

Access to Communications - The Role for Regulation, Past, Present and Future

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ABSTRACT

Impaired hearing, speech, sight and dexterity can all be barriers to electronic communications media. Regulation has secured services such as priority repair for disabled people, a text relay service for deaf people communicating with hearing users, and free directory service for those unable to use paper directories. The UK now has one regulator, Ofcom, for communications. With disability equality and human rights legislation, are special provisions for disabled people still needed?

KEYWORDS

DISABILITY, DISABLED PEOPLE, ACCESS, ACCESSIBILITY, COMMUNICATIONS, TELECOMMUNICATIONS, REGULATION, INFORMATION TECHNOLOGY, INCLUSION, NEW TECHNOLOGY, IMPAIRMENT, SENSORY, COGNITIVE, HUMAN RIGHTS, DISCRIMINATION, DISABILITY DISCRIMINATION ACT, COMMUNICATIONS ACT, OFCOM, OFFICE OF COMMUNICATION, CUSTOMERS, CITIZENS, CONSUMERS.

1. INTRODUCTION

Francis Bacon said "Knowledge itself is power"

"Knowledge and communication is power"

Bob Twitchin 2003

Without the ability to communicate, however much knowledge we have, we are isolated, unable to take part in the social, personal, economic and political interactions which make up so much of human life.

The ability to communicate is something that we take for granted.

Development of Information and Communication Technologies (ICT) has opened up enormous opportunities for communication for most people and for many disabled people, but not for all. Indeed, for some people, technological advance has actually made communication more difficult.

Two Examples:

When graphic user interfaces came in, blind people who used computers suddenly found that the new software was inaccessible to them.

Digital mobile and cordless phones were found to cause severe interference with hearing aids, something which had not been a problem with the analogue phones they replaced.

For some disabled people, the spontaneous two way communication which most telephone users take for granted is either impossible, or requires very expensive special equipment.

For many people, particularly older or disabled people, telecommunications products and services are difficult to use.

The need to improve access to communications has been recognised for many years.

This morning, I'd like to look at what has been done in the past, what is happening at present and to raise some questions as to how existing barriers and future problems might be tackled.

In particular, I want to look at the part regulation has played in improving access to telecommunications and to consider to what extent regulation will be needed in the future.

I plan to illustrate this by taking as an example communication for people who are unable to use two way voice telephony.

2. THE CHANGING ENVIRONMENT AND OFCOM

I'm Chairman of DIEL, the Advisory Committee for Disabled and Elderly People (Not my choice of title!). DIEL as set up under the terms of the 1984 Telecommunications Act, to advise the Director General of Telecommunications, and Oftel, the telecommunications regulator, on issues affecting disabled people and those of pensionable age. DIEL is one of six advisory committees, others represent England, Scotland, Wales and Northern Ireland, and one represents small businesses.

In December this year, Oftel and DIEL will cease to exist, when Ofcom, the new communications regulator comes into being, under the terms of the Communications Act 2003. Ofcom will regulate all electronic communication service providers including broadcasters and broadcast content, with the exception of the BBC.

Ofcom will replace: Oftel, Broadcasting Standards Council, Independent Television Commission, Radiocommunications Agency and the Radio Authority

By this reorganisation, the Government aims to bring consistency of regulation in an era of increasing convergence, whereby information services can be delivered over different media.

DISABLED PEOPLE AND OFCOM

Written into the Act are a number of clauses intended to protect and promote the interests of disabled people

Under the Act, the Principal duty of Ofcom is:

- a. to further the interests of citizens in relation to communication matters
- b. to further the interests of consumers in relevant markets, where appropriate by promoting competition

In performing its duties Ofcom is to have regard, where relevant, to the needs of persons with disabilities.

It will be the duty of Ofcom to

“take such steps and to enter into such arrangements, to encourage others to secure-

(a) that domestic communications apparatus is developed capable of being used with ease and without modifications, by the widest possible range of individuals (including those with disabilities); and

(b) that domestic communications apparatus which is capable of being so used is as widely available as possible

On broadcasting, the Act commits Ofcom to setting targets for subtitling for deaf and hard of hearing people, and audio description and accessible electronic programme guides for people who are blind or have a visual impairment.

Ofcom must make effective arrangements to consult with consumers and these are to include the creation of a Consumer Panel. This Panel is to be independent of Ofcom, “a critical friend” to use the words of Lord Currie, Chairman of the Ofcom Board.

In appointing members of the Panel, Ofcom is to ensure that the Panel is able to give informed advice about matters affecting the interests of disabled people.

In addition, Ofcom is to establish an advisory committee on the interests in communication matters of disabled and elderly people. This committee may, with Ofcom’s permission, give advice to the Consumer Panel.

So there is provision for Ofcom to be made aware of and to take action on behalf of disabled people.

But society has changed. The Disability Discrimination Act makes it illegal to refuse to provide goods and services or to provide a lower standard of service to disabled people, the Human Rights Act provides further protection, and the government has promised a new Disability Bill. In this new situation, is there still a need for special action to be taken by the communication regulator? If so, what sort of action?

I’d like to look at the barriers to communication faced by one group of disabled people, to see how technology and regulation have helped to tackle these in the past, and to consider what may be needed to remove remaining barriers.

3. AN EXAMPLE – PEOPLE WHO ARE UNABLE TO USE TWO WAY VOICE TELEPHONY

This group, see Table 1, includes people who are profoundly deaf, or have severe hearing impairments, those who are deafblind, people with severe speech impairments, and some people in the autistic spectrum or with other cognitive impairments or mental illness. For these people, the main telecommunication services available at present are text phones and a text relay service to enable them to communicate with those who use voice telephony. We will look at these services and their development later.

It’s important to recognise that within this group of people who are unable to use two way voice telephony, there are a range of issues and requirements, see Table 1, below.

Profound Deafness

People who are profoundly deaf or have severe hearing impairments may have been deaf from birth or young childhood – prelingual deafness, or may have lost their hearing as adults.

Many of those who have lost their hearing are fluent in spoken and written English. They are able to communicate using text and some wish to speak their side of a conversation whilst receiving replies in text. This is known as “Voice Carry over”.

For some people who are prelingually deaf, English is not their first language. For perhaps 50,000 people in the UK British Sign Language (BSL) is their first language. They may not be fluent in English, so text communication may be difficult for them. Text relay operators develop skill in understanding and using the different word order and grammar familiar to BSL users. For people with a visual language, visual communication would be the ideal.

People who are deafblind

About 30,000 people in UK many of them elderly with a wide range of conditions.

Some have sufficient sight to be able to use textphones with large clear display or PC with special communication and display software. 2-3,000 require text communication with Braille output. At present the only equipment available is expensive, about £6,000 and bulky.

People with severe speech impairments

There may be 120,000 people whose speech is sufficiently affected to make voice telephony almost impossible. At present the only service available to them in the UK is to use a text phone to the relay operator and receive a voice response from the person called. The relay service are only aware of some 2,000 people who use this service. In the USA there are a number of services offering support to people with speech impairment.

People with Autism, cognitive impairment, or mental illness

A number of conditions make normal voice telephony impossible to use for people. For them using text, or being able to see the person they are talking to, could make communication possible.

IMPAIRMENT	APPROX NUMBERS IN UK	ISSUES
PRE-LINGUAL DEAFNESS	150,000 (40-60,000 BSL FIRST LANGUAGE)	MAY NOT BE FLUENT IN WRITTEN OR SPOKEN ENGLISH. TEXT PROBLEMATIC SOME PREFER VIDEO (HIGH DEFINITION)
AQUIRED DEAFNESS (DEAFENED)	200,000	FLUENT ENGLISH, ADAPT TO TEXT, MAY PREFER TO SPEAK (VOICE CARRY OVER)
DEAFBLIND	20-30,000 MANY ELDERLY	VARIOUS REQUIREMENTS: LARGE DISPLAYS, BRAILLE KEYBOARD/DISPLAY – EXPENSIVE
SPEECH IMPAIRMENT	130,000	FEW USE TEXT RELAY, DEXTERITY IMPAIRMENT (?) -NO SPECIAL PROVISION
AUTISM, COGNITIVE IMPAIRMENT, OR MENTAL ILLNESS	?	TEXT, VOICE, VIDEO OR MIXTURE

TABLE 1: PEOPLE UNABLE TO USE TWO WAY VOICE TELEPHONY

History

Until the 1950s there was no alternative to voice for telephony. Then the first text phones came on to the market, initially with acoustic coupling with telephone handsets to transmit text

character by character as typed over the speech circuit. For the first time it was possible to have two way real time communication equivalent to voice telephony.

But there were a number of problems. Different signalling protocols were used so users of different makes of textphone could not communicate with each other.

Communicating by text was slower than voice conversation, between 3 and 6 times slower, so text calls took much longer and were more expensive for users

Text phone users could not communicate with users of voice telephony.

To tackle this last problem, in the mid 50s, the RNID set up an experimental relay service, a dedicated exchange at which operators could communicate with textphone users by text, speak their messages to voice users and transmit replies by text.

When telephony was privatised in 1984, regulations were brought in to govern the newly competitive market.

British Telecoms (BT), as the existing national telecoms operator, was given a number of Universal Service Obligations. It was recognised that there were some aspects of telephony, for example provision of payphones in rural areas, which would not be profitable but which were essential to prevent people being disadvantaged and excluded from important aspects of national life.

Regulation and technical development have both been used to over the last 20 years to ensure the availability of services to textphone users, to improve the service and to reduce costs to users.

UNIVERSAL SERVICE – RNID TYPETALK AND TEXT REBATE

In 1991, BT was given an obligation to provide access to a text relay service. In 1992 TypeTalk was set up, managed by the RNID and funded by BT.

Textphone users could register and receive a rebate of 60% on their call charges in recognition of the longer time taken for text calls.

By 2000, there were estimated to be over 50,000 textphones in use throughout the UK, and about 30,000 people were registered with the text relay service.

There were still many restrictions to the service for text phone users.

As I noted earlier, not all textphones could work with each other. Even if interworking was possible, it often required a separate setting up process for each call.

Calls to hearing users had to be made by dialling the relay service, and then providing the information to set up the call between textphone and relay. The operator would then dial the number required.. Operators time was taken up by engaged lines and calls not answered.

2000 – IMPROVING THE SERVICE – “BT TEXTDIRECT”

After much discussion with Oftel, DIEL, and organisations representing deaf and hard of hearing people, in 2000 BT introduced TextDirect, a dedicated switching platform for calls between textphones and between text and voice phones.

Users dial a prefix to access the platform

18001 for textphone users

18002 for voice users wishing to call a textphone user

18000 for textphone users to contact the emergency services directly.

The platform is able to detect and set up calls using different signalling protocols automatically.

For 18001 calls the user then dials the national telephone number required and the system attempts to complete the call. Text messages inform users of call progress including “RINGING”, “NUMBER ENGAGED”, and “NUMBER UNOBTAINABLE”.

When the call is answered, if a textphone is detected the call is automatically set up. If a voice response is received, an operator is brought in to provide the relay service.

For voice users dialling 18002, an operator is brought in as soon as a text phone is detected at the called number.

Call charges are automatically discounted for the text portion of all calls.

2000 - EXTENDING REGULATION – CHOICE OF SERVICE PROVIDER

By 2000, other fixed line companies had significant numbers of customers, so to give text users a choice of phone company new regulations were brought in extending the obligation to provide access to a text relay service and reduced call charges to all operators.

2003– EXTENDING TO MOBILE PHONES

In 2003 the UK had to implement European Directives on Communication, removing the need to licence operators, but imposing General and Special Conditions of Operation. Amongst the General Conditions applying to all operators were access to a text relay service and reduced call charges for text users. This applies to mobiles as well as fixed lines, so Oftel has given mobile phone companies until December 2003 to produce plans to make these services available to their customers.

BUT THE WORLD IS CHANGING:

HEARING PEOPLE DISCOVERED TEXT

Several forms of text communication burst into the mainstream. Email was the first, followed by short messaging service (SMS) or “texting”, as it’s now universally known, between mobiles, and internet chat services. All of these were taken up by people who can’t use voice telephony as well as by the able-bodied.

THE CAPABILITY OF THE INTERNET IS GROWING

Voice telephony over the internet is becoming more widespread and wideband connections make higher definition video practical. Personal communication devices such as Blackberry and third generation mobile phones in general permit ever more sophisticated services encompassing voice, text and video applications.

SO EVERY DAY, IN EVERY WAY, THINGS ARE GETTING BETTER AND BETTER?

Unfortunately not. Although many people unable to use voice telephony, particularly young people, use the new services, there are problems.

New services will not interwork with existing services. SMS and email users cannot at present exchange messages with textphones, internet chat groups are restricted to customers of one service provider. Users of different services may become isolated from each other, and isolation is a particular problem for many people with sensory impairments.

The new services are NOT equivalent to voice telephony. Textphones and the text relay service enable people to have two-way, real time conversations equivalent to the phone calls the rest of us take for granted. Although many people think SMS gives instant transmission of messages, it is a store and forward service, and messages may be delayed or lost if the system becomes congested. When a trial of SMS for access to emergency services was carried out in Sweden, about 25% of messages did not get through, and the average delay for those which did was 6 hours!

SO WHAT IS NEEDED

1. GATEWAYS

There should be some method by which the existing text communication services could work with each other, both nationally and internationally. BT has announced proposals ⁽¹⁾ to develop the TextDirect platform into a gateway to:

permit calls using Internet Protocol (IP) enabling calls to and from textphones via the Internet.
enable SMS messages to be sent and received

Allow emails to be sent and received.

2. INTERACTIVE TEXTING AS A MAINSTREAM PRODUCT

Guido Gybels, New Technologies manager of the RNID, believes that we should stop talking about textphones and develop the concept of “Interactive Texting”⁽²⁾. This would be a mainstream provision for all people, not just for people with hearing or speech impairments. He believes that this is the only way in which people unable to use voice telephony will benefit from general advances in communication technology. For this, the new service will require:

Underlying protocols will have to be able to deliver wide range of functionality across different networks: **T.140/RFC2793**

Using open standards, not proprietary solutions

Fully interoperable with existing services

Functionality for Voice-Carry-Over

3. WHAT ABOUT VIDEO? – TOTAL CONVERSATION

We have seen that for some people text communication is not ideal. Many would benefit from a mix of voice, text and video. At a seminar on 8th October this year organised by the Telecommunications Action Group (TAG), an umbrella group for organisations for people who are deaf, hard of hearing, deafblind or have a speech impairment, Gunnar Hellstrom of the Swedish company Omnitor spoke of their product Total Conversation⁽³⁾. This is a combination of software and servers and could be installed on fixed and mobile networks and on a variety of terminal equipment including personal computers and third generation mobile terminals. It would permit users to communicate using voice, text or signing according to their requirements and the capabilities of their terminals and that of the person called. To be fully effective, the implementation should include a sign relay service for text or speech for sign users, and appropriate provision for people with speech impairments.

HOW WILL THIS HAPPEN?

If, in the future, people who are unable to use two way voice telephony are to be fully included in communication as in the vision outlined above, resources will have to be made available and commitment will be required. In the past, major industry players have taken significant initiatives in providing products and services for disabled people. Nowadays, however, the speed at which communications services are developing means that, if main stream services are to support the facilities and products needed for access by disabled people, these requirements need to be taken into account at the design stage.

It is worth remembering that the UK Disability Discrimination Act has two particular limitations:

Manufacturing is excluded.

Service providers are only obliged to make “reasonable adjustments” to make services accessible.

4. CONTINUING NEED FOR REGULATION?

So what can we learn from this example.

Amongst disabled people, those who are unable to use two way voice telephony have perhaps the most severe problems with electronic communication services, but people with visual, mobility, and dexterity impairments also find themselves disadvantaged or excluded.

For electronic communications to become and remain inclusive, I believe that Ofcom must be prepared to act positively in a number of ways.

EARLY AND REGULAR REVIEW OF UNIVERSAL SERVICE

Under the Act it will be for the Secretary of State to make orders on Universal Service, on Ofcom's advice. I believe Ofcom should make it a priority to carry out a comprehensive review of Universal Service. This will need to assess which communication services have become essential in society and to make regulations to ensure that everyone, including disabled people, have adequate access to these. A text relay service is already provided, but as we have seen, this needs to be developed for a changing environment, and new services will be needed. Service standards should be set and management systems developed to improve service standards as this becomes practicable. A Universal Service Fund to provide services and equipment should be considered.

DEVELOPING INTERNATIONAL STANDARDS

Ofcom should play a full part in developing European and World Standards to ensure that communications become more accessible and that new services will be accessible.

CO-REGULATION

Ofcom should work with industry to develop Codes of Practice which take account of the needs of disabled people.

DEALING WITH MARKET FAILURE

The underlying concept of UK and European Regulation is that, in general, consumers benefit from a competitive market, where suppliers compete to sell them products and services. Too often, the experience of disabled people has been that the market does not deliver products and services to meet their requirements. Ofcom must be prepared to look for examples of market failure and act decisively and effectively.

5. SUMMING UP

I have been encouraged by the statements made by Stephen Carter, Ofcom's CEO, on the organisation's commitment to promote the interests of disabled people. Ofcom has a wide and challenging remit. The Consumer Panel and Advisory Committee will have important roles to play and will have to find ways of consulting with disabled and older people on issues affecting them. In the past regulation has played a significant role in improving access to telecommunications. I hope I have shown that there is a continuing need for this role. Communication companies have made commitments to excellence in service standards to all their customers. Ofcom's primary duty is to promote the interests of all citizens and consumers. If industry, regulator and organisations for disabled people work to a common vision of inclusion, disabled people will fare better as customers, consumers and citizens.

Thank you.

REFERENCES.

[1] M. J. Day Presentation to TAG/WGHI* Seminar 8th Oct.2003 CD available from TAG, Ruth Meyer, 70 Blacketts Wood Drive, Chorleywood, Rickmansworth, Herts WD3 5DQ Cost £15

[2.] Guido Guibels: Presentation: "Text Communications: where are we and where do we want to go?" TAG Seminar 8th Oct.2003

[3.]Gunnar Hellstrom: Presentation:"Total Conversation: Increased usability of conversational services in fixed and mobile networks" TAG Seminar 8th Oct.2003

*Working Group for Hearing Impaired People (WGHI) is a subgroup of PhoneAbility, the UK reference group for COST219ter, the EU research programme on communications for disabled and older people