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# The Estimated Prevalence of Visual Impairment among People with Learning Disabilities in the UK

# Eric Emerson & Janet Robertson

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## Summary

The aim of this report is to estimate how many people with learning disabilities in the UK are likely to have visual impairments. It has been known for some time that visual impairments are more common among people with learning disabilities, especially people with more severe learning disabilities, and that the presence of visual impairments can significantly impair the independence and quality of life of people with learning disabilities.

There is, however, no national monitoring of the number of people with learning disabilities who have visual impairments. Neither does there exist robust epidemiological data on the prevalence of visual impairments among people with learning disabilities in the UK. As a result, this report uses epidemiological data from the Netherlands and Denmark to answer two questions:

1. How many people with learning disabilities in the UK are likely to have visual impairments?
2. How will this number change over the coming decades?

To answer these questions we combined age-specific population predictions for the UK for the period 2011-2031 with estimates of the age-specific prevalence of learning disabilities and the age-specific prevalence of visual impairments among people with learning disabilities.

Our results suggested that:

* At present approximately 50,000 people with learning disabilities who are known to services in the UK have visual impairment (19,000 children, 31,000 adults)
* An additional 15,000 are blind (4,000 children, 11,000 adults)
* We assume that all children with learning disabilities are known to (education) services. However, as not all adults with learning disabilities are known to adult health or social care learning disabilities services we estimate that there may be an additional 44,000 adults with learning disabilities and visual impairment and 11,000 with learning disabilities and blindness.
* With regard to specific refractive errors, we estimate that
* 32,000 children with learning disabilities have myopia (‘shortsightedness’ resulting in difficulty focusing on more distant objects) (<0.5D) and 55,000 hyperopia (‘longsightedness’resulting in difficulty focusing on closer objects) (≥+3D)
* 11,000 adults with learning disabilities known to services have severe myopia (< -5D) and 8,000 severe hyperopia (≥+5D)
* We predict that all of these figures will rise by approximately 0.5% each year over the next two decades

## Background

The aim of this report is to estimate how many people with learning disabilities in the UK are likely to have visual impairments. It has been known for some time that visual impairments are more common among people with learning disabilities, especially people with more severe learning disabilities, and that the presence of visual impairments can significantly impair the independence and quality of life of people with learning disabilities.1-4

There is, however, no national monitoring of the number of people with learning disabilities who have visual impairments. Neither does there exist robust epidemiological data on the prevalence of visual impairments among people with learning disabilities in the UK. As a result, this report uses epidemiological data from the Netherlands and Denmark to answer two questions:

1. How many people with learning disabilities in the UK are likely to have visual impairments?
2. How will this number change over the coming decades?

## The Process

The research involved a two stage process. First, we had to estimate how many people with learning disabilities there are in the UK now and in the future. Second, we had to estimate how many of these people were likely to have visual impairments.

## How Many People with Learning Disabilities are there in the UK?

There is no definitive record of the number of people with learning disabilities in the UK or any of its constituent countries. The presence of learning disabilities is not recorded in the decennial Census of the UK population. No government department collects comprehensive information on the presence of learning disabilities in the population.

It is, however, possible to estimate the number of people with learning disabilities in the UK by combining information collected by government departments on the presence of learning disabilities among people using particular services, overall population predictions for England and the results of epidemiological research.5

## Children

Information is collected by the Department for Education in England on the special educational needs (SEN) of all children in maintained schools and non-maintained special schools. Children not included in this process include children being educated at home and children educated in independent (non-state funded) mainstream schools and profit making independent special schools. Three types of SEN, when combined, are reasonably equivalent to learning disabilities: Moderate Learning Difficulty (MLD); Severe Learning Difficulty (SLD); and Profound Multiple Learning Difficulty (PMLD). The identification of SEN associated with learning disabilities is most stable in the age range 7-15.6 In this age range 2.56% of girls and 4.19% of boys in 2010 were identified at School Action Plus or with a Statement of Special Educational Need with a primary SEN associated with learning disabilities. Of these, 0.38% of girls and 0.60% of boys were identified with a primary SEN of severe or profound multiple learning difficulties (approximately equivalent to severe learning disabilities). These estimates are consistent with the results of epidemiological studies of the prevalence of learning disabilities in children.7 8

In very early childhood, only severe learning disabilities are likely to be apparent. As a result, we have assumed that the prevalence of learning disabilities at age two years and below is 0.38% for girls and 0.60% for boys rising in incremental steps each year to the higher rates at age five. Applying these English-based prevalence estimates to estimates of the UK population aged 0-19 in 2011[[1]](#footnote-1) indicates that approximately 410,000 UK children and young people (259,000 boys, 151,000 girls) have learning disabilities. The age and gender profile of this estimated population is shown in Table 1.

**Table 1: Estimated Number of Children with Learning Disabilities by Gender and Age, UK 2011**

| **Age at Last Birthday** | **Boys** | **Girls** | **Total Children** |
| --- | --- | --- | --- |
| England |  |  |  |
| 0-4 | 22,200 | 13,200 | 35,400 |
| 5-9 | 63,400 | 37,000 | 100,400 |
| 10-14 | 62,700 | 36,600 | 99,300 |
| 15-19 | 68,800 | 39,800 | 108,700 |
| Total | 217,100 | 126,600 | 343,800 |
| Wales |  |  |  |
| 0-4 | 1,200 | 700 | 1,900 |
| 5-9 | 3,500 | 2,000 | 5,500 |
| 10-14 | 3,700 | 2,200 | 5,900 |
| 15-19 | 4,200 | 2,400 | 6,600 |
| Total | 12,600 | 7,300 | 19,900 |
| Scotland |  |  |  |
| 0-4 | 2,000 | 1,200 | 3,200 |
| 5-9 | 5,800 | 3,400 | 9,200 |
| 10-14 | 6,100 | 3,500 | 9,600 |
| 15-19 | 6,800 | 4,000 | 10,700 |
| Total | 20,700 | 12,100 | 32,700 |
| Northern Ireland |  |  |  |
| 0-4 | 900 | 500 | 1,400 |
| 5-9 | 2,400 | 1,400 | 3,900 |
| 10-14 | 2,600 | 1,500 | 4,000 |
| 15-19 | 2,700 | 1,500 | 4,200 |
| Total | 8,600 | 4,900 | 13,500 |
| UK |  |  |  |
| 0-4 | 26,200 | 15,500 | 41,800 |
| 5-9 | 75,200 | 43,900 | 119,100 |
| 10-14 | 75,100 | 43,700 | 118,800 |
| 15-19 | 82,400 | 47,800 | 130,200 |
| Total | 258,900 | 150,900 | 409,900 |

If we assume that the age and gender specific prevalence rate of learning disabilities in children remains constant over time, we can also apply these prevalence rates to predictions of the population of the UK in future years. Doing so suggests that the number of children and young people aged 0-19 with learning disabilities in the UK will increase from 410,000 in 2011 to 430,000 in 2021 and 450,000 in 2031. These increases are equivalent to a compound annual growth rate of +0.49%.[[2]](#footnote-2)

It needs to be kept in mind that these increases are solely the result of the predicted increase in the number of young people in the UK population over the coming two decades. As a result of demographic differences between countries these changes will vary across the constituent countries of the UK. The estimated compound annual growth rate over the period 2011 to 2031 in the number of young people with learning disabilities is +0.57% for England, +0.21% for Wales, -0.02% for Scotland and +0.05% for Northern Ireland.

## Adults

Three approaches can be taken to estimating the numbers of adults with learning disabilities in the UK. These are based on the:

* number of people using learning disabilities services;
* number of people known to learning disabilities services; and
* estimated number of people with learning disabilities in the population.

It is possible to identify the number of adults who use some specific services for people with learning disabilities. The most comprehensive information of this kind in England is collected annually from Councils with Social Service Responsibilities in relation to the number of adults who have received social care services in any given year. Data for 2009/10 indicates that 141,715 adults in England aged 18+ received specific social care services designated for people with learning disabilities.[[3]](#footnote-3) These are, however, poor estimates of the actual number of adults with learning disabilities in England.

First, people may use services intermittently. That is, they may be known to Councils with Social Service Responsibilities as people with learning disabilities, but may not have been receiving a service at that particular census point or period. Data from PCTs in England suggest that 179,000 adults with learning disabilities were ‘known to Councils with Adult Social Services Responsibilities’ in 2009/10 (see below). Previous research commissioned by the Department of Health estimated that in 2004 177,000 adults are likely to be known to adult social care services as people with learning disabilities.9 10

Second, it is clear that the majority of adults with learning disabilities simply do not use learning disabilities services. For example, the administrative prevalence of learning disability (i.e., the number of people known to services as people with learning disabilities) in England drops precipitously from 3% among children in the education system (see above), to 0.6% among adults aged 20-29.9 It is highly implausible that such reductions in prevalence can be accounted for by either reduced life expectancy or sudden improvements in intellectual functioning. Rather, it is likely that they reflect the impact of a combination of factors which include:

* A decrease in health/disability surveillance in post-education health and social care agencies;
* The operation of eligibility criteria to ration access to specialised social care supports for adults with learning disabilities;
* The stigma associated with learning disability leading to an unwillingness for people with learning disabilities to use specialised services or self-identify as having learning disabilities;
* The lessened visibility of the disabling impact of the intellectual impairments associated with learning disabilities in non-educational settings.

Previous research commissioned by the Department of Health estimated that in 2004, 828,000 adults in England are likely to have learning disabilities.9 10

In Table 2 we have applied the prevalence estimates from this previous research to population predictions for 2011 to estimate: (1) the likely number of adults with learning disabilities known to learning disabilities services; and (2) the likely number of adults with learning disabilities in the population.

Table two results for Scotland, Wales and Northern Ireland and the whole of the UK appear over the next two pages:

**Table 2: Estimated Number of Adults with Learning Disabilities, UK 2011**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Age Group**  **England** | Men Known to LD Services | Men with Learning Disabilities in Population | Women Known to LD Services | Women with Learning Disabilities in Population | Adults Known to LD Services | Adults with Learning Disabilities in Population |
| 20-24 | 12,900 | 57,900 | 9,100 | 37,800 | 22,100 | 95,700 |
| 25-29 | 10,700 | 54,100 | 8,300 | 35,900 | 19,000 | 90,100 |
| 30-34 | 10,000 | 49,000 | 7,600 | 33,100 | 17,600 | 82,100 |
| 35-39 | 11,400 | 48,700 | 8,800 | 33,700 | 20,200 | 82,400 |
| 40-44 | 13,500 | 55,200 | 9,900 | 37,800 | 23,400 | 93,000 |
| 45-49 | 11,800 | 50,700 | 9,400 | 36,100 | 21,200 | 86,800 |
| 50-54 | 7,900 | 42,200 | 6,500 | 29,900 | 14,400 | 72,100 |
| 55-59 | 7,600 | 37,100 | 6,900 | 26,200 | 14,500 | 63,400 |
| 60-64 | 6,400 | 35,500 | 5,400 | 25,900 | 11,800 | 61,400 |
| 65-69 | 4,500 | 26,400 | 3,400 | 19,100 | 7,900 | 45,500 |
| 70-74 | 2,700 | 20,800 | 2,400 | 15,300 | 5,100 | 36,200 |
| 75-79 | 1,600 | 14,400 | 1,200 | 11,500 | 2,800 | 25,900 |
| 80+ | 1,700 | 17,500 | 1,700 | 19,200 | 3,400 | 36,700 |
| **Total** | 102,800 | 509,600 | 80,700 | 361,600 | 183,500 | 871,200 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Scotland** | | | | | | |
| 20-24 | 1,300 | 5,600 | 900 | 3,700 | 2,100 | 9,300 |
| 25-29 | 1,000 | 5,100 | 800 | 3,400 | 1,800 | 8,500 |
| 30-34 | 900 | 4,600 | 700 | 3,100 | 1,700 | 7,700 |
| 35-39 | 1,000 | 4,400 | 800 | 3,200 | 1,900 | 7,600 |
| 40-44 | 1,300 | 5,300 | 1,000 | 3,900 | 2,300 | 9,200 |
| 45-49 | 1,200 | 5,100 | 1,000 | 3,900 | 2,200 | 9,000 |
| 50-54 | 900 | 4,500 | 700 | 3,400 | 1,600 | 7,900 |
| 55-59 | 800 | 4,100 | 800 | 2,900 | 1,600 | 7,000 |
| 60-64 | 700 | 3,800 | 600 | 2,800 | 1,300 | 6,500 |
| 65-69 | 500 | 2,700 | 400 | 2,000 | 800 | 4,700 |
| 70-74 | 300 | 2,200 | 300 | 1,700 | 500 | 3,900 |
| 75-79 | 200 | 1,500 | 100 | 1,300 | 300 | 2,700 |
| 80+ | 200 | 1,600 | 200 | 1,900 | 300 | 3,400 |
| **Total** | 10,100 | 50,300 | 8,300 | 37,200 | 18,400 | 87,500 |
| **Wales** | | | | | | |
| 20-24 | 800 | 3,400 | 500 | 2,100 | 1,300 | 5,500 |
| 25-29 | 500 | 2,700 | 400 | 1,900 | 1,000 | 4,600 |
| 30-34 | 500 | 2,300 | 400 | 1,600 | 900 | 4,000 |
| 35-39 | 600 | 2,400 | 500 | 1,700 | 1,000 | 4,100 |
| 40-44 | 700 | 2,900 | 500 | 2,100 | 1,200 | 4,900 |
| 45-49 | 700 | 2,800 | 500 | 2,100 | 1,200 | 4,900 |
| 50-54 | 500 | 2,400 | 400 | 1,800 | 800 | 4,200 |
| 55-59 | 500 | 2,300 | 400 | 1,600 | 900 | 3,900 |
| 60-64 | 400 | 2,300 | 400 | 1,700 | 800 | 4,000 |
| 65-69 | 300 | 1,800 | 200 | 1,300 | 500 | 3,000 |
| 70-74 | 200 | 1,400 | 200 | 1,000 | 300 | 2,400 |
| 75-79 | 100 | 900 | 100 | 700 | 200 | 1,700 |
| 80+ | 100 | 1,100 | 100 | 1,200 | 200 | 2,300 |
| **Total** | 5,700 | 28,700 | 4,600 | 20,800 | 10,300 | 49,600 |
| **N Ireland** | | | | | | |
| 20-24 | 500 | 2,000 | 400 | 1,300 | 800 | 3,400 |
| 25-29 | 400 | 1,900 | 300 | 1,300 | 700 | 3,200 |
| 30-34 | 300 | 1,700 | 300 | 1,200 | 600 | 2,800 |
| 35-39 | 400 | 1,700 | 300 | 1,200 | 700 | 2,800 |
| 40-44 | 400 | 1,800 | 300 | 1,300 | 800 | 3,100 |
| 45-49 | 400 | 1,700 | 300 | 1,200 | 700 | 2,900 |
| 50-54 | 300 | 1,400 | 200 | 1,000 | 500 | 2,500 |
| 55-59 | 300 | 1,300 | 200 | 900 | 500 | 2,100 |
| 60-64 | 200 | 1,100 | 200 | 800 | 400 | 1,800 |
| 65-69 | 100 | 900 | 100 | 600 | 300 | 1,500 |
| 70-74 | 100 | 600 | 100 | 500 | 200 | 1,100 |
| 75-79 | <100 | 400 | <100 | 400 | 100 | 800 |
| 80+ | <100 | 500 | <100 | 600 | 100 | 1,000 |
| **Total** | 3,400 | 16,900 | 2,700 | 12,200 | 6,200 | 29,100 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **UK** | | | | | | |
| 20-24 | 15,400 | 68,900 | 10,900 | 44,900 | 26,200 | 113,800 |
| 25-29 | 12,600 | 63,900 | 9,900 | 42,600 | 22,500 | 106,400 |
| 30-34 | 11,800 | 57,600 | 8,900 | 39.000 | 20,700 | 96,600 |
| 35-39 | 13,400 | 57,100 | 10,400 | 39,900 | 23,800 | 97,000 |
| 40-44 | 15,900 | 65,100 | 11,800 | 45,100 | 27,700 | 110,200 |
| 45-49 | 14,100 | 60,400 | 11,300 | 43,200 | 25,300 | 103,600 |
| 50-54 | 9,500 | 50,600 | 7,900 | 36,100 | 17,300 | 86,600 |
| 55-59 | 9,200 | 44,800 | 8,400 | 31,700 | 17,500 | 76,500 |
| 60-64 | 7,700 | 42,700 | 6,500 | 31,100 | 14,200 | 73,800 |
| 65-69 | 5,400 | 31,800 | 4,100 | 23,000 | 9,500 | 54,700 |
| 70-74 | 3,200 | 25,000 | 2,900 | 18,500 | 6,100 | 43,500 |
| 75-79 | 1,900 | 17,200 | 1,400 | 13,900 | 3,400 | 31,100 |
| 80+ | 2,000 | 20,600 | 2,000 | 22,900 | 4,000 | 43,400 |
| **Total** 20+ | 122,100 | 605,700 | 96,400 | 431,700 | 218,400 | 1,037,400 |

If we assume that the age and gender specific prevalence rates of learning disabilities in adults remain constant over time, we can also apply these prevalence rates to predictions of the population of the UK in future years. Doing so suggests that the number of adults aged 20+ with learning disabilities known to learning disabilities services in the UK will increase from 218,400 in 2011 to 228,400 in 2021 and 238,300 in 2031. These increases are equivalent to a compound annual growth rate of +0.46%. The estimated number of adults aged 20+ with learning disabilities in the UK population will increase from 1,037,400 in 2011 to 1,104,500 in 2021 and 1,165,600 in 2031. These increases are equivalent to a compound annual growth rate of +0.62%.

Again, it needs to be kept in mind that these increases are solely the result of the predicted increase in the number of adults in the UK population over the coming two decades. As a result of demographic differences between countries these changes will vary across the constituent countries of the UK. The estimated compound annual growth rate over the period 2011 to 2031 in the number of adults with learning disabilities known to services is +0.51% for England, +0.30% for Wales, +0.06% for Scotland and +0.33% for Northern Ireland. The estimated compound annual growth rate over the period 2011 to 2031 in the number of adults with learning disabilities in the population is +0.66% for England, +0.48% for Wales, +0.25% for Scotland and +0.57% for Northern Ireland.

## How Many People with Learning Disabilities Have Visual Impairments?

Children

The proportion of children with learning disabilities who have visual impairments was estimated from research undertaken in Denmark.11 12 The reason for using the results of this study was simple; it represents the best study undertaken to date that actually assessed the prevalence of visual impairments among children with learning disabilities. The results of this study are broadly consistent with those of other studies which have actually assessed the prevalence of visual impairments among samples of children with learning disabilities.13 This study examined visual functioning in 1,126 children aged 4-15 years old with profound to borderline learning disabilities. We extracted a point (best guess) estimate of visual impairment from the results of this study along with estimates based on the upper and lower 95% confidence intervals for this point estimate.[[4]](#footnote-4) The study gave separate prevalence estimates for children with IQ <51 and children with IQ 51-70. We combined these estimates by assuming that children with IQ<51 would account for 5% of children with learning disabilities (with children with IQ 51-70 accounting for 95%).[[5]](#footnote-5) It was not possible to derive estimates from this study that are sensitive to either child gender or age. Table 3 presents the prevalence estimates for visual impairment among children with learning disabilities that we used in our predictions.

Table three appears over the page

**Table 3: Point Prevalence Estimates (with 95% Confidence Intervals) of Visual Impairment among Children with Learning Disabilities**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Point Estimate** | **Upper 95% CI** | **Lower 95% CI** |
| Visual impairment (excluding blind) |  | 4.73% | 6.79% | 2.67% |
| Blind |  | 0.93% | 1.76% | 0.30% |
| Refractive Errors |  |  |  |  |
|  | Hyperopia | 13.54% | 17.07% | 10.00% |
|  | Myopia | 7.93% | 10.71% | 5.14% |
|  | Astigmatism | 25.30% | 29.79% | 20.80% |

Visual impairment was defined as visual acuity ≤6/18. Blindness impairment was defined as visual acuity ≤6/60. Hyperopia was defined as ≥ +3.0 dioptre. Myopia was defined as ≤0.5 dioptre. Astigmatism was defined as <-1.0cyl dioptre.

Adults

The proportion of adults with learning disabilities who have visual impairments was estimated from research undertaken in the Netherlands.14 15 Again, the reason for using the results of this study was simple; it represents the best study undertaken to date that actually assessed the prevalence of visual impairments among adults with learning disabilities. The results of this study are broadly consistent with those of other studies which have actually assessed the prevalence of visual impairments among samples of adults with learning disabilities. 14 15 The study examined visual functioning in 1,598 adults who were using services for people with learning disabilities in the Netherlands. We extracted a point (best guess) estimate of visual impairment from the results of this study along with estimates based on the upper and lower 95% confidence intervals for this point estimate. For our administrative sample estimates (people known to learning disabilities services) we used the information provided in Table 5 in the Netherlands study15 to derive separate estimates for the total population of adults with learning disabilities known to services aged below 50 and aged 50+. For example, the data in Table 5 indicate that 809 of 6643 (12.18%) adults under the age of 50 would be expected to have visual impairment. This group is comprised of 465 institutionalised adults without Down syndrome (15.3% of 3042), 175 non-institutionalised adults without Down syndrome (7.4% of 2364), 108 institutionalised adults with Down syndrome (18.1% of 594) and 61 non-institutionalised adults with Down syndrome (9.5% of 643).

For our total population estimates we assumed all adults not known to services would have prevalence rates identical to those reported in the study for people with mild learning disabilities. It was not possible to derive estimates from this study that are sensitive to gender. Table 4 presents the prevalence estimates for visual impairment among adults with learning disabilities that we used in our predictions.

Visual impairment was defined as visual acuity <0.30, but not <0.05 and/or visual fields <30 degrees around the central fixation point. Blindness impairment was defined as visual acuity <0.05 and or visual fields <10 degrees. Refractive error was defined as a measured spherical refractive error of more than ± 1.0 dioptre, cylindrical refractive error of more than -2 dioptre or both. Severe myopia and hyperopia were defined as refractive error of more than 5.00 dioptres.[[6]](#footnote-6) No age-specific rates were presented for severe myopia and hyperopia. As a result, these were estimated from the overall prevalence rates and information on the age structure of the sample and the proportional age increase in all refractive errors.

Table four appears on the next page.

**Table 4: Point Prevalence Estimates (with 95% Confidence Intervals) of Visual Impairment Among Adults with Learning Disabilities**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Point Estimate** | **Upper 95% CI** | **Lower 95% CI** |
| **Adults with Learning Disabilities Known to Services** |  |  |  |
| Age 20-49 |  |  |  |
| Visual impairment (excluding blind) | 12.18% | 14.25% | 10.11% |
| Blind | 5.17% | 6.57% | 3.77% |
| Refractive error | 58.90% | 63.57% | 54.23% |
| Severe hyperopia | 3.7% | 4.6% | 2.8% |
| Severe myopia | 4.9% | 6.0% | 3.8% |
| Age 50+ |  |  |  |
| Visual impairment (excluding blind) | 18.37% | 21.53% | 15.21% |
| Blind | 4.52% | 6.21% | 2.83% |
| Refractive error | 63.70% | 69.73% | 57.67% |
| Severe hyperopia | 4.0% | 5.0% | 3.0% |
| Severe myopia | 5.2% | 6.3% | 4.1% |
| **Adults with Learning Disabilities in the Population** |  |  |  |
| Age 20-49 |  |  |  |
| Visual impairment (excluding blind) | 4.80% | 6.15% | 3.55% |
| Blind | 1.67% | 2.48% | 0.86% |
| Refractive error | 55.83% | 58.97% | 52.69% |
| Severe hyperopia | 3.0% | 3.9% | 2.2% |
| Severe myopia | 2.1% | 2.8% | 1.4% |
| Age 50+ |  |  |  |
| Visual impairment (excluding blind) | 10.86% | 13.40% | 8.32% |
| Blind | 2.79% | 4.13% | 1.45% |
| Refractive error | 56.45% | 60.49% | 52.41% |
| Severe hyperopia | 3.0% | 3.9% | 2.2% |
| Severe myopia | 2.2% | 2.9% | 1.5% |

## Findings

In the following pages we present Tables and Figures showing the results of our estimates of the number of people with learning disabilities who have visual impairment, blindness, myopia and hyperopia and (for adults only) total refractive error in the UK over the period 2011-2031. These estimates are broken down in the tables by crude age group and for each of the constituent countries of the UK. The Figures show UK only estimates with 95% confidence intervals.

Table five appears over the page.**Table 5: Point Estimates of the Number of People with Learning Disabilities Known to Services with Visual**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **2011** | **2016** | **2021** | **2026** | **2031** | **CAGR** |
| England | 0-19 | 16,259 | 16,518 | 17,186 | 17,903 | 18,100 | 0.57% |
|  | 20-49 | 15,049 | 15,057 | 15,012 | 15,336 | 15,887 | 0.29% |
|  | 50+ | 11,016 | 11,948 | 12,760 | 13,056 | 13,174 | 0.95% |
|  | Total | 42,325 | 43,523 | 44,957 | 46,295 | 47,160 | 0.57% |
| Scotland | 0-19 | 1,547 | 1,524 | 1,539 | 1,565 | 1,542 | -0.02% |
|  | 20-49 | 1,462 | 1,420 | 1,379 | 1,378 | 1,391 | -0.26% |
|  | 50+ | 1,179 | 1,273 | 1,338 | 1,336 | 1,318 | 0.59% |
|  | Total | 4,189 | 4,217 | 4,257 | 4,279 | 4,252 | 0.08% |
| Wales | 0-19 | 941 | 930 | 945 | 976 | 978 | 0.21% |
|  | 20-49 | 797 | 790 | 784 | 796 | 820 | 0.15% |
|  | 50+ | 694 | 741 | 776 | 779 | 772 | 0.56% |
|  | Total | 2,431 | 2,460 | 2,505 | 2,551 | 2,570 | 0.29% |
| N Ireland | 0-19 | 637 | 639 | 649 | 660 | 644 | 0.05% |
|  | 20-49 | 517 | 512 | 506 | 505 | 512 | -0.05% |
|  | 50+ | 355 | 392 | 422 | 438 | 447 | 1.22% |
|  | Total | 1,509 | 1,543 | 1,577 | 1,603 | 1,603 | 0.32% |
| UK | 0-19 | 19,384 | 19,611 | 20,319 | 21,104 | 21,264 | 0.49% |
|  | 20-49 | 17,825 | 17,779 | 17,681 | 18,014 | 18,610 | 0.23% |
|  | 50+ | 13,245 | 14,354 | 15,297 | 15,609 | 15,711 | 0.90% |
|  | Total | 50,454 | 51,744 | 53,297 | 54,728 | 55,585 | 0.51% |

**Impairment (Excluding Blindness) in the UK, 2011-2031**

Figure 1: Estimates of the Number of People with Learning Disabilities Known to Services with Visual Impairment in the UK, 2011-2031

Figure 1 gives a graphic depiction of the total UK point estimates for 2011 to 2031

Table 6 appears over the page

Table 6: Point Estimates of the Number of People with Learning Disabilities in the Population with Visual Impairment (Excluding Blindness) in the UK, 2011-2031

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **2011** | **2016** | **2021** | **2026** | **2031** | **CAGR** |
| England | 0-19 | 16,259 | 16,518 | 17,186 | 17,903 | 18,100 | 0.57% |
|  | 20-49 | 25,441 | 25,577 | 25,512 | 25,968 | 26,849 | 0.28% |
|  | 50+ | 37,053 | 40,325 | 43,380 | 45,110 | 46,457 | 1.20% |
|  | Total | 78,754 | 82,420 | 86,077 | 88,982 | 91,405 | 0.79% |
| Scotland | 0-19 | 1,547 | 1,524 | 1,539 | 1,565 | 1,542 | -0.02% |
|  | 20-49 | 2,467 | 2,408 | 2,339 | 2,330 | 2,348 | -0.26% |
|  | 50+ | 3,925 | 4,250 | 4,514 | 4,598 | 4,657 | 0.90% |
|  | Total | 7,939 | 8,182 | 8,392 | 8,493 | 8,547 | 0.39% |
| Wales | 0-19 | 941 | 930 | 945 | 976 | 978 | 0.21% |
|  | 20-49 | 1,344 | 1,341 | 1,332 | 1,346 | 1,382 | 0.15% |
|  | 50+ | 2,343 | 2,521 | 2,670 | 2,733 | 2,772 | 0.89% |
|  | Total | 4,628 | 4,791 | 4,947 | 5,055 | 5,133 | 0.55% |
| N Ireland | 0-19 | 637 | 639 | 649 | 660 | 644 | 0.05% |
|  | 20-49 | 874 | 869 | 858 | 853 | 864 | -0.06% |
|  | 50+ | 1,178 | 1,306 | 1,420 | 1,499 | 1,560 | 1.49% |
|  | Total | 2,690 | 2,814 | 2,927 | 3,012 | 3,068 | 0.70% |
| UK | 0-19 | 19,384 | 19,611 | 20,319 | 21,104 | 21,264 | 0.49% |
|  | 20-49 | 30,127 | 30,195 | 30,042 | 30,497 | 31,443 | 0.23% |
|  | 50+ | 44,499 | 48,402 | 51,983 | 53,940 | 55,446 | 1.16% |
|  | Total | 94,010 | 98,207 | 102,344 | 105,542 | 108,153 | 0.74% |

Figure 2: Estimates of the Number of People with Learning Disabilities in the Population with Visual Impairment in the UK, 2011-2031

Figure 2 gives a graphic depiction of the total UK point estimates for 2011 to 2031

Table 7 appears over the page

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **2011** | **2016** | **2021** | **2026** | **2031** | **CAGR** |
| England | 0-19 | 3,180 | 3,230 | 3,361 | 3,501 | 3,540 | 0.57% |
|  | 20-49 | 6,388 | 6,391 | 6,372 | 6,509 | 6,743 | 0.29% |
|  | 50+ | 2,711 | 2,940 | 3,140 | 3,213 | 3,241 | 0.95% |
|  | Total | 12,278 | 12,561 | 12,872 | 13,223 | 13,524 | 0.51% |
| Scotland | 0-19 | 302 | 298 | 301 | 306 | 302 | -0.02% |
|  | 20-49 | 621 | 603 | 585 | 585 | 591 | -0.26% |
|  | 50+ | 290 | 313 | 329 | 329 | 324 | 0.59% |
|  | Total | 1,213 | 1,214 | 1,216 | 1,220 | 1,217 | 0.01% |
| Wales | 0-19 | 184 | 182 | 185 | 191 | 191 | 0.21% |
|  | 20-49 | 338 | 335 | 333 | 338 | 348 | 0.15% |
|  | 50+ | 171 | 182 | 191 | 192 | 190 | 0.56% |
|  | Total | 693 | 699 | 709 | 720 | 729 | 0.27% |
| N Ireland | 0-19 | 125 | 125 | 127 | 129 | 126 | 0.05% |
|  | 20-49 | 219 | 217 | 215 | 214 | 217 | -0.05% |
|  | 50+ | 87 | 96 | 104 | 108 | 110 | 1.22% |
|  | Total | 431 | 439 | 446 | 451 | 453 | 0.26% |
| UK | 0-19 | 3,791 | 3,835 | 3,974 | 4,127 | 4,158 | 0.49% |
|  | 20-49 | 7,566 | 7,546 | 7,505 | 7,647 | 7,899 | 0.23% |
|  | 50+ | 3,259 | 3,532 | 3,764 | 3,841 | 3,866 | 0.90% |
|  | Total | 14,616 | 14,913 | 15,242 | 15,614 | 15,923 | 0.45% |

Table 7: Point Estimates of the Number of People with Learning Disabilities Known to Services with Blindness in the UK, 2011-2031

Figure 3: Estimates of the Number of People with Learning Disabilities Known to Services with Blindness in the UK, 2011-2031

Figure 3 gives a graphic depiction of the total UK point estimates for 2011 to 2031

Table 8 appears over the page.**Table 8: Point Estimates of the Number of People with Learning Disabilities in the Population with Blindness in the UK, 2011-2031**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **2011** | **2016** | **2021** | **2026** | **2031** | **CAGR** |
| England | 0-19 | 3,180 | 3,230 | 3,361 | 3,501 | 3,540 | 0.57% |
|  | 20-49 | 8,852 | 8,899 | 8,876 | 9,035 | 9,341 | 0.28% |
|  | 50+ | 9,519 | 10,360 | 11,145 | 11,589 | 11,935 | 1.20% |
|  | Total | 21,550 | 22,489 | 23,381 | 24,125 | 24,816 | 0.75% |
| Scotland | 0-19 | 302 | 298 | 301 | 306 | 302 | -0.02% |
|  | 20-49 | 858 | 838 | 814 | 811 | 817 | -0.26% |
|  | 50+ | 1,008 | 1,092 | 1,160 | 1,181 | 1,196 | 0.90% |
|  | Total | 2,169 | 2,228 | 2,275 | 2,298 | 2,315 | 0.34% |
| Wales | 0-19 | 184 | 182 | 185 | 191 | 191 | 0.21% |
|  | 20-49 | 467 | 466 | 463 | 468 | 481 | 0.15% |
|  | 50+ | 602 | 648 | 686 | 702 | 712 | 0.89% |
|  | Total | 1,253 | 1,296 | 1,334 | 1,361 | 1,385 | 0.53% |
| N Ireland | 0-19 | 125 | 125 | 127 | 129 | 126 | 0.05% |
|  | 20-49 | 304 | 302 | 299 | 297 | 301 | -0.06% |
|  | 50+ | 303 | 336 | 365 | 385 | 401 | 1.49% |
|  | Total | 731 | 763 | 790 | 811 | 827 | 0.65% |
| UK | 0-19 | 3,791 | 3,835 | 3,974 | 4,127 | 4,158 | 0.49% |
|  | 20-49 | 10,482 | 10,505 | 10,452 | 10,611 | 10,940 | 0.23% |
|  | 50+ | 11,432 | 12,435 | 13,355 | 13,858 | 14,244 | 1.16% |
|  | Total | 25,704 | 26,775 | 27,780 | 28,595 | 29,342 | 0.70% |

Figure 4: Estimates of the Number of People with Learning Disabilities in the Population with Blindness in the UK, 2011-2031

Figure 4 gives a graphic depiction of the total UK point estimates for 2011 to 2031

Table 9 appears over the page

**Table 9: Point Estimates of the Number of Adults with Learning Disabilities Known to Services with Refractive Error in the UK, 2011-2031**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **2011** | **2016** | **2021** | **2026** | **2031** | **CAGR** |
| England | 20-49 | 68,981 | 69,016 | 68,810 | 70,295 | 72,821 | 0.29% |
|  | 50+ | 33,481 | 36,312 | 38,779 | 39,681 | 40,038 | 0.95% |
|  | Total | 102,462 | 105,328 | 107,589 | 109,975 | 112,859 | 0.51% |
| Scotland | 20-49 | 6,704 | 6,510 | 6,323 | 6,317 | 6,378 | -0.26% |
|  | 50+ | 3,584 | 3,869 | 4,067 | 4,059 | 4,006 | 0.59% |
|  | Total | 10,288 | 10,379 | 10,390 | 10,376 | 10,384 | 0.05% |
| Wales | 20-49 | 3,651 | 3,619 | 3,593 | 3,647 | 3,757 | 0.15% |
|  | 50+ | 2,109 | 2,253 | 2,360 | 2,367 | 2,347 | 0.56% |
|  | Total | 5,760 | 5,872 | 5,953 | 6,014 | 6,103 | 0.30% |
| N Ireland | 20-49 | 2,369 | 2,348 | 2,320 | 2,315 | 2,348 | -0.05% |
|  | 50+ | 1,079 | 1,192 | 1,284 | 1,332 | 1,359 | 1.22% |
|  | Total | 3,447 | 3,539 | 3,604 | 3,647 | 3,706 | 0.38% |
| UK | 20-49 | 81,705 | 81,493 | 81,046 | 82,574 | 85,304 | 0.23% |
|  | 50+ | 40,253 | 43,625 | 46,490 | 47,439 | 47,749 | 0.90% |
|  | Total | 121,957 | 125,118 | 127,536 | 130,013 | 133,052 | 0.46% |

Figure 5: Estimates of the Number of Adults with Learning Disabilities Known to Services with Refractive Error in the UK, 2011-2031

Figure 5 gives a graphic depiction of the total UK point estimates for 2011 to 2031

**Table 10: Point Estimates of the Number of Adults with Learning Disabilities in the Population with Refractive Error in the UK, 2011-2031**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **2011** | **2016** | **2021** | **2026** | **2031** | **CAGR** |
| England | 20-49 | 295,916 | 297,489 | 296,739 | 302,038 | 312,283 | 0.28% |
|  | 50+ | 190,484 | 207,307 | 223,010 | 231,907 | 238,830 | 1.20% |
|  | Total | 486,400 | 504,796 | 519,749 | 533,945 | 551,114 | 0.66% |
| Scotland | 20-49 | 28,695 | 28,006 | 27,209 | 27,100 | 27,305 | -0.26% |
|  | 50+ | 20,178 | 21,848 | 23,204 | 23,640 | 23,940 | 0.90% |
|  | Total | 48,873 | 49,854 | 50,414 | 50,740 | 51,245 | 0.25% |
| Wales | 20-49 | 15,628 | 15,592 | 15,493 | 15,661 | 16,080 | 0.15% |
|  | 50+ | 12,046 | 12,958 | 13,727 | 14,050 | 14,252 | 0.89% |
|  | Total | 27,674 | 28,550 | 29,221 | 29,711 | 30,333 | 0.48% |
| N Ireland | 20-49 | 10,170 | 10,113 | 9,981 | 9,924 | 10,055 | -0.06% |
|  | 50+ | 6,056 | 6,714 | 7,300 | 7,704 | 8,020 | 1.49% |
|  | Total | 16,226 | 16,827 | 17,281 | 17,628 | 18,075 | 0.57% |
| UK | 20-49 | 350,409 | 351,200 | 349,423 | 354,724 | 365,723 | 0.23% |
|  | 50+ | 228,764 | 248,827 | 267,241 | 277,300 | 285,042 | 1.16% |
|  | Total | 579,173 | 600,027 | 616,664 | 632,024 | 650,765 | 0.62% |

Figure 6: Estimates of the Number of Adults with Learning Disabilities in the Population with Refractive Error in the UK, 2011-2031

Figure 6 gives a graphic depiction of the total UK point estimates for 2011 to 2031.

**Table 11: Point Estimates of the Number of Children (Age 0-19) with Learning Disabilities with Myopia in the UK, 2011-2031**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **2011** | **2016** | **2021** | **2026** | **2031** | **CAGR** |
| England | 27,242 | 27,676 | 28,794 | 29,997 | 30,325 | 0.57% |
| Scotland | 2,592 | 2,554 | 2,579 | 2,622 | 2,584 | -0.02% |
| Wales | 1,576 | 1,558 | 1,583 | 1,635 | 1,639 | 0.21% |
| N Ireland | 1,068 | 1,070 | 1,087 | 1,106 | 1,079 | 0.05% |
| UK | 32,478 | 32,857 | 34,043 | 35,360 | 35,627 | 0.49% |

Figure 7: Estimates of the Number of Children (Age 0-19) with Learning Disabilities with Myopia in the UK, 2011-2031

Figure 7 gives a graphic depiction of the total UK point estimates for 2011 to 2031.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **2011** | **2016** | **2021** | **2026** | **2031** | **CAGR** |
| England |  |  |  |  |  |  |  |
|  | 20-49 | 6,054 | 6,057 | 6,039 | 6,169 | 6,391 | 0.29% |
|  | 50+ | 3,118 | 3,382 | 3,612 | 3,696 | 3,729 | 0.95% |
|  | Total | 9,173 | 9,439 | 9,651 | 9,865 | 10,120 | 0.52% |
| Scotland |  |  |  |  |  |  |  |
|  | 20-49 | 588 | 571 | 555 | 554 | 560 | -0.26% |
|  | 50+ | 334 | 360 | 379 | 378 | 373 | 0.59% |
|  | Total | 922 | 932 | 934 | 933 | 933 | 0.06% |
| Wales |  |  |  |  |  |  |  |
|  | 20-49 | 320 | 318 | 315 | 320 | 330 | 0.15% |
|  | 50+ | 196 | 210 | 220 | 220 | 219 | 0.56% |
|  | Total | 517 | 527 | 535 | 541 | 548 | 0.31% |
| N Ireland |  |  |  |  |  |  |  |
|  | 20-49 | 208 | 206 | 204 | 203 | 206 | -0.05% |
|  | 50+ | 100 | 111 | 120 | 124 | 127 | 1.22% |
|  | Total | 308 | 317 | 323 | 327 | 333 | 0.40% |
| UK |  |  |  |  |  |  |  |
|  | 20-49 | 7,171 | 7,152 | 7,113 | 7,247 | 7,487 | 0.23% |
|  | 50+ | 3,749 | 4,063 | 4,330 | 4,418 | 4,447 | 0.90% |
|  | Total | 10,920 | 11,216 | 11,443 | 11,666 | 11,934 | 0.47% |

**Table 12: Point Estimates of the Number of Adults with Learning Disabilities Known to Services with Severe Myopia in the UK, 2011-2031**

Figure 8: Estimates of the Number of Adults with Learning Disabilities Known to Services with Severe Myopia in the UK, 2011-2031

Figure 8 gives a graphic depiction of the total UK point estimates for 2011 to 2031

Table 13 appears over the page.**Table 13: Point Estimates of the Number of Adults with Learning Disabilities in the Population with Severe Myopia in the UK, 2011-2031**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **2011** | **2016** | **2021** | **2026** | **2031** | **CAGR** |
| England |  |  |  |  |  |  |  |
|  | 20-49 | 11,131 | 11,190 | 11,162 | 11,361 | 11,746 | 0.28% |
|  | 50+ | 7,506 | 8,169 | 8,788 | 9,138 | 9,411 | 1.20% |
|  | Total | 18,637 | 19,359 | 19,949 | 20,499 | 21,157 | 0.67% |
| Scotland |  |  |  |  |  |  |  |
|  | 20-49 | 1,079 | 1,053 | 1,023 | 1,019 | 1,027 | -0.26% |
|  | 50+ | 795 | 861 | 914 | 932 | 943 | 0.90% |
|  | Total | 1,874 | 1,914 | 1,938 | 1,951 | 1,970 | 0.26% |
| Wales |  |  |  |  |  |  |  |
|  | 20-49 | 588 | 586 | 583 | 589 | 605 | 0.15% |
|  | 50+ | 475 | 511 | 541 | 554 | 562 | 0.89% |
|  | Total | 1,063 | 1,097 | 1,124 | 1,143 | 1,166 | 0.49% |
| N Ireland |  |  |  |  |  |  |  |
|  | 20-49 | 383 | 380 | 375 | 373 | 378 | -0.06% |
|  | 50+ | 239 | 265 | 288 | 304 | 316 | 1.49% |
|  | Total | 621 | 645 | 663 | 677 | 694 | 0.59% |
| UK |  |  |  |  |  |  |  |
|  | 20-49 | 13,180 | 13,210 | 13,143 | 13,343 | 13,756 | 0.23% |
|  | 50+ | 9,015 | 9,805 | 10,531 | 10,927 | 11,232 | 1.16% |
|  | Total | 22,195 | 23,015 | 23,674 | 24,270 | 24,989 | 0.63% |

Figure 9: Estimates of the Number of Adults with Learning Disabilities in the Population with Severe Myopia in the UK, 2011-2031

Figure 9 gives a graphic depiction of the total UK point estimates for 2011 to 2031

Table 14 appears over the page.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **2011** | **2016** | **2021** | **2026** | **2031** | **CAGR** |
| England |  | 46,526 | 47,267 | 49,177 | 51,231 | 51,792 | 0.57% |
| Scotland |  | 4,426 | 4,361 | 4,405 | 4,478 | 4,413 | -0.02% |
| Wales |  | 2,692 | 2,660 | 2,704 | 2,793 | 2,800 | 0.21% |
| N Ireland |  | 1,823 | 1,828 | 1,856 | 1,889 | 1,842 | 0.05% |
| UK |  | 55,468 | 56,117 | 58,142 | 60,391 | 60,848 | 0.49% |

**Table 14: Point Estimates of the Number of Children (Age 0-19) with Learning Disabilities with Hyperopia in the UK, 2011-2031**

Figure 10: Estimates of the Number of Children (Age 0-19) with Learning Disabilities with Hyperopia in the UK, 2011-2031

Figure 10 gives a graphic depiction of the total UK point estimates for 2011 to 2031

Table 15 appears over the page.**Table 15: Point Estimates of the Number of Adults with Learning Disabilities Known to Services with Severe Hyperopia in the UK, 2011-2031**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **2011** | **2016** | **2021** | **2026** | **2031** | **CAGR** |
| England |  |  |  |  |  |  |  |
|  | 20-49 | 4,572 | 4,574 | 4,560 | 4,659 | 4,826 | 0.29% |
|  | 50+ | 2,399 | 2,602 | 2,778 | 2,843 | 2,869 | 0.95% |
|  | Total | 6,970 | 7,176 | 7,339 | 7,502 | 7,695 | 0.52% |
| Scotland |  |  |  |  |  |  |  |
|  | 20-49 | 444 | 431 | 419 | 419 | 423 | -0.26% |
|  | 50+ | 257 | 277 | 291 | 291 | 287 | 0.59% |
|  | Total | 701 | 709 | 710 | 709 | 710 | 0.06% |
| Wales |  |  |  |  |  |  |  |
|  | 20-49 | 242 | 240 | 238 | 242 | 249 | 0.15% |
|  | 50+ | 151 | 161 | 169 | 170 | 168 | 0.56% |
|  | Total | 393 | 401 | 407 | 411 | 417 | 0.31% |
| N Ireland |  |  |  |  |  |  |  |
|  | 20-49 | 157 | 156 | 154 | 153 | 156 | -0.05% |
|  | 50+ | 77 | 85 | 92 | 95 | 97 | 1.22% |
|  | Total | 234 | 241 | 246 | 249 | 253 | 0.40% |
| UK |  |  |  |  |  |  |  |
|  | 20-49 | 5,415 | 5,401 | 5,371 | 5,472 | 5,653 | 0.23% |
|  | 50+ | 2,884 | 3,126 | 3,331 | 3,399 | 3,421 | 0.90% |
|  | Total | 8,299 | 8,526 | 8,702 | 8,871 | 9,074 | 0.47% |

Figure 11: Estimates of the Number of Adults with Learning Disabilities Known to Services with Severe Hyperopia in the UK, 2011-2031

Figure 11 gives a graphic depiction of the total UK point estimates for 2011 to 2031

Table 16 appears over the page

**Table 16: Point Estimates of the Number of Adults with Learning Disabilities in the Population with Severe Hyperopia in the UK, 2011-2031**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **2011** | **2016** | **2021** | **2026** | **2031** | **CAGR** |
| England |  |  |  |  |  |  |  |
|  | 20-49 | 15,901 | 15,985 | 15,945 | 16,230 | 16,780 | 0.28% |
|  | 50+ | 10,236 | 11,140 | 11,983 | 12,461 | 12,833 | 1.20% |
|  | Total | 26,136 | 27,125 | 27,928 | 28,691 | 29,614 | 0.66% |
| Scotland |  |  |  |  |  |  |  |
|  | 20-49 | 1,542 | 1,505 | 1,462 | 1,456 | 1,467 | -0.26% |
|  | 50+ | 1,084 | 1,174 | 1,247 | 1,270 | 1,286 | 0.90% |
|  | Total | 2,626 | 2,679 | 2,709 | 2,726 | 2,754 | 0.25% |
| Wales |  |  |  |  |  |  |  |
|  | 20-49 | 840 | 838 | 833 | 842 | 864 | 0.15% |
|  | 50+ | 647 | 696 | 738 | 755 | 766 | 0.89% |
|  | Total | 1,487 | 1,534 | 1,570 | 1,596 | 1,630 | 0.48% |
| N Ireland |  |  |  |  |  |  |  |
|  | 20-49 | 546 | 543 | 536 | 533 | 540 | -0.06% |
|  | 50+ | 325 | 361 | 392 | 414 | 431 | 1.49% |
|  | Total | 872 | 904 | 929 | 947 | 971 | 0.57% |
| UK |  |  |  |  |  |  |  |
|  | 20-49 | 18,829 | 18,872 | 18,776 | 19,061 | 19,652 | 0.23% |
|  | 50+ | 12,293 | 13,371 | 14,360 | 14,901 | 15,317 | 1.16% |
|  | Total | 31,122 | 32,242 | 33,136 | 33,962 | 34,969 | 0.62% |

Figure 12: Estimates of the Number of Adults with Learning Disabilities in the Population with Severe Hyperopia in the UK, 2011-2031

Figure 12 gives a graphic depiction of the total UK point estimates for 2011 to 2031

**Table 17: Point Estimates of the Number of Children (Age 0-19) with Learning Disabilities with Astigmatism in the UK, 2011-2031**

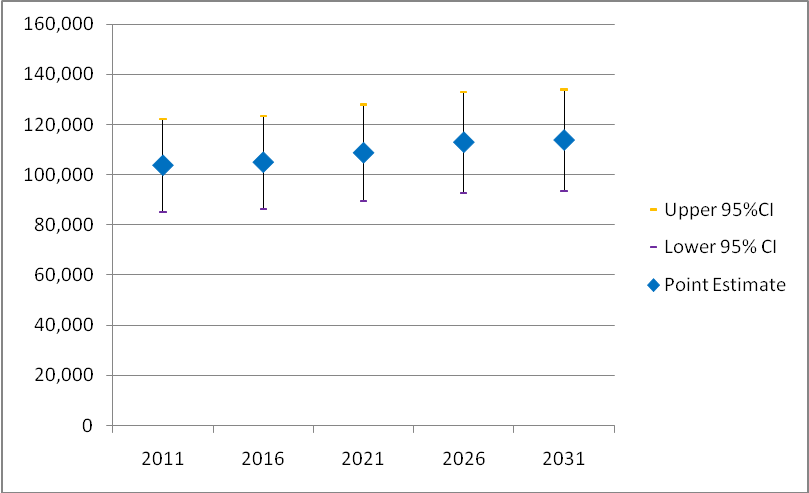


Figure 13: Estimates of the Number of Children (Age 0-19) with Learning Disabilities with Astigmatism in the UK, 2011-2031

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **2011** | **2016** | **2021** | **2026** | **2031** | **CAGR** |
| England | 86,951 | 88,336 | 91,904 | 95,744 | 96,792 | 0.57% |
| Scotland | 8,272 | 8,151 | 8,233 | 8,368 | 8,248 | -0.02% |
| Wales | 5,031 | 4,971 | 5,054 | 5,220 | 5,232 | 0.21% |
| N Ireland | 3,408 | 3,416 | 3,469 | 3,530 | 3,443 | 0.05% |
| UK | 103,662 | 104,874 | 108,660 | 112,862 | 113,716 | 0.49% |

## Comments

The estimates contained in this report are based on a number of assumptions, some we believe to be highly robust, some less so. In Table 17 we list the key assumptions and data sources used and indicate the degree of confidence (from fair to very high) we feel can be placed in these assumptions/data. We also estimate the sensitivity of the predictions to any reasonably expected error in these assumptions (rated from very low to high).

Table 17 appears over the page.**Table 17: Assumptions and Data Included in the Projections**

| Assumption/Data | Confidence | Sensitivity |
| --- | --- | --- |
| Age-specific general population predictions (2011-2031) published by the Office for National Statistics | Very high | Low |
| Prevalence of learning disabilities among children estimated from 2010 spring School Census data | Moderate to High | Low to Moderate |
| Prevalence and age profile of adults with learning disabilities known to services | High | Low to Moderate |
| Prevalence and age profile of adults with learning disabilities in the population | Moderate | Moderate to High |
| Prevalence of visual impairment among children with learning disabilities | Moderate | High |
| Prevalence of visual impairment among adults with learning disabilities | Moderate | High |

As can be seen, the greatest degree of uncertainty (and therefore risk) in these estimates arises from two sources: (1) our estimates of the ‘true’ prevalence of learning disabilities in the UK; and (2) our estimates of the prevalence of visual impairment.

As we reported in the section on the process, estimating the ‘true’ prevalence of learning disabilities in the UK is problematic. While there can be no doubt that it is higher than the administrative prevalence (people known to learning disabilities services), it is difficult to estimate how much higher for two reasons. First, there is no ‘official’ data on true prevalence. Second, there is a lack of clarity within the UK on the definition of ‘learning disabilities’.16 While some definitions in use (e.g., the international ‘gold standard’ in the WHO’s ICD-10)17 18 are essentially IQ-based (assuming that all people with significant cognitive limitations will have difficulty adapting to social norms and conventions), others include the presence of deficits in ‘adaptive behaviour’ as an additional criterion. The definition we have used here is based on the ICD-10 approach and will give a higher estimate than definitions that include the presence of deficits in ‘adaptive behaviour’ as an additional criterion.

The estimates of the prevalence of visual impairment, while the best available, may also be prone to error. Neither of the studies were undertaken in the UK. Neither of the studies employed large or fully representative samples. As a result of the modest sample sizes involved the confidence intervals for the projections are rather large. Nevertheless, these are the best estimates available and are consistent with the results of smaller scale UK studies.13 Additional, large-scale research undertaken in the UK would be of considerable benefit in providing more robust estimates with narrower confidence intervals.

We have assumed that the prevalence rates of both learning disabilities and visual impairment among people with learning disabilities will remain unchanged over the next two decades. Whilst there is some evidence to suggest that the prevalence of profound multiple learning disabilities may be rising,19 there is no robust evidence to suggest that the overall prevalence of learning disabilities is either rising or falling.20 We did not include a specific correction factor for the possible impact of changes in the prevalence of profound multiple learning disabilities as: (1) people with profound multiple learning disabilities make up a very small proportion of people with learning disabilities; (2) estimates of visual impairment among people with profound multiple learning disabilities were either not provided within the studies we used or were based on very small samples. Any error in our current estimates resulting from this decision will marginally underestimate future growth in the prevalence of visual impairment among people with learning disabilities in the UK.

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1. Estimates of the current and future population of the UK are produced biennially by the UK’s Office for National Statistics <http://www.statistics.gov.uk/pdfdir/pproj1009.pdf> [↑](#footnote-ref-1)
2. The compound annual growth rate is the annual percentage increase/decrease that if applied constantly across the time period in question (e.g., 2011 to 2031) would account for the observed change in numbers between the start and end of the period. [↑](#footnote-ref-2)
3. <http://www.ic.nhs.uk/pubs/carestats0910asr> [↑](#footnote-ref-3)
4. The ‘confidence intervals’ around a point estimate are the upper and lower limits within which we are 95% confident that the true population point estimate will fall. The larger the original sample size in the study, the narrower the confidence interval. [↑](#footnote-ref-4)
5. The predicted proportions based on the normal distribution of intelligence are 2% and 98%. We used a 5%:95% split due to the likely bulge in the distribution of IQ at the very low end of the spectrum. [↑](#footnote-ref-5)
6. Note that this is a more stringent definition of myopia and hyperopia than used in the child estimates. [↑](#footnote-ref-6)