Occasional paper
October 2003 number 3

Thomas Pocklington Trust
Housing and support for people with sight loss

Helping visually impaired people in their homes: assistive technology

Age-related macular degeneration is one of the most common causes of visual impairment. The average age of the UK population is increasing. It is therefore likely that the number of people with some kind of visual impairment will increase. Quite naturally, many older people share a desire to remain in their own homes for as long as possible. It is important to allow people whose sight deteriorates to carry on living in a familiar environment if it is safe for them to do so, and if that is what they want. There are many aspects of daily independent living that blind and partially sighted people find more difficult to cope with, particularly if the appliances and tools that they use have not been well designed. By improving these appliances and tools they can continue to live at home and have more independence and control over their lives.

What is assistive technology?

The Assistive Technology Act of 1998[1] describes an 'assistive technology device' as any item, piece of equipment or product system, whether acquired commercially off the shelf, modified or customised, that is used to increase, maintain or improve functional capabilities of individuals with disabilities. For this reason, assistive technology solutions do not need to be 'high tech'.

For example, if the cooking instructions on a microwave meal are printed in small type on shiny plastics wrapping, it can be awkward for visually impaired people (VIPs) to read and to follow the

[1] http://www.section508.gov/docs/AT1998.htm

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Published by Thomas Pocklington Trust
Registered charity no. 205996

ISBN 0-9546199-2-7
9 780954 619923

manufacturer's recommendations. Similarly, it can be awkward to set the controls of the microwave to deliver the correct cooking time if the dial on the microwave has small numbers around it. A low-tech solution to the problem would be to redesign the packaging or microwave controls to make them easier for VIPs to deal with.

The high-tech solution would be to develop a microwave oven that could recognise what the cooking requirements of the meal were, and automatically cook it for the appropriate time. Both of these approaches can be thought of as 'assistive technologies'.

A BRE project, commissioned by Thomas Pocklington Trust with support from the Northern Ireland Housing Executive and the Joseph Rowntree Foundation, set out:

- to determine the needs of visually impaired people;
- to compare those needs with currently available assistive technology; and
- to identify areas where there is scope for further devices to be developed.

The project was divided into a number of sub projects.

- A survey of existing assistive technology.
- A survey of user needs.
- A 'gap analysis', to determine the potential for new technology by comparing the results of the user needs and existing technology surveys.
- A workshop at which the results were discussed by a range of people from manufacturers to users.

Survey of existing technology

The survey of available assistive technology involved an internet search. This allowed easy access to national and international sources of information. The various main centres of information for VIPs as well as manufacturers, designers and researchers were also contacted.

The results of the review were categorised into four types of assistive technology. These were technologies which:

- were widely commercially available at the moment;
- could be available soon;
- were in development or undergoing research; and
- were future possibilities.

Currently available assistive technology

Table 1 summarises currently available technology.

Table 1 Currently available technology

Low vision related devices
Magnifiers
Near vision telescopes
Distance vision telescopes

Daily living devices
Thermometers and barometers
Light probes and colour sensors
Liquid level indicators
Money handling devices

Information and communication technology devices
Mobile communications
Screen magnification software
Braille editing and translation software
Web browsers for non-visual output

Automatic doors and windows

As well as physical objects acting as assistive technology the survey also identified services provided by third parties that help VIPs maintain an active and independent life. For example, some banks and building societies can provide cheque book templates, personal banking advice and statements in large print or Braille. Many banks now also have telephone banking facilities.

Some utility companies will Braille, stud or mark controls on domestic appliances, supply free audio cassettes, telephone to explain the content of a bill or to discuss a billing query or payment option. Northumbrian Water can provide a water bill in large type or Braille, or they can arrange for a member of staff to read a bill over the telephone.

Assistive technology which could be available soon

Options in this category were mainly every day objects (for example, measuring jugs or washing machines) with in-built speech synthesis or voice recognition systems. Automatic vacuum clearners are one example of 'near market' devices. Another example is the greater use of video and graphics in communication technology.

Assistive technology in development or at research stage

Many devices identified in this area can be categorised as 'smart home' technology (technology with some form of artificial intelligence). Table 2 lists the main ones.

Table 2 'Smart home' technology

Lighting controls which can be programmed to reflect the users' needs and will react to emergency situations, such as fire. Lighting controls can also be limited to passive infra-red (PIR) sensors to automatically switch on lights when somebody enters a room.

Keyless door locks which make use of a programmable key fob or other 'swipe' device.

Door opening mechanisms which allow doors to be unlocked and opened either from the outside or from within by using a remote control keypad. Doors could be fully automatic or 'power assisted', depending on the disability and the individual's personal needs.

Window motors which allow windows to be opened or closed either by infra-red remote control or by wall switches. There is also the potential to programme windows to close either when the heating comes on or when the property is empty.

Window sensors monitor the status of the window and advise the house to react accordingly.

Curtain motors can also be controlled using infra-red remote control or wall switches. Sensors can be introduced to automatically close curtains at dusk.

Bathroom controls operate via an infra-red sensor, which times water flow to prevent flooding and thermostatically regulates water to reduce the risk of scalding.

A number of other research projects that were identified can be found on the website of the Foundation for Assistive Technology (FAST):

http://www.fastuk.org/home.php3

Future possibilities for assistive technology

Two categories of product feature in this area. The first is the use of wireless technology (such as Bluetooth) coupled with voice recognition to control domestic appliances, and controls, for example for lighting or heating. The second category is the enhancement or substitution of the person's own senses (see http://www.tiresias.org/research/cr1_subject.htm#vision_sub).

The possibilities range from the use of electronic cameras to enhance colour or contrast, to video cameras connected directly into the optic nerve, bypassing the eyeball. Vision substitution would involve conversion of a video signal into a non-visual form that the visually impaired person is trained to interpret by touch, for example.

Survey of user needs

The user needs survey addressed three issues:

- What activities do visually impaired people have problems with in their daily life at home?
- What makes assistive technology in the home useful, useable and appealing?
- How do visually impaired people find out about and obtain assistive technology?

Two approaches were taken to look at the issue of user needs. Three focus groups, with six to eight people in each group, were held with visually impaired members of the public, and interviews were undertaken with representatives of organisations working in the field.

Participants in the focus groups spoke about the effects of their impairments on daily life at home and what technology they use or would like to use in order to overcome difficulties. Participants were selected to obtain as full a range of views as possible. They included a good balance of men and women, they ranged in age from early 20s to the late 70s, and they differed in the extent, type and length of visual impairment.

To supplement the focus groups, representatives were consulted from organisations concerned with housing, care or assistive technology for visually impaired people. Several people interviewed during this consultation were visually impaired themselves or had experience of visual impairment through family members. In addition, they had experience of working with a large number and range of users. They also drew attention to the types of issues that they would consider when providing or advising about assistive technology.

During the course of the survey a number of issues emerged that should be borne in mind when interpreting the results. There was one recurring theme: while there are some common patterns of need it is impossible to make generalisations about all visually impaired people. Differences in the need for, or use of, assistive technology could be related to a number of factors. These included:

- the type and duration of visual impairment;

- whether living in a familiar home environment or a new one; and
- the amount of social support.

Furthermore, visually impaired people frequently have significant additional impairments, such as mobility or auditory. A combination of disabilities changes the type of assistive technology which is needed and is appropriate. For example, for deaf blind people a vibrating signal would be more useful than an audible one.

Many people with visual impairments live in buildings where they share common parts and facilities with others who may not be visually impaired. The needs of these other people should be taken into account when introducing assistive technology.

The other people in a visually impaired person's life also affect the need for assistive technology. The need for technology to deal with problems such as reading labels on packaging is reduced if partners, spouses, children, neighbours or professional carers are available to help out. However, additional people in the home can sometimes create a different set of problems. For example, they can inadvertently create trip hazards by leaving household items on the floor.

The user needs survey produced a list of difficult and/or frustrating activities that could be made possible, easier or safer by the introduction of assistive technology. They are summarised in Table 3, although large differences were reported by individuals.

What should assistive technology be like?

Participants in the surveys explained what they liked and disliked about existing assistive technology; what would encourage them; what would put them off; and what would make it easy or difficult for them to use the technology. The attributes listed here raise issues but do not provide a comprehensive checklist for manufacturers. Several participants suggested it would be useful to develop a checklist and some guidelines exist already[2] [3]. However, a checklist alone would not be sufficient to ensure that suitable assistive technology is developed.

Cost – It is important to ensure that both purchase and running costs are realistic.

[2] JM Gill, JM, and ADC Shipley, ADC.
Telephones: What features do disabled people need? (1999).
http://www.tiresias.org/phoneability/telephones/index.htm

[3] Gill, JM. *Designing user interfaces for people with visual impairments. (2000).*
http://www.tiresias.org/controls/index.htm

Level of technology – It should not be assumed that the latest modern technology offers the 'best' solution to a problem. High-tech solutions may be appropriate in some cases (for example in 'Smart' homes) but there are also many opportunities for low-tech solutions, many of which have been developed by resourceful visually impaired people themselves.

Add-on – It would be useful to add accessible technology on to mainstream appliances (for example, standard plug-in modules to convert appliances into talking models). Manufacturers would have to agree standard formats and protocols so that the add-on technology could be transferred to another appliance when the original is replaced.

Socially acceptable assistive technology should not stigmatise the user and it should be acceptable to other un-impaired occupants of the home.

Table 3 Difficult and frustrating activities

Packaging (food, medicines and cleaning materials)

- Opening packaging.
- Knowing what packaging contains.
- Cooking.
- Accidents (for example, cuts, spilling hot liquids and touching hot cookers).
- Cooking properly (for example, knowing when meat is done).
- Making a mess (overfilling containers and pots boiling over).

Housework

- Accidents (if you cannot see where the bleach container is or whether it has spilt).
- Knowing when housework is needed.
- Knowing when housework is done properly.
- Using equipment (for example, whether or not the vacuum cleaner bag is full and how to change it; temperature setting on the iron; and programming the washing machine).

Healthcare

- Monitoring personal health and the health of others (for example, thermometers are often difficult to read).
- Taking medicine (issues to do with packaging).

Personal hygiene and appearance

- Accidents in other contexts (for example, burning themselves on the iron).
- Looking after themselves and others properly (for example, matching clothes, shoes and socks).

Communication (telephone and letters)

- Reading letters and bills.
- Using telephones (mobile telephone controls are often difficult to see and operate. Telephones specifically designed for visually impaired people seem not to have complex functions such as memory).

Leisure

- Using and setting up equipment (for example, controls for TV can be difficult to see. Remote controls do not give suitable feedback and assembling flat packs are difficult).

Moving around the home

- Accidents with fixtures (such as bumping into doors).
- Accidents with moveable objects (tripping over furniture or children's toys).
- Accidents with changes in levels and stairs (for example, stair guards for babies are difficult for visually impaired people to put up and take down and can be difficult to negotiate).
- Finding household objects around the home if they are not in their usual place.

Security

- Letting people enter the home (seeing who is there and reading identity cards).
- Using door and window locks (good vision is needed to see locks, particularly for tiny keys. Concern about leaving windows open and unlocked is also an issue).
- Signs of occupancy (knowing when to close curtains and turn on lights).

Environmental control

- Lighting (particular types of lighting are needed for different impairments. It is also difficult to tell whether lights are on, particularly with two-way and dimmer switches).
- Heating (setting timing controls and thermostats and fitting fire guards).

- Electricity (concern about not seeing children putting their fingers into sockets).

Choice

Where possible, different designs should be offered to reflect personal tastes.

Easy to use

Assistive technology should be easy for visually impaired people to use. This should not be at the expense of overall functionality.

Practical and safe

Devices should be small so that they do not get in the way. If they are designed to be portable, they should be lightweight. Batteries should be easy to replace. Products used for food or drink should be easily cleaned and they should be robust enough to withstand being dropped.

How should assistive technology be made available?

The need for more information and awareness about assistive technology – as well as a desire to use it – came across clearly in the survey. Information needs to be targeted at groups who are overlooked at present. For example, those who have other disabilities may be classified by their primary disability and overlooked when it comes to providing information relating to visual impairment.

It is important to be aware of all those who live and work with visually impaired people (such as carers and dependants) and to provide information for them.

The four main sources of information on assistive technology were identified as:

- **Visual impairment/disability organisations** Many of those interviewed had found out about assistive technology through resource centres, demonstrations, catalogues or magazines provided by visual impairment charities. They had found this route very helpful. However, others had avoided this route because they found it stigmatising and felt uncomfortable with it.
- **Word of mouth** For those involved in a visually impaired community through their workplace, college or social group, word of mouth provided an important source of information. For visually impaired people outside these communities (a large proportion of the visually impaired population) this will not be available to them.

- **Mainstream retailers/suppliers** Mainstream retailers, such as large department stores, could be an important source of information and assistive technology products. Participants who discussed the issue would universally welcome it. Although some felt it would be unrealistic to expect this change, others felt that a limited amount of useful technology is already available through mainstream suppliers. The increasing number of elderly people in the UK provides a growing market for assistive technology products related to visual impairment. Also, technology to help visually impaired people could be a selling point for those without sight problems. Examples from other countries suggest how easily assistive technology products could be integrated by mainstream retailers: one interviewee described a floor of such products in a mainstream department store in Japan.
- **Housing and care professionals** Professionals and users both felt that housing and care professionals' knowledge about assistive technology for visually impaired people should be improved. It lags behind knowledge about other types of impairments. Professionals in particular contexts could play a key role in speeding up learning on the issue. In hospitals and eye clinics, there is a perfect opportunity to inform newly visually impaired people about what is available to help them. In day-care centres, potential users could be prepared by showing them the benefits of assistive technology before their eyesight deteriorates.

Comparing user needs and problems, and existing technology

User needs or problems identified in the user needs survey are followed by a bullet point list of available solutions. Results are grouped under six general headings:

- Reading / communication
- Security
- Using/setting up electronic equipment
- Personal care
- Accidents
- Housework in and around the home.

Reading/communication

Knowing what packaging contains (writing on labels is difficult to read and containers are similar to each other).

- Talking labels – allows the information in a microchip embedded within a paper label to be read out, using a handheld electronic device.
- Braille Dymo gun – allows Braille labels to be written on self-adhesive strips.

Reading (letters, bills and other correspondence)

- Large-print address book.
- Large-print diary.
- Large-print calendar.
- Tactile inks – writes and dries as raised lettering.
- Magnifiers/telescopes.
- Scanners, sometimes with speech synthesisers.

Other available technology

- Bar code reader (allows a recorded message to be associated with a bar code).
- Talking typewriter.
- Electronic personal assistant – a PDA (personal digital assistant) that records speech and allows it to be accessed in many different ways. For example as an address book, a personal calendar, a calculator, a clock or a notetaker. This can be accessed by voice recognition.
- Talking address book.
- Various voice recording devices – an alternative to writing down notes.
- Various Braille/Moon devices – to allow note taking and writing in Braille or Moon.
- Notepad with raised line/thick line notepaper – to allow neater writing.
- Writing frames – to guide writing for notes, cheques, envelopes.

Security

- Letting people into the home (knowing who is at the door and reading identity cards).
- Using door and window locks (good vision is needed to see locks and concern about leaving windows open and unlocked).
- Smart door entry systems.
- Motorised windows.
- Door opening mechanisms – fully automated or power-assisted.

Signs of occupancy (knowing when to close curtains and to turn on the lights).

- Programmable lighting controls.
- Curtain motors.

Using/setting up electronic equipment

Using telephones (mobile telephone controls are often difficult to see and operate. Telephones specifically designed for visually impaired people do not seem to have complex functions such as memory).

- Big button phone – makes dialling easier. Also available with Braille symbols and raised numbers.
- Talking caller identification – announces caller number.
- TV Sound Receiver – allows someone to hear the sound channel from a television without the need for a screen, which may be of no use.
- Pocket telephone dialler – allows people to check phone numbers before they are dialled.

Using equipment (controls for such items as TVs and CD players are often difficult to see because of their size and colour. Remote controls do not give suitable feedback so visually impaired people find it hard to tell what they are doing).

- Universal remote controls – big numbers, controls up to four different devices.
- Talking video remote control – allowing confirmation of what the user has entered.
- Voice activated remote control – voice controlled unit, recognises 54 commands.
- Bump-ons – self-adhesive bumps that can be applied to dials or buttons on appliances (such as cookers, washing machines, video players) to mark useful settings.
- Braille palmtop – a word processor, calculator, diary, telephone directory, clock with alarms, perpetual calendar, with voice output.
- Easy-to-see calculator.
- Talking calculator.
- Easy-to-see pocket watch, wrist watch and wall clock.
- Tactile watch and alarm clock.
- Talking clock, alarm clock, wrist watch and alarm wrist watch.
- Heating (setting timing controls and thermostats and fitting fire guards).

- Talking control unit – allows timer or temperature control of any appliance to a maximum rating of 2kW.

Personal care

Cooking properly.

- Tea steeper – allows a tea bag to be brewed for a set time.
- Electric frying pan with Braille controls.
- Tactile meat thermometer – in 20°F intervals 120 to 200°F.
- Talking microwave oven – to allow the person using it to know what settings they are using.
- Talking microwave recipes – an alternative to recipe books.
- Easy-to-see timer – to allow cooking times to be easily seen.
- Talking kitchen scales – to allow cooking items to be weighed.
- Tie-on labels – to allow easy to read notes to be attached to cooking items.
- Measuring cups – colour contrasted and tactile.
- Measuring jug – colour contrasted and tactile.
- Measuring spoons – colour coded.
- Food seasoner – lighted mill which grinds salt and pepper at the push of a button allowing one hand free to catch and measure seasoning.

Monitoring health – personal health and the health of others (thermometers are difficult to read).

- Talking glucose monitor – allows diabetics to monitor their blood sugar level.
- Talking digital thermometer – accurate to within 0.2°F.
- Talking blood pressure monitor – also has extra large display which gives pulse rate.

Taking medicine (issues to do with packaging).

- Medicine dispenser – allows easy measurement of 5 ml doses.
- Eye-drop dispenser – allows easy use of eye drops.
- Pill organiser – easy way of checking that pills have been taken for that day.

Looking after themselves and others properly (for example, using the right setting on the washing machine; using the right temperature on the iron; and matching clothes, shoes and socks).

- Nail clipper with magnifier.
- Magnifying tweezers – magnifies what you are removing.

- Easy-to-read scale – 25 mm-high very bright LED read-out of weight.

Opening packaging (clear plastics collars around the tops of jars are difficult to see and fiddly to remove; medicine/bleach bottle lids are tricky to open).

Accidents

Accidents (these include cutting themselves with knives; knocking pans off cookers; spilling when pouring hot liquids; touching hot cookers; and leaving cookers on after finished cooking).

- Liquid level indicator – to allow a cup or other container to be filled to the correct level with a hot liquid.
- Food chopper – allows food to be chopped safely, without the need for a knife.
- Knife with guide – to allow safe and easy cutting of food into slices.
- Egg boiler – easy removal of boiled eggs from the saucepan to the table.
- Microwave heat pad – a safer alternative to pouring boiling water into a hot water bottle.

Making a mess (overfilling containers or allowing pots to boil over).

- Plate surround – keeps food on plate whilst it is being chased around by a fork.

Accidents (cannot see where or whether the bleach bottle has spilt).

Accidents in the bathroom (for example, slipping because puddles of water are difficult to see).

- Talking scales – says weight in pounds or kilograms. Quiet unobtrusive voice.
- Bath alarm – audible alarm sounds when the water reaches desired height, preventing flooding.
- Automatic bath filling – allows baths of the correct temperature and depth to be run.

Accidents in other contexts (for example, burning with an iron).

- Iron guide – allows people to iron but keep their fingers away from the hot surface.

Accidents with permanent features (for example, bumping into doors and radiators or walking into glazed doors).

- Door ajar alarm – to warn people that a cupboard door is open and may be a collision hazard.

Accidents with moveable objects (tripping over furniture or children's toys).

Accidents with changes in levels and stairs (for example, stair guards for babies are difficult for visually impaired people to fit).

- Highly coloured adhesive tape – designed to be noticed, to stop collisions.

Electricity (concern about not seeing children putting their fingers into sockets).

Housework – in and around the home

Knowing when housework is needed (for example, not knowing when the fridge or freezer needs defrosting).

Knowing when housework is done properly (vacuuming, dusting, cleaning shiny surfaces and toilets. These may be done repeatedly or excessively to make sure they are clean).

Using equipment (it is difficult to tell when vacuum cleaner bags are full and fiddly to change them).

Setting up and assembling equipment (instructions are often not accessible and assembling equipment may be hard for visually impaired people).

Finding household objects around the home (this is difficult if objects are not in their usual place).

- Key locator – beeps when it detects a whistle.

Lighting (particular types of lighting are needed for different impairments. It is difficult to tell whether lights are on, particularly with two-way and dimmer switches).

- Voice-operated light switch – removes the need to search for a light switch, 150-watt maximum.
- Light probe – detects if a light is on.
- Task lights – with suitable light vision can be improved.

Two issues become clear from this information. First, there seem to be gaps in available technology. For example, opening some type of packaging, some safety issues and objects to do with general housework are all areas identified where users perceive a need for help, but none was identified. Second, users feel that they need assistive technology in situations where quite a lot of products are already available.

There may be explanations for these observations. In some cases where a gap has been identified, technology may not be practicable or cost-effective, such as a device that indicated the cleanliness of a room. In other cases where technology is apparently abundantly available, it may be that the equipment is too specific to be of general use to a wide range of visually impaired people.

These issues were discussed at a workshop attended by about 50 delegates, many of whom were visually impaired. Each of the six general areas were discussed in more detail. Each discussion group was asked to prioritise the list of issues and problems for their general area, and then to brainstorm one or two preferred solutions (whether or not the solution already existed). They were also invited to suggest ideas for further research.

Suggestions made by the groups included:

- a universal labelling system based on bar-codes (to solve a range of problems from knowing the contents of a food container to matching clothes in the wardrobe);
- 'smarter', more ergonomic washing machine (voice-activated programmes which are able to recognise type of clothes being washed via data tags on clothes and automatically choose appropriate wash cycle. Large embossed controls would be on the fronts of the washing machines);
- a universal controller for all appliances; and
- an orientation recognition system to prevent accidents (based on video cameras, this would inform the user of fixed obstacles and alert the user when the 'normal' room layout had changed).

Suggestions for further research were:

- to investigate the potential application of electronics in the home;
- to determine if there is a proven link between accidents and visual impairment;
- to develop guideline material for manufacturers. For example, producing 'Five easy steps to help visually impaired people';
- to investigate the priorities for developing assistive technology;
- to explore how visually impaired people use rooms and the impact on lighting advice; and
- to explore the possibilities of self-developed assistive technology.

Conclusions

The wide range of assistive technology devices available reflects the large number of tasks required for independent living. Many of the assistive technology products that are in wide use are very low tech. They are, nonetheless, fit for their task. Many more products are currently being worked on and are required to make life easier for all.

There are many areas where information technology can be put to good use. 'Smart' housing is one of the best examples of implementing technology. There is no need for the entire home to be automated but instead users' needs are clearly assessed and critical areas should become automated.

The user needs and available technology surveys have shown that products available at present have the potential to simplify many of the current difficulties faced by visually impaired people. There are, though, many visually impaired people who are not using that technology. The reasons are varied, and include lack of awareness, cost and other issues such as social stigma. However, feedback from the workshops also suggested that the specific circumstances surrounding a particular individual mean that the technology is not really suited to them, even though in many cases the technology appears to address a general problem.

The results of the workshop sessions have also illustrated that visually impaired people find some every-day tasks difficult which normal sighted people take for granted. The examples of matching clothes in the wardrobe and knowing whether the tin in the cupboard contains your supper or the cat's dinner bring these problems into sharp focus.

The proposed solution, universal bar code system, should be technologically feasible.

Designing washing machines to be more ergonomic should present no real problems, but getting the machine to choose the best wash cycle for the clothes being put into it may not be so straightforward. The development of a universal controller sounds simple but would probably be difficult to achieve, if only because of the need to get all manufacturers to standardise their products. The problem of a system to help visually impaired people avoid collisions in the home is also likely to prove complex.

In addition to the six specific technological solutions emerging from the six groups, the transcripts of the flipcharts reflecting the discussions leading up to the selection of the specific issues contain a useful insight into a range of issues that visually impaired people

have to manage on a daily basis; (see full report on http://www.projects.bre.co.uk\assistivetechnology). The information contained in those transcripts should enable manufacturers, researchers and housing providers to each make the lives of visually impaired people a little more comfortable. There are also areas for future research, some of which could be pursued relatively quickly.

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How to get further information

A Research Findings summary of this work and the full report are available from:

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Background on Thomas Pocklington Trust

Thomas Pocklington Trust is the largest specialist provider of housing and support services for people with sight loss in England. In addition to promoting services, Pocklington also funds a £750,000 social and public health research budget over a three year period.

Pocklington's centres offer a range of sheltered and supported housing, residential care, respite care, day services and home care services, together with community based support services.
A Positive About Disability and an Investor in People organisation, with quality assurance systems for its services, Pocklington is fast becoming a best practice organisation in its sector.

Pocklington has centres in Birmingham, Wolverhampton, Plymouth, Middlesex, and two in London. The charity also manages a day service and a community support service in the West Midlands and a Resource Centre in South London. Pocklington is increasingly working with partners to bring new services to people with sight loss living in the local community.

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About BRE

BRE is formerly known as the Build Research Establishment. It is committed to providing impartial and authoritative information on all aspects of the built environment for clients, designers, contractors, engineers, manufacturers and occupants.

BRE is the UK's leading centre of expertise on building and construction, and the prevention and control of fire.
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