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Access Economics

Incidence and risk of sight loss and blindness in the UK

Royal National Institute of Blind People

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Glossary

AMD	age-related macular degeneration
CVI	Certificate of Vision Impairment
DR	diabetic retinopathy
ONS	Office for National Statistics
RE	refractive error
RNIB	Royal National Institute of Blind People
UK	United Kingdom
VA	visual acuity

Acknowledgments

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Executive summary

Deloitte Access Economics was commissioned by the Royal National Institute of Blind People (RNIB) to undertake analysis of the incidence of sight loss or blindness in the United Kingdom (UK) in 2016-17. RNIB has used the message that "100 people a day start to lose their sight" based on the number of people registering as partially sighted or blind in the UK.

The measure of 100 people a day is based on dated registration data, which captures a more severe definition of sight loss or blindness than alternative definitions. Consequently, this report investigates another approach to estimate the incidence of sight loss or blindness in the UK for 2016-17 using prevalence and mortality rates.

Methodology

It is possible to estimate the incidence of sight loss or blindness from prevalence data based on three assumptions:

1. sight loss is permanent and irreversible;
2. mortality rates amongst people who are living with sight loss are equal to the mortality rates in the general population; and
3. sight loss is stable in the population, so there are no existing time trends for incidence rates.

Based on these assumptions, and UK demographic data from the Office for National Statistics (ONS, 2015), the incidence of permanent sight loss or blindness was estimated using the model developed by Leske et al (1981), which uses prevalence and mortality rates as inputs.

Prevalence rates were based on the total estimated prevalence of permanent sight loss or blindness from Deloitte Access Economics' 2014 report for RNIB, *The economic impact of sight loss and blindness in the UK adult population, 2013*, which estimated that more than 1.9 million adults in the UK were living with the consequences of sight loss and blindness in 2012-13, of which approximately 42% was from permanent causes.

Permanent sight loss or blindness was defined as visual acuity (VA) of <6/12 resulting from underlying eye conditions including age-related macular degeneration (AMD), diabetic retinopathy (DR), glaucoma and *'other'* eye conditions, which are typically retinal or macular dystrophies, and ocular atrophies.[1]

The incidence estimates were based on prevalence rates by gender and (single year of) age, which were calculated from Deloitte Access Economics (2014) using a logistic regression curve.

Results

There were estimated to be 89,878 new cases of sight or blindness in 2016-17, representing 0.14% of the population. The causes of these new cases were from either AMD, DR, glaucoma or other eye diseases, which are conditions that have lifelong health system, productivity and wellbeing impacts.

Alternatively, there were estimated to be 246 new cases of permanent sight loss or blindness each day, or almost 1 person every 5.8 minutes, in the UK in 2016-17.

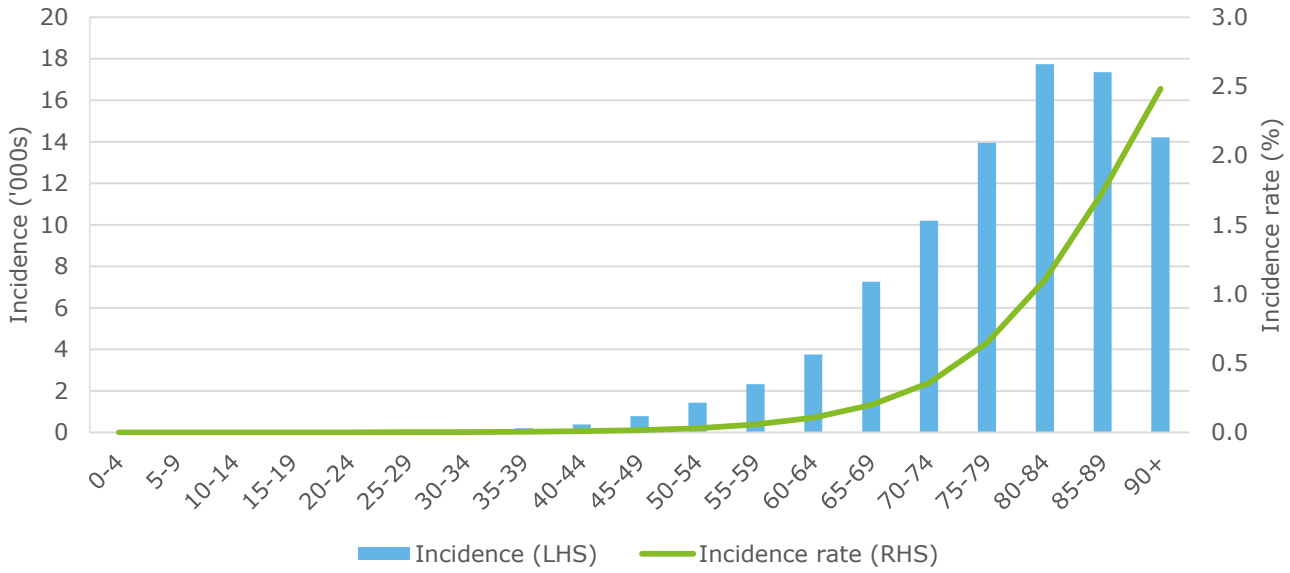
Incidence rates increase with age as for prevalence rates (Chart i). People who are aged 65 years or older accounted for 90% of new cases of permanent sight loss in the UK in 2016-17; however, there were still almost 9,150 new cases in people of working age (defined as 15-64 years old) – equivalent to 25 people every day.

Females were more likely to experience sight loss or blindness due to both the higher incidence rate and underlying population in older age groups relative to their male counterparts.

[1] Under-corrected refractive error (RE) and cataracts were excluded from permanent sight loss due to the success of correction and surgery for these conditions.

Taking a broader measure of sight loss or blindness – i.e. including treatable under-corrected RE and cataracts – it was estimated there were 167,434 new cases of sight loss or blindness during 2016-17 in the UK (almost 460 people per day), of which **54% was from permanent causes, while 46% was potentially reversible**.

Chart i: Incidence of permanent sight loss or blindness in the UK by age, 2016-17



Source: Deloitte Access Economics calculations.

The lifetime risk, which represents the probability or chance that someone born in 2016-17 would develop sight loss or blindness requiring intervention or treatment, was estimated to be:

- **18.2% for permanent sight loss or blindness, or nearly 1 in 5 people**; and
- **36.3% for any sight loss or blindness, or over 1 in 3 people**.

When considering causes of sight loss or blindness, AMD (13.8%), cataract (10.0%) and under-corrected RE (8.1%) were estimated to be the largest contributors to the expected lifetime risk for someone born in the UK in 2016-17.

This report found that incidence of permanent sight loss or blindness is around two and a half times greater than past measures based on registrations, which indicated there are around 100 new cases of sight loss or blindness each day. Although, when considering a more comparable measure of moderate or worse permanent sight loss (VA <6/18), the rates are similar – 103 compared to 100 new cases per day.[2]

Given the relative importance of incidence in RNIB awareness raising, this alternate approach provides a much needed update of the incidence of permanent sight loss in the UK for 2016-17.

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[2] The measures are still not directly comparable due to the inclusion of visual field restrictions.

1

Introduction

1 Introduction

Deloitte Access Economics was commissioned by RNIB to undertake analysis of the incidence of sight loss or blindness in the UK in 2016-17. This report follows Deloitte Access Economics' 2014 report for RNIB, *The economic impact of sight loss and blindness in the UK adult population, 2013*, which estimated that more than 1.9 million adults in the UK were living with the consequences of sight loss and blindness – imposing an estimated £28.1 billion cost on society in 2012-13.

This report provides a description of the methodology, and provides summary statistics of the incidence and lifetime risk of permanent sight loss by age and gender, severity and cause.

1.1 Background to the work

RNIB has used a measure of incidence of sight loss and blindness which was based on the number of new blind or partially sighted registrations in a given year. This measure indicated that around "100 people a day start to lose their sight".

There has been a decline in new registrations over the last decade. In 2002-03, there were 29,610 newly registered blind or partially sighted people in England. In 2013-14, the number of new partially sighted or blind registrations had decreased to 21,095 (Health and Social Care Information Centre, 2014). A Certificate of Vision Impairment (CVI) is required for someone to be registered as blind or partially sighted (Department of Health, 2013).[3]

Due to the decline, there has been a growing lack of confidence in using registrations as a measure of incidence. A decline in either CVIs or new registrations does not align with evidence about risk factors in the population. For example, there is a growing number of older people living in the UK (Deloitte Access Economics, 2014; ONS, 2015) and the prevalence of diabetes is also rising (Diabetes UK, 2016). These are some of the primary risk factors for sight loss and blindness.

While there is evidence which suggests a decline in some risk factors – such as newer forms of treatment for the wet form of AMD (Owen et al, 2012) and screening programs for DR (Diabetes UK, 2016) – it is possible that CVIs (or new registrations) may not be the most appropriate measure of incidence. Since CVIs are the only national data that regularly report on the eye health of the nation, quality assurance needs to be more rigorous so that this source provides reliable incidence data.

For example, a number of people may be eligible to register but are either not offered the chance or do not want to take it up (Owen et al, 2012). Moreover, there are people living with the consequences of sight loss and blindness who would not be eligible to register due to more stringent criteria – e.g. generally VA of <6/18 for CVI compared to VA of <6/12.

For the purposes of this report, sight loss or blindness was defined as best-corrected VA of <6/12 in the better-seeing eye, which while the legal definition varies internationally, it is a generally accepted definition in developed countries as this is the point where many functional limitations begin to occur (Dandona and Dandona, 2006; Taylor et al, 2005; Congdon et al, 2004; Deloitte Access Economics, 2014).

This report outlines an alternative approach to estimating incidence, which bases the number of new cases on the total number of people living with sight loss or blindness. This is a standard approach in epidemiology (e.g. see Owen et al, 2012; Leske et al, 1981).

The incidence of sight loss or blindness is important for policy as it provides an indication of the number of people who require intervention or treatment in a given year.

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[3] A person is classified as sight impaired (or severely sight impaired) if they have: VA of 3/60 to 6/60 with full field; VA of up to 6/24 with moderate contraction of the field, opacities in media or aphakia; or VA of up to 6/18 or even better if they have a gross defect, for example hemianopia, or if there is a marked contraction of the visual field, for example in retinitis pigmentosa or glaucoma (Department of Health, 2013).

2

Methodology

2 Methodology

The methodology to estimate the incidence of sight loss and blindness in the UK follows the approach taken by Owen et al (2012) and Leske et al (1981). Briefly, it is possible to base incidence estimates on the prevalence of sight loss and blindness in the UK when population demographics are known (i.e. size of the population and mortality rates). Based on the approach taken by Leske et al (1981):

- a logistic regression curve was fitted to the five-year age and gender specific prevalence rate estimates from Deloitte Access Economics (2014) to estimate prevalence at any single year of age; and
- incidence rates of sight loss or blindness were calculated as the difference between (single year of) age and gender specific prevalence rates at the beginning and end of 2016-17, adjusted for the likelihood of death occurring during the period.

The detailed inputs and assumptions are provided in the following sections.

2.1 Estimating incidence from prevalence

Using prevalence to estimate incidence has been used a number of times in the past (e.g. Owen et al, 2012; Leske et al, 1981). Prevalence rates are used to estimate the probability of sight loss by age and gender, which can then be converted to incidence when combined with the age specific probability of death during a period.

Underlying this methodology, three key assumptions need to be made (Owen et al, 2012):

1. **sight loss is permanent and irreversible**;
   - The assumption is that once a person has sight loss or blindness, they will remain in this group of people for the rest of their lives. The assumption gives reason to exclude people with under-corrected RE and cataracts as both groups could receive interventions to improve their eye sight. AMD, glaucoma, DR and other eye conditions were included in the analysis[4].
2. **mortality rates amongst people who are living with sight loss are equal to the mortality rates in the general population**; and
   - It has been observed that there is in increased risk of mortality for people who have sight loss or blindness (Deloitte Access Economics, 2014; McCarty et al, 2001). In this context, mortality rates are assumed to be approximately the same as for the general population. Recent evidence also suggests an increased mortality risk (e.g. see Zheng et al, 2014). However, these studies typically report elevated risk of mortality over a number of years. In the initial year with sight loss or blindness, it has been assumed that there would be a negligible increase in the risk of death.
3. **sight loss is stable in the population, so there are no existing time trends for incidence rates**.
   - There is evidence to suggest that some risk factors for sight loss are worsening – e.g. rising prevalence of diabetes (Diabetes UK, 2016). Conversely, improved drug treatment for wet-AMD may reduce the incidence over time (Owen et al, 2012). However, there is little evidence to assess the validity of this assumption despite the necessity of its use in the analysis.

Under these assumptions, Leske et al (1981) provide the following formulae to calculate the incidence of sight loss or blindness during a given period.[5]

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[4] Sight loss or blindness from other eye conditions predominately relates to retinal dystrophies, macular dystrophies or ocular atrophies (Foreman et al, 2016; Liew et al, 2014; Khawaja et al, 2013). Typically for dystrophies and atrophies, early treatment can be effective to prevent sight loss or blindness; however, there is little that can be done to reverse damage to the eye or optic nerves. Adjusting prevalence to remove other eye disease would have a relatively small effect on the final incidence rates, and was out of scope for this analysis.

[5] The number of new cases of permanent sight loss or blindness can also be approximated by applying the prevalence rates to the overall population by age and gender in 2016 and 2017 respectively, and adjusting for the expected number of deaths in those with sight loss. Using the approach taken by Leske et al (1981), the prevalence of permanent sight loss or blindness was approximately 800,000 and 820,000 in 2016 and 2017 respectively. During 2016-17, about 65,000 of those with sight loss were expected to die and a further 3,000 would have new sight loss or blindness before dying, hence there were approximately 88,000 new cases of sight loss or blindness. There would also be some new cases in any migration flows who

$$I_x = \frac{\ln(1-\Pi_x)}{\ln(1-q_x)+\ln(1-\Pi_x)} \cdot \frac{1-(1-\Pi_x)(1-q_x)}{1-0.5q_x}, \text{ where} \quad (1)$$

$$\Pi_x = \frac{P_{x+1}-P_x}{1-P_x} \quad (2)$$

$P_x = Prevalence\ rate\ for\ given\ age\ at\ the\ beginning\ of\ the\ age\ interval, and$

$q_x = probability\ of\ dying\ during$ the $age\ interval$

2.1.1 Prevalence of sight loss or blindness

Prevalence rates were taken from Deloitte Access Economics (2014), which provides a full description of the approach taken to estimate prevalence by cause, age, and gender. The prevalence rates are shown in Table 2.1.[6]

Table 2.1: Prevalence of sight loss or blindness per 1,000 people in the UK, by age and cause

Age	AMD		Cataract		DR		Glaucoma		RE		Other causes		All
	M	F	M	F	M	F	M	F	M	F	M	F	P
0-4	-	-	-	-	-	-	-	-	0.9	0.8	0.1	0.1	0.9
5-9	-	-	-	-	-	-	-	-	1.5	1.3	0.1	0.1	1.6
10-14	-	-	-	-	-	-	-	-	2.2	1.9	0.2	0.2	2.2
15-19	-	-	-	-	-	-	-	-	2.5	2.2	0.2	0.2	2.6
20-24	-	-	-	-	0.01	0.03	-	-	2.8	2.4	0.2	0.2	2.9
25-29	-	-	-	-	0.03	0.1	-	-	2.9	2.6	0.2	0.2	3.0
30-34	-	-	-	-	0.3	0.2	-	-	2.7	2.5	0.2	0.2	3.0
35-39	-	-	-	-	0.7	0.5	-	-	2.2	2.2	0.2	0.2	3.1
40-44	-	-	0.7	0.7	1.2	0.7	1.3	1.0	4.4	6.1	0.6	0.7	8.7
45-49	-	-	0.7	0.7	1.2	0.7	1.3	1.0	6.7	8.6	0.8	0.9	11.2
50-54	-	-	1.5	2.0	3.2	2.1	1.3	1.3	6.7	8.7	1.0	1.1	14.4
55-59	1.0	1.0	2.5	3.6	3.2	2.1	1.3	1.3	9.7	11.7	1.4	1.6	20.2
60-64	1.0	1.0	4.1	6.0	3.2	2.1	2.5	2.3	17.2	19.9	2.2	2.4	31.7
65-69	3.8	8.4	7.2	11.3	5.4	3.0	4.7	4.1	25.8	25.5	3.8	4.1	53.0
70-74	14.7	8.8	9.7	18.0	5.4	3.0	6.9	5.0	32.7	40.0	5.5	5.7	75.7
75-79	19.0	23.3	14.6	27.8	6.6	1.9	8.0	5.4	34.3	66.1	6.6	9.1	107.5
80-84	49.2	72.8	28.4	44.7	7.4	3.2	17.9	15.6	48.1	94.1	12.1	16.4	196.6
85-89	94.7	140.6	71.5	98.8	2.0	6.3	27.3	25.7	84.1	136.2	22.4	28.1	350.6
90+	191.0	265.6	114.4	119.2	0.3	3.0	9.6	36.6	76.3	250.0	31.3	41.8	524.3
Overall	**4.4**	**9.4**	**3.7**	**7.5**	**1.7**	**1.1**	**2.0**	**2.4**	**9.9**	**14.0**	**1.7**	**2.7**	**30.1**

Source: Deloitte Access Economics (2014). M = male, F = female, P = person.

may leave or enter the UK before 2017. The migration flows would account for some of the difference between 89,878 estimated using the approach taken by Leske et al (1981) (as in chapter 3) and the alternate approach presented here.

[6] As noted in Deloitte Access Economics (2014), prevalence data for people who are aged between 0 and 39 years old must be used with caution. This is due to limited and variable data for this age range. It was outside the scope of this report to update the underlying prevalence estimates. Therefore, incidence estimates for this age range should also be used with caution. At the time of writing this report, RNIB is supporting a National Eye Health Survey to update prevalence estimates for the UK.

As noted by Leske et al (1981), estimating incidence rates based on 5-year age groups would result in non-standard age intervals. As such, Leske et al (1981) fitted a logistic regression curve to their prevalence data to estimate prevalence at any age, and subsequently, incidence for specified single year age and gender groups. The logistic regression curve used in this analysis was the same as Leske et al (1981) and Owen et al (2012), where:

$$P_x = \frac{1}{1+e^{-a-b.x}}$$, where x is the age interval (2)

2.1.2 Demographic data

Population and mortality data for 2016-17 were derived from the ONS (2015). The ONS provides population projections by single-year age and gender for the UK. The principal population projections also provide estimates of the number of deaths that will occur in each year, which were converted to the probability of death during each age interval (q_x in equation 1). The population at the beginning of 2016-17 and the estimated mortality throughout 2016-17 are shown in Table 2.2.

Table 2.2: Population ('000s) and mortality (per 1,000 people) in the UK, by age and gender

Age	Population 2016 ('000s)			Mortality per 1,000 people, 2016-17		
	Male	**Female**	**Person**	**Male**	**Female**	**Person**
0-4	2,047.9	1,947.4	3,995.2	0.3	0.2	0.2
5-9	2,060.0	1,963.4	4,023.4	0.1	0.1	0.1
10-14	1,848.5	1,762.2	3,610.7	0.1	0.1	0.1
15-19	1,928.8	1,831.7	3,760.5	0.3	0.2	0.2
20-24	2,189.6	2,089.4	4,279.0	0.5	0.2	0.4
25-29	2,287.8	2,242.6	4,530.4	0.6	0.3	0.4
30-34	2,193.6	2,209.8	4,403.4	0.8	0.4	0.6
35-39	2,074.4	2,094.0	4,168.4	1.2	0.7	0.9
40-44	2,059.9	2,099.2	4,159.1	1.8	1.0	1.4
45-49	2,270.0	2,337.1	4,607.1	2.4	1.6	2.0
50-54	2,275.4	2,347.1	4,622.5	3.6	2.5	3.1
55-59	2,003.1	2,056.8	4,059.9	5.8	4.0	4.9
60-64	1,727.7	1,799.2	3,526.9	9.1	6.1	7.5
65-69	1,763.6	1,870.6	3,634.2	14.2	9.6	11.8
70-74	1,359.8	1,491.8	2,851.6	22.9	15.5	19.1
75-79	991.7	1,166.3	2,158.0	38.3	27.2	32.3
80-84	696.9	914.1	1,611.0	66.3	50.2	57.2
85-89	383.0	615.1	998.1	116.6	93.6	102.4
90+	172.1	400.8	572.9	211.3	190.6	196.8
Overall	**32,333.9**	**33,238.5**	**65,572.4**	**8.5**	**8.7**	**8.6**

Source: ONS (2015). Note: components may not sum to totals due to rounding.

2.2 Estimating lifetime risk

The lifetime risk represents the probability, or the chance, that someone born at a given time will experience a given outcome. Lifetime risk is a statistic that is commonly also used for cancer statistics. The lifetime risk is often reported as the chance of developing a condition, or the ratio of occurrences to the total population – e.g. 1 in every 2 people.

For someone who was born today, the chance they will have sight loss at any given age is based on the observed cases for people who are that given age today. For example, the chance sight loss or blindness will occur in 50 years' time for someone who is born today was assumed to be the same as the annual incidence rate in people who are 50 years old today. Therefore, such lifetime risk analysis implicitly embeds a continuation of current age-gender incidence patterns.

It is also possible to estimate lifetime risk of sight loss or blindness for someone born today by projecting known trends in the incidence for each condition over time, and then estimating the expected incidence for a single cohort of people born in 2016-17. In the absence of trend information, the lifetime risk was estimated by assuming that there will be no change in the rate of incidence over time – as per assumption 3 in section 2.1.

To estimate lifetime risk, it is also necessary to account for the probability of death at each year of age. Deaths were assumed to be evenly distributed across each year, so that 50% of deaths occur in the first and second half of the year, respectively. Sight loss may also occur in the same year as a death.

In summary, the approach to estimate lifetime risk is based on the life table approach.[7] The lifetime risk of sight loss or blindness is estimated using the probability of having sight loss and mortality rates for a given population. The lifetime risk for someone who is born today is the sum of the probabilities of sight loss or blindness in any given year after accounting for the probability of death occurring. Conceptually, **lifetime risk is the same as the total number of cases that occur for a cohort who are born today over all future years, divided by the total number of years lived by the same cohort** – again, adjusted for mortality.

[7] More details on the methods to estimate the lifetime risk are available in Esteve et al (1994).

3

Results

3 Results

This chapter outlines the incidence of permanent sight loss or blindness, and provides a measure of overall incidence of any sight loss or blindness in the UK for 2016-17. The lifetime risk of sight loss or blindness are also derived from the incidence rates.

3.1 Incidence of sight loss or blindness

3.1.1 Incidence of permanent sight loss or blindness

Incidence rate estimates developed based on the approach by Leske et al (1981) and Owen et al (2012) were applied to the population at the beginning of 2016-17 (excluding existing cases) to estimate the number of new cases of sight loss or blindness during 2016-17. **There were estimated to be 89,878 new cases of permanent sight loss or blindness in the UK in 2016-17, representing 0.14% of the population** (Table 3.1). Alternatively, **there were estimated to be 246 new cases of permanent sight loss or blindness each day, or 1 person every 6 minutes**. This represents people who had permanent sight loss from either AMD, DR, glaucoma or other eye diseases, which are conditions that have lifelong health system, productivity and wellbeing impacts.

Table 3.1: Incidence of permanent sight loss or blindness in the UK, by age and gender, 2016-17

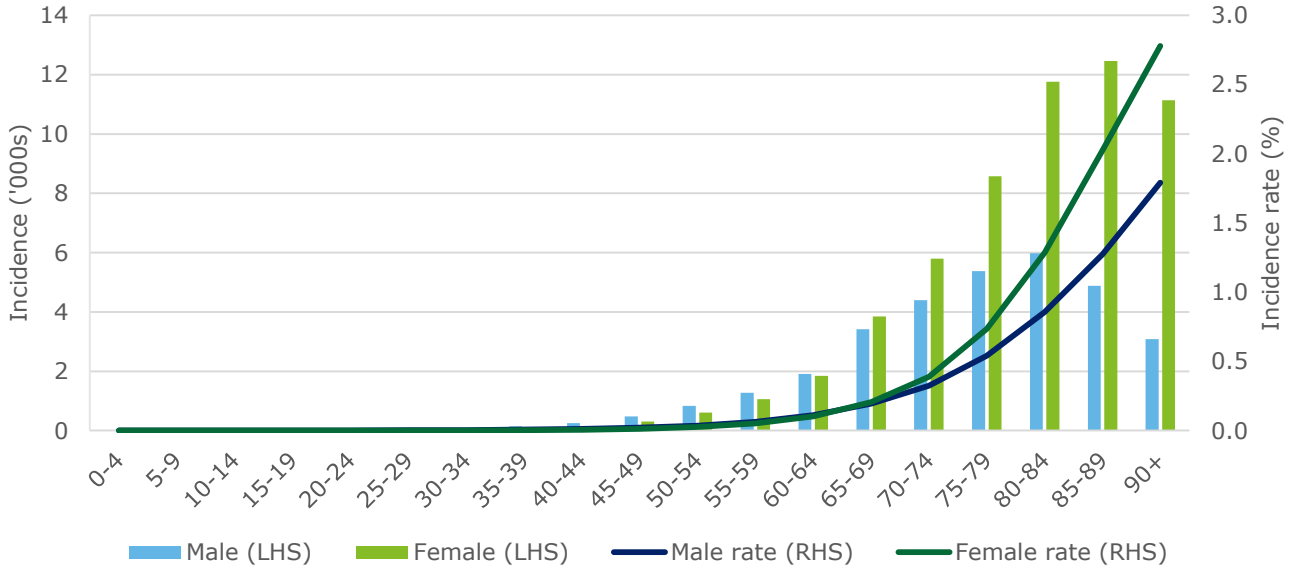
Age	Incidence ('000s)			Incidence per 100,000 people		
	Male	Female	Person	Male	Female	Person
0-4	3	0	3	0.1	0.03	0.1
5-9	5	1	6	0.2	0.05	0.1
10-14	7	2	9	0.4	0.1	0.3
15-19	14	4	17	0.7	0.2	0.5
20-24	27	8	36	1.3	0.4	0.8
25-29	50	18	68	2.2	0.8	1.5
30-34	84	36	120	3.9	1.6	2.7
35-39	140	67	207	6.7	3.2	5.0
40-44	247	138	385	12.0	6.6	9.2
45-49	475	304	780	20.9	13.0	16.9
50-54	831	608	1,439	36.5	25.9	31.1
55-59	1,273	1,059	2,332	63.6	51.5	57.5
60-64	1,915	1,848	3,763	110.8	102.7	106.7
65-69	3,420	3,845	7,265	193.9	205.6	199.9
70-74	4,397	5,801	10,198	323.4	388.8	357.6
75-79	5,373	8,574	13,947	541.8	735.1	646.3
80-84	5,978	11,757	17,735	857.8	1,286.2	1,100.9
85-89	4,884	12,463	17,347	1,275.3	2,026.1	1,738.0
90+	3,083	11,137	14,221	1,791.8	2,778.5	2,482.2
Overall	**32,206**	**57,672**	**89,878**	**99.6**	**173.5**	**137.1**

Source: Deloitte Access Economics calculations based on Deloitte Access Economics (2014), Leske et al (1981), and Owen et al (2012). Note: components may not sum to totals due to rounding.

As AMD, DR, and glaucoma are strongly associated with ageing, incidence was predominately expected to occur in the older population. **People who are aged 65 years old or older accounted for 90% of the total incidence in 2016-17**. However, **there were still 9,148 new cases of sight loss or blindness in people of working age (defined as 15-64 years old) who experienced its associated productivity impacts. This was equivalent to 25 people every day, or 1 in 10 of all new cases**.

Chart 3.1 presents the age and gender breakdown of the incidence of sight loss or blindness in the UK in 2016-17. As with prevalence rates, incidence rates increase with age. Females were more likely to experience sight loss or blindness due to both the higher incidence rates and underlying population in older age groups.

Chart 3.1: Incidence of permanent sight loss or blindness in the UK in 2016-17, by age and gender



Source: Deloitte Access Economics calculations based on Deloitte Access Economics (2014), Leske et al (1981), and Owen et al (2012).

Incidence rates from Table 3.1 were then applied to the demographic data of each country in the UK – England, Wales, Scotland and Northern Ireland – to estimate the share of incidence across countries. This is shown in Table 3.2 and Chart 3.2.

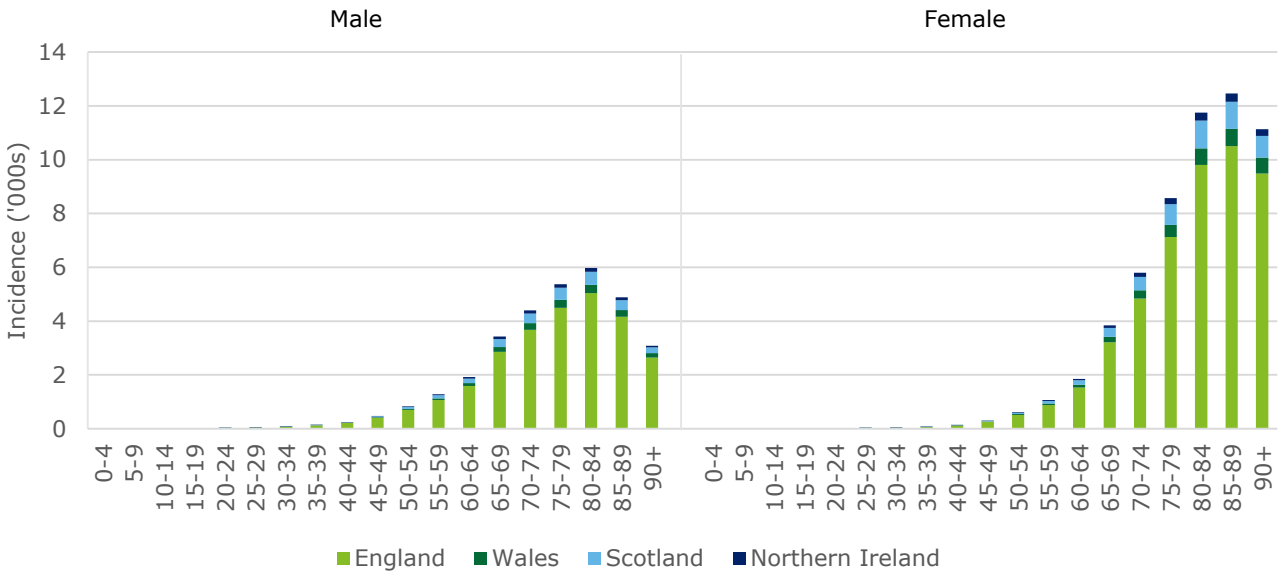
- England (84%) was estimated to comprise most new cases of sight loss or blindness in line with its larger underlying population. This was followed by Scotland (8%), Wales (5%) and Northern Ireland (2%).
- The population demographics for each country have relatively small variance for each age and gender group. As such, these shares are stable across most age and gender groups (Chart 3.2).

Table 3.2: Incidence of permanent sight loss or blindness in the UK, by age and country, 2016-17

Age	England	Wales	Scotland	Northern Ireland	UK
0-4	3	0	0	0	3
5-9	5	0	0	0	6
10-14	8	0	1	0	9
15-19	15	1	1	1	17
20-24	30	2	3	1	36
25-29	58	3	5	2	68
30-34	102	5	9	3	120
35-39	176	9	16	6	207
40-44	326	17	31	11	385
45-49	656	36	66	22	780
50-54	1,204	69	126	41	1,439
55-59	1,938	116	212	67	2,332
60-64	3,120	197	343	104	3,763
65-69	6,057	394	634	179	7,265
70-74	8,511	555	857	275	10,198
75-79	11,617	752	1,218	360	13,947
80-84	14,835	941	1,518	441	17,735
85-89	14,663	891	1,377	416	17,347
90+	12,134	742	1,030	315	14,221
Total	**75,457**	**4,729**	**7,448**	**2,244**	**89,878**

Source: ONS (2015) and Deloitte Access Economics calculations. Note: components may not sum to totals due to rounding.

Chart 3.2: Incidence of permanent sight loss or blindness in the UK, by age, gender and country, 2016-17



Source: Deloitte Access Economics calculations based on Deloitte Access Economics (2014), Leske et al (1981), and Owen et al (2012).

Table 3.3 shows the incidence estimates by severity for VA of <6/12, <6/18 and <6/60, respectively. Approximately 42% of incident cases of permanent sight loss or blindness were for moderate or worse VA (<6/18), and 25% were classified as blindness (VA of <6/60). Each day, that was approximately 103 new people who had moderate or worse sight loss, of which 61 were newly blind.

Table 3.3: Incidence of permanent sight loss or blindness in the UK, by age and severity, 2016-17

Age	VA <6/12		VA <6/18		VA <6/60	
	Male	**Female**	**Male**	**Female**	**Male**	**Female**
0-4	3	0	1	0	0	0
5-9	5	1	1	0	0	0
10-14	7	2	2	0	0	0
15-19	14	4	3	1	0	0
20-24	27	8	7	2	0	0
25-29	50	18	13	5	1	0
30-34	84	36	24	10	3	1
35-39	140	67	48	21	10	2
40-44	247	138	79	39	23	8
45-49	475	304	145	84	36	14
50-54	831	608	323	241	128	94
55-59	1,273	1,059	488	530	293	345
60-64	1,915	1,848	838	1,045	454	584
65-69	3,420	3,845	1,640	2,173	938	1,243
70-74	4,397	5,801	2,006	2,847	1,164	1,615
75-79	5,373	8,574	2,335	3,653	1,387	2,078
80-84	5,978	11,757	2,502	4,461	1,536	2,587
85-89	4,884	12,463	2,004	4,423	1,292	2,673
90+	3,083	11,137	1,297	4,193	913	2,807
Total	**32,206**	**57,672**	**13,756**	**23,727**	**8,178**	**14,050**
Number per day	**88**	**158**	**38**	**65**	**22**	**38**

Source: Deloitte Access Economics calculations based on Deloitte Access Economics (2014), Leske et al (1981), and Owen et al (2012). Note: components may not sum to totals due to rounding.

3.1.2 Incidence of any sight loss or blindness

The incidence estimates from Table 3.1 were broadened to include any sight loss or blindness, which included under-corrected RE and cataracts in addition to the initial conditions. This measure provides an indication of the total number of people who will require treatment or intervention due to sight loss or blindness. The overall prevalence rate of any sight loss or blindness was estimated to be 3.0% across all age groups, increasing substantially in older age groups (Deloitte Access Economics, 2014).

The methodology to estimate the incidence of any sight loss or blindness by age and gender was the same as for permanent sight loss or blindness. As outlined in section 2.1, a key assumption of the methodology used by Owen et al (2012) is that sight loss is permanent and irreversible. Under-corrected RE and cataracts are both reversible through appropriate prescription glasses and eye surgery, respectively. Intervention or treatment may occur within a given year.

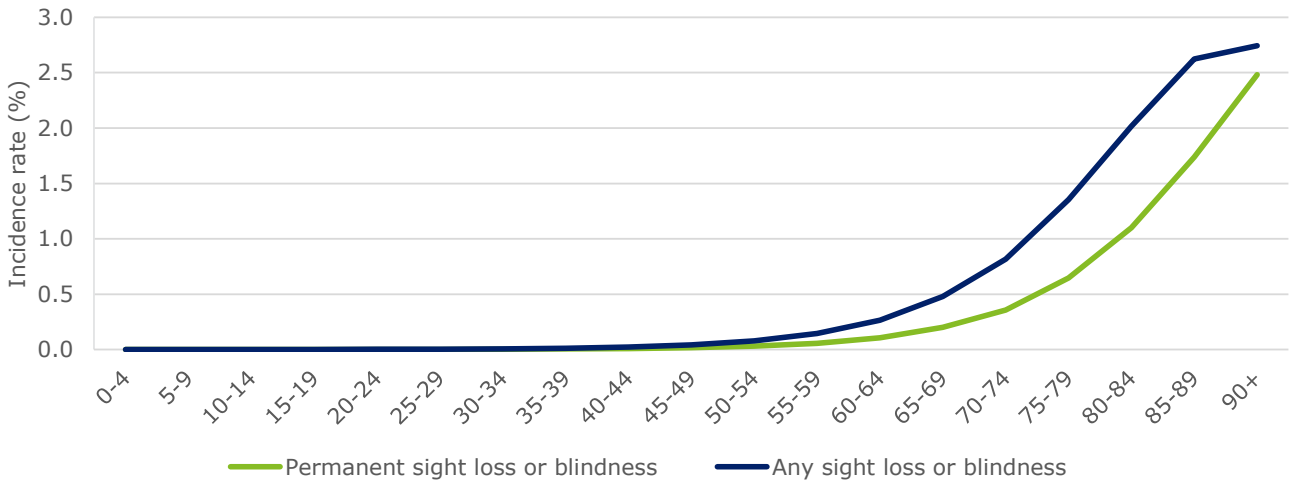
Consequently, the results should be used with some caution as taking the same approach violates the assumption that sight loss is permanent or irreversible, and therefore the true incidence is likely larger because

in the absence of treatment or intervention, prevalence will be higher and therefore more new cases will occur in any given year.

Chart 3.3 presents a comparison between the incidence of any sight loss and the incidence of permanent sight loss in the UK in 2016-17. The key findings are as follows:

- there were 167,400 new cases of sight loss or blindness from any cause during 2016-17 in the UK, of which **54% of new cases were from permanent causes, while 46% of new cases were potentially reversible**;
- **460 new cases of sight loss or blindness per day**, or 1 person every 3.1 minutes; and
- almost **23,000 (13.7%) new cases of sight loss or blindness occurred in people of working age (defined as 15-64 years old), equivalent to 63 people every day** – the higher proportion of working age relative to total incidence of sight loss or blindness compared to permanent sight loss reflects the greater impact of under-corrected RE in younger age groups.

Chart 3.3: Incidence of any sight loss or blindness in the UK in 2016-17, by age



Source: Deloitte Access Economics calculations based on Deloitte Access Economics (2014), Leske et al (1981), and Owen et al (2012).

3.2 Lifetime risk of sight loss or blindness

The probability of developing sight loss and mortality rates for each age and gender group (section 3.1) were applied to people who are born today to estimate the number of people who are expected to live with sight loss or blindness. The total expected number of cases was then divided by the expected total number of years lived by people who are born today, which provides the lifetime risk for someone living with sight loss or blindness.

The lifetime risk of permanent sight loss or blindness was estimated to be 18.2%. In other words, nearly 1 in every 5 people are expected to live with permanent sight loss or blindness. Similarly, the lifetime risk of any sight loss or blindness was estimated to be 36.3%, or over 1 in 3 people. The lifetime risk estimates are shown in Table 3.4 and Table 3.5.

The lifetime risk was estimated to be greatest for AMD (13.8%), followed by cataract (10.0%), under-corrected RE (8.1%) and other causes (2.3%). The lifetime risk was greatest for females – 46.8% compared with 26.5% for males, or nearly 1 in 2 females compared to approximately 1 in 4 males (Table 3.5).

Table 3.4: Lifetime risk of permanent sight loss or blindness in the UK, %

Gender/ severity	AMD	Cataract	DR	Glaucoma	RE	Other causes	All causes	Permanent causes
VA <6/12								
Male	9.3	7.6	0.3	1.2	6.3	1.8	26.5	12.6
Female	18.4	12.8	0.3	2.5	10.0	2.8	46.8	24.0
Person	13.8	10.0	0.3	1.9	8.1	2.3	36.3	18.2
VA <6/18								
Male	3.5	1.2	0.2	0.4	1.4	1.1	7.7	5.2
Female	6.2	2.2	0.2	0.9	1.8	1.6	12.9	8.9
Person	4.8	1.7	0.2	0.7	1.6	1.3	10.2	7.0
VA <6/60								
Male	2.3	0.3	0.06	0.3	0.1	0.4	3.5	3.1
Female	3.9	0.6	0.03	0.6	0.1	0.4	5.6	5.0
Person	3.0	0.4	0.05	0.5	0.1	0.4	4.5	4.0

Source: Deloitte Access Economics calculations. Note: components may not sum to totals due to rounding.

Table 3.5: Lifetime risk of permanent sight loss or blindness in the UK, 1 in every X people

Gender/ severity	AMD	Cataract	DR	Glaucoma	RE	Other causes	All causes	Permanent causes
VA <6/12								
Male	11	13	343	80	16	55	4	8
Female	5	8	342	41	10	36	2	4
Person	7	10	343	53	12	44	3	5
VA <6/18								
Male	28	86	630	224	73	93	13	19
Female	16	46	624	117	55	61	8	11
Person	21	60	631	153	64	75	10	14
VA <6/60								
Male	44	301	1,576	321	1,490	240	29	33
Female	26	177	3,336	161	1,575	224	18	20
Person	33	224	2,175	212	1,538	247	22	25

Source: Deloitte Access Economics calculations.

3.3 Summary and comparison

The estimated incidence of permanent sight loss or blindness is around two and a half times greater than other measures based on registrations and CVIs, which indicated that there are around 100 new cases of sight loss each day. Primarily this reflects a broader definition of sight loss or blindness – i.e. VA of <6/12 rather than VA of <6/18 with visual field restriction (Department of Health, 2013). Moreover, the measure of incidence in this report also captures people who are eligible for a CVI, but do not receive one. When considering a more restrictive measure of moderate or worse sight loss (VA <6/18), the rates are comparable – 103 compared to 100 new cases per day (Table 3.3). However, due to the inclusion of visual field restrictions, the two measures are not directly comparable.

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Appendix A: Supplementary tables

Table A.1: Incidence of sight loss or blindness by condition, age and gender, VA <6/12

Age/ gender	AMD	Cataract	DR	Glaucoma	RE	Other causes	All causes
Male							
0-4	-	-	-	-	3	3	5
5-9	-	-	-	-	5	5	9
10-14	-	-	-	-	7	7	15
15-19	-	-	4	-	14	10	28
20-24	-	-	22	-	29	5	57
25-29	-	-	37	-	54	13	104
30-34	-	-	57	-	94	28	178
35-39	-	15	65	31	144	43	299
40-44	-	26	56	136	262	55	535
45-49	-	70	92	257	497	126	1,042
50-54	150	167	113	357	842	211	1,840
55-59	453	345	112	409	1,222	300	2,840
60-64	880	679	116	484	1,689	435	4,283
65-69	1,932	1,529	134	642	2,650	712	7,599
70-74	2,878	2,316	110	600	2,867	808	9,580
75-79	3,941	3,112	81	509	2,716	841	11,201
80-84	4,734	3,413	56	396	2,149	793	11,539
85-89	4,066	2,366	28	231	1,098	559	8,349
90+	2,639	872	11	108	305	325	4,260
Total	21,673	14,910	1,095	4,160	16,648	5,279	63,764
Female							
0-4	-	-	-	-	2	0	2
5-9	-	-	-	-	3	1	4
10-14	-	-	-	-	5	2	7
15-19	-	-	1	-	11	3	14
20-24	-	-	6	-	23	2	32
25-29	-	-	12	-	47	6	65
30-34	-	-	20	-	89	15	124
35-39	-	29	27	14	129	26	226
40-44	-	75	39	46	232	52	445
45-49	-	182	69	110	463	125	949

Age/ gender	AMD	Cataract	DR	Glaucoma	RE	Other causes	All causes
50-54	127	390	88	184	824	209	1,823
55-59	481	721	81	233	1,261	264	3,042
60-64	984	1,309	93	362	1,891	410	5,049
65-69	2,335	2,745	124	650	3,270	736	9,861
70-74	3,890	3,976	121	839	3,958	951	13,735
75-79	6,230	5,174	113	1,047	4,285	1,185	18,033
80-84	9,033	5,424	100	1,232	3,790	1,392	20,970
85-89	9,903	3,359	72	1,169	2,010	1,319	17,832
90+	8,864	192	46	1,049	128	1,178	11,458
Total	41,847	23,577	1,013	6,934	22,422	7,878	103,670
Person	**63,520**	**38,487**	**2,107**	**11,093**	**39,070**	**13,157**	**167,434**

Source: Deloitte Access Economics calculations. Note: components may not sum to totals due to rounding.

Table A.2: Incidence of sight loss or blindness by condition, age and gender, VA <6/18

Age/ gender	AMD	Cataract	DR	Glaucoma	RE	Other causes	All causes
Male							
0-4	-	-	-	-	1	1	1
5-9	-	-	-	-	1	1	2
10-14	-	-	-	-	2	2	4
15-19	-	-	1	-	4	3	7
20-24	-	-	6	-	7	1	14
25-29	-	-	10	-	14	3	27
30-34	-	-	16	-	27	8	51
35-39	-	5	22	11	49	15	102
40-44	-	8	18	44	85	18	172
45-49	-	21	28	79	153	39	320
50-54	-	82	58	167	343	98	748
55-59	-	235	93	227	566	168	1,289
60-64	316	295	82	217	583	222	1,716
65-69	1,005	418	77	223	653	335	2,710
70-74	1,329	491	63	198	624	414	3,121
75-79	1,645	538	48	162	551	480	3,424
80-84	1,839	539	33	122	448	507	3,488
85-89	1,517	404	17	69	273	400	2,681
90+	1,001	245	7	31	131	259	1,672
Total	8,652	3,281	580	1,550	4,513	2,974	21,550
Female							
0-4	-	-	-	-	0	0	1
5-9	-	-	-	-	1	0	1

Age/ gender	AMD	Cataract	DR	Glaucoma	RE	Other causes	All causes
10-14	-	-	-	-	1	0	2
15-19	-	-	0	-	3	1	4
20-24	-	-	2	-	6	1	8
25-29	-	-	3	-	12	2	17
30-34	-	-	6	-	25	4	35
35-39	-	9	8	4	40	8	69
40-44	-	21	11	13	66	15	126
45-49	-	50	19	30	128	35	262
50-54	-	190	42	95	315	103	745
55-59	-	557	73	219	584	237	1,672
60-64	424	632	70	247	620	303	2,296
65-69	1,316	829	75	323	751	458	3,752
70-74	1,851	914	69	356	772	572	4,534
75-79	2,523	971	61	377	763	692	5,388
80-84	3,230	985	52	382	722	796	6,168
85-89	3,320	817	37	318	560	749	5,800
90+	3,237	636	23	249	402	683	5,231
Total	15,901	6,612	552	2,615	5,771	4,659	36,110
Person	**24,553**	**9,893**	**1,132**	**4,165**	**10,285**	**7,633**	**57,660**

Source: Deloitte Access Economics calculations. Note: components may not sum to totals due to rounding.

Table A.3: Incidence of sight loss or blindness by condition, age and gender, VA <6/60

Age/ gender	AMD	Cataract	DR	Glaucoma	RE	Other causes	All causes
Male							
0-4	-	-	-	-	0	0	0
5-9	-	-	-	-	0	0	0
10-14	-	-	-	-	0	0	0
15-19	-	-	0	-	0	0	0
20-24	-	-	0	-	0	0	1
25-29	-	-	1	-	1	0	2
30-34	-	-	2	-	3	1	6
35-39	-	1	5	2	10	3	21
40-44	-	2	5	13	24	5	50
45-49	-	5	7	19	37	9	78
50-54	-	41	23	78	83	27	252
55-59	-	163	53	214	19	26	475
60-64	142	186	49	218	21	46	661
65-69	706	143	29	145	15	59	1,096
70-74	915	146	24	131	15	95	1,325

Age/ gender	AMD	Cataract	DR	Glaucoma	RE	Other causes	All causes
75-79	1,114	139	18	110	14	145	1,540
80-84	1,236	123	12	85	12	202	1,670
85-89	1,023	82	7	50	7	212	1,381
90+	692	43	3	23	4	195	960
Total	5,827	1,075	235	1,088	266	1,027	9,519
Female							
0-4	-	-	-	-	0	0	0
5-9	-	-	-	-	0	0	0
10-14	-	-	-	-	0	0	0
15-19	-	-	0	-	0	0	0
20-24	-	-	0	-	0	0	0
25-29	-	-	0	-	1	0	1
30-34	-	-	1	-	2	0	3
35-39	-	1	1	0	5	1	8
40-44	-	4	2	3	13	3	25
45-49	-	8	3	5	21	6	44
50-54	-	67	11	42	57	41	218
55-59	-	249	21	174	18	149	612
60-64	187	266	19	207	20	171	870
65-69	885	218	13	193	17	152	1,477
70-74	1,207	228	11	227	17	170	1,861
75-79	1,621	233	10	260	18	187	2,329
80-84	2,088	232	8	290	18	200	2,837
85-89	2,219	193	6	270	15	179	2,882
90+	2,390	157	4	254	13	159	2,976
Total	10,596	1,856	110	1,927	236	1,418	16,143
Person	**16,424**	**2,931**	**345**	**3,015**	**503**	**2,444**	**25,662**

Source: Deloitte Access Economics calculations. Note: components may not sum to totals due to rounding.

Table A.4: Incidence of sight loss or blindness per 100,000 population by condition, age and gender, VA <6/12

Age/ gender	AMD	Cataract	DR	Glaucoma	RE	Other causes	All causes
Male							
0-4	-	-	-	-	0.1	0.1	0.3
5-9	-	-	-	-	0.2	0.2	0.5
10-14	-	-	-	-	0.4	0.4	0.8
15-19	-	-	0.2	-	0.7	0.5	1.5
20-24	-	-	1.0	-	1.3	0.2	2.6
25-29	-	-	1.6	-	2.4	0.6	4.6
30-34	-	-	2.6	-	4.3	1.3	8.1

Age/ gender	AMD	Cataract	DR	Glaucoma	RE	Other causes	All causes
35-39	-	0.7	3.1	1.5	6.9	2.1	14.4
40-44	-	1.3	2.7	6.6	12.7	2.6	26.0
45-49	-	3.1	4.1	11.3	21.9	5.5	45.9
50-54	6.6	7.4	5.0	15.7	37.0	9.3	80.9
55-59	22.6	17.2	5.6	20.4	61.0	15.0	141.8
60-64	50.9	39.3	6.7	28.0	97.7	25.2	247.9
65-69	109.6	86.7	7.6	36.4	150.3	40.4	430.9
70-74	211.7	170.3	8.1	44.2	210.9	59.4	704.5
75-79	397.4	313.8	8.2	51.4	273.9	84.8	1,129.5
80-84	679.3	489.7	8.0	56.8	308.4	113.8	1,655.9
85-89	1,061.5	617.7	7.4	60.2	286.7	146.1	2,179.7
90+	1,533.5	506.9	6.7	62.7	177.0	189.0	2,475.7
Overall	67.0	46.1	3.4	12.9	51.5	16.3	197.2
Female							
0-4	-	-	-	-	0.1	0.03	0.1
5-9	-	-	-	-	0.2	0.05	0.2
10-14	-	-	-	-	0.3	0.1	0.4
15-19	-	-	0.1	-	0.6	0.1	0.8
20-24	-	-	0.3	-	1.1	0.1	1.5
25-29	-	-	0.5	-	2.1	0.3	2.9
30-34	-	-	0.9	-	4.0	0.7	5.6
35-39	-	1.4	1.3	0.7	6.2	1.3	10.8
40-44	-	3.6	1.8	2.2	11.0	2.5	21.2
45-49	-	7.8	2.9	4.7	19.8	5.4	40.6
50-54	5.4	16.6	3.8	7.9	35.1	8.9	77.7
55-59	23.4	35.1	3.9	11.3	61.3	12.9	147.9
60-64	54.7	72.8	5.2	20.1	105.1	22.8	280.6
65-69	124.8	146.7	6.6	34.7	174.8	39.4	527.1
70-74	260.8	266.5	8.1	56.2	265.3	63.7	920.7
75-79	534.2	443.6	9.6	89.7	367.4	101.6	1,546.2
80-84	988.2	593.4	10.9	134.7	414.6	152.3	2,294.1
85-89	1,609.9	546.1	11.7	190.0	326.8	214.4	2,899.0
90+	2,211.5	48.0	11.6	261.6	32.0	293.9	2,858.5
Overall	125.9	70.9	3.0	20.9	67.5	23.7	311.9
Person	**96.9**	**58.7**	**3.2**	**16.9**	**59.6**	**20.1**	**255.3**

Source: Deloitte Access Economics calculations. Note: components may not sum to totals due to rounding.

Table A.5: Incidence of sight loss or blindness per 100,000 population by condition, age and gender, VA <6/18

Age/ gender	AMD	Cataract	DR	Glaucoma	RE	Other causes	All causes
Male							
0-4	-	-	-	-	0.03	0.03	0.1
5-9	-	-	-	-	0.1	0.1	0.1
10-14	-	-	-	-	0.1	0.1	0.2
15-19	-	-	0.05	-	0.2	0.1	0.4
20-24	-	-	0.3	-	0.3	0.1	0.7
25-29	-	-	0.4	-	0.6	0.1	1.2
30-34	-	-	0.7	-	1.2	0.4	2.3
35-39	-	0.2	1.1	0.5	2.4	0.7	4.9
40-44	-	0.4	0.9	2.1	4.1	0.9	8.4
45-49	-	0.9	1.2	3.5	6.7	1.7	14.1
50-54	-	3.6	2.5	7.3	15.1	4.3	32.9
55-59	-	11.7	4.6	11.3	28.3	8.4	64.3
60-64	18.3	17.1	4.8	12.6	33.8	12.9	99.3
65-69	57.0	23.7	4.4	12.7	37.0	19.0	153.7
70-74	97.8	36.1	4.7	14.6	45.9	30.5	229.5
75-79	165.9	54.3	4.8	16.3	55.5	48.4	345.3
80-84	263.9	77.3	4.8	17.6	64.2	72.8	500.6
85-89	396.2	105.3	4.5	18.1	71.3	104.5	700.0
90+	581.5	142.3	4.1	17.8	75.9	150.3	971.8
Overall	26.8	10.1	1.8	4.8	14.0	9.2	66.6
Female							
0-4	-	-	-	-	0.02	0.01	0.03
5-9	-	-	-	-	0.04	0.01	0.1
10-14	-	-	-	-	0.1	0.03	0.1
15-19	-	-	0.01	-	0.1	0.04	0.2
20-24	-	-	0.1	-	0.3	0.03	0.4
25-29	-	-	0.1	-	0.6	0.1	0.8
30-34	-	-	0.3	-	1.1	0.2	1.6
35-39	-	0.4	0.4	0.2	1.9	0.4	3.3
40-44	-	1.0	0.5	0.6	3.1	0.7	6.0
45-49	-	2.1	0.8	1.3	5.5	1.5	11.2
50-54	-	8.1	1.8	4.1	13.4	4.4	31.8
55-59	-	27.1	3.6	10.7	28.4	11.5	81.3
60-64	23.6	35.1	3.9	13.8	34.4	16.8	127.6
65-69	70.4	44.3	4.0	17.3	40.1	24.5	200.6
70-74	124.1	61.3	4.7	23.8	51.8	38.3	303.9
75-79	216.3	83.3	5.3	32.3	65.4	59.3	461.9

Age/ gender	AMD	Cataract	DR	Glaucoma	RE	Other causes	All causes
80-84	353.3	107.7	5.7	41.8	79.0	87.1	674.8
85-89	539.7	132.8	5.9	51.7	91.1	121.7	942.9
90+	807.5	158.7	5.8	62.2	100.3	170.5	1,305.0
Overall	47.8	19.9	1.7	7.9	17.4	14.0	108.6
Person	**37.4**	**15.1**	**1.7**	**6.4**	**15.7**	**11.6**	**87.9**

Source: Deloitte Access Economics calculations. Note: components may not sum to totals due to rounding.

Table A.6: Incidence of sight loss or blindness per 100,000 population by condition, age and gender, VA <6/60

Age/ gender	AMD	Cataract	DR	Glaucoma	RE	Other causes	All causes
Male							
0-4	-	-	-	-	0.002	0.002	0.003
5-9	-	-	-	-	0.003	0.003	0.006
10-14	-	-	-	-	0.005	0.005	0.011
15-19	-	-	0.002	-	0.01	0.007	0.02
20-24	-	-	0.01	-	0.02	0.004	0.04
25-29	-	-	0.03	-	0.04	0.01	0.07
30-34	-	-	0.1	-	0.1	0.04	0.3
35-39	-	0.1	0.2	0.1	0.5	0.1	1.0
40-44	-	0.1	0.3	0.6	1.2	0.2	2.4
45-49	-	0.2	0.3	0.8	1.6	0.4	3.4
50-54	-	1.8	1.0	3.4	3.7	1.2	11.1
55-59	-	8.1	2.6	10.7	0.9	1.3	23.7
60-64	8.2	10.8	2.8	12.6	1.2	2.6	38.3
65-69	40.0	8.1	1.6	8.2	0.9	3.3	62.2
70-74	67.3	10.7	1.7	9.6	1.1	7.0	97.5
75-79	112.3	14.0	1.8	11.1	1.4	14.7	155.3
80-84	177.3	17.6	1.8	12.3	1.7	29.1	239.7
85-89	267.2	21.3	1.7	13.1	1.9	55.3	360.5
90+	402.1	25.2	1.6	13.4	2.2	113.3	557.9
Overall	18.0	3.3	0.7	3.4	0.8	3.2	29.4
Female							
0-4	-	-	-	-	0.001	0.0003	0.001
5-9	-	-	-	-	0.002	0.001	0.003
10-14	-	-	-	-	0.004	0.001	0.005
15-19	-	-	0.001	-	0.01	0.002	0.01
20-24	-	-	0.004	-	0.02	0.002	0.02
25-29	-	-	0.01	-	0.04	0.005	0.05
30-34	-	-	0.02	-	0.1	0.02	0.1
35-39	-	0.1	0.05	0.02	0.2	0.05	0.4

Age/ gender	AMD	Cataract	DR	Glaucoma	RE	Other causes	All causes
40-44	-	0.2	0.1	0.1	0.6	0.1	1.2
45-49	-	0.4	0.1	0.2	0.9	0.2	1.9
50-54	-	2.8	0.5	1.8	2.4	1.7	9.3
55-59	-	12.1	1.0	8.5	0.9	7.3	29.7
60-64	10.4	14.8	1.1	11.5	1.1	9.5	48.3
65-69	47.3	11.7	0.7	10.3	0.9	8.1	79.0
70-74	80.9	15.3	0.8	15.2	1.2	11.4	124.7
75-79	138.9	20.0	0.8	22.3	1.6	16.0	199.7
80-84	228.5	25.4	0.9	31.8	2.0	21.9	310.4
85-89	360.7	31.4	0.9	43.9	2.5	29.0	468.5
90+	596.3	39.1	0.9	63.3	3.2	39.6	742.5
Overall	31.9	5.6	0.3	5.8	0.7	4.3	48.6
Person	**25.0**	**4.5**	**0.5**	**4.6**	**0.8**	**3.7**	**39.1**

Source: Deloitte Access Economics calculations. Note: components may not sum to totals due to rounding.

Limitation of our work

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