

Preventable Sight Loss

Introduction

A person who has sight loss has difficulty in seeing which cannot be corrected using glasses or contact lenses. This is also referred to as sight or visual impairment.

Sight loss is strongly linked with ageing, certain medical conditions such as diabetes and dementia, economic disadvantage and low levels of education, and lifestyle factors including smoking, obesity, and diet. Evidence suggests that over 50% of sight loss is due to preventable or treatable causes. Over 80% of sight loss occurs in people aged over the age of 60.

The most frequent causes of sight loss are:

- Age Related Macular Degeneration (AMD)
- Diabetic Retinopathy
- Glaucoma
- Cataracts

People with sight problems are more likely to have additional and complex disabilities, and to live alone. These factors indicate that those affected by sight loss are among the most vulnerable and isolated.

Key actions to reduce avoidable sight loss will be increased public awareness, increasing take up of eye tests for early detection and promoting healthier lifestyle choices.

What do we know?

Nationally:

- Over two million people in the UK are living with sight loss.
- By 2020, this number is predicted to increase by 22% and will double to almost 4 million people by the year 2050. The increase can be attributed chiefly to an ageing population
- One in five people aged 75 and over are living with sight loss.
- One in two people aged 90 and over are living with sight loss.
- Nearly two-thirds of people living with sight loss are women.
- People from black and minority ethnic communities are at greater risk of some of the leading causes of sight loss.
- Adults with learning disabilities are 10 times more likely to be blind or partially sighted than the general population.
- Evidence suggests that over 50% of sight loss is due to preventable or treatable causes

RNIB 2016, Key Information and Statistics

In Bedford Borough:

- 5,090 people are estimated to be living with sight loss (3.1% of the population), including 620 with severe sight loss (blindness)
- By 2030 this is expected to increase to 7,560, including 970 with severe sight loss, an increase of 56.5%.
- There are an estimated 1,037 people of working age living with sight loss
- 3,486 (14%) of people over 65 are living with sight loss, reflecting that sight loss is strongly correlated with aging
- There are 415 people over the age of 65 registered as blind or partially sighted
- 69 children aged 0-16 and 36 young people aged 17-24 are living with sight loss

[RNIB 2016, Sight Loss Data Tool](#)

Sight threatening eye conditions in Bedford Borough

The most common sight threatening conditions in Bedford Borough (and nationally) include age-related macular degeneration (AMD), cataract, glaucoma and diabetic retinopathy. In Bedford Borough it is estimated that:

- 6,570 people are living with the early stages of AMD
- Of those people living with late stage AMD; 510 people have late stage dry AMD and 1,040 people have late stage wet AMD
- 1,590 people are living with cataract
- 1,510 people are living with glaucoma
- 3,190 people are living with diabetic retinopathy
- 290 people are living with severe diabetic retinopathy, a later stage of the disease that is likely to result in significant and potentially certifiable sight loss

[RNIB 2016, Sight Loss Data Tool](#)

The numbers above include people in the early stages of these diseases who have not yet experienced any reduction in their vision.

The table below shows the estimated prevalence of eye conditions in Bedford Borough:

Prevalence of eye conditions	2016	2020	2025	2030
Estimated number of people living with Drusen, an early stage age-related macular degeneration	6,570	7,400	8,280	9,240
Estimated number of people living with late stage wet age-related macular degeneration	1,040	1,660	1,920	2,260
Estimated number of people living with late stage dry age-related macular degeneration	510	570	660	770
Estimated number of people living with cataract	1,590	1,840	2,100	2,480
Estimated total number of people living with glaucoma	1,510	1,610	1,700	1,790
Number of people living with diabetic retinopathy	3,190	3,350	3,520	3,700
Number of people living with severe diabetic retinopathy (2015)	290	310	320	340

Source: [RNIB Sight Loss data tool, 2016](#). Estimates using ONS 2014 year-end sub-national data

Realities of sight loss in the UK:

- Only 17 per cent of registered blind and partially sighted people were offered any form of emotional support at the time of diagnosis.
- In the year after registration, less than 30 per cent of people who lost their sight say they were offered mobility training to help them get around independently.
- Almost half of blind and partially sighted people feel 'moderately' or 'completely' cut off from people and things around them.
- Older people with sight loss are almost three times more likely to experience depression than people with good vision.
- Only one in four registered blind and partially sighted people of working age are in employment.

[RNIB 2016, Key Information and Statistics](#)

Facts, Figures, Trends

Projections for number of people living with sight loss in Bedford Borough

	Mild sight loss	Moderate sight loss	Severe sight loss	Total	Prevalence
2015	3,220	1,240	620	5,090	3.1%
2020	3,650	1,410	710	5,770	3.3%
2025	4,150	1,600	830	6,580	3.6%
2030	4,760	1,840	970	7,560	4.0%

Source: [RNIB Sight Loss data tool, 2016](#). Estimates using ONS 2014 year-end sub-national data

The table above shows estimates, based on ONS population projections, as to how many people in Bedford Borough suffer from mild, moderate and severe sight loss.

Public Health Indicators

The biggest causes of certifiable blindness in England are measured in the Public Health Outcomes Framework under the following indicators (crude rates per 100,000 population), 2014-15 data is presented in the table below:

Public Health Outcome Framework Indicator	Bedford Borough	England
4.12i Preventable sight loss - age related macular degeneration rate for age 65+	186.3	118.1
4.12ii Preventable sight loss - glaucoma rate for age 40+	20.9	12.8
4.12iii Preventable sight loss - diabetic eye disease rate for age 12+	6.5	3.2
4.12iv Preventable sight loss - sight loss certifications rate	60.4	42.4

Source: [Public Health England 2016, Public Health Outcomes Framework](#)

The latest available data shows Bedford Borough has a higher rate per 100,000 against all four Public Health Outcome Framework data indicators when compared to England as a whole, with the rate of Glaucoma in people aged over 40 twice the rate of England as a

whole.

The indicator relates completions of Certifications of Visual Impairment (CVI), all causes - preventable and non-preventable, by a consultant ophthalmologist. This initiates the process of registration with a local authority and leads to access to services. Please note that the England total includes counts from local authorities whose numbers are suppressed for disclosure control and those certifications which had insufficient geographical information to identify a local authority. Also, a high Bedford Borough figure may indicate a high need in the Borough or good diagnosis rates, for example, high patient access to a consultant ophthalmologist.

Main causes of preventable sight loss:

1. Age Related Macular Degeneration (AMD)

Macular degeneration is a painless eye condition that leads to progressive loss of central vision. It can therefore affect ability to perform tasks such as driving, reading and writing. Macular degeneration does not affect peripheral (outer or side) vision and so does not cause complete blindness.

- Macular degeneration most commonly affects people over the age of 50
- Around 30% of people over the age of 75 years have early signs of AMD, with about 7% having more advanced AMD
- It is the leading cause of visual impairment in the UK, although the majority of the people affected will have enough peripheral vision to maintain their daily activities

AMD can be caused by:

- Excessive alcohol consumption and smoking are associated with increased risk of AMD, and the risk of developing AMD is 3.6 times greater for current and former smokers than for people who have never smoked.
- Hypertension may increase risk of AMD although evidence is mixed.
- There is a genetic component to AMD risk, and several genes of large effect have been reported to affect a large fraction of patients with AMD. A gene-environment interaction exists and in patients with a genetic susceptibility the association between AMD and smoking is approximately 3-times stronger than in patients without this genetic risk factor ([The Royal College of Ophthalmologists, 2009](#)).

2. Diabetic Retinopathy

Diabetic retinopathy is the most common cause of blindness in patients of working age in the UK. 10,130 people are living with diabetes in Bedford Borough ([RNIB Sight Loss data tool, 2016](#)). The risk of developing retinopathy can be reduced by good control of diabetes and blood pressure.

Early stages can be symptom free and therefore regular screening is important in detecting early signs of retinopathy which can then be treated. Early detection and treatment can help to prevent blindness. Cataracts are also more common in diabetes and will be detected by screening.

3. Glaucoma

This is a group of eye conditions in which the optic nerve is damaged due to changes in eye pressure. Damage to sight can be minimised by early diagnosis in conjunction with careful observation and treatment.

- It is estimated that approximately 14% of all UK blindness registration is due to glaucoma
- 2% of the population over the age of 40 have some degree of glaucoma
- Incidence of glaucoma increases with age and mainly affects the over 50s
- People of Black African and Black Caribbean descent have a higher prevalence of glaucoma. (Bosanquet, 2010)
- Once diagnosed, patients with open angle glaucoma (the most common form) require regular appointments and take eye drops for the rest of their lives to prevent deterioration of vision

4. Cataracts

Cataracts are cloudy patches that develop in the lens of the eye and can cause blurred or misty vision. They are the main cause of impaired vision worldwide. In England and Wales, it is estimated that around 2.5 million people aged 65 or older have some degree of visual impairment caused by cataracts.

Although rare types of cataracts affect babies and young children, the problem is much more common in older people. Cataracts that develop with age are known as age-related cataracts, and, as well as your age, other factors may increase the risk of developing cataracts include:

- gender – women are more susceptible than men
- ethnicity – particularly afro-Caribbean and Asian people
- a history of cataracts in your family
- smoking
- regularly drinking excessive amounts of alcohol
- a poor diet lacking in vitamins
- lifelong exposure of your eyes to sunlight
- taking steroid medication at a high dose or for a long time
- previous eye surgery or injury
- certain health conditions, such as diabetes or long-term uveitis (inflammation of the middle layer of the eye)

Further data

A comprehensive data set (including sources and assumptions) is available from the Royal National Institute of Blind People. The RNIB Sight Loss Data tool (v3.1.1) can be accessed via the link below:

<http://www.rnib.org.uk/knowledge-and-research-hub-key-information-and-statistics/sight-loss-data-tool>

The RNIB Knowledge Hub is available at the link below, summaries and reports on

various aspects of eye health are available.

<http://www.rnib.org.uk/knowledge-and-research-hub>

Current Services

a) Opticians

Within Bedford Borough the eye care journey often begins with an eye examination by a local optician (an Optometrist). The purpose of this is to correct refractive errors with spectacles or contact lenses and to detect eye health problems at an early stage. Optometric practices in Bedford Borough are based in the town centre, with one practice on average for about 12,300 residents. Some practices will also provide domiciliary primary eye care services for general eye testing where a person is housebound. Where a further investigation is required, a referral is made to an Ophthalmologist usually via a letter to the GP.

b) Hospital eye service

The main local provider for ophthalmology services in Bedford Borough is Bedford Hospital Trust. The Bedford Hospital Ophthalmology Service is provided by Moorfields Eye Hospital NHS Foundation Trust as a subcontractor to Bedford Hospital. Outpatient facilities are available at the Bedford Hospital site and the Enhanced Services Centre at the North Wing site. Surgery is offered at the main hospital site.

The service triages patients into the following subspecialties:

- Acute Clinic - same day/ next day urgent referrals and telephone advice
- General ophthalmology - minor eye conditions that can be seen and treated on the same day with minimal follow up
- Glaucoma as per National Institute for Health and Clinical Excellence (NICE) guidance
- Medical Retina including diabetic retinopathy and Age related macular degeneration, treatment will be undertaken locally and chronic uveitis care
- External and corneal eye disease
- Adnexal and oculoplastics
- Vitro-retinal outpatient work only, emergency work will be transferred to Addenbrookes in Cambridge, or Moorfields in London.

c) Community Eye Service

The Community Eye Service runs across Bedfordshire, providing diagnosis and treatment including:

- Abnormal eye movements arising from injury or disease
- Amblyopia (lazy eye)
- Defects of binocular vision
- Symptoms of diplopia (double vision)
- Evaluation of the visual development in children with suspected visual impairment
- Orthoptic screening to school pupils with complex needs
- To ensure that there is effective and appropriate transition between this service

and adult ophthalmic and Orthoptic services for those young people assessed as being vulnerable (for example learning disabilities)

- To provide Orthoptic and Ophthalmic assessment for Adult patients with Learning

Orthoptic and Ophthalmic clinics are in a variety of locations in Bedford Borough:

- Enhanced Service Centre in Bedford
- Moorfields at Bedford Hospital (Adults)
- Twinwoods resource centre in Clapham (Adults with learning disabilities)

d) **Visual Impairment Team**

The Visual Impairment Team is a specialist service hosted by Bedford Borough Council, but remains a shared service covering both Bedford Borough and Central Bedfordshire. They work with people of all ages with a visual impairment whose sight cannot be corrected by glasses or medical treatment. The majority of their referrals come from local hospitals for registration purposes, but anyone can refer in to the service if they are experiencing difficulties with their vision.

After an assessment, the team can offer a rehabilitation plan tailored to meet a person's needs. This may include:

- Instruction on how to complete daily living tasks such as cooking, making drinks, using the telephone, and writing
- Mobility training to complete local routes independently
- Appropriate specialist equipment
- Signposting to local and national Visual Impairment services

e) **Sight Concern Bedfordshire** is a local, Independent charity which aims to enhance independence and quality of life for blind and partially sighted people across Bedford Borough. The services offered by Sight Concern Bedfordshire include:

- Equipment and Resource Centre
- Support and information
- Supporting People – providing one to one practical support, advice and information for people with visual impairment and their carers
- Working in partnership with other organisations to provide support, including Sensory Impairment teams, Social work teams
- Low Vision services providing a service user with information and demonstration of low vision aids and equipment which enhances independence

f) **Sight tests**

People are eligible for an NHS sight test under a number of different criteria, for example people who are aged 60+, or aged 16 and under, or are in receipt of certain benefits. Published data on sight tests only highlights those paid for by the NHS. Some eye tests are privately funded and these are not included in this data. The eligibility criteria for an NHS-funded sight test is available on the NHS Choices website:

<http://www.nhs.uk/chq/pages/895.aspx?CategoryID=68&SubCategoryID=157>

NHS sight test data is not published by Clinical Commissioning Group or Local Authority but is available by NHS England area team. There were 1,301,616 sight tests in the Hertfordshire and the South Midlands Area Team in 2014/15, a rate of 25,214 per 100,000. This is above the rate of 23,697 across England ([HSCIC, 2015](#)).

Cost of current services

There are a number of different costs associated with the provision of eye health services, such as direct costs which includes inpatient procedures, outpatient procedures, residential and community care services and the ongoing treatment of eye conditions. There are also indirect costs caused by sight loss, including the provision of unpaid care by family and friends to those with sight loss, lower employment and absenteeism.

- In published NHS 2013-14 programme budgets, the combined spend on problems of vision in Bedfordshire is £12.4 million pounds, or £29 per person in the general population. The proportion of overall programme budget spent on problems of vision is 2.8%
- The total indirect cost of sight loss is estimated to be £14.3 million pounds. The indirect cost of sight loss per person is £89 in the general population

[RNIB 2016, Sight Loss Data Tool](#)

National & Local Strategies (Current best practices)

1. UK Vision 2013-18, this nationwide strategy has three key outcomes:

- Everyone in the UK looks after their eyes and their sight
- Everyone with an eye condition receives timely treatment and, if permanent sight loss occurs, early and appropriate services and support are available and accessible to all
- A society in which people with sight loss can fully participate

<http://www.ukvisionstrategy.org.uk/>

2. Royal National Institute for the Blind (RNIB) (2014) Eye health and sight loss; statistics and information for developing a Joint Strategic needs Assessment

3. The National Institute for Clinical Excellence (NICE) produced a range of guidance and advice for clinicians, commissioners and public health about conditions leading to sight loss, including glaucoma, macular degeneration and diabetes. These can be found on the Nice guidance and advice list, available here:

<https://www.nice.org.uk/guidance>

4. The Royal College of Ophthalmologists has a series of clinical guidelines around sight loss conditions including age-related AMD. The clinical guidelines are available here:

<https://www.rcophth.ac.uk/standards-publications-research/clinical-guidelines/>

5. Joint Commissioning Strategy for People with Physical Disabilities and Sensory Impairments 2013 – 2017 (March 2013)

What is this telling us?

What are the key inequalities?

a) Ageing population

The age group forecast to increase most is 50 years and over, the age where most sight problems occur. In Bedford Borough, wards with the highest proportions of older people are Putnoe, Brickhill, Sharnbrook and Oakley, with more than 20% of their population aged 65+. The number of people aged over 65 is set to increase drastically over coming years.

b) Ethnicity

b)

According to research by the RNIB and the Thomas Pocklington Trust (De Montfort University, 2006) certain minority ethnic communities are more at risk of vision loss than others because of complex cultural and genetic factors

Age-related Macular Degeneration (AMD) tends to be more common in white and East Asian ethnicity than people from other ethnic groups, affecting 10% of those over 65. Amongst white Europeans, about 1 in 50 people over 40 years of age and 1 in 10 people over 75 years of age have chronic open-angle glaucoma. People of African or Caribbean origin are more likely to suffer cataracts, have a threefold risk of developing diabetes, with its attendant risk of diabetic retinopathy, and four times more likely to contract glaucoma, usually open-angle glaucoma. (Minassian & Reidy, 2009)

People of Asian origin are also more at risk of developing angle-closure glaucoma and cataracts and are six times more likely to develop type 2 diabetes, which affects as many as 25% of the Asian community in the UK. (Salmon, 1999)

c) Economic Disadvantage and low levels of education

Evidence shows that there is a link between people on low incomes, living in deprivation and people living with sight loss; three out of four blind or partially sighted people are living in poverty or on its margins. ~~(RNIB, 2004)~~ (Gribbin, 2009).

Low levels of literacy make it more difficult to communicate awareness of preventable sight loss and educate on healthy living. Economic disadvantage means that many people may face sight loss which could be avoidable. Free NHS eye tests and help with the cost of glasses are available to people receiving certain benefits, and free examinations are on offer for children and the over 60s, yet cost still appears to dissuade many people from having their eyesight checked. It is also important to recognise that not everyone living in a deprived area is deprived – and that not all deprived people live in deprived areas.

d) Lifestyle factors:

• Poor diet

Diets rich in fat and sugar put people at risk of developing large blood sugar fluctuations and eventually diabetes – the leading cause of blindness in working age people.

Diabetes can also cause cataracts (RNIB, 2012). High blood pressure and cholesterol

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increase the risk of stroke or a central retinal artery occlusion. Both could lead to loss of vision.

- **Smoking**

The link between smoking and AMD is as strong as the link between smoking and lung cancer. Smokers not only double their risk of developing AMD but also tend to develop it earlier than non-smokers. Furthermore, smoking can make diabetes-related sight problems worse and is linked to peripheral vasculopathy and the development of cataracts. (RNIB, 2012)

17% of people in Bedford Borough over the age of 18 smoke, this is similar to prevalence as England as a whole ([Public Health Outcomes Framework, 2016](#)).

- **Substance misuse**

Drinking large quantities of alcohol may cause nutritional problems and may lead to toxic amblyopia, an optic nerve disease. Excessive alcohol intake during pregnancy can lead to foetal alcohol syndrome, which can lead to eye anomalies. Alcohol abuse, particularly in heavy smokers who have also neglected their diet, is known to cause a toxic, progressive optic neuropathy. This can cause bilateral, symmetrical, painless, visual impairment with loss of colour vision and a central visual field defect. ([Royal College of Ophthalmologists, 2010](#))

The use of amphetamines use can lead to reduced dilation of the pupil, which can lead to a risk of acute angle-closure glaucoma. Cocaine use can lead to corneal ulceration, which can lead to scarring and can cause permanent vision loss. Intravenously injected drugs can lead to 'cutting agent' deposits forming in the retina, which can then lead to loss of retinal circulation, rapid and sometimes severe sight loss

e) Stroke prevention and hypertension

Damage resulting from stroke can impact on the visual pathway of the eyes which can result in visual field loss, blurry vision, double vision and loss in detecting moving images. In addition, there could be an inability to read or to write after a stroke.

Around 70% of stroke survivors have some sort of visual dysfunction. The most common condition is homonymous hemianopia, a loss of half a person's visual field, which occurs in about 45% of all stroke patients ([Stroke Association, 2012](#)).

f) Learning Disabilities

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. The presence of visual impairments can significantly impair the independence and quality of life of people with learning disabilities. An estimate is that people with learning disabilities are ten times more likely to have a sight problem than a person within the general population.

There are an estimated 96,500 adults with a learning disability nationally that are registered as severely sight impaired or partially sighted nationally. In addition there are

approximately 579,000 adults with a learning disability that have refractive errors (six out of ten people need glasses). The report estimates that figures for learning disabilities combined with sight problems will increase annually by 0.5% each year over the next two decades. ([RNIB, 2013](#))~~Reference? Update? Data tool?~~

g) Other factors:

- **Falls** - According to RNIB estimates 4,796 people with sight loss aged over 65 experience a fall per year. Of these falls, 2,267 are directly attributable to sight loss ([RNIB 2016, Sight Loss Data Tool](#)).
- **Depression and suicide** - Older people with sight loss are almost three times more likely to experience depression than people with good vision. (Beauchet, 2011) The Royal College of Psychiatrists estimates that 85% of older people with depression receive no help at all from the NHS. ([Age UK, 2012](#)) Visual impairment is also associated with a higher risk of suicide. (Waern, 2002)

What are the unmet needs/ service gaps?

- It is predicted that those who are in the older age group will grow the most in the coming years, precisely the group where sight problems occur. Demand on services and costs will increase accordingly.
- Smoking is linked to AMD, but preventable sight loss is not included in smoking cessation programmes.
- High numbers of people with glaucoma remain undiagnosed because the condition can be asymptomatic, and remain undetected until visual damage has occurred. Controlling the condition, together with prevention, or at least minimisation of ongoing damage, is crucial to maintaining an individual's sight.

Recommendations for Bedford Borough:

- Inclusion of discussion around preventable sight loss within smoking cessation programmes, and alcohol brief interventions and advice.
- Campaigns to educate people about the need for regular eye checks and their importance should be targeted at the most vulnerable groups.

Recommendations for Bedfordshire Clinical Commissioning Group:

- Implementation of NICE guidelines about developing and diagnosis of glaucoma should be applied
- Redesign of the vision services should emphasise the need for integrated working

This section links to the following sections in the JSNA:

- Smoking
- Diabetes
- Cardiovascular Disease

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