Public Health England

Protecting and improving the nation's health

Atlas of variation in risk factors and healthcare for vision in England

Reducing unwarranted variation to improve health outcomes and value

Housekeeping

Welcome to this webinar about the new Vision Atlas of Variation.

Questions can be asked in the Teams chat or by emailing healthcare.variation@phe.gov.uk. We will pause to answer questions during the webinar.

This webinar is being recorded and we are planning to make this available as a resource.

Please mute your microphone

Webinar overview

- Introduce the Atlases of Variation
- Why is vision a public health issue?
- How to access and use the vision atlas
- The vision atlas – overview of findings
- NHS England & Improvement update
- Next steps

Thank you to our partners

Bradford Teaching Hospitals
NHS Foundation Trust

The Atlases of Variation

- Helps to identify unwarranted variation and assess the value that healthcare provides to both populations and individuals

- A defining aspect of the Atlases is that each of the indicator's maps, column chart and box-and-whisker plot is accompanied by text which provides: the context for the indicator, a description of the variation and trend data, options for action and a list of evidence-based resources to support action.

- Previous editions

2019 – Respiratory Disease
2018 – Palliative and End of Life Care
2017 – Diagnostics
2017 – Liver Disease
2015 – Compendium
2013 – Liver Disease
2013 – Diagnostics
2012 – Respiratory
2012 – Kidney
2012 – Diabetes
2012 – Child Health
2011 – Compendium
2010 – Compendium

All are available at https://fingertips.phe.org.uk/profile/atlas-of-variation

Why is vision a key public health issue?

- Vision is **critical to our wellbeing**
  - Vision loss is associated with a reduction in overall quality of life, mental health, independence, mobility, educational attainment and employment.
- **Estimated 50% of sight loss is avoidable**
- Increasingly people experience sight loss due to an **ageing population** and an increase in the prevalence of conditions associated with poorer eye health such as **diabetes and obesity**.
- In 2019/20 **ophthalmology was the single largest specialty for outpatient attendances** in England.
- This atlas shows there were **9 million outpatient attendances** in 2019/20 for all five vision treatment specialties, 9.4% of all outpatient attendances. Eye health services generate high volume activity across primary and secondary care.

Why is vision a key public health issue?

Treatment specialties by outpatient attendance 19/20

The cost of vision loss

- **Economic loss**
  - In 2013, estimated total economic cost of sight loss to be **£23.6 billion** per year in England
  - £21.1 billion indirect costs associated with loss of productivity and reduced health and wellbeing

- **Cost to NHS**
  - Direct costs of eye health – estimated to be **£2.47 billion** in 2013
    - 50% costs from hospital inpatient, day case and outpatient expenditure
    - 13% prescribing – community prescribing & hospital prescriptions dispensed in the community
    - 20% for General Ophthalmic Services – NHS provided eye tests, vouchers for spectacles & eye test domiciliary visits
    - 9% for residential and community care services

Deloitte Access Economics (2014) The economic impact of sight loss and blindness in the UK adult population, 2013, Royal National Institute of Blind People

Prevention opportunities

Primary Prevention

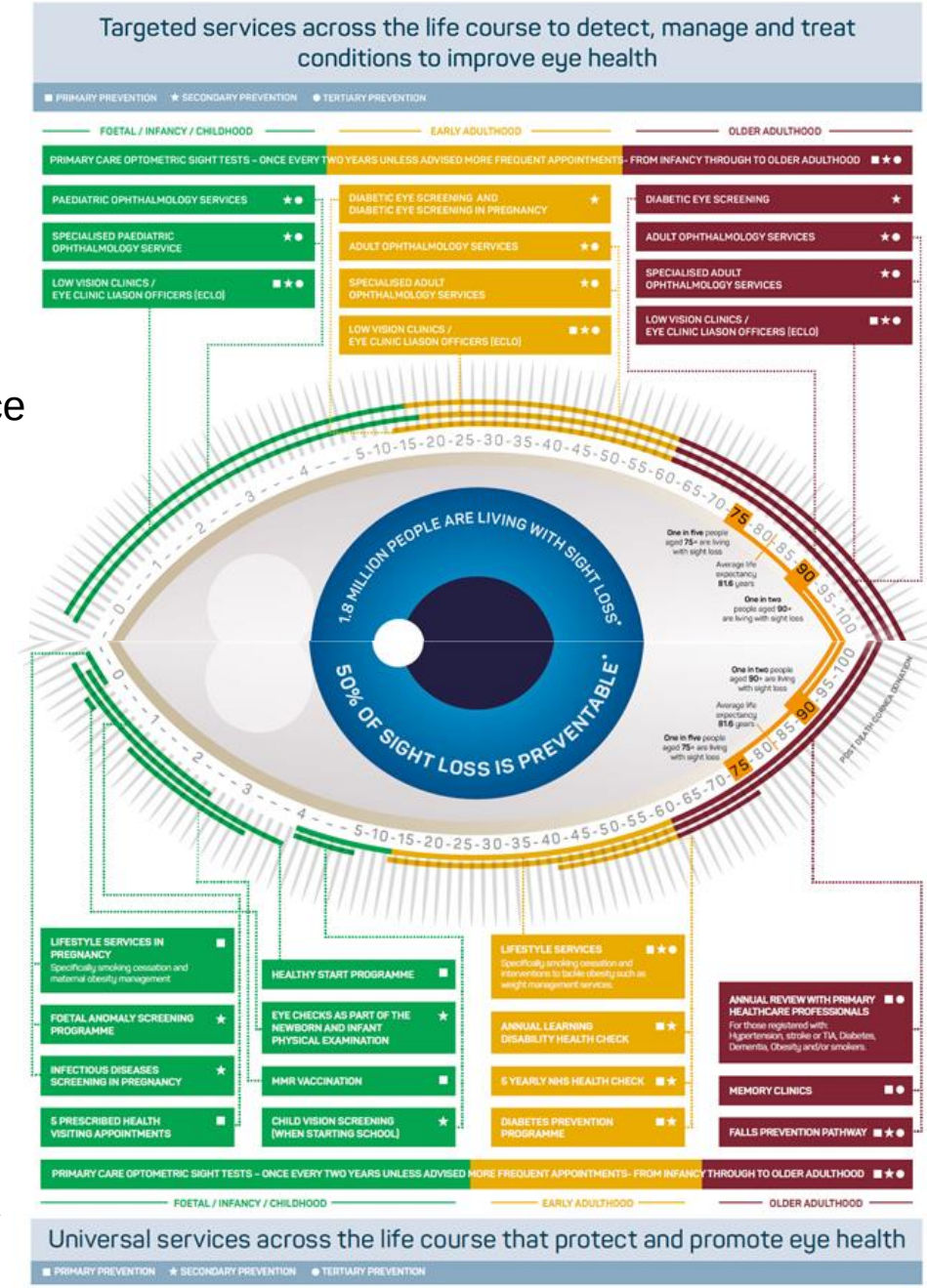
- Closely linked to maintaining overall good health
- Public health prevention programmes to reduce obesity, increase exercise and stop smoking may prevent or delay onset of eye disease

Secondary prevention

- Slowing disease progression and maintaining vision
  - Early recognition of disease
  - Better diagnosis of those with early eye disease
    - Screening programmes
  - Improved treatment

Tertiary Prevention

- Support blind and partially sighted people to live independently
  - Social services and voluntary organisation



Infographic: Public Health England (2018) Eye Health Needs Assessment Of people in Lincolnshire, Rutland, Leicestershire, Derbyshire, Nottinghamshire, Northamptonshire, Hertfordshire and Bedfordshire

Key Challenge for Eye Health Services

Revitalising clinical service provision and delivery equitably:

- addressing the backlog we currently face - pre-existing plus that induced by COVID-19 (pandemic)
- implementing new models of care and service pathways
- implementing effective population-based commissioning

Understanding the variations contributing to the pressures on service delivery that were operating pre-pandemic to inform:

- how these are addressed to ensure timely access and availability of appropriate services
- the discussions on population-based commissioning and service provision at ICS level

How does the atlas add value?

The atlas is a resource to understand factors underlying unwarranted variations which can be used to inform population-based planning, commissioning and provision of services -

- Uses national eye health datasets presents population rates giving local areas comparable measures to support service planning and development
- Highlights local and regional variations and trends
- Presents trends in the years immediately prior to, and provisional data during, the COVID-19 pandemic to inform service planning and commissioning; it provides a baseline to monitor the impact of actions taken
- It provides practical actions that could make differences to patients and to inform commissioning and service provision

Key statistics

In England in 2019/20 there were:

- **9 million** total outpatient attendances for vision
- **3.4 million individual patients** attended appointments
- **2.2 million** outpatient **first attendances** for vision appointments
- Over **380,000 cataract surgeries** in those aged 65 year and over

- All vision **outpatient attendances increased by 37.6%** from 2009/10 to 2019/20
- The rate of all **intravitreal injection therapy** procedures in people aged 60 years and over **has more than doubled** in the past 7 years
- The rate of admission to hospital for all **cataract surgery** in people aged 65 years and over has **increased by 16%** from 2014/15 to 2019/20
- The rate of all **rhegmatogenous retinal detachment surgery** in people aged 18 years and over has **increased by 36%** from 2014/15 to 2019/20

- In 2019/20 there was a **26.2-fold difference** between UTLAs in the rate of **registered blind or partially sighted people** aged 75 years and over.

Atlas content – 32 mapped Indicators

Health services	Outpatient Activity	Attendance rate, persons attending, first and follow up attendances
	Intravitreal Injections	aged 60+ all and first procedures
	Cataract Surgery	rate of admission aged 65+, all, first, and second
	Rhegmatogenous Retinal Detachment Surgery	aged 18+ all procedures
	Diabetic Eye Screening	screening and urgent referrals
	Eye Cancer	incidence rate
Sight Loss Outcomes	Certifications	Certifications due to AMD
		Certifications due to glaucoma
		Certifications due to diabetic eye disease
		Certifications all causes
	Registrations	Blind and partially sighted registrations 65-74 and 75+
Risk Factors		Social isolation and loneliness
		Falls
		Diabetes
		Excess Weight
		Physical Activity
		Smoking - prevalence and Smoking at Time of Delivery
		Preterm Birth - rate, very low birth weight, screening of Retinopathy of prematurity (ROP)
		Learning Disabilities - at school and long-term support

What else?

Introduction:

- Sight loss is a public health priority
- the Burden of Eye Disease and Inequalities
- the economic burden of sight loss to the NHS and wider society
- organisation of eye services and workforce
- National Eye Care Restoration and Transformation Programme
- How should we respond to variation
- RightCare
- Data gaps

Indicators – each of the indicator's maps, column chart and box-and-whisker plot is accompanied by text which provides:

- Context – overview of why the indicator is of interest
- Activity during the Covid-19 Pandemic
- Magnitude of Variation - description of the data, trends and potential reasons for the variation
- Options for Action – suggestions for best practice
- Resources – links to useful guidance documents and evidence-based resources to support actions

Explanation of data presentation and statistics including a 'quick glance guide'

Link to pdf and data: http://fingertips.phe.org.uk/profile/atlas-of-variation
Interactive atlas: https://www.england.nhs.uk/rightcare/products/atlas/

Accessing the Atlas

https://fingertips.phe.org.uk/profile/atlas-of-variation

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Atlas of Variation

Search for indicators

The Atlases of Variation help to identify unwarranted variation and assess the value that healthcare provides to both populations and individuals. This is produced in collaboration with PHE, NHS England and RightCare and many other organisations. Products include Compendium atlases and themed atlases for areas such as Diagnostic Services and Liver Disease.

A defining aspect of the atlases is that each of the indicator's maps, column chart and box-and-whisker plot is accompanied by text which provides: the context for the indicator, a description of the variation and trend data, options for action and a list of evidence-based resources to support action. Interactive Atlases services can be accessed via the NHS England website.

Latest Atlas

Atlas of variation in risk factors and healthcare for vision in England

Full document
User Survey
Interactive Atlas
Data File
Metadata

Topics

Introduction
Summary Table
Outpatient Activity
Intravitreal Injections
Cataract Surgery
Rhegmatogenous Retinal Detachment
Diabetic Eye Screening
Eye Cancer
Sight Loss Outcomes
Risk Factors

Themed Atlases

Recent updates

August 2021

The new Atlas of variation in risk factors and healthcare for vision in England has now been launched.

July 2021

For any enquiries relating to the Atlas series or to provide us with feedback please contact us on: **healthcare.variation@phe.gov.uk**

April 2020

A minor correction has been made to the 2nd Atlas of variation in risk factors and healthcare for respiratory disease in England. This correction affects historic data for Map 18d: Mortality rate from pneumonia (all mentions). An updated magnitude of variation statement, box plot and supporting data table have therefore been applied to the relevant documents.

The Interactive Atlas

http://tools.england.nhs.uk/images/VisionAtlas2021/atlas.html

You may need to try different browsers to get it to work such as Explorer

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Atlas of variation in risk factors and healthcare for vision in England, August 2021

Help | Print | Share

Map 1a: Experimental statistic: Variation in rate of all vision outpatient attendances

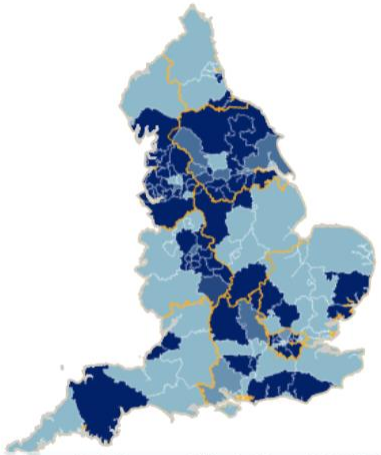
Select a geography to display

- Clinical Commissioning Group (2020 Groups)
- Clinical Commissioning Group (2019 Groups)

Select an indicator to display

- By Clinical Commissioning Group (2020 Groups)
  - Map 1a: Experimental statistic: Variation in rate of all vision outpatient attendances
    - **2019/20**
    - 2018/19
    - 2017/18
    - 2016/17

- Significantly higher than England - 99.8% level
- Significantly higher than England - 95% level
- Not signficantly different to England
- Significantly lower than England - 95% level

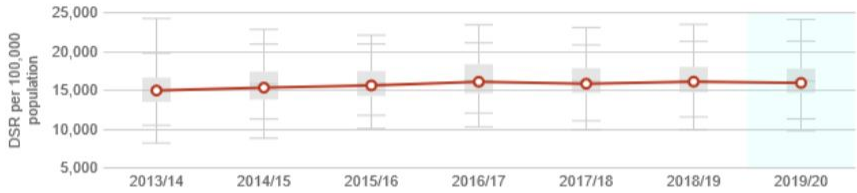


Area name	Value
NHS Barnsley CCG	24,131.4
NHS Sandwell and West Birmingham CCG	22,251.0
NHS Milton Keynes CCG	22,075.4
NHS Surrey Heath CCG	21,901.1

Clear ✕ Filter ✕

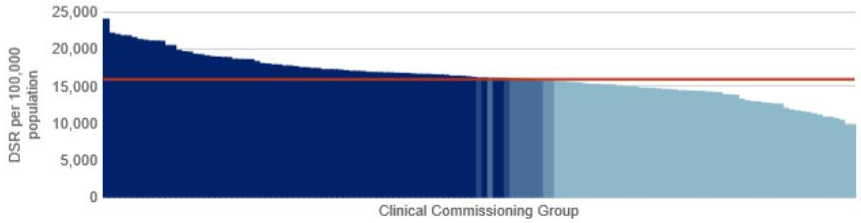
Region filter | **Data download** | **Metadata download**

2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | **2019/20**

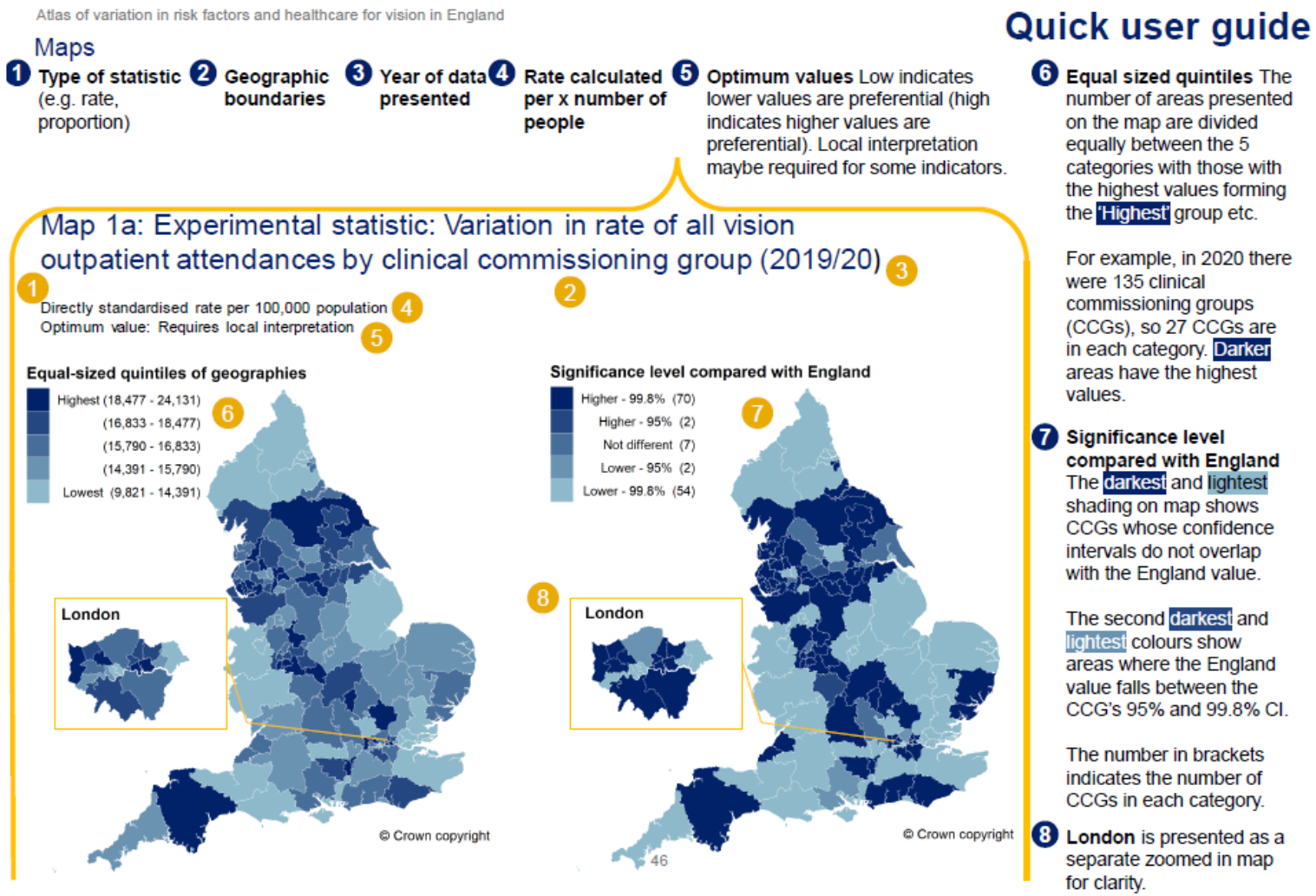


Values may differ from atlas document due to rounding.

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	
Max-Min (Range)	16,023.3	14,006.3	11,987.4	13,142.7	13,160.8	13,555.6	14,310.0	No significant change
75th-25th percentile	3,114.7	3,599.0	3,206.0	3,736.7	3,189.4	3,274.5	3,117.4	No significant change
95th-5th percentile	9,266.4	9,640.1	9,186.6	9,034.0	9,764.4	9,708.0	10,002.7	No significant change



Quick user guide 1



Quick user guide 2

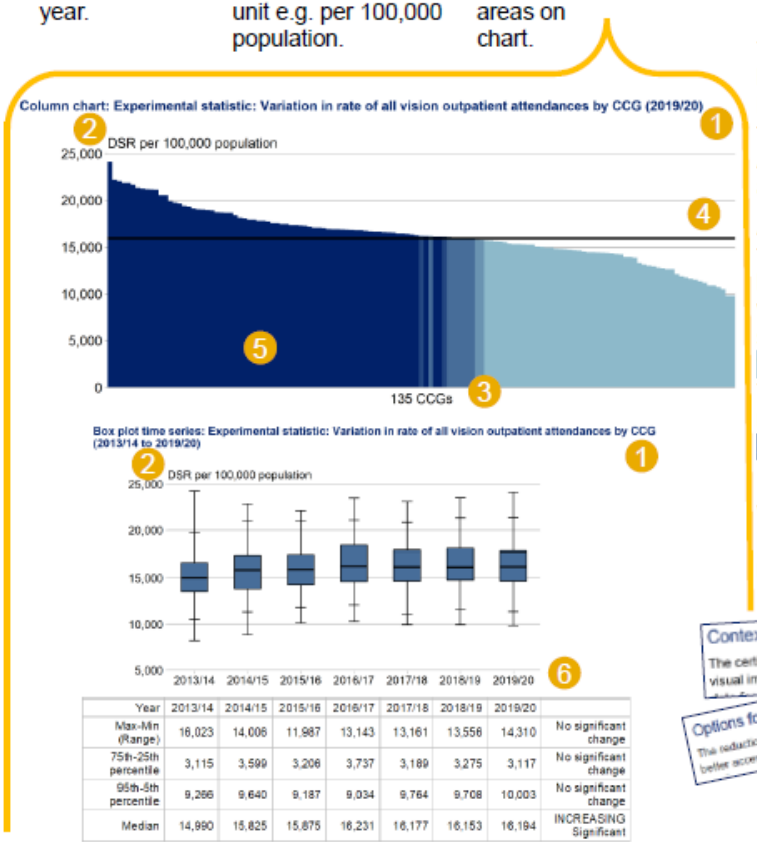
Chart, box plot and table

1. Title shows indicator details including: value type, geography and year.
2. The y-axis plots the value and gives details of the value type e.g. rate / proportion and the unit e.g. per 100,000 population.
3. The x-axis shows the geography and the number of areas on chart.
4. The line shows the England average.
5. Each bar represents an area (e.g. a CCG). The height of the bar is relative to the value for that area. Collectively, the bars show the spread of values across England.

   The colour of the bar represents how significant the area's value is in relation to England based on the area's confidence interval. Areas utilise the same colours and categories as the maps.

   Areas that are significantly higher than England at a 99.8% or 95% level are shown as darker bars whereas those with lower significance to England, at a 99.8% or 95% level, are lighter. The colour in the middle represents areas that are not significantly different from England.

   Where the significance bar chart is unavailable, the equal interval map colours have been used.



Year	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	
Max-Min (Range)	16,023	14,006	11,987	13,143	13,161	13,556	14,310	No significant change
75th-25th percentile	3,115	3,599	3,206	3,737	3,189	3,275	3,117	No significant change
95th-5th percentile	9,266	9,640	9,187	9,034	9,764	9,708	10,003	No significant change
Median	14,990	15,825	15,875	16,231	16,177	16,153	16,194	INCREASING Significant

Quick user guide

6. For each indicator, data is presented visually in a time series of box and whisker plots. The box plots show the distribution of data.

   The line inside each box shows the median (the mid-point, so if the 135 CCGs were sorted in order of value, the value halfway between the CCGs in the 67th and 68th position would give the median). The bottom and top of the blue box represents the values which 25% and 75% of the areas fall below. 50% of the areas have a value within this range.

   The whiskers mark the values at which 5% and 95% of areas fall below. The median and maximum values are also shown.

   The time series allows us to see how the median has changed over time, but also whether the gap between the extreme values has changed.

   The table accompanying the box and whisker plots shows whether there has been any statistically significant change in the median, or in the degree of variation over time.

7. **Sections in the chapter**

   Context – an overview of why the indicator is of public health interest

   Magnitude of variation – commentary in relation to the chart, box plot and table

   Options for action – suggestions for best practice

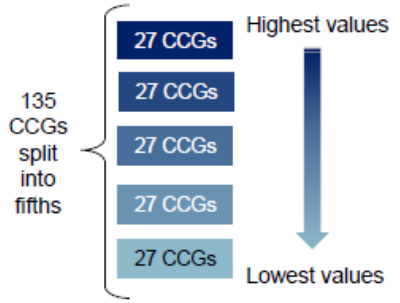
   Resources – links to useful documents

Quick user guide 3

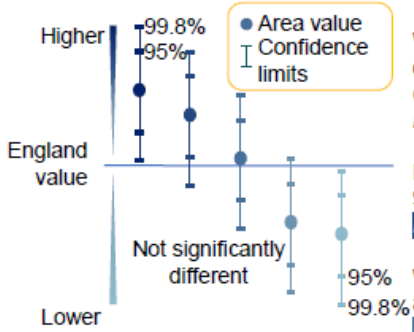
Quick user guide

How were the categories calculated?

Equal-sized quintiles



Significance to England



Confidence intervals give an estimated range in which the true CCG value lies.

Where the CCG's confidence interval does not overlap with the England value, the CCG is classed as being *significantly higher or lower than England at a 99.8% level*.

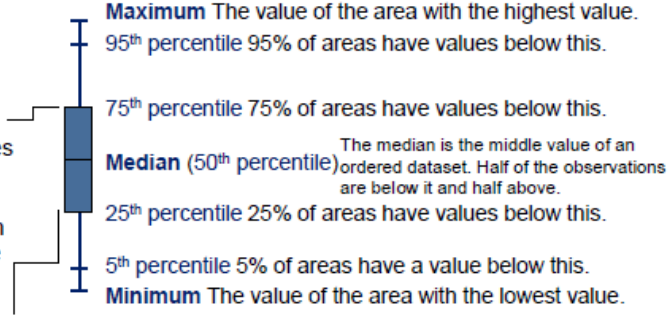
If the England value lies between the 99.8% and 95% CI, this value is classed as being *significantly higher or lower than England at a 95% level*.

Where the England value is between the upper and lower 95% CI, the CCG is classed as *not being significantly different from England*.

Box & whisker plot

Whiskers
Show the extreme values in the dataset.

Box
50% of the data values lie between the 25th and 75th percentile. The distance between these is known as the inter-quartile range (IQR).



Maximum The value of the area with the highest value.
95th percentile 95% of areas have values below this.
75th percentile 75% of areas have values below this.
Median (50th percentile) The median is the middle value of an ordered dataset. Half of the observations are below it and half above.
25th percentile 25% of areas have values below this.
5th percentile 5% of areas have a value below this.
Minimum The value of the area with the lowest value.

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Box plot percentile	CCG rank position (135 CCGs in 2020)
Max	135
95%	Mid value between values of CCGs in ranks 128 and 129
75%	Mid value between values of CCGs in ranks 101 and 102
50% - Median	Mid value rank 68
25%	Mid value between values of CCGs in ranks 34 and 35
5%	Mid value between values of CCGs in ranks 7 and 8
Min	1

Magnitude of Variation Table

Map	Area type	Title	Optimum value	Range	Fold difference	Number of areas significantly higher than England (99.8% level)	Number of areas significantly lower than England (99.8% level)	Variation trend	Median trend
1a	CCG20	Experimental statistic: Variation in rate of all vision outpatient attendances (2019/20)	Requires local interpretation	9,821 - 24,131	2.5	70 (from 135)	54 (from 135)	No significant change	Significant increasing
1b	CCG20	Experimental statistic: Variation in rate of all vision outpatient attendances (persons based) (2019/20)	Requires local interpretation	4,404 - 8,248	1.9	62 (from 135)	55 (from 135)	Both the 95th to 5th percentile gap and the 75th to 25th percentile gap widened significantly	Significant increasing
1c	CCG20	Experimental statistic: Variation in rate of all vision outpatient first attendances (2019/20)	Requires local interpretation	2,266 - 8,027	3.5	55 (from 135)	64 (from 135)	The 95th to 5th percentile gap widened significantly	Not Significant increasing

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Questions

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Outpatient Attendances

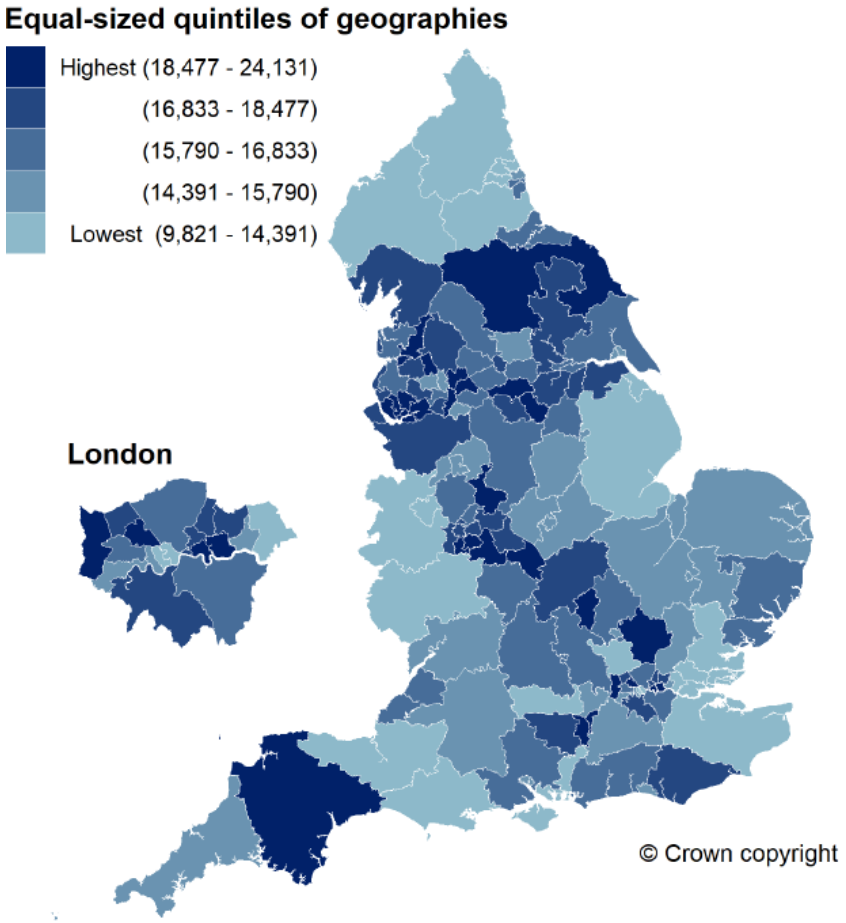
Section contains four indicators:

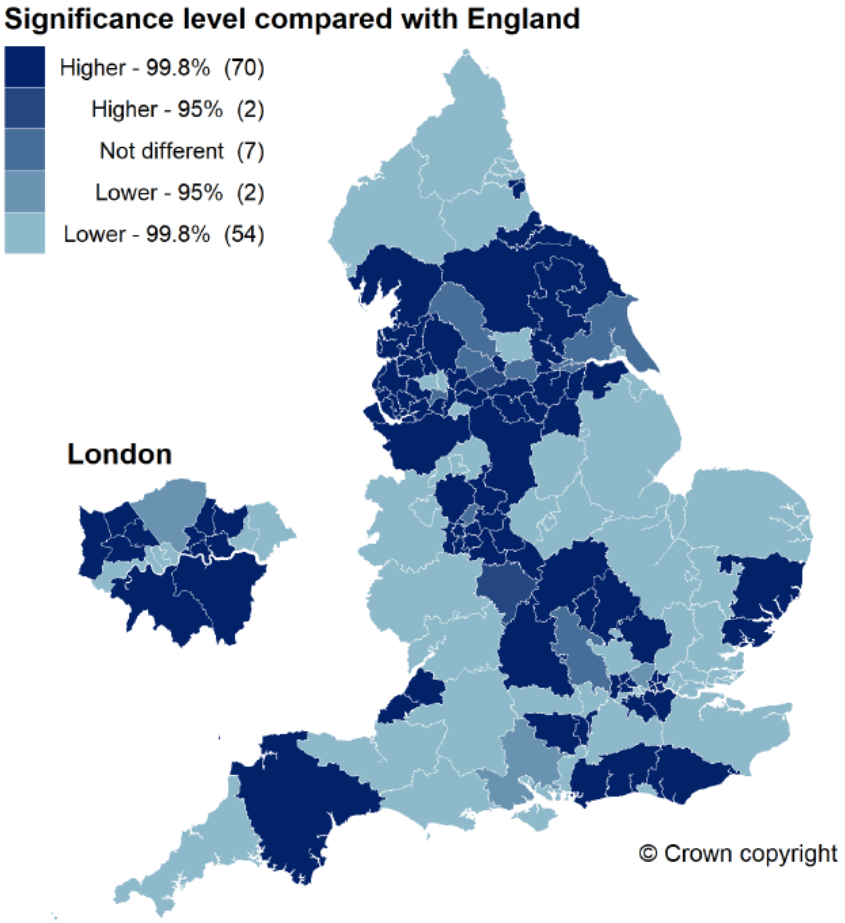
1. All vision outpatient attendances
2. All vision outpatient attendances (persons based)
3. All vision outpatient first attendances
4. All vision outpatient follow up attendances

The following treatment specialty codes were used for the analyses on variations in vision outpatient attendances: ophthalmology (130), paediatric ophthalmology (216), medical ophthalmology (460), orthoptics (655) and optometry (662).

All vision outpatient attendances by clinical commissioning group (CCG) in 2019/20

directly standardised rates per 100,000 population





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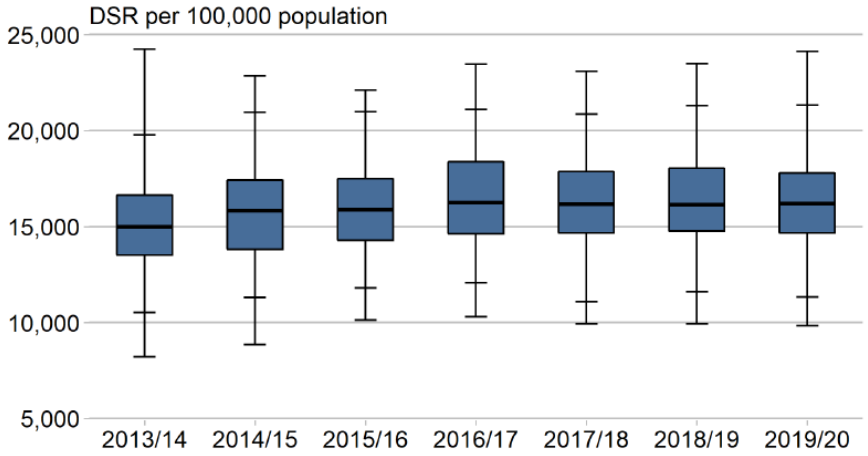
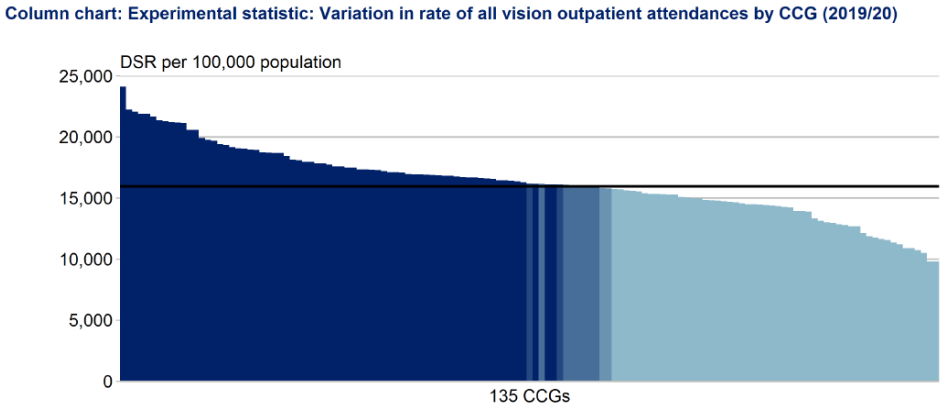
All vision outpatient attendances by clinical commissioning group (CCG) in 2019/20





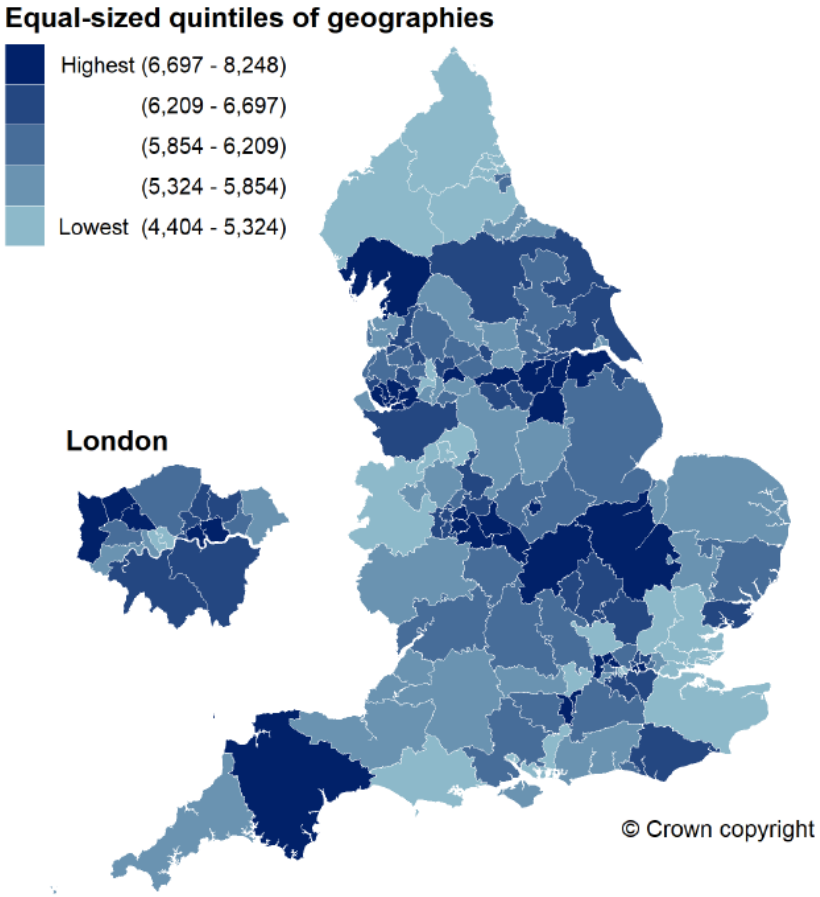
England value 15,960 per 100,000 population

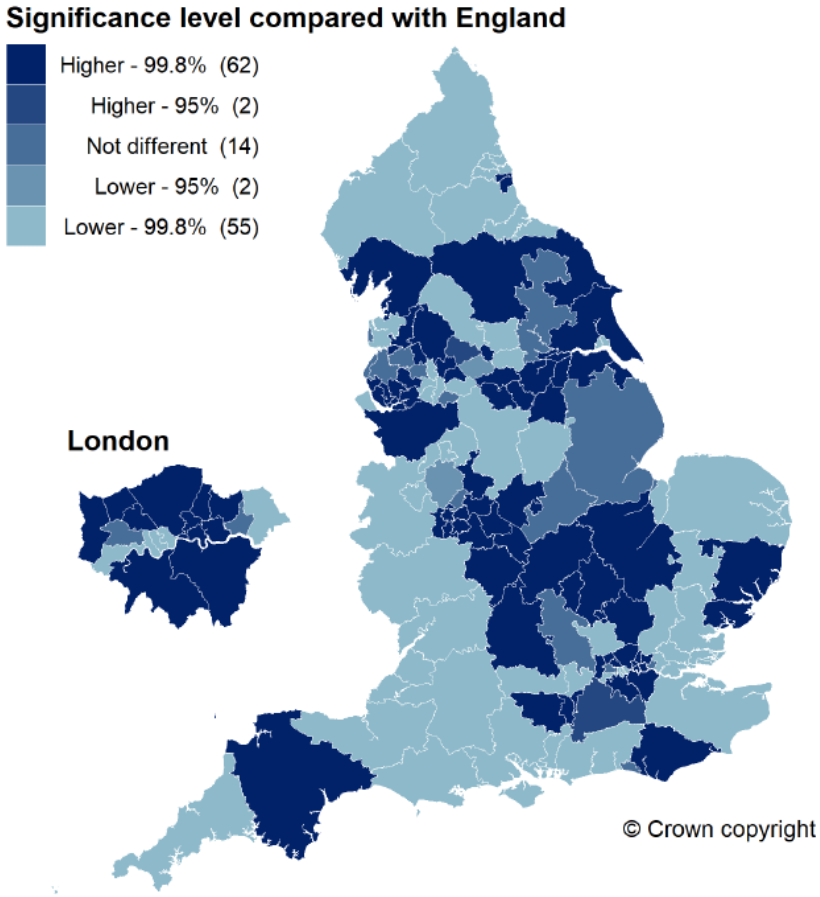
CCGs ranged from 9,821 to 24,131 per 100,000 population a 2.5-fold difference

Year	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	
Max-Min (Range)	16,023	14,006	11,987	13,143	13,161	13,556	14,310	No significant change
75th-25th percentile	3,115	3,599	3,206	3,737	3,189	3,275	3,117	No significant change
95th-5th percentile	9,266	9,640	9,187	9,034	9,764	9,708	10,003	No significant change
Median	14,990	15,825	15,875	16,231	16,177	16,153	16,194	INCREASING Significant

All vision outpatient attendances (persons based) by clinical commissioning group (2019/20)

directly standardised rates per 100,000 population





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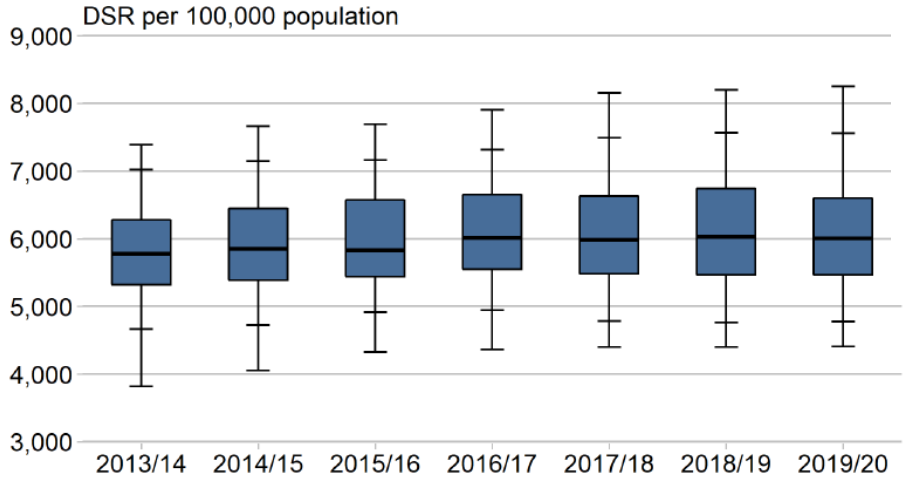
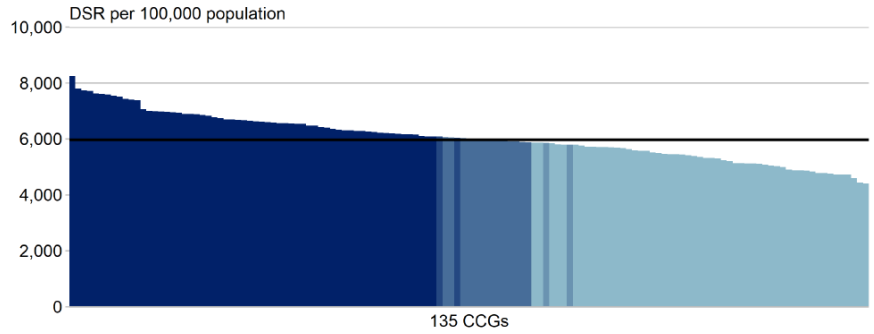
All vision outpatient attendances (persons based) by clinical commissioning group (2019/20)



Column chart: Experimental statistic: Variation in rate of all vision outpatient attendances (persons based) by CCG (2019/20)



England value 5,969 per 100,000 population

CCGs ranged from 4,404 to 8,248 per 100,000 population, a 1.9-fold difference

Year	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	
Max-Min (Range)	3,576	3,605	3,367	3,546	3,754	3,800	3,843	No significant change
75th-25th percentile	954	1,062	1,130	1,104	1,143	1,278	1,135	WIDENING Significant
95th-5th percentile	2,355	2,424	2,245	2,373	2,712	2,808	2,781	WIDENING Significant
Median	5,776	5,846	5,827	6,008	5,981	6,028	6,002	INCREASING Significant

Options for Actions & Resources

Options for action

- Capacity - Review outpatient attendance activity together with waiting times and demographic factors to assess pressure on service provision and accessibility.
- Review referral guidance and clinical protocols to provide consistent, evidence-based clinical decision-making.
- Data - Improve consistency of mandated coding requirements and encourage coding by diagnosis and/or procedure.
- Build on existing developments for collaborative working across primary and secondary eye care settings to manage demand and backlogs.
- Service organisation - Commission systems-based delivery of whole pathways which include extended primary eye care services and community eye services.

Resources

- National Institute for Health and Care Excellence guidelines:
  - (2017) Cataracts in adults: management [NG 77]
  - (2017) Glaucoma: diagnosis and management [NG 81]
  - (2018) Age-related macular degeneration [NG 82]
- Royal College of Ophthalmologists (2021) NHS England Eye Care Planning and Implementation Guidance 2021-22 Summary Annexe

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Intravitreal injections

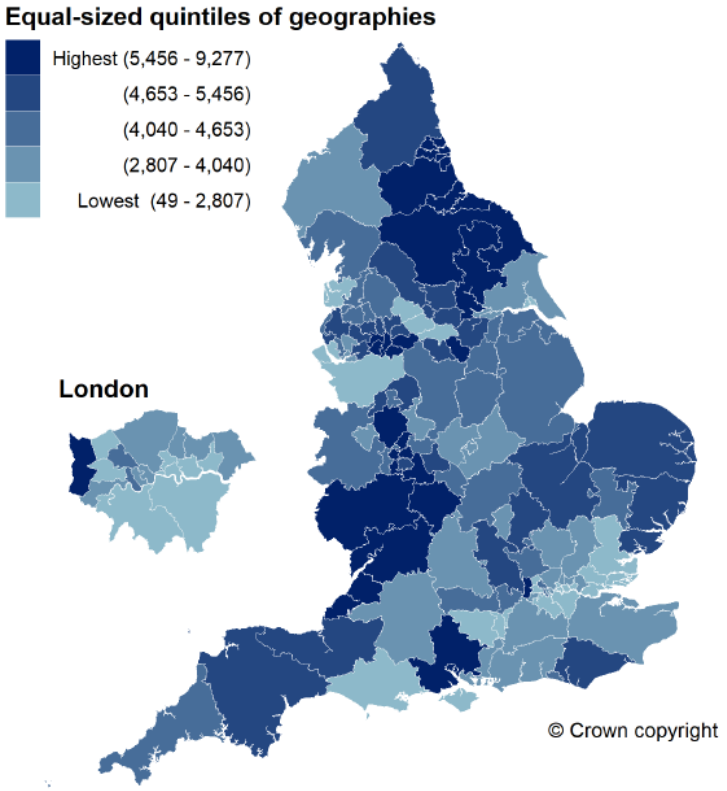
Section contains two indicators:

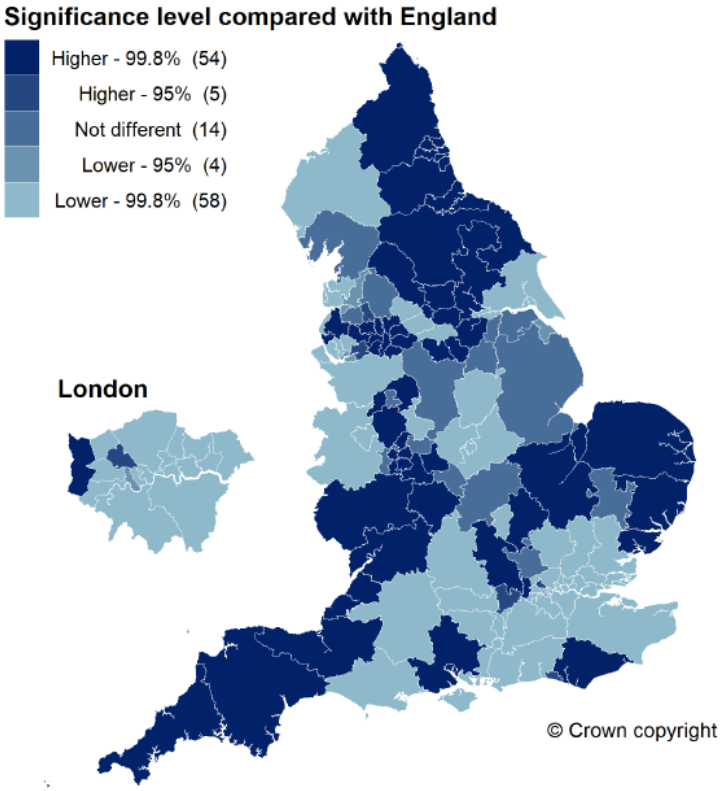
1. Intravitreal injection therapy procedures in people aged 60 years and over
2. first intravitreal injection therapy procedures in people aged 60 years and over

The number of all intravitreal injections procedures (C794 - Injection into vitreous body NEC OR C893 - Injection of therapeutic substance into posterior segment of eye NEC). This indicator combines both hospital admissions data and outpatient data.

Intravitreal injection therapy procedures in people aged 60 years and over by clinical commissioning group (CCG) in 2019/20

directly standardised rates per 100,000 population





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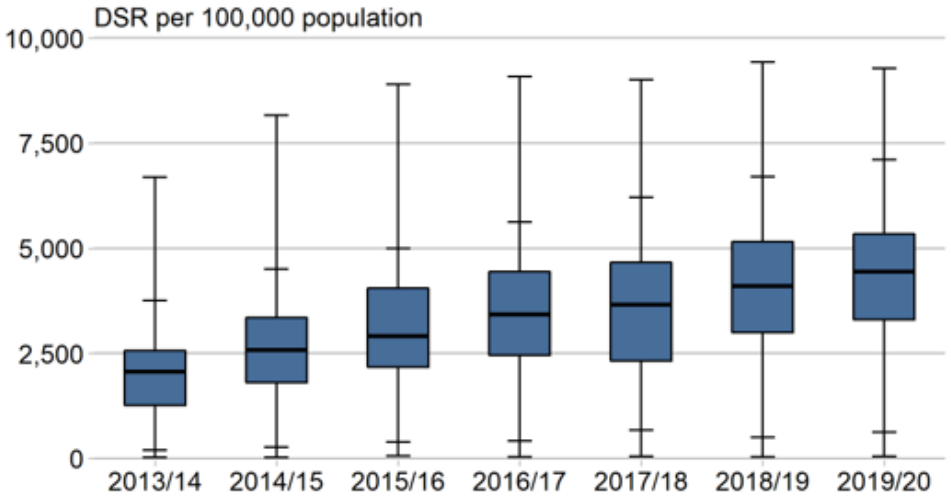
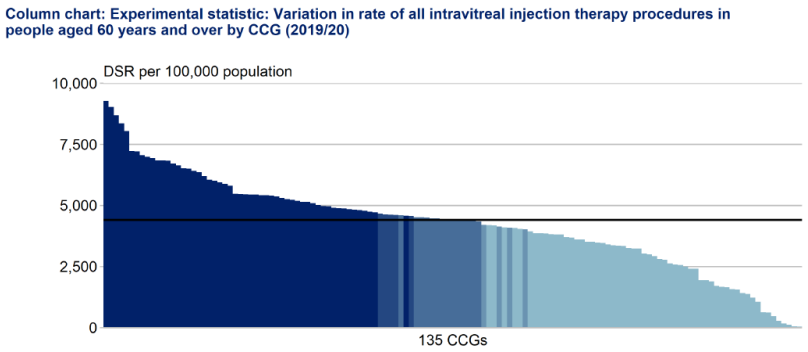
Intravitreal injection therapy procedures in people aged 60 years and over by clinical commissioning group (CCG) in 2019/20





Year	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	
Max-Min (Range)	6,657	8,143	8,840	9,047	8,959	9,388	9,228	WIDENING Significant
75th-25th percentile	1,307	1,548	1,868	1,991	2,340	2,157	2,033	WIDENING Significant
95th-5th percentile	3,556	4,236	4,599	5,203	5,536	6,199	6,479	WIDENING Significant
Median	2,063	2,579	2,910	3,427	3,662	4,099	4,436	INCREASING Significant

England value 4,411 per 100,000 population

CCGs ranged from 49 to 9,277 per 100,000 population a 188.6-fold difference

During 2019/20 a total of 608,000 intravitreal injection procedures were performed for 143,000 persons of 60 years of age and over

Rates have more than doubled in the past 7 years.
During 2019/20 a total of 608,000 intravitreal injection procedures were performed for 143,000 persons aged 60 years and over

Variation, Action & Resources

Variation:

- Differences in distribution of underlying conditions such as ethnicity
- Differences in clinical protocols: Care plans involve multiple episodes of care at varying intervals and duration.
- Capacity pressures to deliver services and manage the rising clinical activity
- Differences in organisational practice and priorities for OPCS coding data

Options for action include:

- Improve data quality: improve coding of routine NHS activity for Hospital Episode Statistics
- Review clinical protocols
- Report outcomes of treatment for quality assurance of services
- Review service activity by demographic factors such as ethnicity and gender

Resources

- National Institute for Health and Care Excellence (2018) Overview | Age-related macular degeneration | Guidance | NICE
- Moorfields Eye Hospital NHS Foundation Trust (2018) Anti-VEGF intravitreal injection treatment – Patient Information

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Cataract Surgery

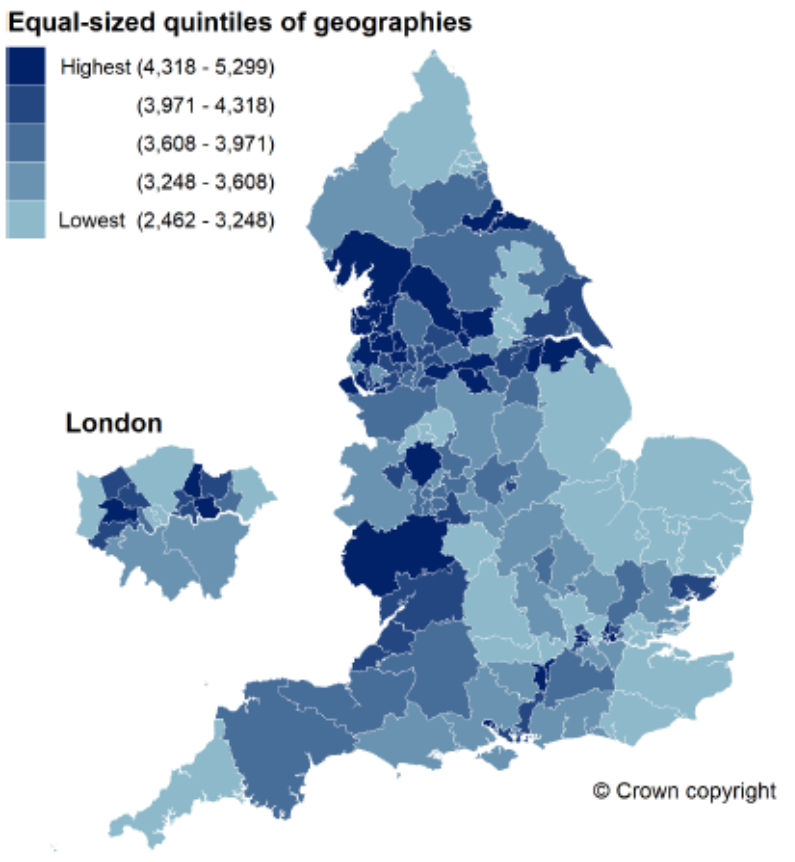
Section contains three indicators:

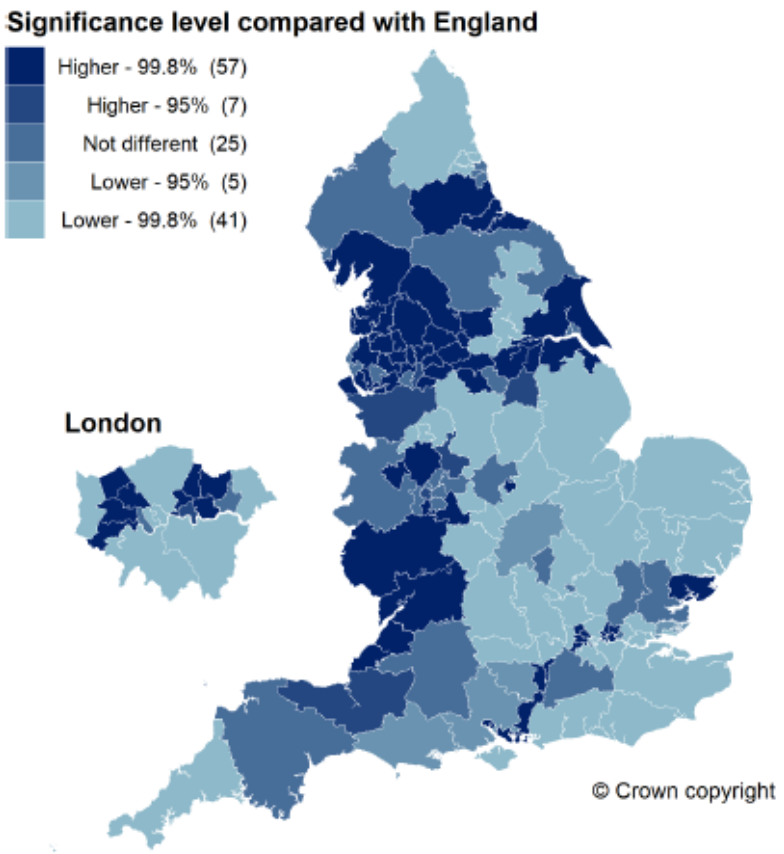
1. admission to hospital for cataract surgery in people aged 65 years and over
2. admission to hospital for first cataract surgery in people aged 65 years and over
3. admission to hospital for second cataract surgery within 12 months in people aged 65 years and over

Admissions to hospital for cataract surgery (operative procedure (OPERTN) C712 - Phacoemulsification of lens, OR C751 - Insertion of prosthetic replacement for lens NEC)

Admission to hospital for cataract surgery in people aged 65 years and over by clinical commissioning group (2019/20)

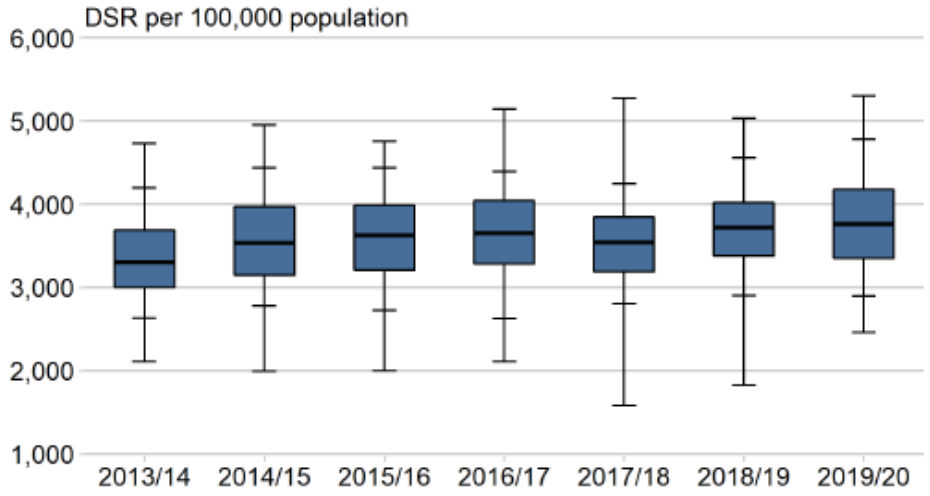
directly standardised rates per 100,000 population

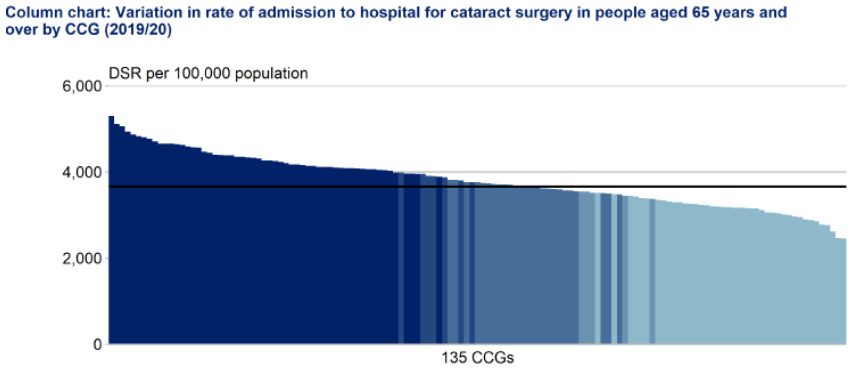




90

Admission to hospital for cataract surgery in people aged 65 years and over by clinical commissioning group (2019/20)





Year	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	
Max-Min (Range)	2,621	2,961	2,756	3,032	3,691	3,202	2,837	No significant change
75th-25th percentile	692	818	779	763	657	641	827	No significant change
95th-5th percentile	1,566	1,657	1,712	1,768	1,444	1,656	1,882	No significant change
Median	3,298	3,531	3,623	3,648	3,539	3,718	3,762	INCREASING Significant

England (19/20) value: 3,660 per 100,000 population

CCG values ranged from 2,462 to 5,299 per 100,000 population; a 2.2-fold difference

Second eye accounted for about a third of cataract surgical activity in this age group. There is more variation between CCGs for second eye surgeries – 3.5 fold difference

Variation, Action & Resources

Causes of Variation

- Differences in commissioning and clinical priorities, capacity for service provision, levels of need and demand, and service uptake between CCGs likely to be influencing variation in rates

- It is likely that activity for second eye surgery is a key factor driving the wide dispersion for the rates of all cataract surgery. Access to second eye surgery has historically been vulnerable to restrictions as a means to manage limited health budgets.

Options for Action

- Local review should take account of variation factors for first and second eye separately, together with demographic factors such as gender and ethnicity to identify any potential health needs which may influence uptake of available services

- The deprivation charts show no strong association with variation, indicating that cataract surgical services meet known demand but should be checked locally as this could be compounded by access to services.

Resources (further resources can be found in the vision atlas)

- National Institute for Health and Care Excellence (2017) Overview | Cataracts in adults: management | Guidance | NICE
- NHS (2020) Age-related cataracts - NHS (www.nhs.uk)

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Retinal Detachment Surgery

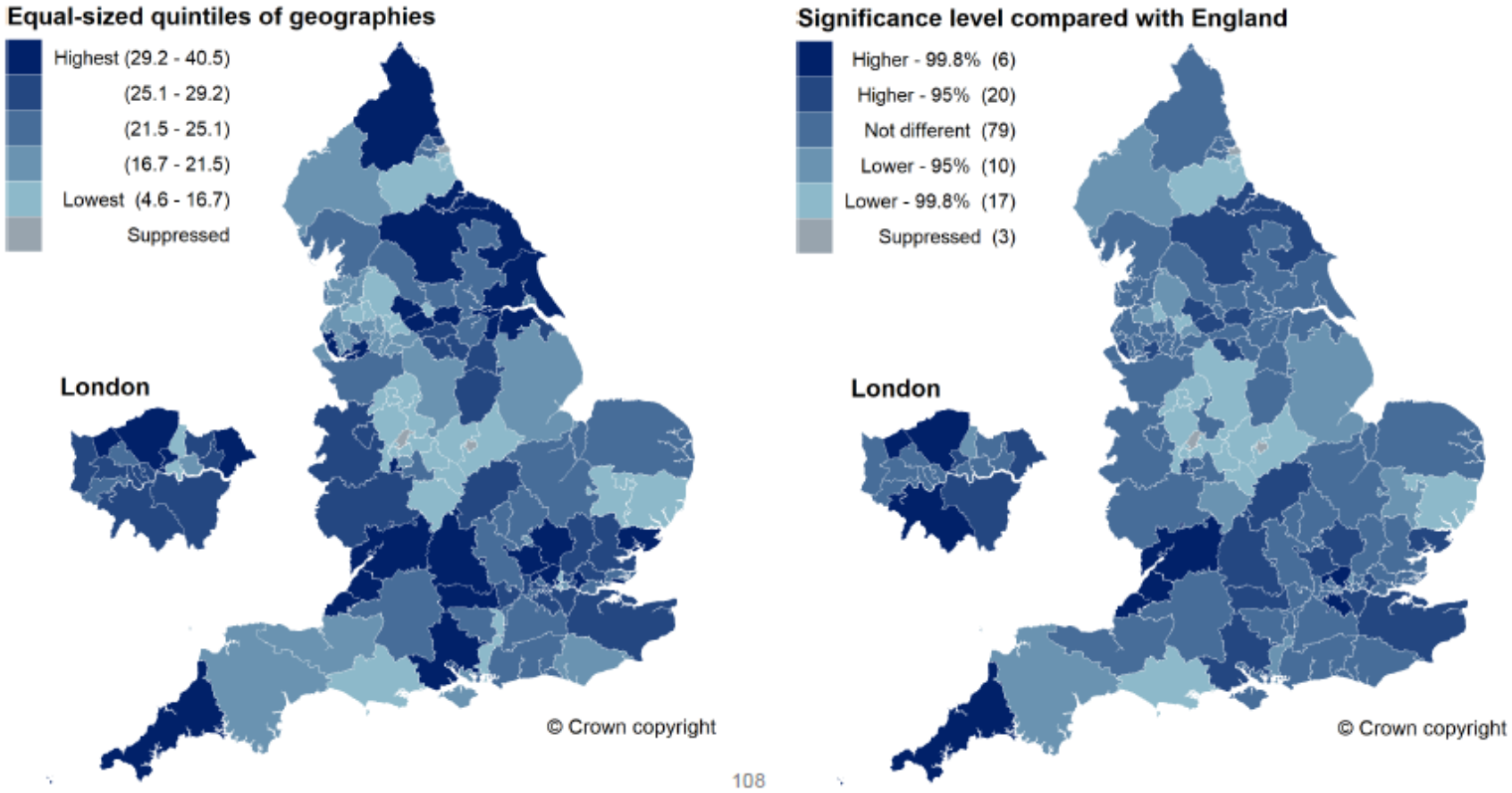
Section contains the indicator:

1. Rhegmatogenous retinal detachment surgery in people aged 18 years and over

Admissions to hospital for rhegmatogenous retinal detachment surgery (operative procedure (OPERTN) C792 - vitrectomy using a pars plana approach OR C795 gas tamponade OR C796 liquid tamponade OR scleral buckling C543, C544, C545) AND a primary diagnosis of rhegmatogenous retinal detachment with retinal break (DIAG_01 = 'H33.0')

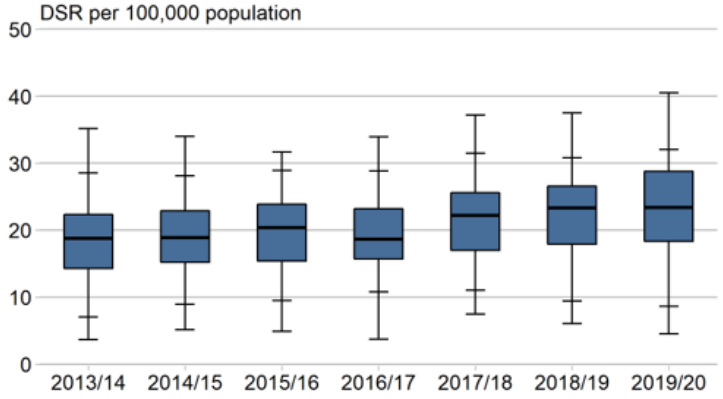
Rhegmatogenous retinal detachment surgery in people aged 18 years and over by clinical commission group (CCG) 2019/20

directly standardised rates per 100,000 population

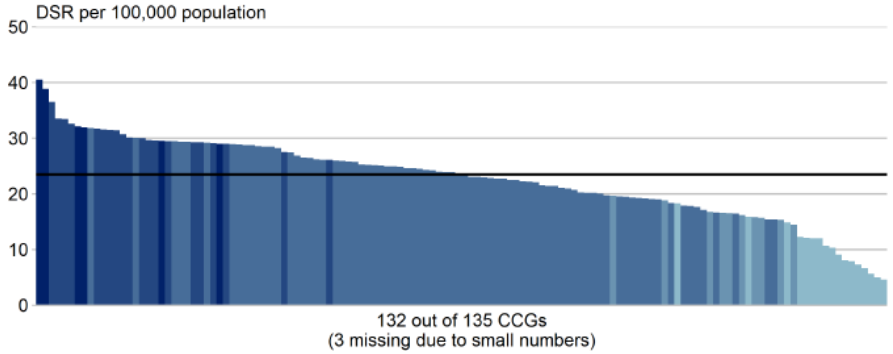


Rhegmatogenous retinal detachment surgery in people aged 18 years and over by clinical commission group (CCG) 2019/20

Box plot time series: Variation in rate of rhegmatogenous retinal detachment surgery in people aged 18 years and over by CCG (2013/14 to 2019/20)



Column chart: Variation in rate of rhegmatogenous retinal detachment surgery in people aged 18 years and over by CCG (2019/20)



Year	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	
Max-Min (Range)	31.4	28.8	26.7	30.2	29.8	31.4	36.0	No significant change
75th-25th percentile	8.1	7.7	8.5	7.5	8.6	8.6	10.4	No significant change
95th-5th percentile	21.5	19.1	19.4	18.0	20.4	21.4	23.4	No significant change
Median	18.8	18.9	20.3	18.7	22.2	23.3	23.4	INCREASING Significant

Symptomatic retinal detachment invariably results in lifelong loss of vision if left untreated.

England value 23.5 per 100,000 population

CCG values ranged from 4.6 to 40.5 per 100,000 population an 8.9-fold difference

Median increased significantly from 18.8 in 2013/14 to 23.4 per 100,000 population in 2019/20.

Risk factors for this type of retinal detachment include age, myopia, eye injuries, ophthalmic operations, and familial or genetic risk factors.

Variation, Action & Resources

Variation in recorded rates between CCGs may be due to:

- Differences in re-operation rates and case-mix
- Ethnic differences between local populations
- Difference in gender ratios between local populations
- Differences in underlying risk factors
- Data quality - accuracy and completeness of coding for diagnosis and procedures

Options for action include:

- Identifying symptomatic patients at risk through a peripheral retinal examination
- Training healthcare workers to identify symptoms of posterior vitreous detachment
- Better information through NHS111 to people experiencing posterior vitreous detachment symptoms

Resources (further resources can be found in the vision atlas)

- Royal College of Ophthalmologists (2010) Management of Acute Retinal Detachment
- National Institute for Health and Care Excellence (2019) Retinal detachment | Health topics A to Z | CKS | NICE

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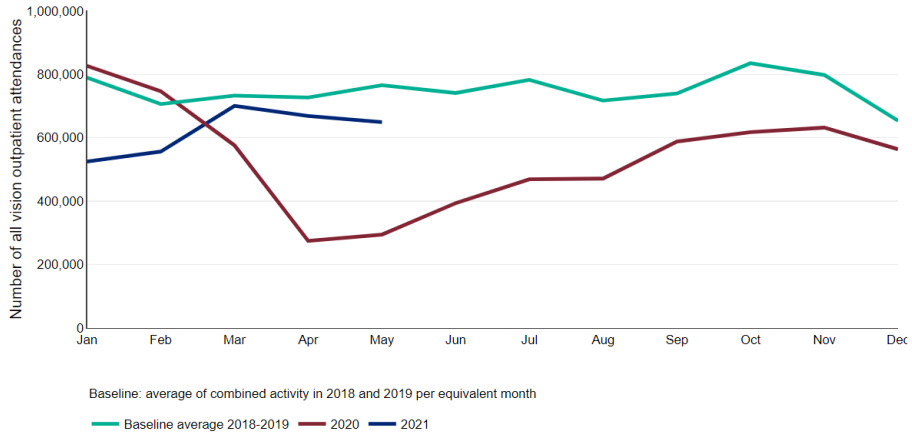
Protecting and improving the nation's health

The Covid-19 pandemic

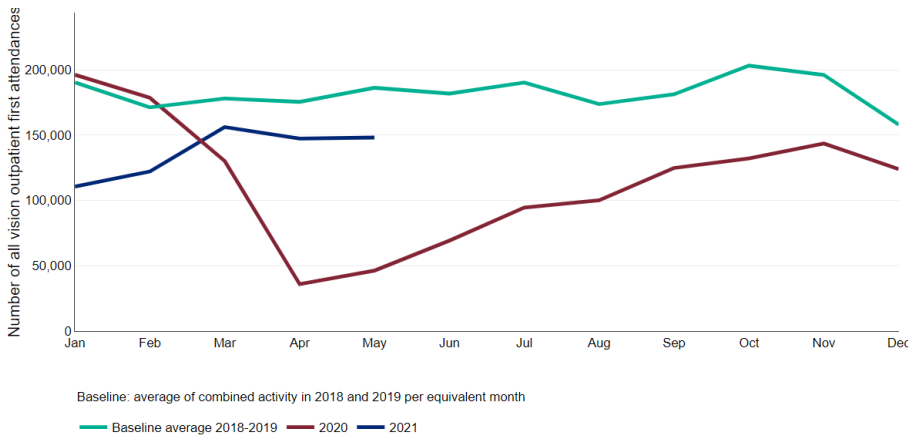
The effect of Covid-19 on outpatient attendances

All vision outpatient attendances in all ages for England (January 2018 to May 2021)



In 2020 there were 6.5 million all vision outpatient attendances, a **29% decrease** from 2019

All vision outpatient first attendances in all ages for England (January 2018 to May 2021)

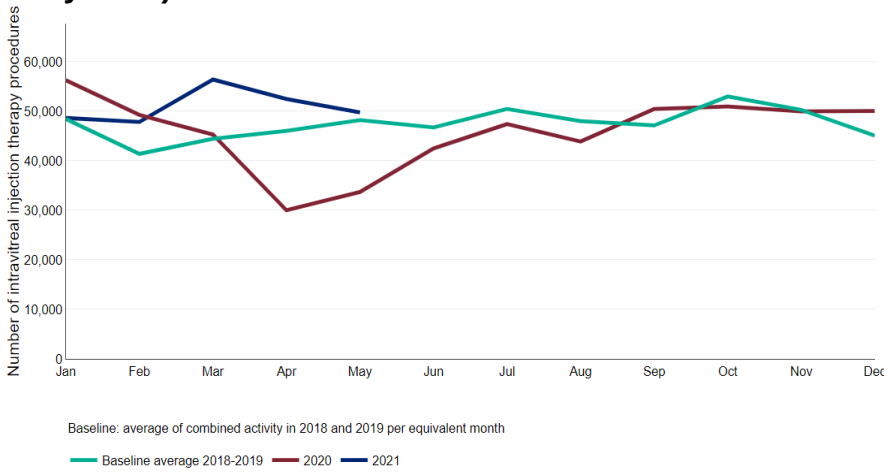


In 2020 there were 1.4 million all vision outpatient first attendances, a **38% decrease** from 2019

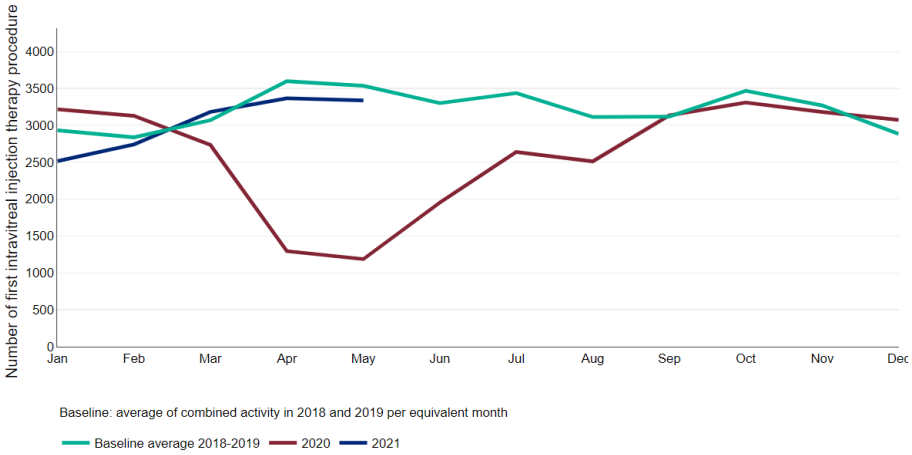
These charts are being updated in the PHE **Wider Impacts of COVID-19 on Health (WICH) monitoring tool**: available at https://analytics.phe.gov.uk/apps/covid-19-indirect-effects/

The effect of Covid-19 on intravitreal injection therapy procedures

All intravitreal injection therapy procedures in people aged 60 years and over for England (January 2018 to May 2021)



First intravitreal injection therapy procedures in people aged 60 years and over for England (January 2018 to May 2021)



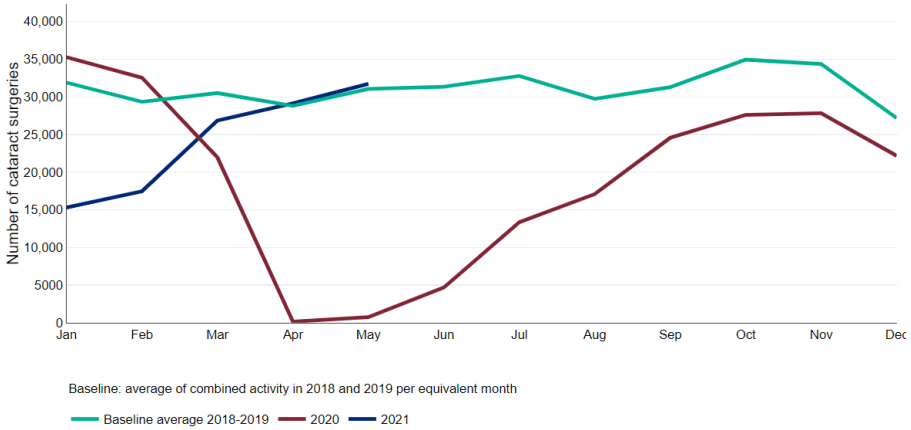
There were 550,000 intravitreal injections in 2020, a **9% decrease** on 2019.

The number of first intravitreal injections **decreased by 19%** in 2020 from 2019 (a decrease of 7,200)

These charts are being updated in the PHE **Wider Impacts of COVID-19 on Health (WICH) monitoring tool**: available at https://analytics.phe.gov.uk/apps/covid-19-indirect-effects/

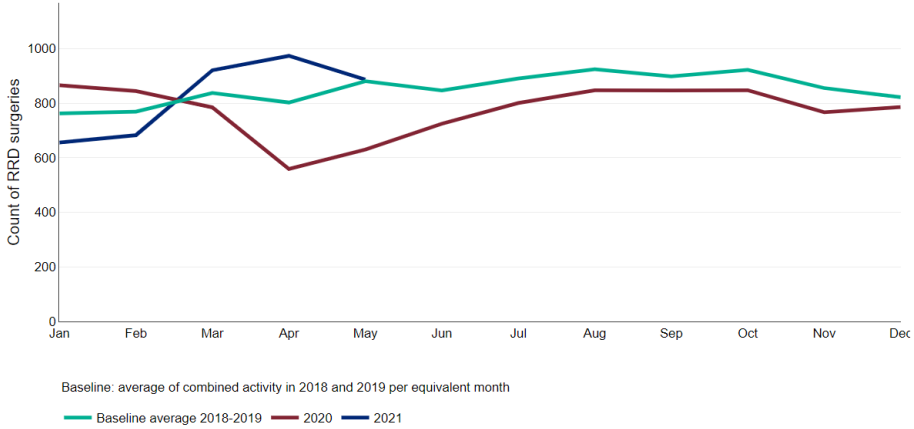
The effect of Covid-19 on cataract surgery and retinal detachment surgery

Admission to hospital for cataract surgery in people aged 65+ for England (January 2018 to May 2021)



Cataract surgery has **decreased by over 40%** in the year 2020 compared to the previous year. In the 2020 there were 227,000 admissions for cataract surgery compared to 392,000 in 2019

Rhegmatogenous retinal detachment surgery in people aged 18 years and over for England (January 2018 to May 2021)



Rhegmatogenous retinal detachment surgery **decreased in 2020 by 11%** when compared to the previous year with 1,200 fewer surgeries being carried out

These charts are being updated in the PHE **Wider Impacts of COVID-19 on Health (WICH) monitoring tool**: available at https://analytics.phe.gov.uk/apps/covid-19-indirect-effects/

Public Health England

Protecting and improving the nation's health

Questions

Public Health England

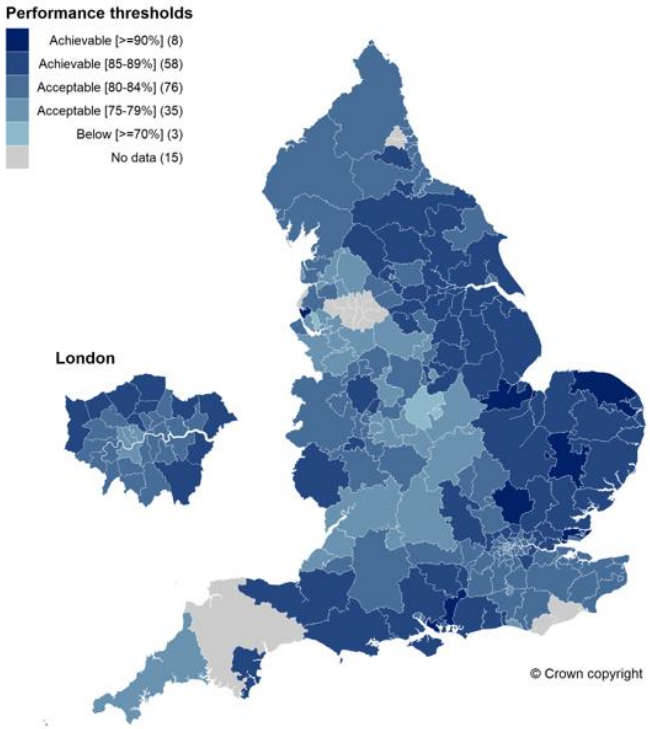
Protecting and improving the nation's health

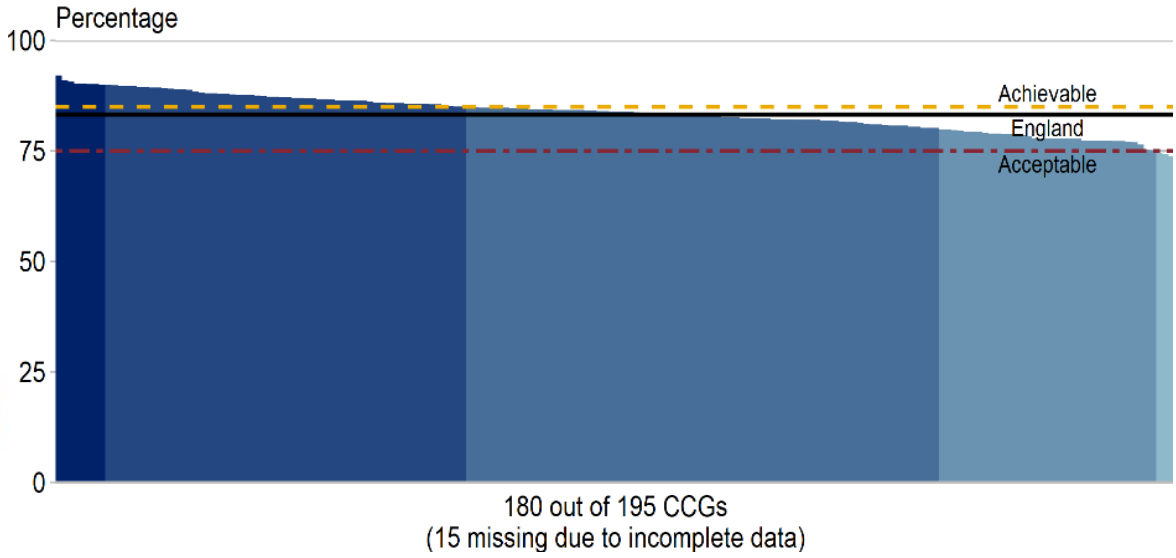
Diabetic Eye Screening

Diabetic eye screening - a success story - no longer the leading cause for certification of visual impairment in the working age population

Studies have shown diabetic eye disease affects 48% of type 1 and 28% of type 2 people with diabetes in the UK

Percentage of those offered diabetic eye screening who attend a routine digital screening event (where images were captured) in people aged 12 years and over by clinical commissioning group (CCG) 2018/19

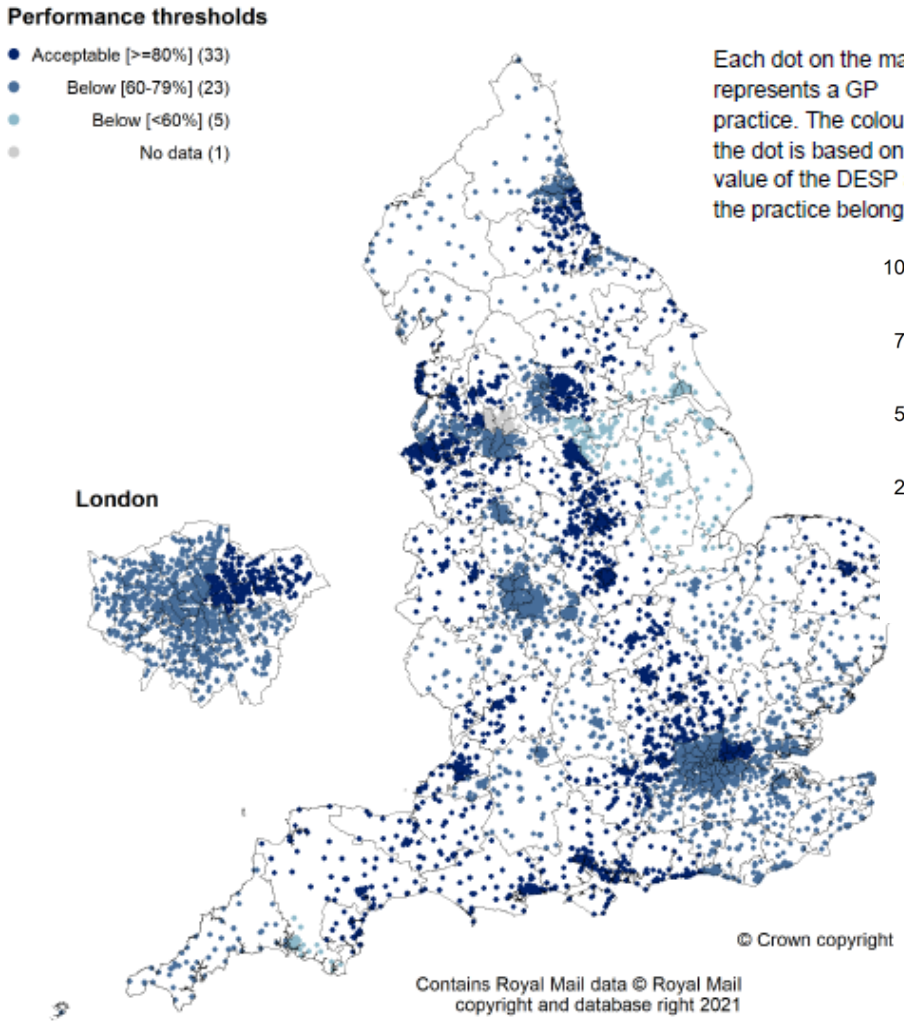




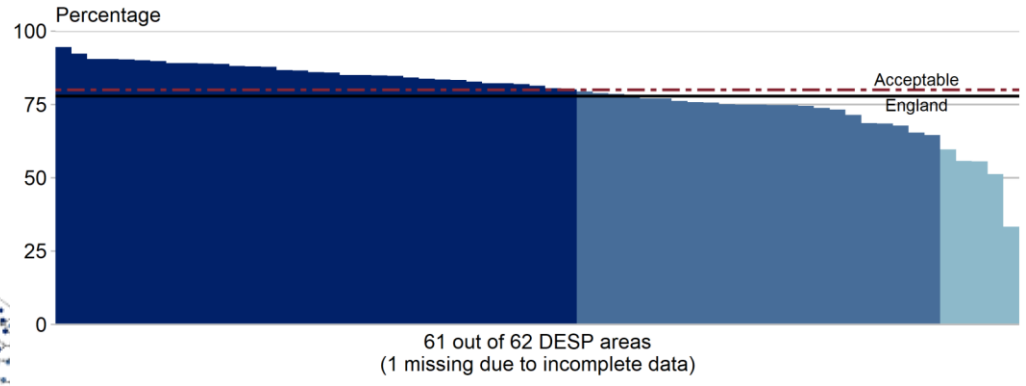
The England value for 2018/19 was 83.2%
CCG values ranged from 73.8% to 92.1% a 1.2-fold difference

Overall, uptake of diabetic eye screening 177 out of 180 CCGs met the acceptable standard in 2018/19, with 66 out of 177 meeting the achievable standard.

Percentage of urgent referrals for diabetic eye disease (referred proliferative diabetic retinopathy [R3A]) seen within 6 weeks of screening event in people aged 12 years and over by DESP area

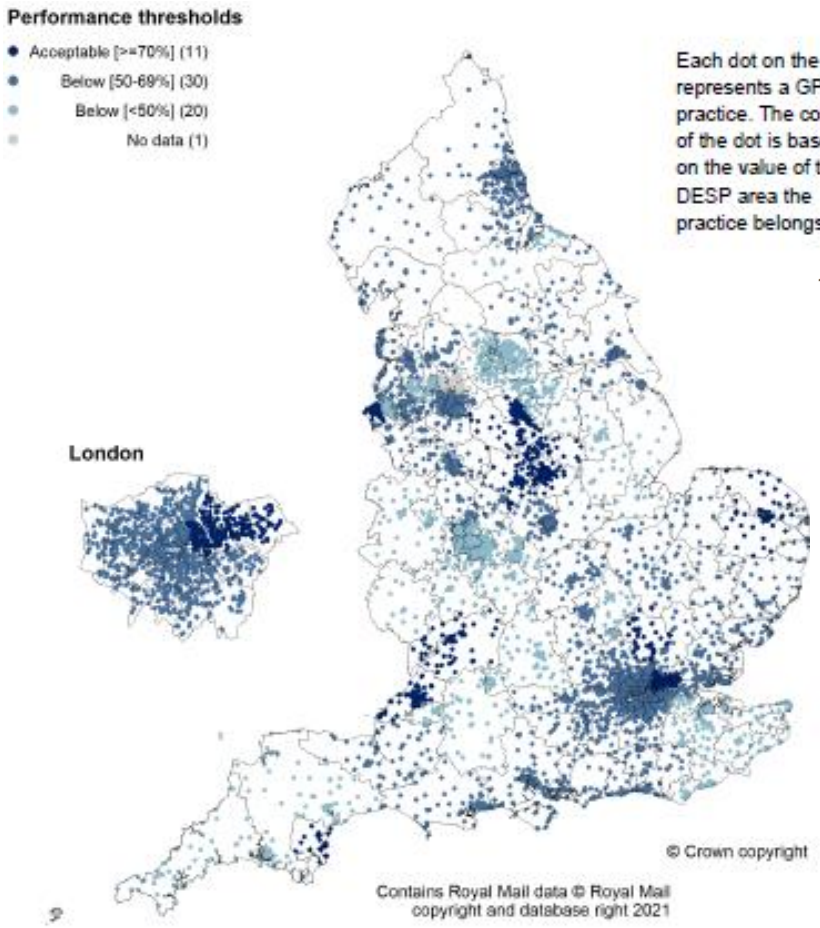


2018/2019 values ranged from 33.3% to 94.6%, **a 2.8-fold difference between DESP areas**.

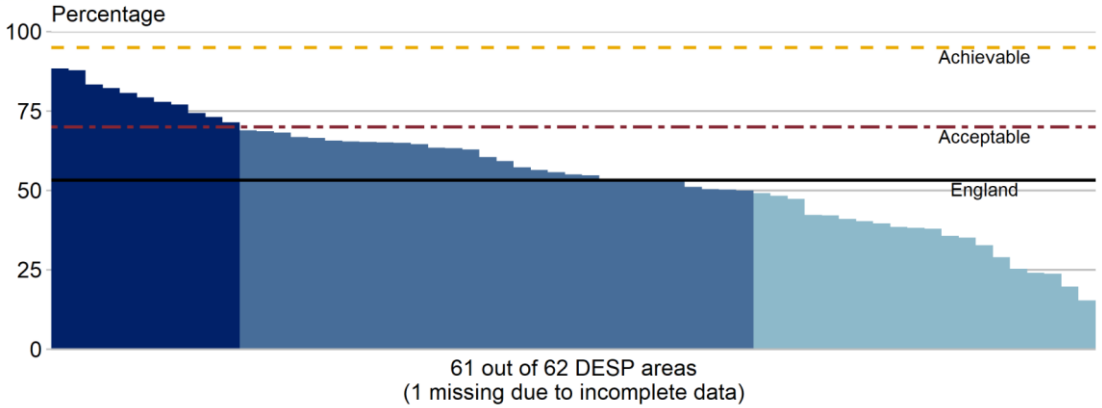


- The England value for 2018/19 was 77.9%.
- The mean England value for review of urgent referrals within 6 weeks was slightly below the acceptable standard of 80%.
- Large variation across regions.
- Approximately half, 33 out of 61 (for which data were available), DESP areas met the acceptable standard

Percentage of routine referrals for diabetic eye disease (referred pre-proliferative diabetic retinopathy [R2] or maculopathy [M1]) seen within 13 weeks of screening event in people aged 12 years and over by DESP area (2018/19)



DESP area values ranged from 15.3% to 88.4%, **a 5.8-fold difference between DESP areas.**
The England value for 2018/19 was 53.2%, below acceptable standard (70%)



Marked variation across England

Only 11 out of 61 (for which data were available) DESP areas met the acceptable standard

Variation, Action & Resources

Reasons for variation:

- Screening uptake
- Barriers to screening include
- Lack of hospital capacity

Options for action include:

- Patient education
- Improve communication between the different groups of healthcare professionals involved in care of people with diabetes is pivotal.
    - Links between these groups could be used to identify local factors for intervention to improve uptake and attendance at hospital appointments.
- Improving the accessibility of hospital eye services, providing more flexibility and integrating diabetes care and the introduction of more digital surveillance clinics for monitoring of low risk maculopathy.

Resources (further resources can be found in the vision atlas)

- Public Health England (2020) Diabetic eye screening standards valid for data collected from 1 April 2019 - GOV.UK (www.gov.uk)

Public Health England

Protecting and improving the nation's health

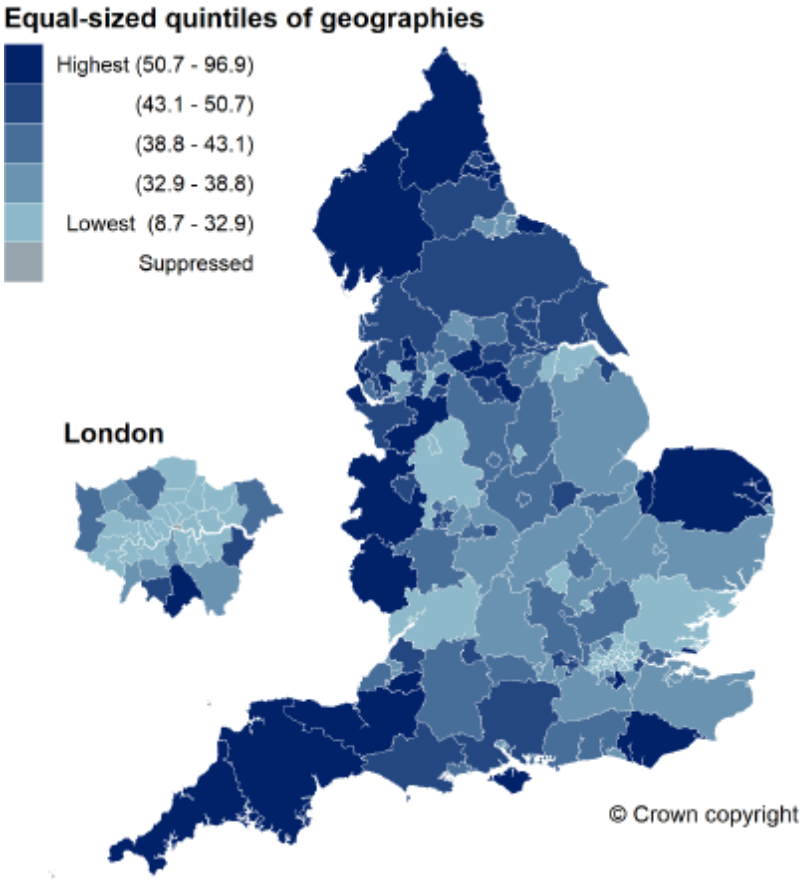
Sight loss outcomes

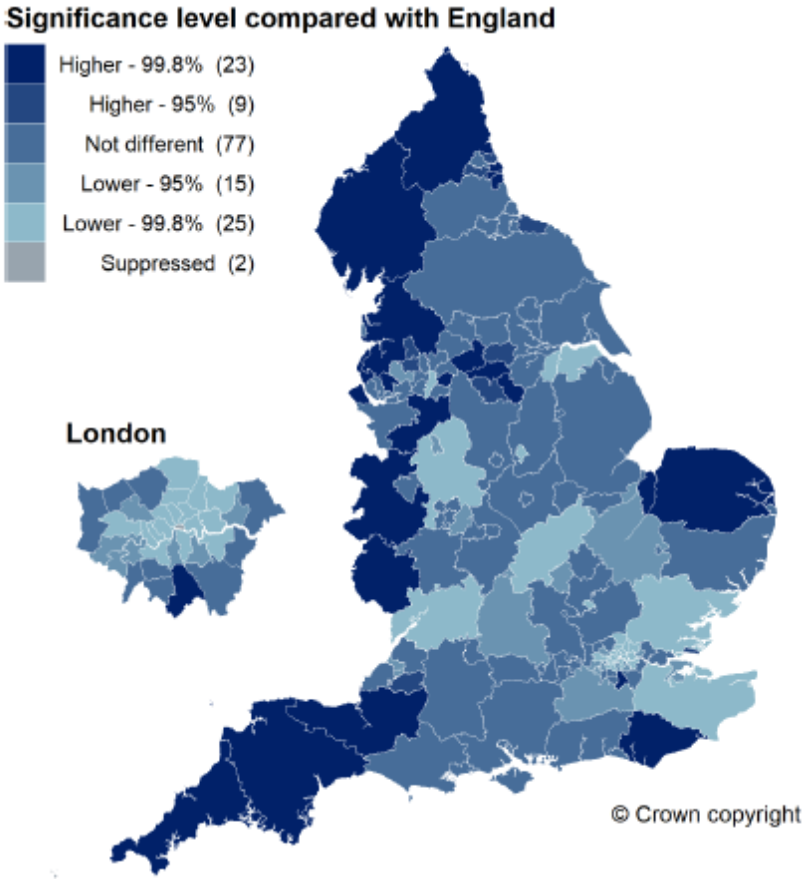
Sight loss certifications and registration - why these are important

- The primary purpose of the process of certification of vision impairment is to formally acknowledge a level of impairment in need of services for care and support in the community, **to maintain independence and inclusion**.
- Certification and registration is **neither mandatory nor automatic**.
- Individuals who have agreed to be certified as being sight impaired or severely sight impaired, and have received a certificate of vision impairment (CVI) from an ophthalmologist, can then choose whether or not to be included in their local authority's register of blind or partially sighted people.
- Those that accept and register become **eligible for certain concessions and locally determined support services**. They represent a cohort of people that are known at LA level by both health and social care services who would benefit from support in the community to lead independent lives, reduce risk of falls, etc
- Since its establishment in 2012, the Public Health Outcomes Framework (PHOF) has included CVI as an indicator of preventable sight loss.

New certifications of visual impairment (CVI) from all causes in people of all ages by upper-tier local authority (UTLA) (2019/20)

Crude rate per 100,000 population





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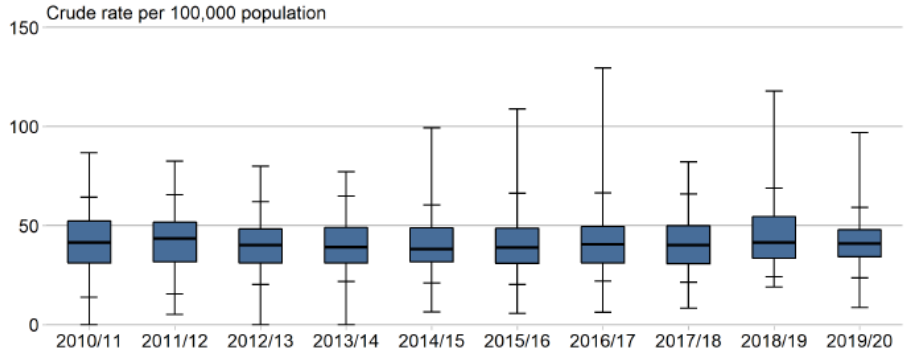
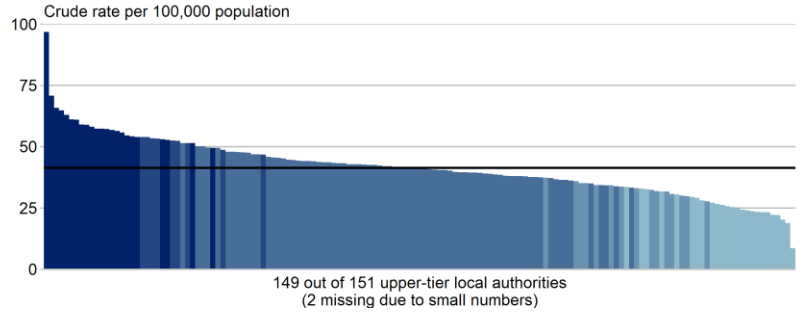
New certifications of visual impairment (CVI) from all causes in people of all ages by upper-tier local authority (UTLA) (2019/20)



Year	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	
Max-Min (Range)	86.8	77.4	79.8	77.2	92.8	103.1	123.2	73.8	99.0	88.2	No significant change
75th-25th percentile	21.1	19.9	17.1	17.9	17.2	17.7	18.5	19.1	21.0	13.6	No significant change
95th-5th percentile	50.4	50.2	41.8	43.1	39.4	46.0	44.5	44.6	44.7	35.6	No significant change
Median	41.3	43.3	40.0	39.1	38.1	38.9	40.6	40.1	41.3	40.9	No significant change

Column chart: Variation in rate of new certifications of visual impairment (CVI) from all causes in people of all ages by upper-tier local authority (2019/20)



England value: 41.4 per 100,000 population

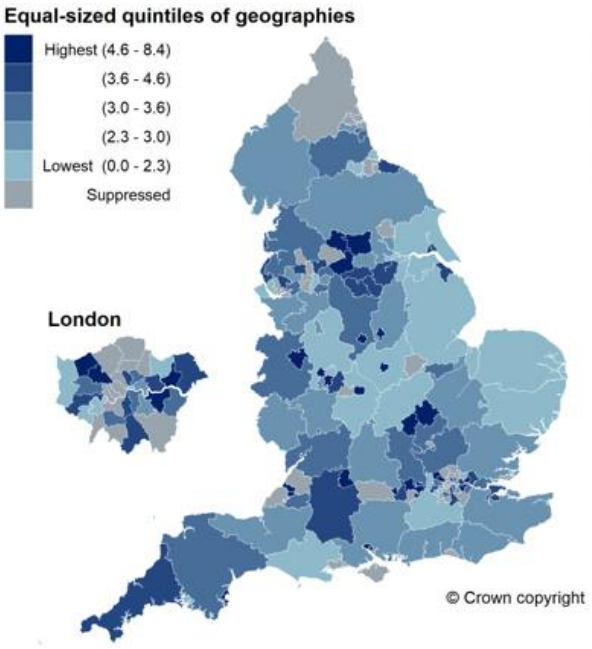
Upper-tier local authority values ranged from 8.7 to 96.9 per 100,000 population, an **11.1-fold difference**

There were 23,285 people of all ages having new all cause certifications during 2019/20

There has been no change in the measures of variation over the ten year period 2010/11 to 2019/20

New certifications of visual impairment (CVI) due to the main causes by upper-tier local authority (2019/20) crude rates per 100,000

Rates due to diabetic eye disease in people aged 12 years and over

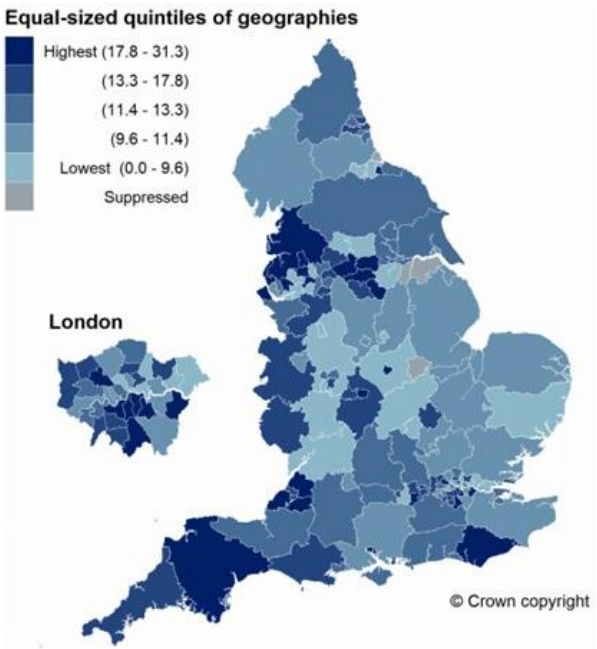


2.9 per 100,000 population

upper-tier local authority values ranged from 0.0 to 8.4 per 100,000 population

Decreasing over time

Rates due to glaucoma in people aged 40 years and over

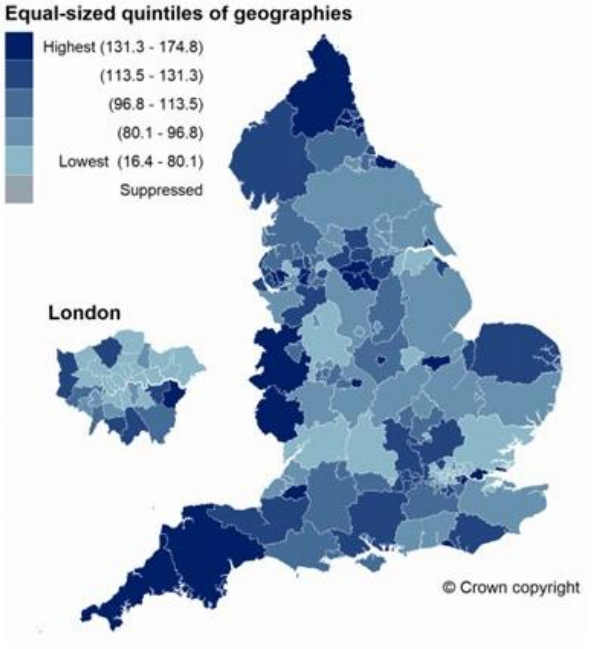


12.9 per 100,000 population

upper-tier local authority values ranged from 0.0 to 31.3 per 100,000 population.

No change over time

Rates due to age related macular degeneration (AMD) in people aged 65 years and over



105.4 per 100,000 population

upper-tier local authority values ranged from 16.4 to 174.8 per 100,000 Population a 10.7-fold difference

Decreasing over time

Variations, Actions & Resources

Factors likely to be contributing to the variations include:

- Delays in certification for patients undergoing active treatment (injections, laser etc)
- Differences in distribution of demographic factors associated with risk of vision impairment; access and uptake of health services, and uptake of an offer of certification
- Differences in clinical practice and awareness of the purpose of certification
- Delays in processing completed certifications for returns to the CVI data repository due to lack of administrative and clerical support

Options for action:

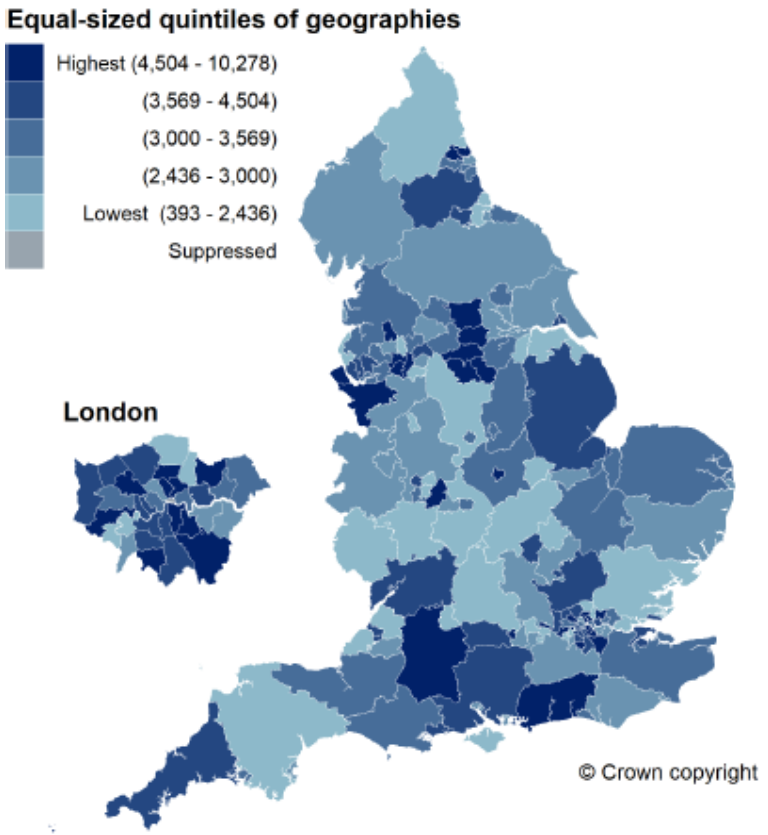
- Improve awareness and provision of accessible information
- Review service specifications and clinical protocols
- Continue to increase electronic returns of completed CVI forms to the CVI data repository.
- Regular CVI audit and review both locally and at integrated care system (ICS) level

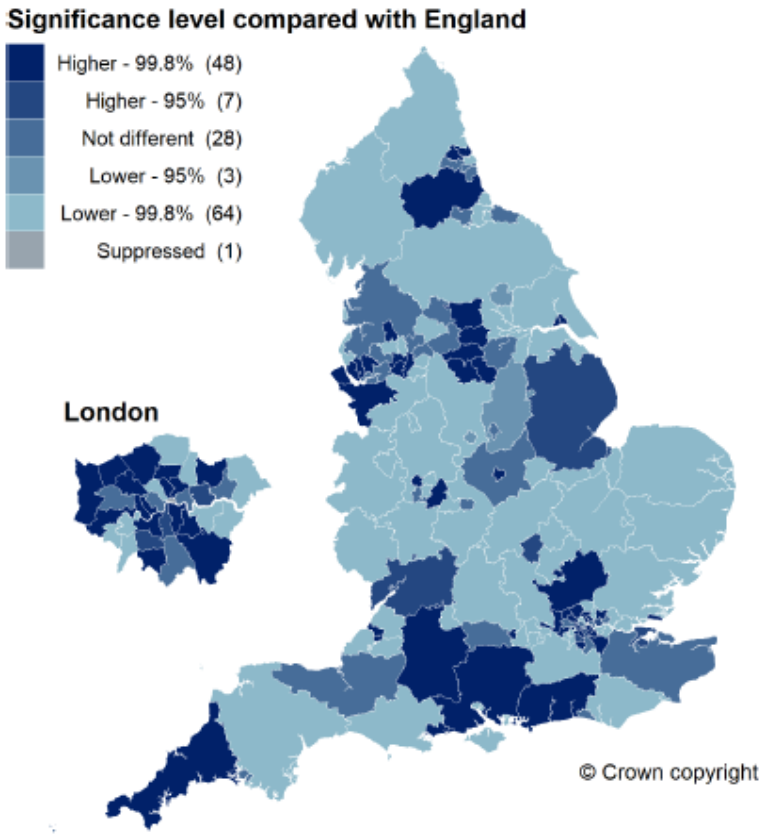
Resources (further resources available in vision atlas)

- Department of Health and Social Care (2017) Registering vision impairment as a disability - GOV.UK (www.gov.uk)
- National Institute for Health and Care Excellence (2019) Quality statement 6: Certificate of vision impairment | Serious eye disorders | Quality standards | NICE

Registered blind or partially sighted people aged 75 years and over by upper-tier local authority (2019/20)

Crude rate per 100,000 population





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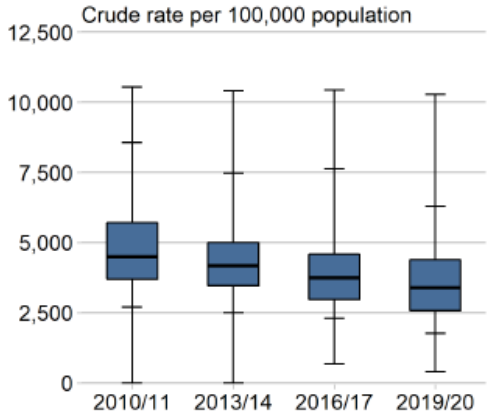
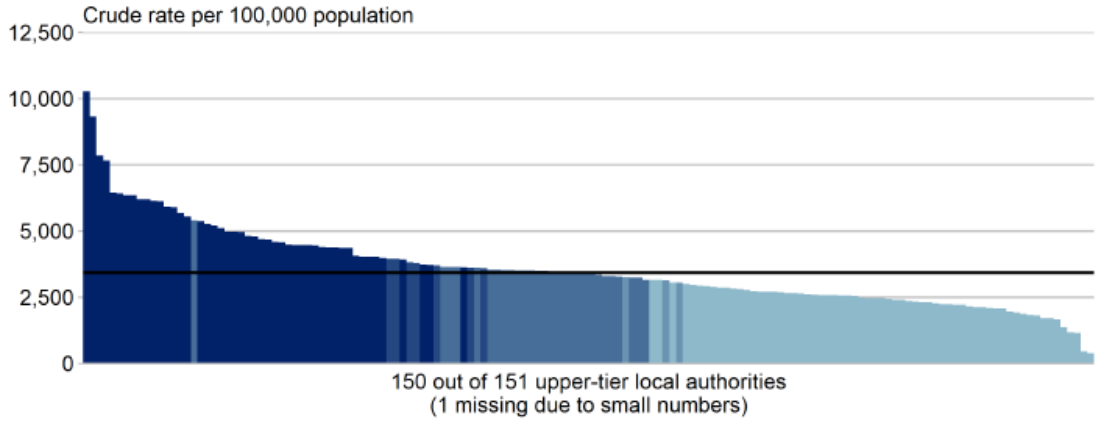
Registration rate in those aged 75+ is more than 6 times the rate in those aged 65-74 years

Registered blind or partially sighted people aged 75 years and over by upper-tier local authority (2019/20)



Year	2010/11	2013/14	2016/17	2019/20	
Max-Min (Range)	10,533	10,403	9,759	9,885	No significant change
75th-25th percentile	1,995	1,539	1,615	1,809	No significant change
95th-5th percentile	5,865	4,972	5,331	4,530	No significant change
Median	4,499	4,176	3,736	3,396	DECREASING Significant

Column chart: Variation in rate of registered blind or partially sighted people aged 75 years and over by upper-tier local authority (2019/20)



England value 3,429 per 100,000 population

Upper-tier local authority values ranged from 393 to 10,278 per 100,000 population, a **26.2-fold difference**

There were 13,415 new registrations in people aged 75 years and over, representing 64% of all new registrations.

Over the 10 year period 2010/11 to 2019/20, the median rate of new registrations decreased without any significant change in the level of variation.

Variation, Actions & Resources

Common factors contributing to variations observed:

- capacity pressures in social services / local authorities
- local priorities for maintaining and updating the register
- demographic characteristics impacting registration uptake
- differences in local authority population profiles

Options for action:

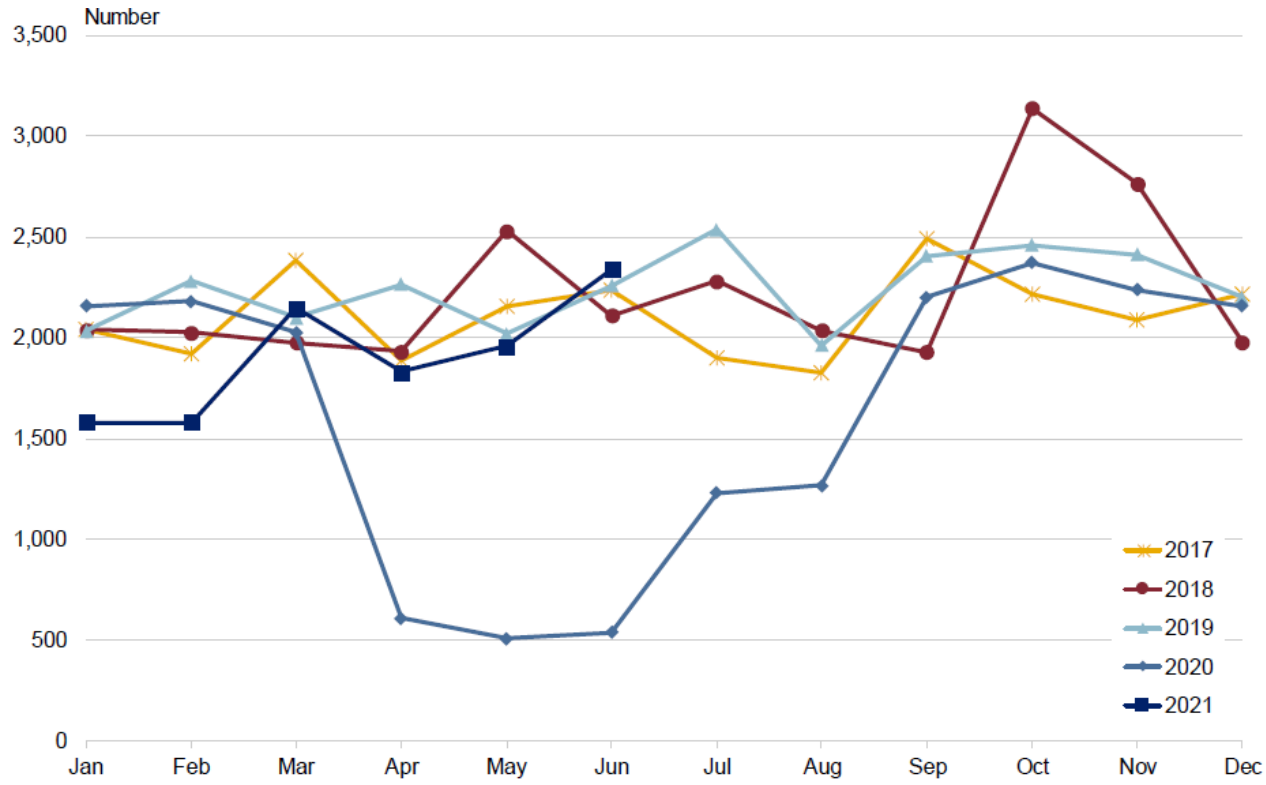
- Using registration data to estimate local needs, and inform planning and provision of appropriate more holistic support and services for sight impaired people. Consider wider comorbidities to ensure inclusion in relevant rehabilitation and prevention programmes.
- Registration uptake can be increased by improving awareness and provision of accessible information on the availability of local support services
- Engage with eye clinic liaison officers to provide continuity between the health and social care services
- Review service quality

Resources (further resources can be found in the vision atlas)

- Department of Health and Social Care (2017) Registering vision impairment as a disability - GOV.UK (www.gov.uk)
- Department of Health and Social Care Care and support statutory guidance – site registers - GOV.UK (www.gov.uk)

The effect of Covid-19 on certificates of visual impairment (CVI)

Numbers of certificates of visual impairment (CVI) for epidemiological analysis received at the Royal College of Ophthalmologists for England and Wales (January 2017 to June 2021)



Across England and Wales preliminary figures show certifications have **fallen by a third** in 2020/21:

2019/20 – 26,889
2020/21 – 18,429

[9] Data source: Royal College of Ophthalmologists Certifications Office based at Moorfields Eye Hospital

Public Health England

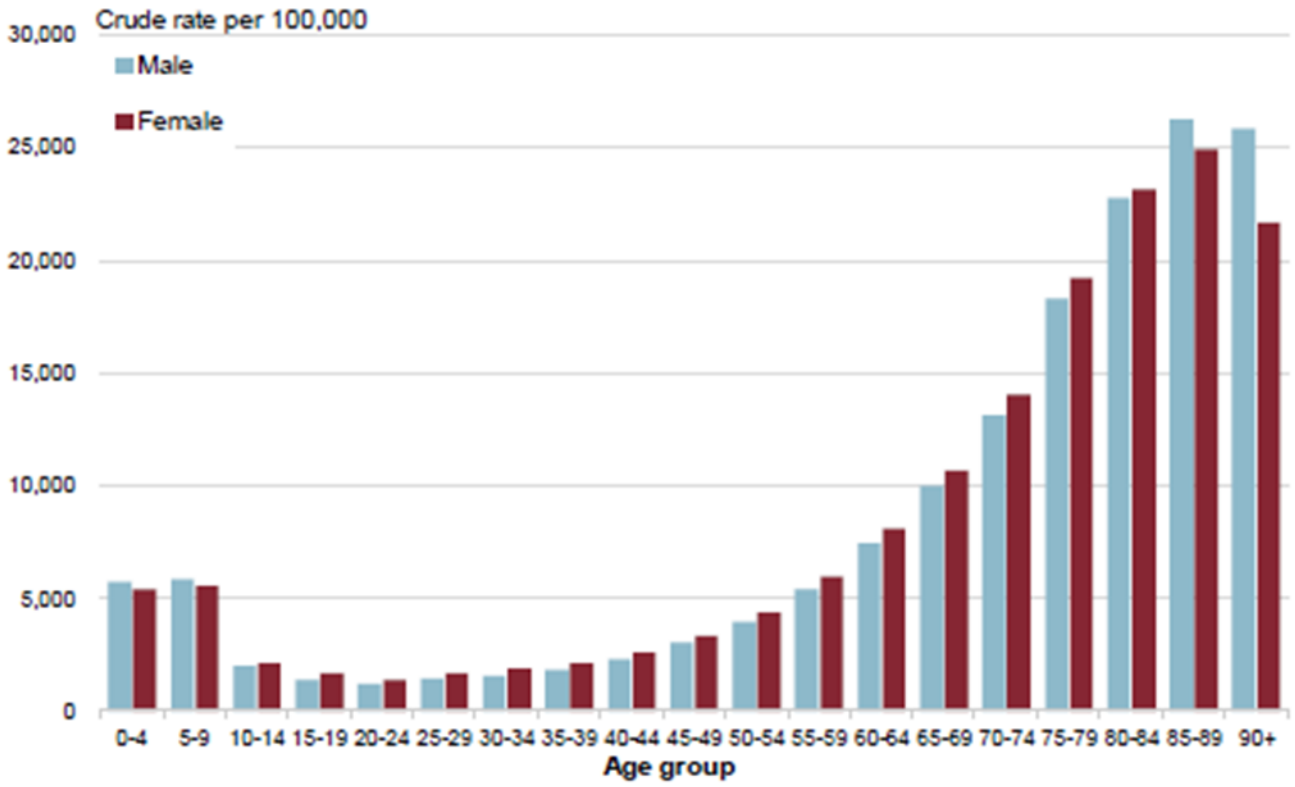
Protecting and improving the nation's health

Population risk factors for poor eye health

Age is an important determinant for the need and use of vision services - the older you are, the greater the risk of sight loss

1 in 4 people aged 85 to 89 years had a vision outpatient appointment in 2019/20

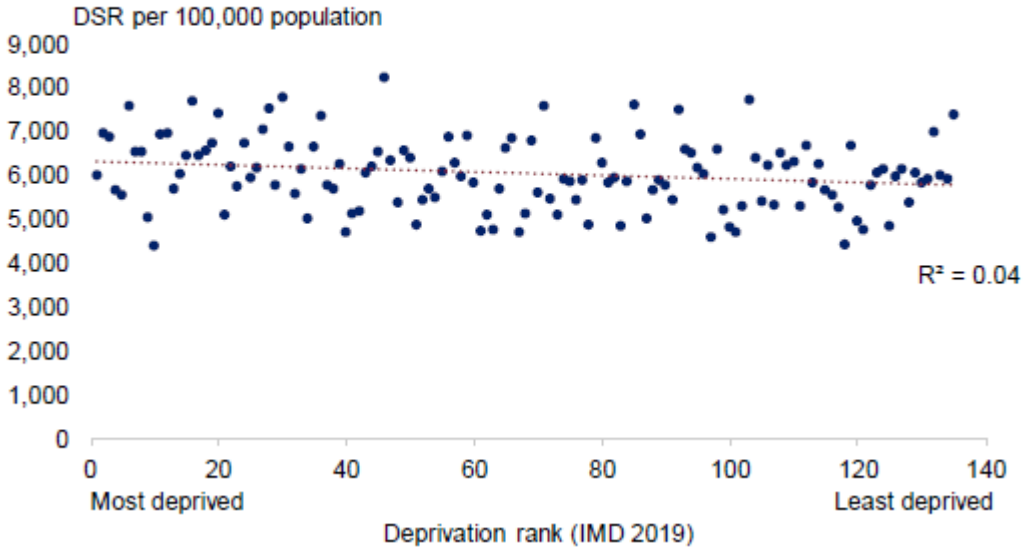
Outpatient attendances by age and sex for England 2019/20



The link with deprivation

- Area deprivation analysis of the hospital data for this atlas does not suggest a strong relationship with deprivation at a clinical commissioning group (CCG) level, though the relationship is likely confounded by access.

Figure A2: Scatterplot of all vision outpatient attendances (persons based) by index of multiple deprivation by clinical commissioning group (2019/20)



- This needs to be combined with analysis of improved primary care data and at a lower geographical level to fully explore links with deprivation. The lack of good quality data for primary care eye services makes evidence of links between access to eye services and deprivation difficult to analyse.

Ethnicity

- People from certain ethnic minority groups are at greater risk of some of the most common causes of sight loss in the UK.
  - People of Black African and Caribbean ethnicity are at a 4 to 8 times greater risk of developing open angle glaucoma, the most common form of glaucoma. There is also an increased risk in people from East Asian communities.
  - People of South Asian and Black ethnicity are at a significantly higher risk of diabetic eye disease.
  - People of Asian ethnicity have a greater risk of developing age-related cataracts with some evidence of an earlier onset of the disease.

- Black and minority ethnic people with sight loss may also require higher support needs due to language barriers or social isolation.

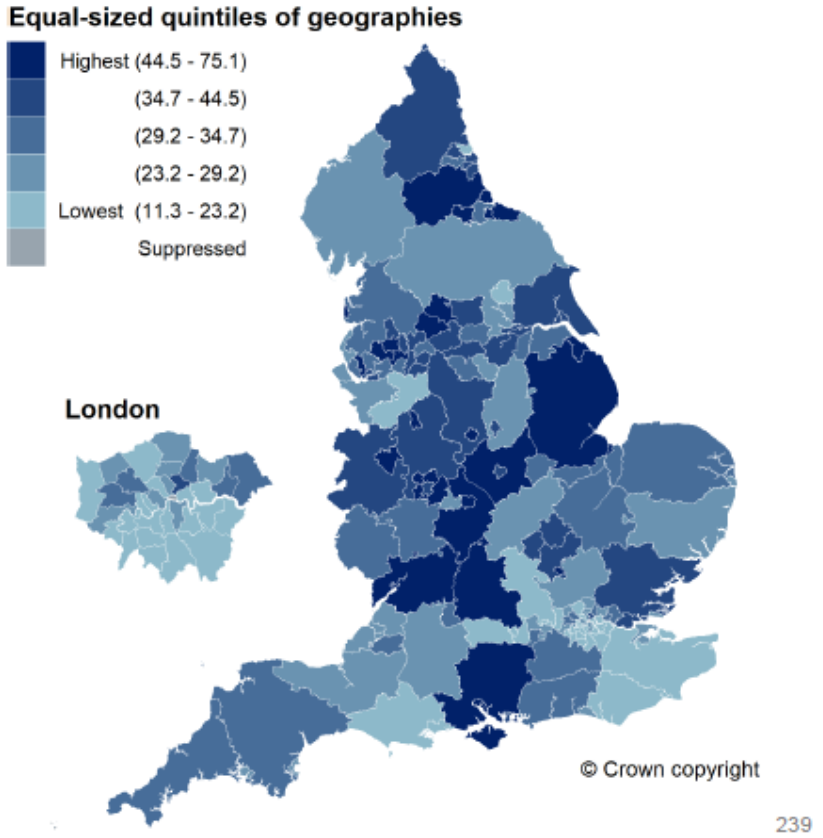
- Future updates to the hospital episode statistics indicators included within this atlas are planned to include analysis by ethnicity.

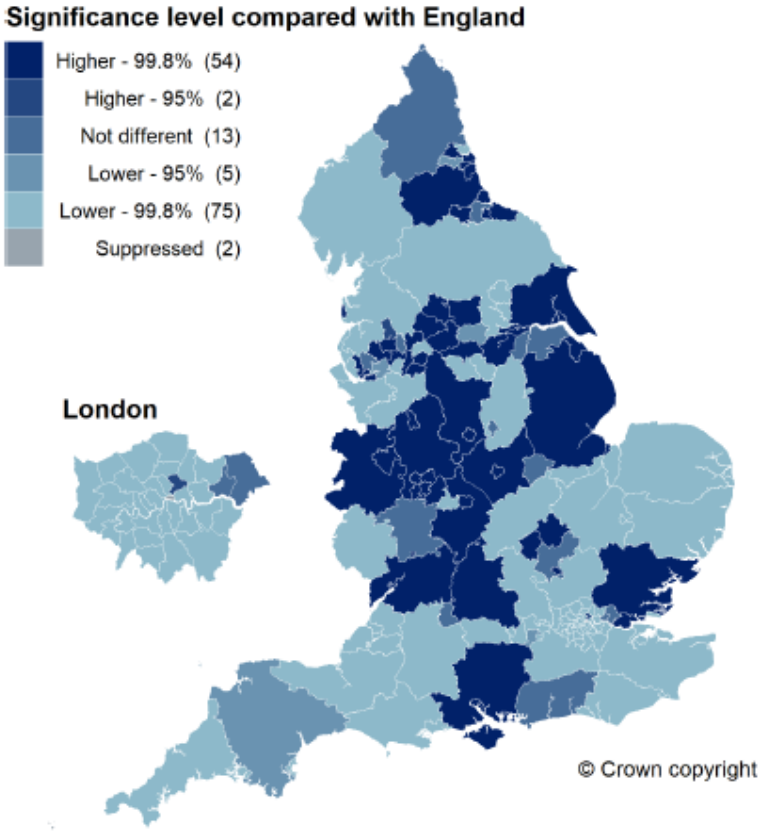
Learning difficulties in children and adults

- There are estimated to be 1.2 million people in England with a learning disability
- People with learning disabilities experience high levels of sight problems at all ages
  - Adults with learning disabilities are **ten times** more likely to experience sight loss than the general population
  - Children with a learning disability are **28 times** more likely to have a serious sight problem
- Recent studies suggest:
  - 4 in 10 children in special schools have never had a sight test
  - half of adults with learning disabilities have not had a sight test in the recommended period
- Many of the risk factors, such as smoking, diet, physical activity, hypertension and obesity associated with eye conditions such as glaucoma and diabetic eye disease are more likely to be present for people with learning disabilities than the general population.

Children with learning difficulties known to schools by upper-tier local authority (2020)

Crude rate per 1,000 population





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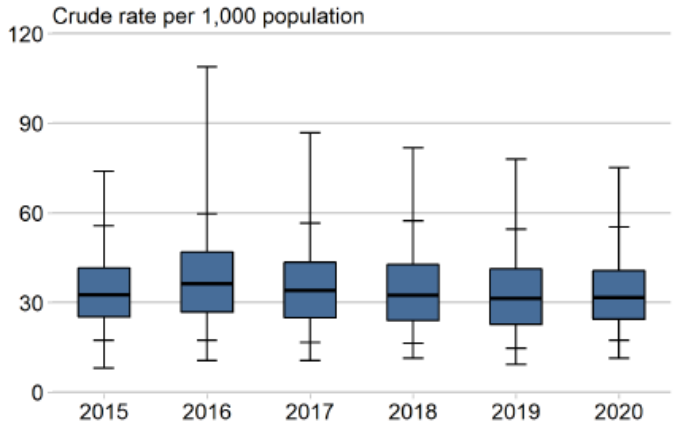
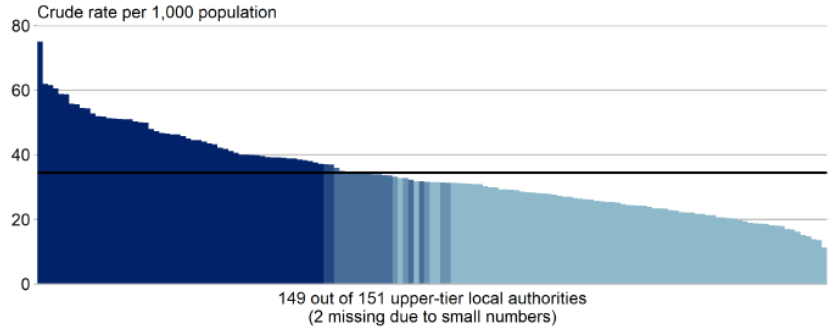
Children with learning difficulties known to schools by upper-tier local authority (2020)



Column chart: Variation in rate of children with learning difficulties known to schools by upper-tier local authority (2020)



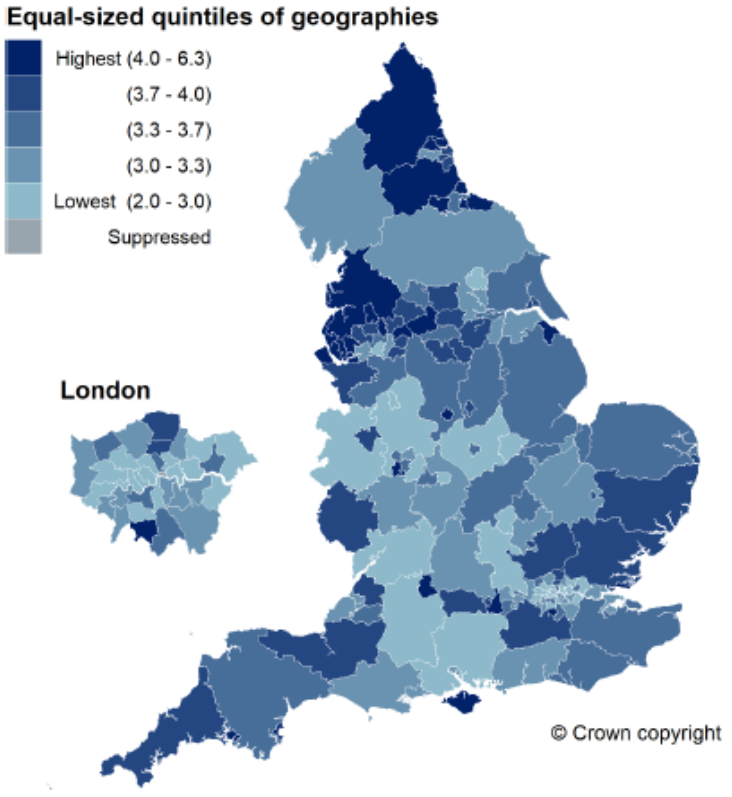
Year	2015	2016	2017	2018	2019	2020	
Max-Min (Range)	65.9	98.2	76.2	70.4	68.6	63.7	No significant change
75th-25th percentile	16.3	20.1	18.5	18.7	18.5	16.2	No significant change
95th-5th percentile	38.3	42.2	40.0	40.9	39.8	37.7	No significant change
Median	32.5	36.2	34.0	32.3	31.4	31.6	No significant change

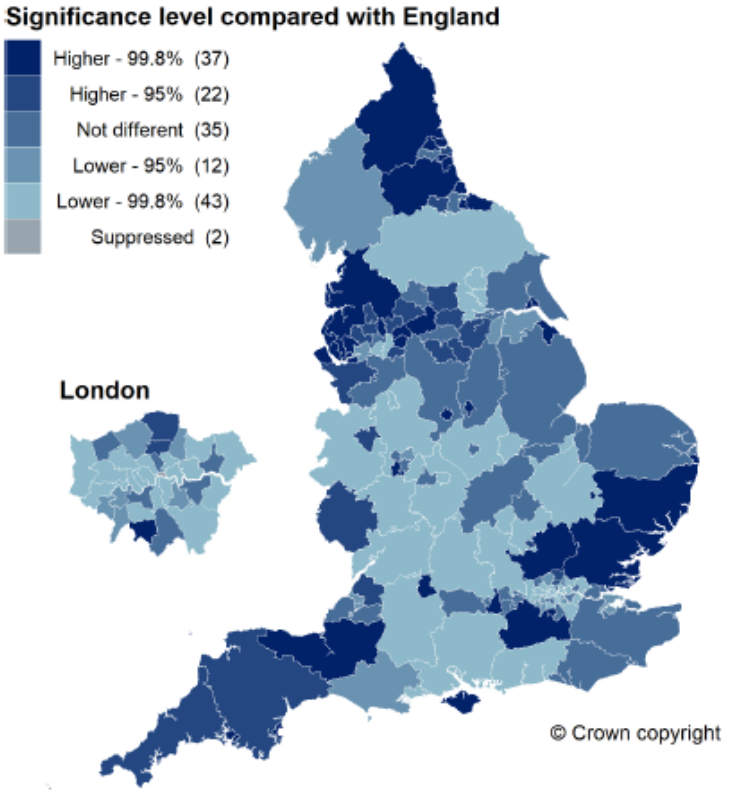
England value 2020: 34.4 per 1,000 population

Upper-tier local authority values ranged from 11.3 to 75.1 per 1,000 population, a 6.6-fold difference

People aged 18 years and over with a learning disability getting long-term support from local authorities by upper-tier local authority (2019/20)

Crude rate per 1,000 population





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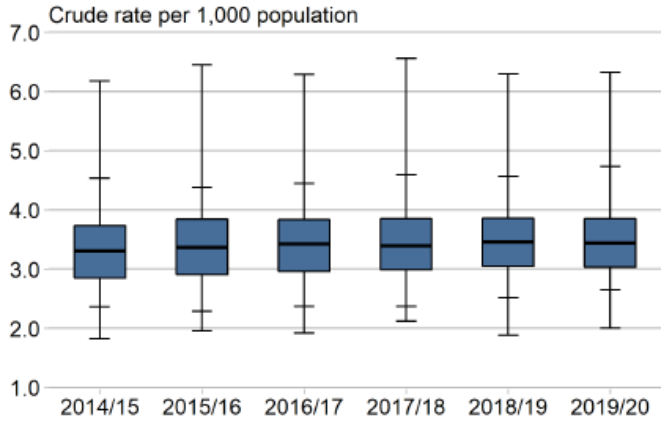
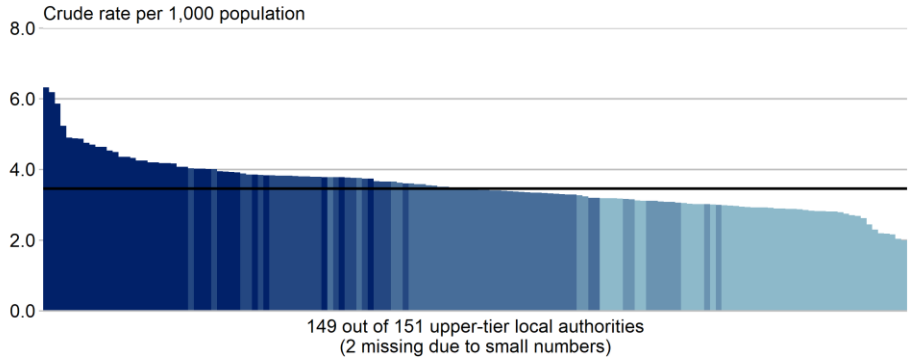
People aged 18 years and over with a learning disability getting long-term support from local authorities by upper-tier local authority (2019/20)



Year	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	
Max-Min (Range)	4.4	4.5	4.4	4.4	4.4	4.3	No significant change
75th-25th percentile	0.9	0.9	0.9	0.9	0.8	0.8	NARROWING Significant
95th-5th percentile	2.2	2.1	2.1	2.2	2.0	2.1	No significant change
Median	3.3	3.4	3.4	3.4	3.5	3.4	INCREASING Significant

Column chart: Variation in rate of people aged 18 years and over with a learning disability getting long-term support from local authorities by upper-tier local authority (2019/20)



England value 2019/20: 3.5 per 1,000 population

Upper-tier local authority values ranged from 2.0 to 6.3 per 1,000 population, a **3.2-fold difference**

Variation, Action & Resources

Potential Causes of Variation

- Socioeconomic and demographic factors
- Abilities of local authorities to assess needs and presence of disabilities
- Funding allocation
- Variation in local authorities funding priorities
- Variation in numbers accessing GP learning disability annual health check

Options for Action

- Using a functional visual assessment, rather than using a standard chart
- Allow functional visual impairment on registration/certification for visual impairment form
- Specific inclusion of eye conditions relating to children with special needs and adults with learning disability within professional curricula
- Public Health information campaigns using peer to peer led community champions
- Proactively identifying people with learning disability prior to clinic attendance so that preparation can be offered to the patient and the carer
- The adoption of a learning disabilities eye care pathway

- **Resources (further resources available in vision atlas)**
- Royal College of Ophthalmologists (2015) Eye Care Services for Adults with Learning Disabilities.pdf (rcophth.ac.uk)
- Pilling RF, Outhwaite L and Bruce A (2016) Assessing visual function in children with complex disabilities: the Bradford visual function box - PubMed (nih.gov) Br J Ophthalmol. 2016 Aug;100(8):1118-21

Public Health England

Protecting and improving the nation's health

NHS England and Improvement activity and resources on Vision / Eye Care

NHS RightCare, GIRFT, National Eye Care Recovery and Transformation Programme (NECRTP) and Model Health System

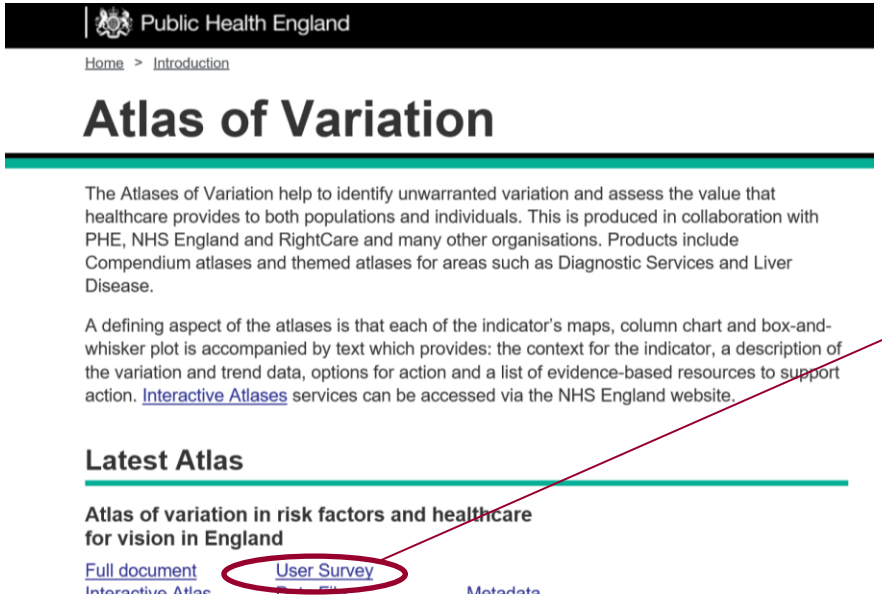
- NECRTP is part of the Pathway Improvement Programme working to transform services and aid recovery post-Covid. RightCare and GIRFT programmes are incorporated into this programme along with other programmes e.g. digital programmes from NHSX.
- Recovery, Transformation, Commissioning, Workforce and Data workstreams.
- Data is presented within Model Health System platform (previously known as Model Hospital but not expanded to cover systems).
- GIRFT metrics include;
  - Day case rates, emergency readmissions, return admissions for a range of procedures including cataract surgery (simple and complex), corneal graft, glaucoma).
- RightCare metrics include;
  - Admission rates for a range of procedures (aligned with above) and diagnosis groups.
  - Outpatient attendance rates.
  - Certificate of Visual impairment.
- New NECRTP metrics include;
  - Theatre utilisation metrics (from Model Health System Data Collection Framework).
  - Waiting times.
  - Percentage of outpatients discharged after first attendance.
  - National Ophthalmologic Database metrics e.g. pre and post-op visual acuity and post-surgery visual acuity gain.
  - Information from RNIB on access to Eye Care Liaison Officers.
  - New metrics in development aiming to present information on pre and post-surgery outpatient attendances for e.g. cataract surgery

Public Health England

Protecting and improving the nation's health

Questions

Next steps



User survey

- feedback on the atlas
- input what you would like in the next vision atlas

Survey link

- Development of Vision Profile on the PHE fingertips platform
- Vision Atlas Part II

Thank you for joining us