



Availability of accessible publications 2011 update

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Executive summary

Background

Whether studying for an exam, keeping professional skills up to date, learning a new recipe, or relaxing with a good read, books are essential to our education, work and leisure.

However, blind and partially sighted readers face a dramatically limited choice of titles. The number of accessible titles - by which we mean books that are available in the three key formats of large print, braille and unabridged audio - is still unacceptably low in comparison to the range that sighted people enjoy.

RNIB believes that blind and partially sighted people have the same rights to access the rich world of books as anyone else. We are committed members of the Right to Read Alliance, which seeks to ensure that everyone can read the "same book, the same time, at the same price". RNIB has been working hard with key industry partners to make this a reality and we wanted to understand how far we had progressed towards reaching this objective.

We commissioned two new pieces of research from LISU, a research and consultancy unit at Loughborough University. The first provides us with the big picture. Based on titles published between 2006 and 2010, our "Availability of accessible publications: 2011 update" aims to provide an up-to-date estimate of the availability of accessible publications. It also aims to assess the impact of accessible eBooks and ereaders since 2004, when this study was last completed.

An eBook is a book in an electronic text format. It can, depending on the eBook and device used, be read as electronic large print, audio (using a synthetic voice), or braille using an electronic braille display. There are exciting developments in the digital world, and we have set ourselves an ambitious strategic target:

"By 2014, blind and partially sighted people are able to read the 1,000 most popular books each year, using commercial audio books or eBooks."

The second report, "Accessibility of top 1000 titles of 2010", shows how we're doing against our strategic aim to make the most popular titles accessible. It also shows what impact accessible eBooks and ereaders have made since the study was first completed in 2009.

We're aware that one thousand titles remains a small number compared to the stock of a bookshop or library. However, the improving availability for this most popular range of titles shows what is possible. RNIB needs to know where the gaps are, so that we can plan future work to increase the range of accessible titles.

Our definition of accessible books rests on readers' preferred format. Large print is not an accessible format to someone with no useful sight; braille is not accessible to someone who cannot read it. We found it useful to break down titles by format to help us understand the bigger picture. However, we only defined books as fully accessible if they were available in the three key formats of large print, braille and unabridged audio, to reflect the diverse and individual needs of blind and partially sighted readers.

Summary of key results

Many people who have lost their sight still can't read in formats that are accessible to them, even when including those who use eBooks. We have a long way to go before blind and partially sighted people can read the full range of books that everybody else takes for granted.

- Just 7 per cent of all books are available in braille, audio and large print, including titles available in these formats using eBooks

However, UK publishers and the eBook industry have worked with RNIB to make progress in recent years, especially with recent popular titles and when including accessible eBooks.

- In 2010, 54 per cent of the top 1,000 titles were available in braille, audio and large print, including titles available in these formats using eBooks

In recent years eBooks have revolutionised the publishing sector. Where publishers and the eBook industry have incorporated accessibility in

their design, they increase the choice of titles for blind and partially sighted people. We are working hard to open up these new technologies to more people so that the progress we have made can be enjoyed more widely.

Starting with the most popular books, but with a strong sense of the bigger picture, we are committed to changing this. It is not acceptable in our information rich and technology driven age that just seven per cent of books are fully accessible to blind and partially sighted people - especially as many don't currently use eBooks. People who have lost their sight should be able to choose from a greater selection than this, like anyone else can. However, by working constructively with publishers, the eBook industry and blind and partially sighted readers, we will open up a new world of books for all to enjoy.

The full reports

Accessible Publications 2011

This report is available from 24 October 2011 at rnib.org.uk/accessiblepublishing or by emailing ebooks@rnib.org.uk to request a copy.

Accessibility of top 1,000 titles of 2010

This report is available from 10 October 2011 at rnib.org.uk/accessiblepublishing or by emailing ebooks@rnib.org.uk to request a copy.

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1 Introduction

The Royal National Institute of Blind People (RNIB) has commissioned LISU at Loughborough University to develop reliable estimates of the availability of books in formats accessible to people with sight loss, based on titles published between 2006 and 2010. This report describes the findings of this research, and draws comparisons with earlier RNIB studies which also focus on accessible publications. In particular, it updates the report of a similar study published in 2004, and assesses the impact of the advent of accessible eBooks¹ and eBook readers since that study. Comparisons are also made with recent LISU analyses of the availability in accessible formats of the most popular 1,000 titles of 2010.

Key similarities and differences between this study and earlier work are summarised in Table 1a below:

¹ An eBook is ‘an electronic version of a printed book that can be read on a computer or handheld device designed specifically for this purpose’. www.oxforddictionaries.com (accessed 14/09/11)

Table 1a Key similarities and differences between this study and earlier work

	Availability of accessible publications: 2011 update	Availability of accessible publications 2004	Accessibility of top 1,000 titles of 2010
Period covered	Books published 2006–2010	Books published 1999–2003	The most popular 1,000 titles of 2010 by preferred genre of sighted people aged 65 and over
Titles covered	Random sample of 400 titles for each of the five years	Systematic random sample of circa 400 titles for each of the five years	
Total titles	2,000	2,069	1,000
Formats considered	Hard copy braille, hard copy large print, human voice audio, accessible eBooks	Hard copy braille, hard copy large print, human voice audio, Moon, electronic text files	Hard copy braille, hard copy large print, human voice audio, accessible eBooks
Purpose of commissioning	To indicate day to day experience of blind and partially sighted people		To ascertain progress against RNIB strategic goal

1.1 Introduction to methodology

A random selection of 400 titles included in the British National Bibliography (BNB) for each of the five years from 2006 to 2010 was supplied by the British Library, giving an overall sample of 2,000 titles. The analysis of these titles therefore provides unbiased estimates of the availability of accessible formats for all books published in the UK over the period. The formats considered were unabridged audio (that is, an audio edition of the full work, as opposed to abridged audio, which is a shortened version of the original work), braille and large print (that is, with a font of 16 point or higher), and the approach taken is described in

detail in Appendix A. The research was undertaken during July and August 2011.

Books were considered to be fully accessible only if they were found to be available in all three formats of unabridged audio, braille and large print. Priority was given to commercial provision. Charitable providers were also included, but accessible books that are available commercially were considered first and foremost, as this provision is crucial to RNIB's aim of equitable access for blind and partially sighted people. The aim was to identify one edition of each title in large print, audio and braille formats, where available; in practice the format of the databases used, and their search interfaces, were such that multiple editions were often identified. Where this was the case, all editions identified were recorded. However, the researchers did not undertake a comprehensive search for all possible editions for each accessible format of each title; once one had been found no further sources were searched for that format. For eBooks, only Apple iBooks were regarded as fully accessible, while books for the Kindle ereader were included as accessible in large print.

To enable comparison of the latest results with those from the 2004 work, the earlier data were re-analysed in line with the current definitions of accessibility. Formats such as Moon, and electronic text files, which were included in the 2004 study, do not meet current RNIB accessibility criteria, and were not included in the data analysis for this report. Hence, percentages presented here for 2004 may differ slightly from those originally reported. Further details are given in Appendix A.

Percentages presented in this report for the 2011 and 2004 studies are given to two decimal places. Comparable proportions for the top 1,000 of 2010 are given to one decimal place, as the second decimal place would be zero in all cases.

In 2011 the databases available for identifying accessible formats were somewhat different from those in 2004. Details are given in Appendix A.

1.2 A note on eBooks

eBooks will be read on a variety of different devices with different capabilities. RNIB criteria for inclusion as accessible eBooks are

intended to reflect the ways that eBooks can be read by blind and partially sighted people in 2011:

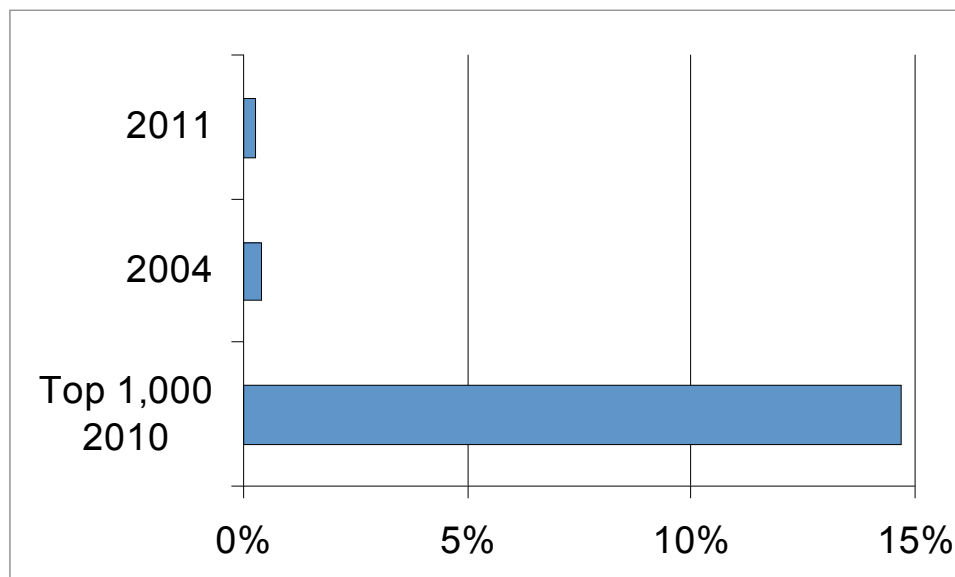
- For large print, an eBook must be capable of being read without third party access technology such as screen magnification software or a video magnifier.
- For synthetic speech audio, an eBook solution should not require sighted assistance to choose the book to be read, and should enable a reader to navigate within the book independently.
- To qualify as accessible for electronic braille users, an eBook must be capable of being read with an electronic braille display, allowing a similar degree of independence to synthetic speech.

In 2011, Apple iBooks via Apple devices met all of these criteria, while Kindle eBooks only met the criteria for large print. This was also true of the 2010 Top 1,000 study: eBooks were not included in 2004, although the availability of texts in electronic formats was recorded.

2 Summary of key results

- In total, just 0.25 per cent of titles were fully accessible in ‘traditional’ formats (hard copy braille, hard copy large print, human voice audio) in 2011. This compares to 0.39 per cent of titles in the 2004 study, and 14.7 per cent of the top 1,000 titles of 2010². This is illustrated in Figure 2a.

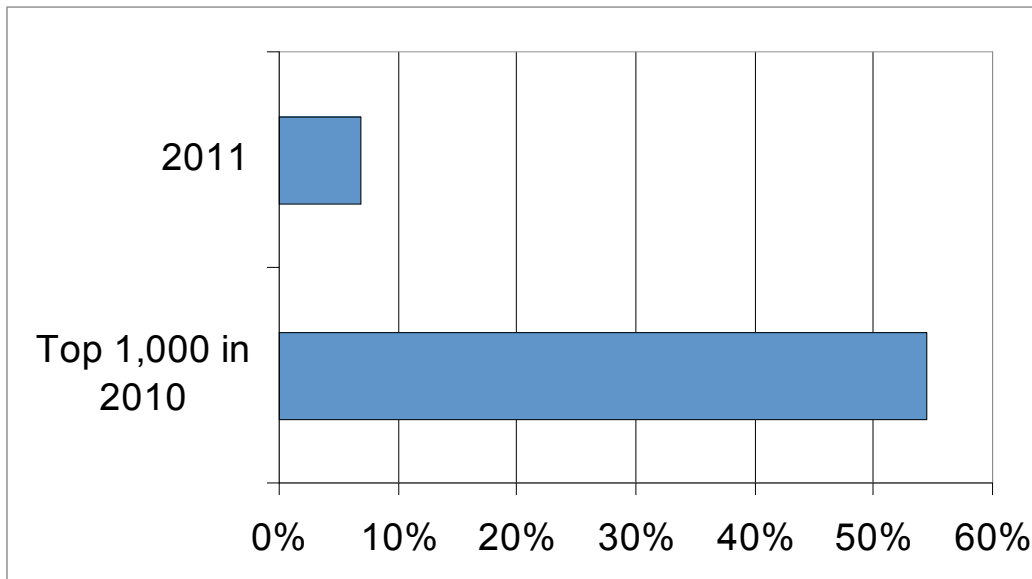
Figure 2a Percentage of fully accessible books



- When accessible eBooks are included, there is a significant improvement in accessibility. People who are blind or partially sighted can access 6.80 per cent of titles in all three formats (braille, audio and large print) including electronic editions in 2011. This compares to 54.4 per cent of the top 1,000 titles of 2010. This is illustrated in Figure 2b.

² Percentages presented in this report for the 2011 and 2004 studies are given to two decimal places. Comparable proportions for the top 1,000 of 2010 are given to one decimal place, as the second decimal place would be zero in all cases.

Figure 2b Percentage of fully accessible books (including eBooks)

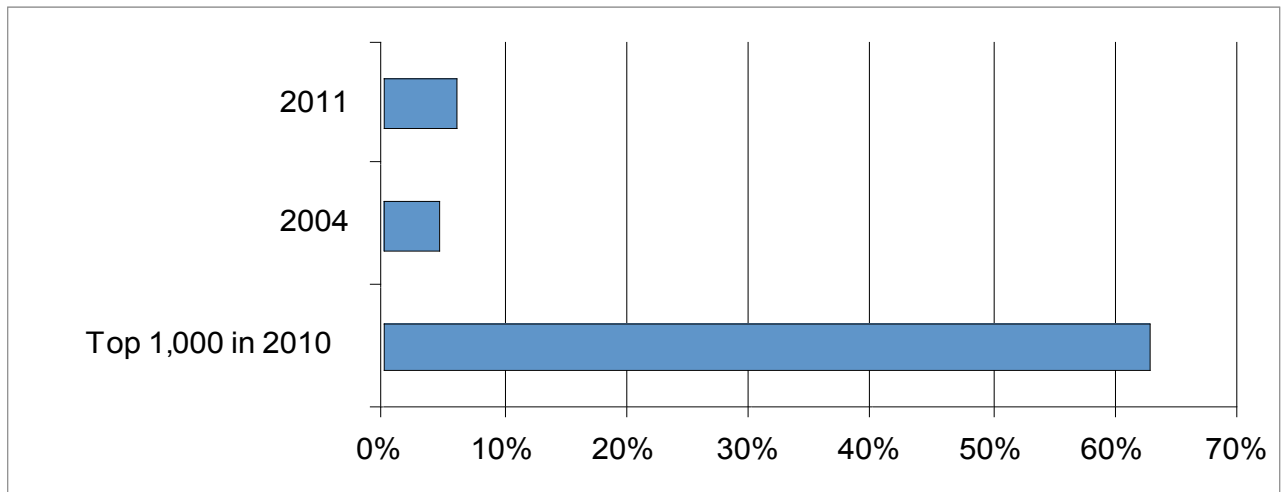


- When the availability of **any** traditional accessible format is considered, people with sight loss have access to 6.05 per cent of titles, a statistically significantly³ higher proportion than in 2004, when 4.59 per cent of titles were available⁴. The equivalent figure for the 2010 top 1,000 books is 62.6 per cent. This is illustrated in Figure 2c.

³ The statistical significance of a result is the probability (p-value) that the result observed in a sample occurred by pure chance, and that in the population from which the sample was drawn, no such relationship or differences exist. The smaller the p-value, the more likely is the result to be 'true' for the population as a whole. In this report, results have been described as statistically significant when the p-value is less than 5 per cent ($p < 0.05$); ie when the probability of obtaining the observed result if this is not true of the underlying population is less than 1 in 20.

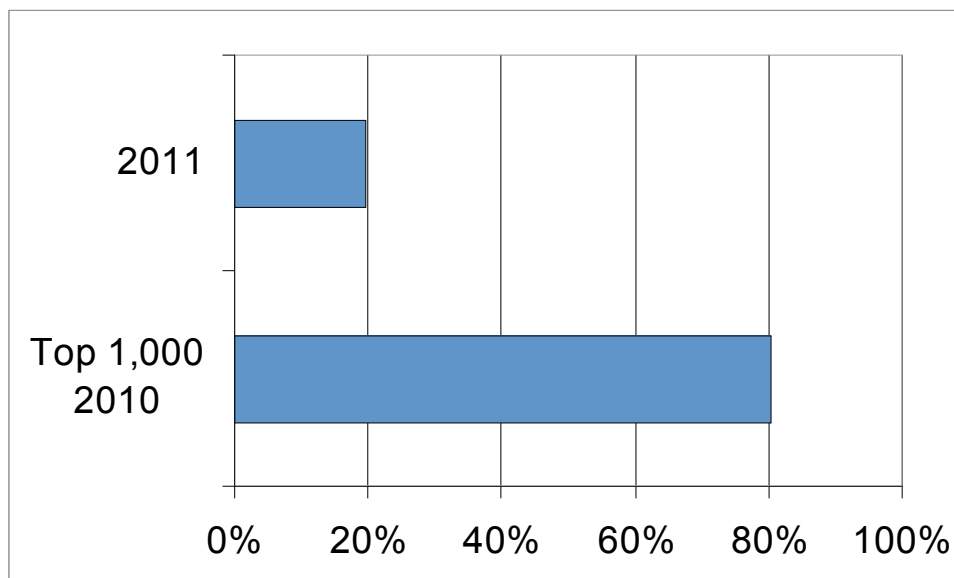
⁴ Statistically significant at the 5 per cent level ($p < 0.05$).

Figure 2c Percentage of books available in any traditional accessible format



- When accessible eBooks are included, the availability of titles in **any** accessible formats improves, to 19.70 per cent of the titles. This compares to 80.4 per cent of the top 1,000 titles of 2010. This is illustrated in Figure 2d.

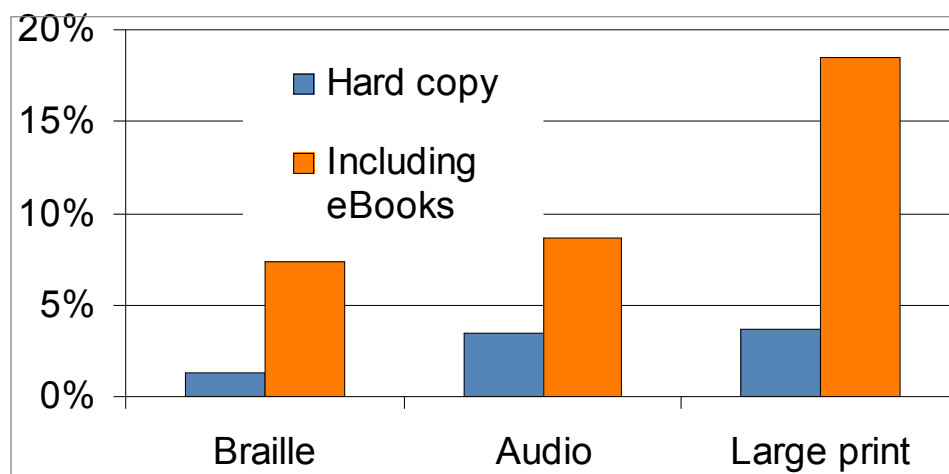
Figure 2d Percentage of books available in any accessible format (including eBooks)



- Looking at each format individually, 1.25 per cent of the titles considered in 2011 are available in hard copy braille, 3.65 per cent are available in hard copy large print and 3.50 per cent are available in one or more formats of unabridged human voice audio. This is illustrated in Figure 2e.

- When accessible eBooks are included, 7.35 per cent of titles are accessible in one or more formats of braille, 18.45 per cent are accessible as large print and 8.60 per cent accessible as unabridged audio. This is also illustrated in Figure 2e.

Figure 2e Percentage of books available in braille, audio and large print formats, excluding and including eBooks



- It is clear from comparison of the 2011 results with those from the top 1,000 of 2010 study that more popular titles are more likely to be fully accessible than the average of all titles.

2.1 Braille

- Overall, blind and partially sighted readers are able to access 1.25 per cent of titles examined in 2011 in one or more hard copy braille formats. This compares to 1.93 per cent in the 2004 study and 27.8 per cent of the top 1,000 titles of 2010.
- Only 1.10 per cent of titles were available for loan via RNIB or ClearVision in 2011, compared to 27.2 per cent of the top 1,000 titles of 2010. The 2004 study did not distinguish between titles for sale and those for loan.
- Readers who have lost their sight were able to purchase 0.70 per cent of titles in the 2011 study in hard copy braille formats – compared to 25.7 per cent of the top 1,000 titles of 2010.
- eBooks have a considerable impact on improving accessibility, increasing the proportion of titles available in one or more braille formats to 7.35 per cent. This compares to 57.8 per cent of the top 1,000 titles of 2010.

2.2 Large print

- Overall, blind and partially sighted readers could access 3.65 per cent of titles in the 2011 study in hard copy large print, compared to 1.50 per cent of titles in the 2004 study and 40.6 per cent of the top 1,000 titles of 2010.
- Including accessible eBooks (Apple iBooks and Kindle eBooks for large print) results in a significant increase in availability, with 18.45 per cent of titles being accessible in large print including eBooks. This compares to 75.7 per cent of the top 1,000 titles of 2010.

2.3 Audio

- Overall, blind and partially sighted readers could access 3.50 per cent of the titles included in the 2011 study in one or more unabridged human voice audio formats; this figure is unchanged since the 2004 study. 47.7 per cent of the top 1,000 titles of 2010 were accessible as human voice unabridged audio.
- CDs were the most frequently identified human voice unabridged audio format, with 1.75 per cent of all titles available in this format – compared to 0.29 per cent in 2004. 27.2 per cent of the top 1,000 titles of 2010 were accessible as human voice CDs. Just 0.50 per cent of the titles in the 2011 research were available commercially for download, compared to 12.8 per cent of the top 1,000 titles of 2010.
- DAISY talking books were available from RNIB for 0.95 per cent of titles, including 0.45 per cent of titles which were not available in any commercial human voice audio format.
- Including synthetic speech via accessible eBooks results in readers with sight loss being able to access 8.60 per cent of titles in unabridged audio, compared to 69.1 per cent of the top 1,000 titles of 2010.

2.4 Accessible eBooks

- Overall, 6.65 per cent of titles were available as fully accessible eBooks – compared to 44.6 per cent of the top 1,000 titles of 2010.
- A further 9.65 per cent of titles were available as eBooks accessible in electronic large print.

- 4.50 per cent of titles included in the 2011 study were fully accessible only as Apple iBooks – that is, they were not available in all three formats of hard copy braille, human speech audio and hard copy large print (although some were available in one or two of those formats).
- 13.60 per cent of titles were only accessible to readers with sight loss in any format as eBooks – with 90 of these (4.50 per cent of the total) only accessible as Apple iBooks, and a further 182 (9.10 per cent of the total) available as Kindle eBooks. By comparison, 11.7 per cent of the top 1,000 titles of 2010 were available to readers with sight loss only as Apple iBooks, with a further 6.10 per cent of titles only available as Kindle eBooks (that is, there were no hard copy accessible formats available for these titles).

3 Detailed results

3.1 Fully accessible editions

3.1.1 Traditional formats

Titles were considered to be fully accessible if they were available in all three formats of unabridged human voice audio, hard copy braille and hard copy large print, from any source. Of the sample titles selected for 2011, just 0.25 per cent of titles were fully accessible⁵. In the 2004 study, 0.39 per cent titles were found to be fully accessible; this apparent fall in the proportion of fully accessible books is not statistically significant, however. By comparison, 14.7 per cent of the top 1,000 titles of 2010 were found to be fully accessible.

3.1.2 Accessible eBooks

Including accessible eBooks in the relevant categories results in readers who have lost their sight being able to obtain 6.80 per cent of fully accessible titles in 2011⁶. By comparison, the inclusion of accessible eBooks meant that 54.4 per cent of the top 1,000 titles of 2010 were fully accessible to people with sight loss.

3.1.3 Analysis by year of publication

Considering each of the years from 2006–2010 individually, the number of titles that are fully accessible in traditional formats is relatively low in each year. However, it should be noted that alternative formats of a title may not be produced at the same time as the initial publication. As a result, the timing of the data collection may have had an impact on the availability of accessible formats by year, as a longer time had elapsed between titles published in the earlier years and the point of data collection, giving more opportunity for traditional alternative formats to have been produced. None of the sample of 400 titles for 2010 was found to be fully accessible, compared to 0.50 per cent of titles for the year 2006.

⁵ The standard error of this estimate is 0.11 per cent, giving a confidence interval of between 0.03 per cent and 0.47 per cent.

⁶ The standard error of this estimate is 0.56 per cent, giving a confidence interval of between 5.70 per cent and 7.90 per cent.

The inclusion of accessible eBooks, however, improves the situation, although there is no evidence of increasing provision over the five-year period, with 6.00 per cent of titles published in both 2006 and 2010 found to be fully accessible.

3.2 Editions accessible in any format

There has been a slight, but statistically significant⁷, fall in the proportion of titles that cannot be found in any traditional accessible format, from 95.41 per cent in 2004 to 93.95 per cent in 2011. Including accessible eBooks makes a considerable impact on the availability of accessible titles for blind and partially sighted people, although they are still unable to access 80.25 per cent⁸ of titles in any accessible format.

Overall, for 2006–2011, of the 6.05 per cent of titles available in any of the traditional formats:

- 4.13 per cent were available in all three formats
- 30.58 per cent were available in two of the three formats
- 65.29 per cent were available in just one of the three formats

By comparison, in 2004, of the 4.60 per cent titles available in any of the hard copy/human voice formats:

- 8.42 per cent were available in all three formats
- 26.32 per cent were available in two of the three formats
- 65.27 per cent were available in just one of the traditional formats

Table 3a compares the accessibility in the various traditional formats between 2011, 2004, and the top 1,000 titles of 2010. Table 3b shows the effect of accessible eBooks on the 2011 results, and compares this to the top 1,000 of 2010 including accessible eBooks.

⁷ $p < 0.05$

⁸ The standard error of this estimate is 0.89 per cent, giving a confidence interval if between 78.51 and 81.99.

Table 3a Proportion of titles available in each combination of formats

	2011 Excluding eBooks	Top 1000 of 2010, excluding eBooks	2004 results
Braille only	0.45%	3.2%	0.82%
Audio only	1.50%	11.5%	1.59%
Large print only	2.00%	9.1%	0.58%
Braille and audio	0.45%	7.3%	0.68%
Braille and large print	0.10%	2.6%	0.05%
Audio and large print	1.30%	14.2%	0.48%
All three formats	0.25%	14.7%	0.39%
None	93.95%	37.4%	95.40%
Total titles	2,000	1,000	2,069

There are statistically significant differences between 2011 and 2004 in the percentages of titles available in large print only ($p < 0.001$), in audio and large print ($p < 0.01$), and none ($p < 0.05$).

Table 3b Proportion of titles available in each combination of formats

	2011 Excluding eBooks	2011 Including eBooks	Top 1,000 of 2010, including eBooks
Braille only	0.45%	0.30%	1.1%
Audio only	1.50%	0.80%	2.4%
Large print only	2.00%	10.70%	9.1%
Braille and audio	0.45%	0.15%	1.2%
Braille and large print	0.10%	0.10%	1.1%
Audio and large print	1.30%	0.85%	11.1%
All three formats	0.25%	6.80%	54.4%
None	93.95%	80.25%	19.6%
Total titles	2,000	2,000	1,000

The 2011 study found that readers who had lost their sight were unable to access 93.95 per cent of titles in any hard copy/human voice audio format – compared to 95.55 per cent of titles in 2004. This compares to 37.4 per cent of the top 1,000 titles of 2010 not accessible in any hard copy format. When accessible eBooks are included, the proportion of titles not available in any of the three formats in 2011 falls to 80.25 per cent. By comparison, when including accessible eBooks, just 19.6 per cent of the top 1,000 titles of 2010 were not accessible to blind and partially sighted readers in any format.

The sections which follow give detailed results for each of the main accessible formats of hard copy braille, hard copy large print and human voice audio. Accessible eBooks are considered separately. The results for traditional formats are compared to both the 2004 study, and the data for the top 1,000 most popular books of 2010. Results including

accessible eBooks are compared with the results for the top 1,000 titles of 2010.

3.3 Hard copy braille editions

All titles were searched on the RNIB catalogue of books in alternative formats available from RNIB for loan or sale. A list of the children's titles not available from RNIB was sent to ClearVision⁹, a UK postal lending library of mainstream children's books with added braille, who checked their catalogue on our behalf.

There was some overlap, with several titles available in more than one type of braille (such as Grade 1, or uncontracted braille, generally used by those who are new to braille, and Grade 2, or contracted braille, which is more popular) or from more than one source. Contracted braille was the more common format available in all of the studies considered in this report.

Overall, 1.25 per cent of titles were available in hard copy braille¹⁰. Looking at the different editions available shows that, overall, readers with sight loss have access to just 0.15 per cent of titles to purchase and 0.10 per cent available for loan in Grade 1 braille. 0.70 per cent of titles were available for readers to purchase in Grade 2 braille, with 1.05 per cent available for loan in this format. Just one further title was available, for loan, from ClearVision.

Overall, for the period 2006–2010, 0.70 per cent of titles were available for purchase by blind and partially sighted readers, with 1.10 per cent of the titles available for loan in one or more braille formats.

There has been an apparent reduction in overall availability from that found in the 2004 study, when 1.93 per cent of titles were available in hard copy braille formats (including braille with print); however the difference is not statistically significant. The 2004 study did not distinguish between titles for loan and for sale.

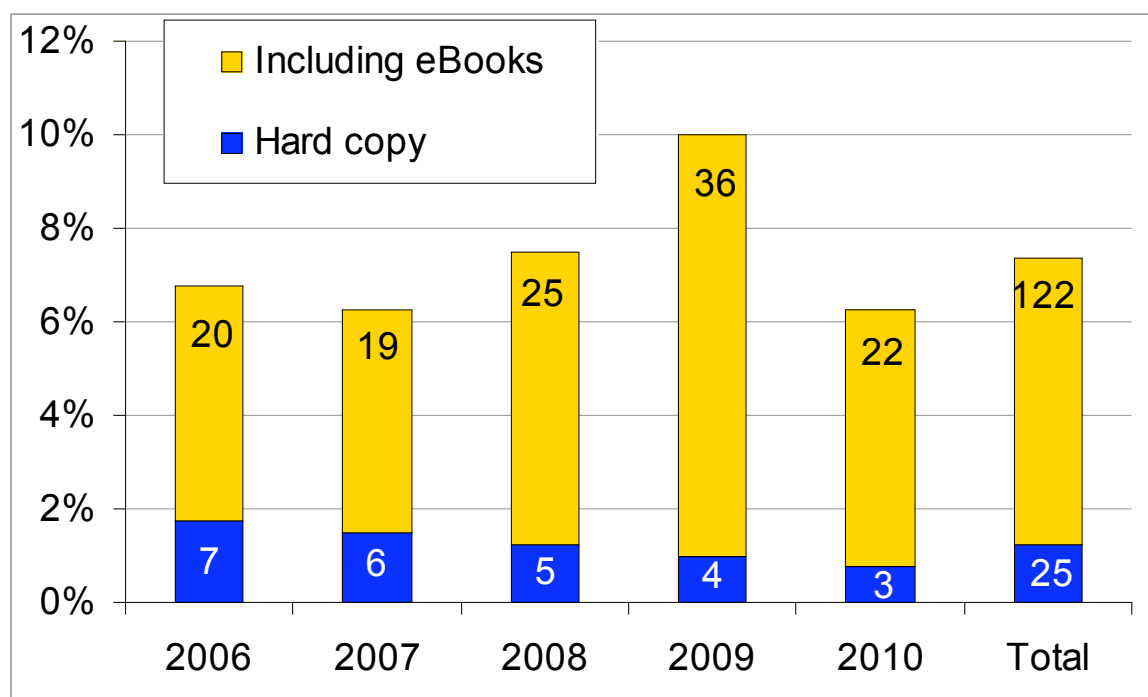
⁹ <http://www.clearvisionproject.org/>

¹⁰ The standard error of this estimate is 0.25 per cent, giving a 95 per cent confidence interval of between 0.76 per cent and 1.74 per cent.

Overall, 27.8 per cent of the top 1,000 titles of 2010 were available in one or more hard copy braille formats. The figure of 1.10 per cent in 2011 compares to 27.2 per cent of the top 1,000 titles of 2010 available for loan from RNIB or ClearVision. 25.7 per cent of the top 1,000 titles were available for purchase in 2010 (compared to 0.7 per cent in the latest study).

When eBooks (Apple iBooks) are included, the proportion of titles that blind and partially sighted readers are able to access in one or more braille formats in 2011 increases to 7.35 per cent¹¹. Figure 3c illustrates the availability of braille editions by year of publication, and shows the impact of the inclusion of accessible eBooks. The number of titles identified is also shown, out of 400 sampled in each year.

Figure 3c Accessibility of braille editions



By comparison, the inclusion of accessible eBooks results in 57.8 per cent of the top 1,000 titles of 2010 being accessible for readers with sight loss in one or more of the braille formats.

¹¹ The standard error of this estimate is 0.58 per cent, giving a 95 per cent confidence interval of between 6.21 per cent and 8.49 per cent.

3.4 Hard copy large print editions

Nielsen BookData was the initial source for identifying commercial hard copy large print editions. This was supplemented by searches of the British National Bibliography (BNB), which added considerably to the total. Charitable provision was identified through the RNIB catalogue. This was generally indicated as "Print various sizes at NBCS Custom Eyes Books". These are titles available to purchase from the National Blind Children's Society (NBCS), who customise them as required; both adult and children's titles were available in this format.

There was little duplication between the sources when searching for large print editions, as the process was more hierarchical. Overall, readers who have lost their sight were able to access 3.65 per cent of titles in hard copy large print¹².

In total, 3.45 per cent of the titles in the 2011 study were available in large print from commercial sources, with 43 per cent of these being found in the Nielsen Bookdata database, and a further 57 per cent in the BNB. Just 0.25 per cent of titles were available in hard copy large print in the RNIB catalogue; of these, all but one were not available from commercial sources.

There has been a statistically significant¹³ improvement over the position in 2004, when 1.49 per cent of titles were found to be available in hard copy large print, compared to 3.65 per cent in the latest study.

37.6 per cent of the top 1,000 titles of 2010 were available in hard copy large print. Once again, this finding underlines that the more popular titles are more likely to be available in alternative formats.

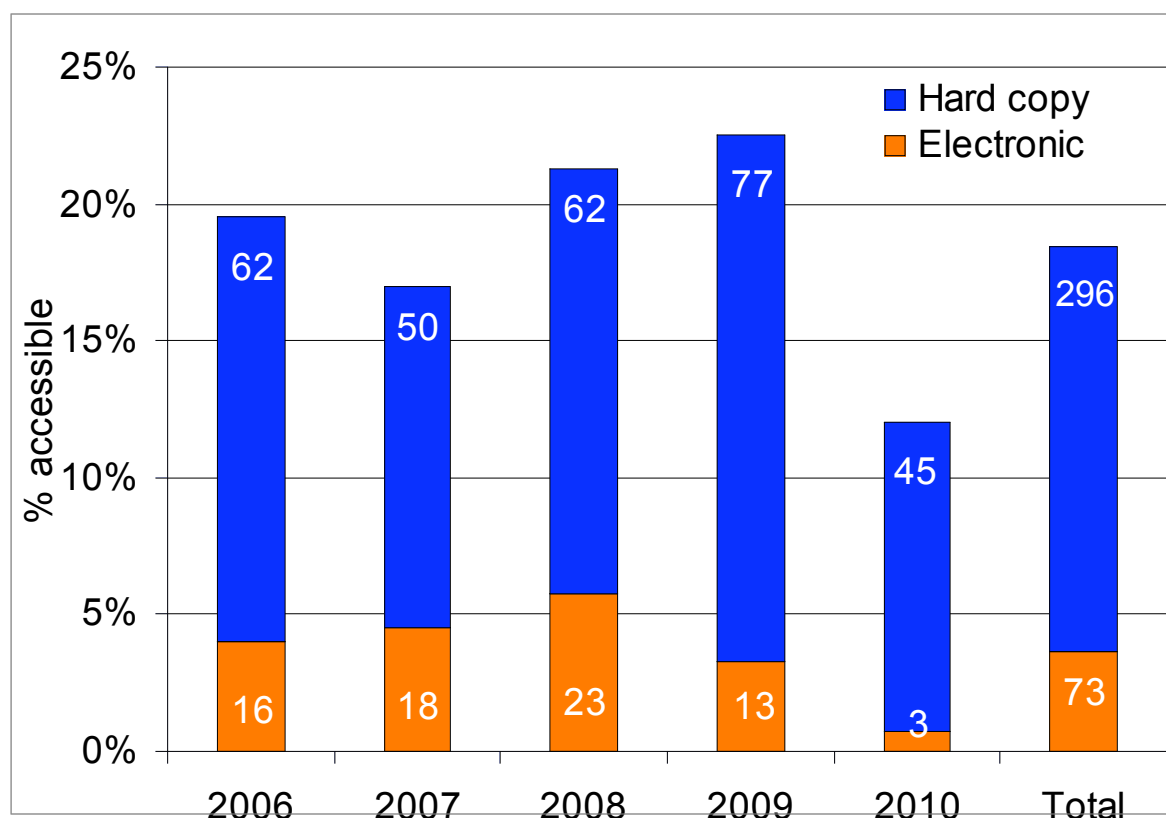
The inclusion of accessible eBooks (iBooks and Kindle eBooks) increases the proportion of titles available in large print to 18.5 per cent in 2011. Figure 3d displays the proportion of titles published in each year of the period 2006–2010 that were found to be accessible in large print,

¹² The standard error of this estimate is 0.42 per cent, giving a 95 per cent confidence interval of between 2.83 per cent and 4.47 per cent.

¹³ $p < 0.001$.

and compares the proportion of hard copy large print with the proportion of accessible titles in large print when eBooks are included. The numbers of accessible titles in each category are also given. The percentages for each year are based on 400 titles, and for the total column on the overall total of 2,000 titles.

Figure 3d Accessibility of large print editions



In comparison, a total of 75.7 per cent of the top 1,000 titles of 2010 were available in large print including accessible eBooks (iBooks and Kindle eBooks).

3.4.1 Giant print

In common with the 2004 study, the number of titles available in giant print was noted during the course of the data collection. 0.40 per cent of titles were found to be available in this format and, of these, three quarters were also available in large print. Owing to the specialist nature of this format in comparison to large print, it has not been included as contributing to the totals for large print, and no separate analysis has been included here. In 2004, 0.10 per cent of titles were found to be available in giant print.

3.5 Human speech audio editions

Nielsen BookData and Audible.co.uk were searched for commercially available unabridged audio editions, which were recorded as being available on CD, on cassette or as downloadable files. In the latest study (and in the top 1,000 of 2010), CDs were found to be available as traditional CDs or with MP3 format files, which take up less disk space, and can be played on a wider variety of players; these were not noted separately. Although downloadable unabridged audio books qualify as accessible formats, it must be noted that the process of downloading audio books may not always be fully accessible to blind and partially sighted people, for example, if the download website is not designed in an accessible way or is inaccessible to assistive technology such as screen readers.

It was not always clear whether or not recordings were unabridged, even when the number of discs or playing time was given. If there was any doubt, the title was not considered 'available' from this source.

In detail, the proportions of titles found in the various unabridged human voice audio formats were:

- 1.75 per cent available commercially on CD
- 0.50 per cent available to download commercially
- 1.35 per cent available commercially on cassette
- 0.95 per cent available as DAISY talking books

There was some duplication, with some titles being available in more than one format. Overall, 3.05 per cent of titles were available in one or more formats commercially, with a total of 0.95 per cent of titles available as DAISY talking books, including 0.45 per cent of titles not available elsewhere commercially.

Overall, for the 2011 accessibility update, 3.50 per cent of titles were available as unabridged human voice audio recordings¹⁴.

¹⁴ The standard error for this estimate is 0.41 per cent, giving a 95 per cent confidence interval of between 2.69 per cent and 4.31 per cent.

In 2004, 3.14 per cent of titles were available in one or more of the human voice audio formats – the slight increase noted in 2011 is not statistically significant. Just 0.29 per cent of titles were available commercially on CD and 0.77 per cent of titles were available as DAISY talking books from RNIB. Availability of both of these formats has increased in the latest study compared to 2004. Not surprisingly, the proportion of titles available commercially on cassette has decreased from 2.80 per cent in 2004 to 1.35 per cent in the 2011 study.

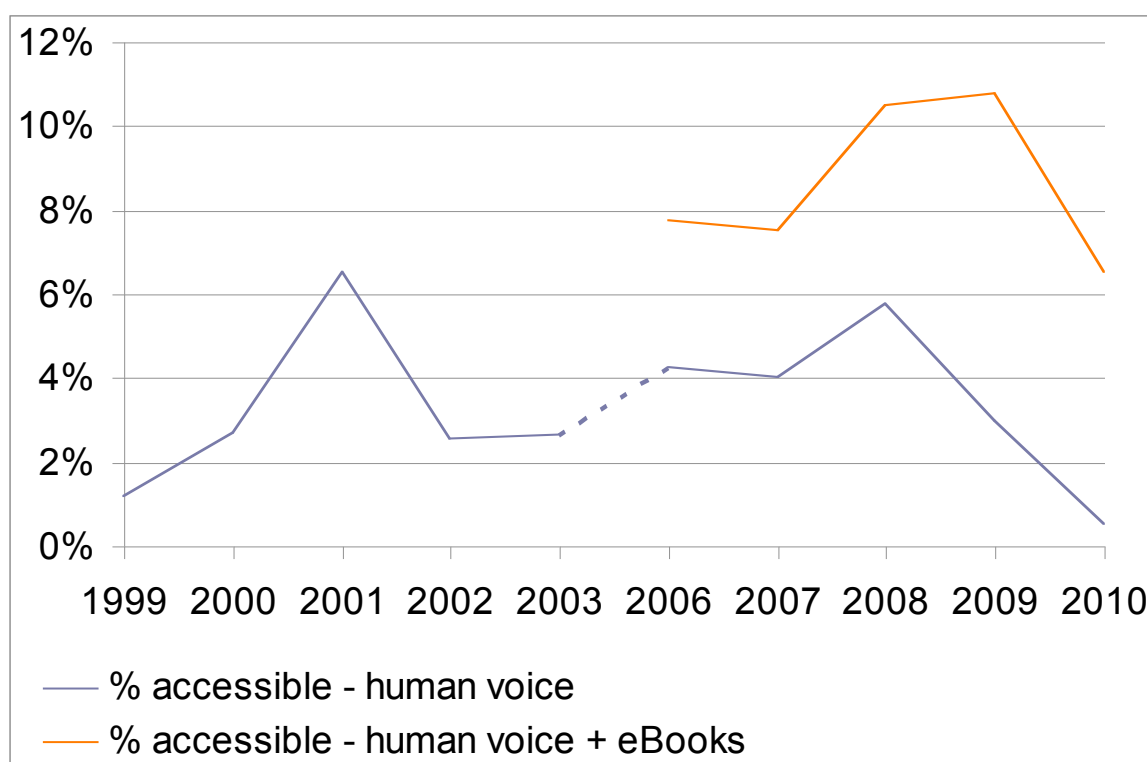
Once again, the proportion of the top 1,000 titles of 2010 that was available in human voice audio formats was significantly higher, with a total of 47.7 per cent available in one or more of these formats in 2010.

Including accessible eBooks (Apple iBooks) increases the number of human voice audio titles available to blind and partially sighted readers to 8.60 per cent of titles overall¹⁵. By comparison, 69.1 per cent of the top 1,000 titles of 2010 were found to be accessible in audio format, when accessible eBooks were included.

Figure 3e illustrates the proportion of human voice audio titles available in each year of the 2004 and 2011 studies, both in human voice format only and (for 2011) including eBooks. Availability of human voice editions has fluctuated over the period, with no apparent trend emerging.

¹⁵ The standard error of this estimate is 0.63 per cent, giving a 95 per cent confidence interval of between 7.37 per cent and 9.83 per cent.

Figure 3e Availability of unabridged audio editions



3.6 Accessible eBooks

Overall, readers with sight loss had access to 16.3 per cent of titles via Amazon Kindle or the Apple iBook store¹⁶. The number of accessible eBooks fluctuated somewhat over the five-year period, with fewer 2010 titles available as eBooks for readers with sight loss, than 2006 titles – this is highlighted further by Figure 3f, which shows that the proportion of titles available as accessible eBooks was lowest for 2010 titles. The top 1,000 books of 2010 study found that popular titles are more likely to be available in eBook format, compared to all books.

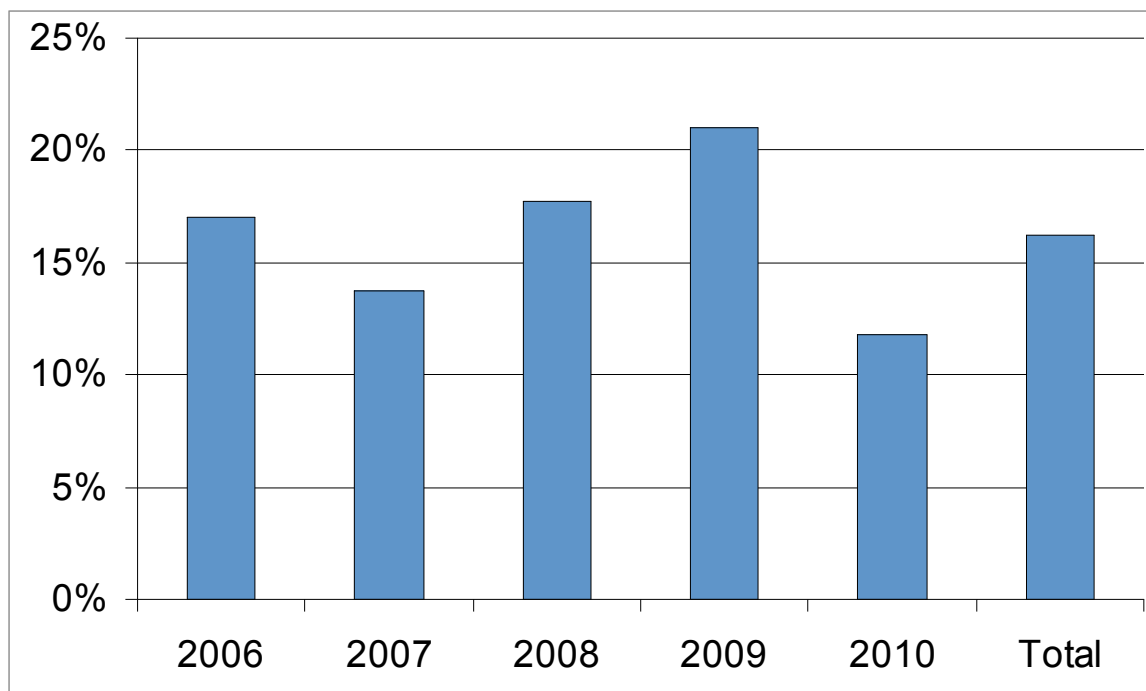
Differences between year groups were investigated, and it was found that those titles added to the BNB in 2010 were statistically significantly less likely to be available as an eBook than those titles added in 2009¹⁷.

¹⁶ The standard error for this estimate is 0.82 per cent, giving a 95 per cent confidence interval of between 14.63 per cent and 17.87 per cent.

¹⁷ The Chi-squared test statistic confirmed that 2010 titles were statistically less likely ($p < 0.01$) to be available as an eBook than 2009 titles.

This again underlines that the timing of the data collection has an impact on the availability of accessible formats.

Figure 3f Availability of accessible eBooks



Further to this, 13.6 per cent of titles were available in accessible eBook format only, with 4.5 per cent of these only available as Apple iBooks and a further 9.15 per cent available from Amazon Kindle as electronic large print. These figures compare to 44.6 per cent of the top 1,000 titles of 2010 available as Apple iBooks, with 37.0 per cent fully accessible only as Apple iBooks.

Appendix A: Methodology

Title selection

For the 2011 analysis, the British Library supplied a simple random sample of 400 printed book titles from each of the last five years of the BNB, 2006 to 2010 inclusive, giving 2,000 in total. Books awaiting publication (Cataloguing-in-Publication – CIP¹⁸) were excluded from the sample.

For the 2004 analysis, the sample was drawn manually from the previous five years of the printed BNB; the process is described in full in the report of that study¹⁹.

For the top 1,000 of 2010 analysis, the list of titles was supplied by RNIB; full details can be found in the report of that study (RNIB, in preparation).

Searching

All searching was conducted manually, using the search engines of the various databases referred to below. As requested by RNIB, priority was given to finding whether there was commercial provision of alternative formats. The aim was to identify one edition of each title in hard copy large print, human speech audio and hard copy braille formats, where available; in practice the format of the databases used and their search interfaces was such that multiple editions were often identified. Where this was the case, all editions identified were recorded. However, the researchers did not undertake a comprehensive search for all possible editions for each format of each title; once one had been found no further sources were searched for that format.

Access was provided for LISU staff to Nielsen BookData for the duration of the research, and all titles searched for. Availability in large print,

¹⁸ <http://www.bl.uk/bibliographic/cip.html>

¹⁹ Lockyer, S., Creaser, C. and Davies, J.E. (2005)
http://www.lboro.ac.uk/departments/ls/lisu/pages/publications/aap_op35.html

audio (CD, cassette and/or downloadable files) and eBook formats was recorded. In some instances, where the Nielsen database provided ambiguous information as to availability, Amazon.co.uk was consulted. Amazon is also associated with Audible.co.uk, which was searched to identify unabridged download files where audio formats were not found in the Nielsen database.

The RNIB catalogue was searched for all titles, to identify braille editions; availability of large print editions and DAISY talking books was also noted. ClearVision provide books for shared reading which incorporate braille texts, but do not have a searchable online catalogue. A list of the children's titles (identified by Dewey number) not found in the RNIB catalogue was emailed to ClearVision, who checked their catalogue and provided details of those titles available.

For those titles not identified as available in large print through Nielsen or Amazon, the British National Bibliography (BNB) was searched.

All titles were searched for in the Apple iBook store, as these are fully accessible using an Apple iPad device with appropriate assistive technology. Titles not found in the iBook store were then searched for on the Amazon Kindle book store, as these can be read in large print by partially sighted readers.

Table A1 below details the databases which were used at each stage of the research, and the formats sought in each. At each stage, only those titles for which relevant editions had not already been found were included in the searches.

Table A1 Databases used

Stage	Database	Formats sought
1	Nielsen BookData	Large print; audio
	RNIB catalogue	Braille; large print; audio
	Apple iBook store	Accessible eBook
2	Audible.co.uk	Audio
	Amazon Kindle store	Large print
	ClearVision catalogue	Braille
3	British National Bibliography	Large print

In 2004, the databases available varied, and included the RNIB catalogue and various publishers' websites.

Analysis

RNIB requested that commercial sources of alternative format material be given priority over charitable provision, although the searching methodology described above found multiple instances of provision of many titles. Table A2 below details the priority given to each source when analysing the data, and indicates the broad type of provision.

Table A2 Priority of sources

Format	Priority	Source	Type
Large print	1	Nielsen BookData	Commercial
	2	Amazon.co.uk (including Kindle)	Commercial
	3	British National Bibliography	Commercial
	4	RNIB catalogue	Charitable
Braille	1	RNIB catalogue	Charitable
	2	ClearVision catalogue	Charitable
Audio	1	Nielsen BookData	Commercial
	2	Audible.co.uk	Commercial
	3	RNIB catalogue	Charitable
eBook	1	Apple iBook store	Commercial

Data were recorded initially in a spreadsheet, and the analysis was carried out using Microsoft Excel, to summarise the data and undertake limited statistical testing, where appropriate.

Issues that arose during the research and how they were resolved by the researchers

Records of accessible editions

In Nielsen BookData, and BNB, some accessible editions were identified as 'forthcoming' or 'pre-publication records'. Instances were noted, but these were not considered to be available formats for the purpose of this research, as members of the public would not be able to obtain them; indeed, there is no guarantee that they would ever be published.

Unabridged audio

It was often unclear from the sources used whether titles in audio formats are unabridged. In some cases it seemed likely that human speech audio versions were unabridged, owing to information provided on the cost, number of discs, or playing time. In others, it seems unlikely, for similar reasons. Details were recorded where there was doubt, and a

conservative view taken. We did not assume a title was unabridged unless this was clearly stated in the item description or on the cover. It is possible, therefore, that the availability of unabridged audio formats may be under-recorded.

Comparison to 2004

As noted above, the databases available for identifying accessible formats in 2004 were somewhat different from those in 2011, and provided different information. Data on formats such as Moon and tactile maps were noted, as well as electronic texts. The 2004 data were re-visited for the comparison with 2011; no new data were collected, but the original figures were re-analysed in line with the current definitions to enable comparisons to be made.

