's initiative to put all services online, provided that alternative communication methods remained available.

- Internet usage enabled questionnaire respondents to communicate with others, and to reach a variety of information resources in spite of difficulties. These groups included those who were unable to leave their homes, those who found writing or reading common forms of print inaccessible, or those with speech impairments.

- Two-thirds of Internet users in the survey wanted to use the Internet more, cost being the main reason holding them back. Cost - of buying a computer, of online access and of assistive devices - was also the most common reason preventing Internet non-users getting online.

- Questionnaire respondents and focus group participants who needed assistive devices had significant problems in identifying what to use, in affording it, and in getting guidance or training with the equipment.

- Disabled Internet users who needed assistive devices to use a computer and the Internet found fewer websites that were easy to use and navigate than did those not using assistive devices.

- Only about one in ten respondents knew the location of their local UK Online centre (where help is available to learn initial Internet-using skills); there was little knowledge of the training provided by UK Online centres or other organisations. About 40 per cent of Internet-using respondents had tried but had been unable to find suitable training locally.

Background

The study arose from concerns that Internet provision of goods and services might increase rather than decrease social exclusion. The study focuses on disabled people, their use of the Internet, and factors restraining their Internet access or greater use of it, on which there is very little prior research.

The study consisted of three parts:

- a review of research and other information related to disabled people's use of the Internet;
- a questionnaire survey of disabled Internet users and non-users, carried out in mid-2002;
- focus groups of disabled and non-disabled Internet users, held between September 2002 and February 2003.

The review

Internet usage by disabled people

The limited evidence available in the UK from two nationally representative DfEE/DfES surveys (in 2000 and 2001) suggests that disabled people use the Internet less than non-disabled people. While these surveys do not take into account the older age of disabled people compared with the general population (important as Internet usage generally decreases with age), there is evidence from a US Department of Commerce survey in 2001 of lower usage by disabled people when comparison is made within age groups.

Disabled people's attitude to the Internet

The limited amount of previous research evidence available on disabled people's attitudes to the Internet indicates that these are positive. A survey carried out for the US National Organization on Disability in 2000 found that 48 per cent of disabled people said that going online significantly increased their quality of life, compared with 27 per cent of non-disabled people. In the UK, a Leonard Cheshire study published in 2002 found that 54 per cent of disabled people sampled considered Internet access essential, compared with only 6 per cent in the general population.

UK government online initiative

The UK Government, working through the Office of the e-Envoy, is committed to:

- making all government services available electronically by 2005; and
- ensuring that everyone who wants it has access to the Internet by 2005.

According to the UK Online Annual Report of 2002, the Government has been concentrating on key services – for which significant customer service benefits and efficiency savings could be available by 2005. It is envisaged that the efficiency savings will come from making 'back-end processes' more efficient, and from the lower volume of transactions through conventional channels. However, ceasing transactions through some current conventional channels is not ruled out, "provided that this does not disadvantage the service user".

Government belief is that the greatest barrier to Internet access among disadvantaged groups is lack of understanding of its benefits. This is based on findings from National Statistics that, of those who had never accessed the Internet, nearly half gave lack of interest as their reason for not having done so. There have been two campaigns to promote awareness of the benefits of going online and how to do so, the more recent being in May-July 2003. The 2002 UK Online Annual Report suggests that few people consider cost as a barrier to Internet access but there is contrary evidence from the DfES and Leonard Cheshire studies.

A government target of 6,000 UK Online centres was reached at the end of 2002. Early evaluation of centres in disadvantaged areas found that two-thirds of Internet users were in the target disadvantaged groups (which included disabled people), but that the centres were not reaching the most socially excluded people. The evaluation did not look at access for disabled people or the availability of assistive devices.

The Government is aware of website accessibility issues. Much effort has been put into both developing the ukonline.gov.uk portal that gives access to all UK government information and services through a single web address, and making it easy to search and navigate.

Web accessibility

Accessibility has become a greater issue for people with visual or motor impairments: computers have become able to handle intricate visual images but these can demand subtle visual recognition (of program icons, for example), and fine motor movements in computer operations. The World Wide Web Consortium (W3C), an international industry consortium, works in collaboration with disability organisations, research centres and governments, issuing guidelines through the Web Accessibility Initiative (WAI) to promote accessibility for disabled people.

The Government requires that all its (central government) websites comply with WAI level A (the level that "must be satisfied or some groups of people will be unable to access information from the site" in WAI's phraseology), and a number of additional guidelines from WAI levels AA and AAA (higher levels of accessibility). Despite this commitment to

accessibility, an internal report found that nearly all government websites were potentially excluding users (*Government Monitor Weekly*, 7/4/2003). A formal investigation of 1,000 public and private sector websites, commissioned by the Disability Rights Commission and due to provide findings in 2004, will give better knowledge of web accessibility generally. Reviews by AbilityNet of the top ten airline and newspaper sites (by search engine rankings) showed that none reached a basic level of accessibility. The application of the Disability Discrimination Act to website accessibility has not yet been tested in a UK court case.

The questionnaire survey

The sample

Findings relate to 193 completed questionnaires from enquirers to AbilityNet, a UK charity giving information and advice to disabled people on any aspect of computing. 136 were Internet users. *The sample is by no means representative of disabled people in the population*; it is a 'convenience sample' providing information on the views of disabled people with experience of using computers and the Internet, or seeking to do so.

The largest portion of the sample reported having hand or arm impairments (42 per cent), with visual impairment as the next most common (20 per cent). Almost three-quarters (73 per cent) had been disabled for more than five years, and 53 per cent for more than 10 years. Forty-two per cent were not working because of illness or disability, and another 28 per cent were retired.

Assistive devices

Given the sample base, it is not surprising that about two-thirds of the Internet users said that they required assistive devices (aids, equipment, adaptations) to access a computer or the Internet. Voice recognition was most commonly mentioned (45 per cent), followed by keyboard adaptations (28 per cent), mouse adaptations (24 per cent), and speech output systems (19 per cent). While most people who said that they used assistive devices did have them available, almost half had problems using them. People attempting to use voice recognition systems reported problems most frequently.

The cost of assistive devices was a considerable problem for some respondents, sometimes compromising the selection of devices appropriate for their requirements.

Views of websites

There was a strong relationship between the need to use assistive devices and website accessibility: only 38 per cent of those needing assistive devices found most or many websites easy to use and navigate, compared with 69 per cent of those who did not use assistive devices.

Asked for suggestions on how websites could be better designed for easier use, respondents threw up several recurrent themes:

- clear summaries of website information and navigation instructions on the home page;
- less cluttered pages;
- fewer graphics and less advertising;
- easier-to-find links;
- easily adjustable type sizes and colours.

How people learned to use the Internet

Friends and relatives were very important in learning to use the Internet, 44 per cent of respondents saying that they had learned from them (54 per cent of those aged 55+). Around a quarter of respondents had taken a training course. Another 40 per cent would have liked to do so; the main reasons preventing them being: inability to find a locally available course; poor disabled access at the course venue; lack of assistive devices; costs; difficulty in getting transport to a course.

Making more use of the Internet

Two-thirds of respondents would have liked to make more use of the Internet. By far the most common reason preventing this was fear of the perceived high cost of being online. Other important reasons were: cost of buying assistive devices; cost of buying a computer; difficulty in obtaining information/advice about assistive devices.

Frequency of use

Respondents appeared to use the Internet more than the general population, 76 per cent of men and 62 per cent of women using it more than once a week compared with 58 per cent of men and 48 per cent of women in a National Statistics survey in October 2001.

What respondents used the Internet for

Using email was the most common usage (86 per cent); finding information on goods and services came next (71 per cent), followed by general browsing or surfing (62 per cent). These proportions of Internet activities are fairly similar to those found for the general population in National Statistics surveys in 2002.

Asked about the advantages of the Internet there were a few recurring themes: speed; convenience of carrying out activities from home; ease of communication; the wide range of information available. Asked how they had managed to carry out these activities previously, nearly one in ten said that

they had had to rely mainly or entirely on others. Some groups in particular valued being able to communicate with others and reach a variety of information resources. These included those who were unable to leave their homes, those who found writing or reading common forms of print inaccessible, or those with speech impairments.

Assistance in installing Internet access
Almost half of those with a computer at home had had help in installing it from friends or relatives; almost two-thirds would have liked further assistance – preferably with a clear and simple manual, or a free or low-cost telephone helpline.

The Internet non-users
By far the most common reason for not using the Internet was cost: of buying a computer; of online access; of assistive devices. Just under a half did have a computer, though a few said it was not suitable. Many were eager to use the Internet.

Views of the Government's UK Online campaign
Just over one-third of the questionnaire respondents had heard of this campaign, but only about one in ten knew where their local UK Online centre was. Eighty-five per cent thought it a good idea to have all government services available online, but they were fearful of non-electronic communication being phased out.

The focus groups
Five focus groups were held in different locations, four consisting of both Internet users and non-users and one of non-users only. Participants had a range of impairments, and varied in age, economic status and the extent of their computing experience.

The focus groups showed that disabled people are a heterogeneous group. There were numerous barriers to Internet access for some, but not for all.

Nearly all the participants were interested in using the Internet. Initial access was easier for those with previous computing experience, while others needed encouragement as well as training. Perceived cost of computers was an important factor in non-usage. Online cost was also an important factor limiting usage, often compounded by the fact that participants had over-estimated the cost. Those who had had any experience with assistive devices were unanimous about the difficulties in identifying what to use, and in affording them. There was little knowledge about the training provided by UK Online centres or through other organisations. Both Internet-users and non-users wanted training to be individualised to their needs, and there was a

requirement for manuals written in plain English without jargon. These findings generally conformed with those from the questionnaire survey.

Accessing the Internet gave people a sense of achievement, and in some cases independence.

Conclusion
The researchers conclude that disabled people are generally interested in using the Internet but may be held back by practical problems. Government subsidies of the costs of computers, of online access, and of assistive devices for disabled people on benefits or low incomes, and greater support for organisations providing information on assistive devices and training would do much to overcome these barriers. Greater publicity is also needed for the locations of UK Online centres, of the facilities available at them, and evaluation is needed of the effectiveness of the centres' support in relation to disability and disability access.

About the project
The project was carried out at the Rehabilitation Resource Centre at City University by Doria Pilling, Paul Barrett and Mike Floyd.

How to get further information

The full report, **Disabled people and the Internet: Experiences, barriers and opportunities** by Doria Pilling, Paul Barrett and Mike Floyd, is published by the Joseph Rowntree Foundation (ISBN 1 85935 185 9, price £15.95) as part of the Digital Age series.