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Digital exclusion: coming out from behind closed doors

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Government visions of a digital future show little indication of how disabled
people, reliant on access technology, will participate. Access technology has
the potential to offer independent use of the Internet but many disabled people
already face barriers which prevent them having equitable digital experiences.
Multiple obstacles include high set-up costs, inadequate technical support and
exclusive design practices. Due to the high levels of personalisation required,
many disabled people are restricted to using computers at home. As a result
their problems with access often remain unacknowledged and hidden behind
closed doors. As online governance of welfare gathers pace, so greater
awareness of the diversity of ways in which disabled people interact with
digital environments is called for. Without this, government expansion into
digital-only welfare risks isolating even further those who have the most to
gain.

Past and present governments have sought to build a networked nation; one where everyone has access to the transformative power of the Internet. Over the past decade, a range of policies have addressed the potential of Information and Communication Technology (ICT) to increase efficiency, cut costs and improve the quality of public services (Cabinet Office 2000, BIS 2009 2010, Lane-Fox 2010). Within these visions of a digital future, there has been little indication of how disabled people, in particular those reliant on access technology, will be assured of equitable participation. The UK is a key player in an increasingly digital society but political rhetoric, offering reassurance no one will be left behind, runs contrary to the reality for those already alienated from virtual lifestyles. Over 10 million people have not yet accessed the Internet (Lane-Fox 2010:17). They are missing out on economic, educational and democratic advantages and are unable to 'access the full benefits of online public services from health to financial services and employment advice' (BIS 2009). Solutions focus on increased community based access for example in libraries, coffee shops and pubs (Lane-Fox 2010:55) where users are assumed to have the mobility to sit at a standard height workbench or table, use a standard computer keyboard or mouse and work with default monitor and system display settings. This fails to take into account the diversity of ways in which disabled people make use of alternative assistive technologies. As a result, customised home access remains the most realistic option for disabled people to get online (CEG 2009:4). Yet compared with the general population, only 32% of people with a hearing impairment, and 36% with mobility impairment, have a home broadband connection while 46% of people with vision impairment, for whom text-to-speech software offers potential equity of access, do not have broadband (Ofcom 2008 cited in CEG 2009:14). Of the 54% of

those with visual impairment who do have access, they use computers relatively less often, particularly for accessing the internet (Clement and Douglas 2009: 73).

These levels of digital exclusion raises concern when set against the backdrop of government plans to increase technological delivery and management of public services in particular where disabled people are recipients. The focus of research into the use of ICT within welfare has been primarily issues of management, administration and changes in working practices. (Hudson 2003, Pleace 2005, Percival and Hanson 2006). The voices of the experiences of disabled people has been less often heard. However, digital channels are fast becoming the default option for the future delivery of Government services (DWP 2010:38); increasing the need for barriers for disabled people using access technology to be highlighted and addressed.

Access technology consists of adaptations to standard 'off-the-shelf' computers which enable independent use for individuals with physical or sensory impairment. Adaptations can include alternative keyboard, mice designs or navigation aids as well as software supporting text-to-speech and speech-to-text conversion. A variety of alternative possibilities derives from the inherent flexibility of digital data to be customised to suit individual requirements, for example increases in text size and the altering of colours and contrasts. This flexibility challenges the previous limitations of single fixed formats such as the printed page. For disabled people denied access to traditional modes of communication and information, access technology offers potential aids to independence and genuine opportunities for inclusion. As society continues to shift from analogue to virtual practices, so greater

awareness of value of access technology is necessary if its potential for achieving digital democracy is to be realised.

However, research continues to appear to exclude the digital requirements of disabled people. A recent investigation into the potential of the Internet to improve individual lives in the UK (Ufi 2009) selected the participants from the lowest socio-economic groups; '…those most likely to be excluded from technology and the core targets for digital exclusion efforts' (Ufi 2009:04). Rates of disability are highest within the deprived and poorer areas of the country (Papworth Trust 2010:2) but the findings made no specific mention of alternative technology requirements. Solutions for those who described themselves as having neither skills, time nor resources to get online were said to be 'quite easily provided' and consist of '..removing barriers of access and cost...this group can potentially be quite simply motivated into giving online a go' (Ufi 2009:23). Provision of access solutions such as these fails to address the unique digital barriers disabled people face,

Awareness of barriers to digital access needs to be highlighted. Barriers can be grouped into three sequential layers. The first is the price of access technology. This is high in comparison to computer equipment bought from mainstream retailers. Screen reading and text scanning programs cost many hundreds of pounds plus additional costs of upgrading. For disabled people on fixed incomes, the finance alone can create insurmountable obstacles. Where the technology is in place, the second layer of barriers concern the procurement of appropriate training. Access technology requires specialist support, seldom available from local computer stores or independent retailers. Where training packages are offered, much time can be spent in orientation

rather than applying knowledge to practice. Online support which assumes visual and audio acuity is not always appropriate. Face-to-face support is overly expensive as is telephone assistance which uses premium rate numbers and fails to take into account the degree of individual personalisation required. As if this were not enough, starting out with computers requires a complex mix of initial knowledge and skills. A standard computer keyboard can pose unsolvable mysteries to the uninitiated; zoom commands which increase the size of the content on screen are a useful and free aid for magnification but the necessary key combination can be difficult to find. Additional function keys and a numeric keypad increase opportunities for potential confusion and, as if the learning curve were not steep enough, Internet safety guidelines, including awareness of viruses, scams and how to shop online securely, are all essential knowledge. The media promotes online shopping as convenient and money-saving and for people with mobility or sensory impairment this can be a prime reason for using the Internet. However, online retail environments involve multiple form filling and these can be inaccessible to screen reading software. The additional layers of security designed to safeguard financial transactions make it impossible for many users to complete purchases in particular where text doesn't resize and text boxes are incorrectly labelled. Problems such as these constitute the third layer of barriers; even where all the prerequisites for access are in place, if digital content is not designed with the needs of assistive technology in mind then access will continue to be denied. Statutory legislation and web accessibility standards support the principles of inclusive digital design (RNIB 2009) but the Internet remains a predominantly visual environment. Content is provided in fixed formats such as graphical text with no alternative equivalent making text to speech software redundant. Headings fail to conform to the hierarchies essential for navigation thereby preventing a screen reader

from moving around sections. Designers omit commands such as Skip to Main Content resulting in users listening to dozens of menu links before reaching the text. Content creators continue to assume a narrow range of access criteria such as physical dexterity with a mouse, and visual and audio acuity, and fail to design for the needs of sensory or physical impairment nor test sufficiently with a wide enough range of alternative access modes. As governments move ever closer to online management of services and provision of welfare, greater attention needs to be paid to digital inclusion. The concern is those with most to gain from Internet access, who have little or no ICT experience or are users of alternative assistive technology, are those at risk of being excluded.

Research within the education sector has highlighted the dual nature of digital technology to enable and deny access (Seale 2006, van Dijk 2006). A similar duality is evident within the literature on digital participation; on the one hand organisations working with disabled people bear witness to the exclusive power of technology where access is denied through high cost, lack of support and inappropriate digital design, while on the other hand the government focuses on technology's potential for inclusion. One of the five objectives of the Digital Britain report was 'fairness and access for all' but neither people with sight problems nor disabled people in general were specifically mentioned (RNIB 2009:2). The invisibility of access technology requirements is not unique. The current government's Digital Manifesto acknowledges the existence of digital divides but fails to acknowledge the barriers users of access technology face; instead it merges reference to disabled people into other categories including the over 65's and low income families (Lane-Fox 2010: 57). This is despite the findings of a report commissioned by the government to look

into barriers and solutions for Internet access for disabled people (CEG 2009). The report's 16 recommendations currently reside within Appendix 1 of the government's e-Accessibility Action Plan (BIS 2010:20). The purpose of this Action Plan is the development of practical responses to these recommendations yet the Plan's reference to Web accessibility is stated as being for everyone '…irrespective of ability, language, ethnicity, cultural background, socio-economic status, age or anything else that may restrict [their] freedom to have access.' (BIS 2010: 27). There is no mention of disability or any specific requirement for access technology. This omission could be interpreted as promising; an indication of the success of a social model of disability where barriers to access are located in a disabling environment and where addressing these barriers effectively eventually precludes them from being mentioned. However, the experiences of disabled people which inform this article suggest that digital disability has been invisible for too long for such an approach to be safely adopted.

The government has set out plans for a 'truly networked nation'; one where digitally disconnected citizens 'will be even more isolated and disadvantaged as government and industry expand ever faster into digital-only services.' (Lane-Fox 2010: 4). The Internet has a clear role to play in future policies and practice. As the computerisation of welfare continues, so the need to address the practical realities of the issues for disabled people becomes ever more paramount. It is critical that digital strategy is informed by research that takes account of the voices of those already denied equitable access. Such experiences need to come out from behind closed doors, and the complex dynamics digital exclusion acknowledged, so genuine steps be taken to support participation. Without increased awareness of digital exclusion for

disabled people, government expansion into digital-only welfare will isolate even further those who have the most to gain.

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