

Diabetic Eye Disease 06

Are we missing opportunities to screen those in greater risk?



Other Lesions 25

Presentations of Infectious Diseases on the retina

And much more, including:

Brighton and Sussex DESP, update from National DESP team, DUK strategy for 2020 - 2025, news from BARS, Careers in Diabetic Eye, Ophthalmic Imaging techniques and list of Upcoming Events



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DiabeticEyeJournal



Being a retinal screener myself I see people with diabetes on a regular basis, which reminds me how many we (the screening community) have an impact on. I would confidently say most of the time extremely positive, knowing that diabetic eye disease is no longer a leading cause of blindness in the working age population. Keeping this in mind I am always amazed at the lengths some programmes go to in order to reach that last small portion of their cohort who don't come to their appointments however valid their reasons.

Such work has been undertaken by specialists in South East London DESP at St Thomas' Hospital who visited Inpatient departments in order to screen some of their population. You can read about the results of this project, including a couple of case studies, in our section on Diabetic Eye Disease.

It is not part of the DESP common pathway to refer every screened individual for accidental finding of Other Lesions, but being aware of these pathologies and learning to recognise them can help some patients to be directed towards the right outcome. Some of those pathologies can include presentations of infectious diseases on the retina, a few of which are described by specialists from Moorfields Eye Hospital in London in our section on Other Lesions.

I certainly hope that the DEJ is delivering the type of article that our readers are interested in. We welcome your feedback, and submissions for that matter, as this publication provides a platform to share research, projects, audits, educational articles and also experiences from different DESPs around the country.

For example, you can read about Brighton and Sussex DESP, whose team not only deliver a high standard of care in England, but helps other countries in Caribbean to do the same.

And there is much more, including updates from our association BARS, that supports the screening community with educational projects, bursaries, failsafe forums to name just a few.

I hope you enjoy this spring issue and we look forward to bringing you our special edition in September from the city of Newcastle during the 20th anniversary BARS Conference!

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6 DIABETIC EYE DISEASE



Diabetic Eye Screening for Hospital Inpatients

by Samantha Mann, Clare Connor, Mary Griffin and Liz Camfield
from SEL DESP at St Thomas Hospital

DEJ content

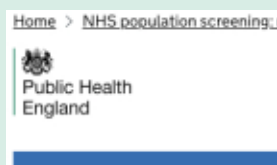
14 SPOTLIGHT on DESP



Introducing **Brighton and Sussex DESP**

National Update

from NHS Diabetic Eye Screening Programme



17 NHS DESP

20 BARS

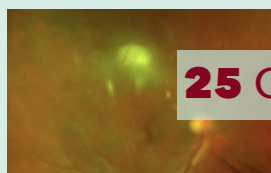


Update

from British Association of Retinal Screening

Infectious Retinitis

by Mr Ali Lamin and Miss Narciss Okhravi from Moorfields Eye Hospital



25 OTHER LESIONS

30 DIABETES UK



A generation to end the harm from diabetes

by Dr Susan Aldridge, editor of Diabetes Update

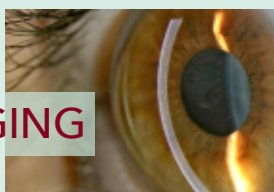
Buki Asanbe

PHE National Data Manager and NCL DESP Failsafe Manager



33 DEC INTERVIEW

36 OPHTHALMIC IMAGING



Haag-Streit Academy Slit Lamp Imaging Course

by Richard Bell, BARS Webmaster

Should we be carrying out eye screening for those patients on the Ward if overdue for their appointment?

Samantha Mann^{1,2}, Clare Connor¹, Mary Griffin¹, Liz Camfield²

1. South East London DESP,

2. St Thomas' Hospital NHS Foundation Trust.

Purpose

To perform a snapshot evaluation of all in-patients with diabetes at a central London teaching hospital. We prioritised those who are overdue their diabetic eye screening within South East London DESP, to assess whether it is a useful exercise and whether they can be screened whilst an inpatient.

Introduction

Diabetic Eye Screening is offered annually to all patients with a diagnosis of T1 or T2 diabetes as retinopathy detected in the early stages, can be treated effectively thus saving sight ¹. Many patients who do not attend regularly are at high risk of developing severe diabetic eye disease ², which can progress until it becomes symptomatic with vitreous haemorrhage and tractional retinal detachment. At this point, treatment is often less effective and can result in blindness. Admission to hospital or poor health can be a reason for non-attendance at eye screening.

Inpatients with diabetes have been shown to have a higher prevalence of diabetic retinopathy (44%) ³ compared to the outpatient population (28.3% in Type 2 diabetes ⁴) as their admission may be as a result of other diabetes complications if they struggle to control their condition or comply with treatment. As eye screening is offered as an outpatient visit within the same hospital, there is the opportunity to offer eye screening to patients during their admission. Health care professionals involved in their inpatient care are also able to speak to patients about the risks, and encourage and support their attendance at eye screening.

Methods

The patient cohort was identified from those already registered within SEL-DESP. The Optimize database was cross-referenced with the "Diabetes Inpatient Census" which the hospital informatics team run daily. This utilised inpatient coding records to identify those patients who were overdue for their diabetic eye screening. We also liaised with the specialist diabetes inpatient team, the diabetes department and ward staff over the 3 days of the evaluation to determine which patients would be suitable for screening whilst admitted. Patients were transferred down to the eye screening room or eye clinic if mobile enough, or an outpatient appointment booked for those close to their discharge. We also tried to identify patients that may be suitable for exclusion. Data were collected on gender, age, last recorded grading, suitability for screening, current grading and likelihood for exclusion.

Results

Fifty-four patients on the wards (including 4 out of area patients) (52% male-see **Figure 1**) were identified as having diabetes (50 Type 2; 3 Type 1; 1 unknown) over the 3 day period of this evaluation. Their eye screening records were reviewed and those with the worse levels of retinopathy at their last screen were prioritised. Four patients were serial non-attenders. The average age was 70 and most frequent age group 80-89 (see **Figure 2**).

The evaluation was more of a challenge than envisaged. Despite the assistance of nursing and ward staff, the patients are inpatients for a reason! Several patients were not able to be mobilised or screened due to recent amputations, MRSA infections, barrier nursing, frailty or being bed bound. Six patients were sent to either the screening clinic or the Hospital Eye Service (HES) clinic and 2 patients were reviewed on the ward (including 1 serial non-attender) using indirect ophthalmoscopy, but only a moderate view of the fundus was possible due to poor dilation.

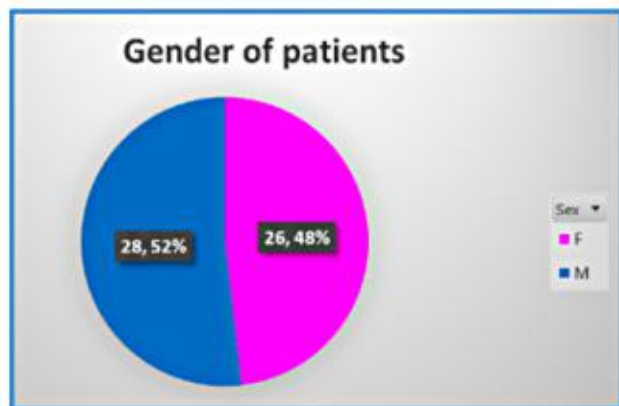


Figure 1.

Gender distribution within the screened group of patients.

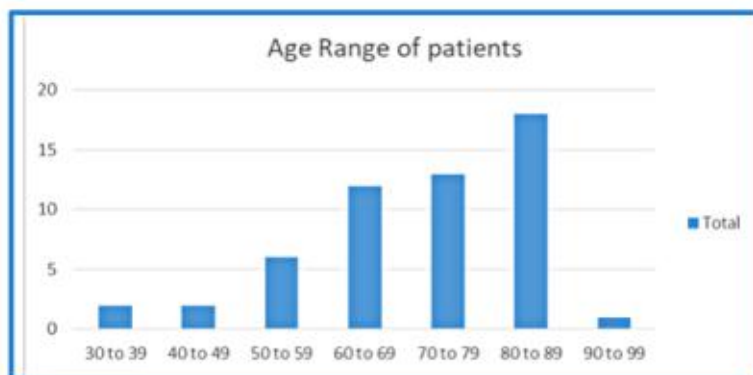


Figure 2.

Age distribution within the screened group of patients.

Level of retinopathy

Ten patients (18.5%) had significant levels of retinopathy (see **Figure 3**); 3 with active R3 (see Case Studies below). All these patients had been appropriately referred to the ophthalmology casualty or clinic during their admission due to patients complaining of symptoms or nursing staff on the ward identifying a lack of screening. Any retinopathy was present in 23/54 patients (43%). No grade could be determined in 9 patients.

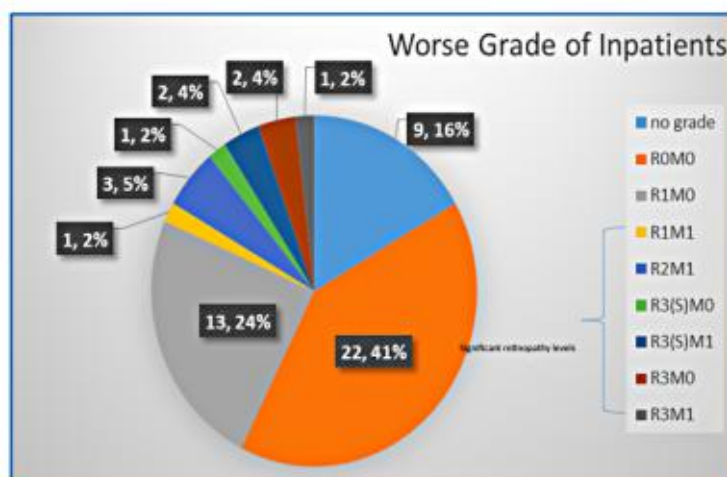


Figure 3.

Grades distribution within the screened group of patients.

Suitable for exclusion

Ten out of 54 (18.5%) were deemed suitable for exclusion from eye screening (see **Figure 4**) according to the national guidance. Two patients died during admission, 5 were long term bedbound or housebound, 2 patients had severe visual loss in both eyes (1 long standing and 1 due to haemorrhages caused by extreme gastroparesis and vomiting- already under the care of the HES) and 1 had severe Dementia and Alzheimer's.

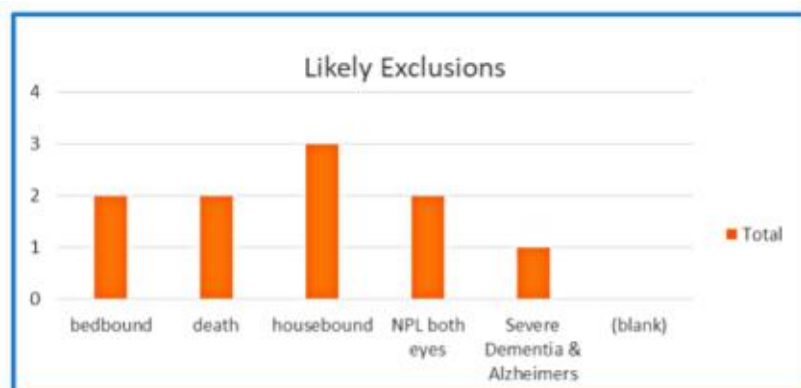


Figure 4.

Those suitable for exclusion from screened group of patients.

Case Study 1

A 75 year old male patient with Type 2 diabetes for 15 years was a serial non-attender at screening for 10 years. He was last seen in eye screening in 2009 and graded at that time as R2M1 and R3M1. Vision was recorded as 6/6 in the right eye and 6/9 in the left (see **Figure 5 a-d**). He was at that time referred urgently to his local Hospital Eye Service but unfortunately never attended. It is not clear whether he had been out of the country over the subsequent years. Then in 2019 whilst admitted for a below knee amputation at our hospital, he was identified as not having attended eye screening for several years and he complained of reduced vision in the left eye. He was subsequently referred by one of the ward nurses to DESP and booked into an SLB clinic the following day. His HbA1c at the time was 8.5% as this had been optimised for surgery. On examination his vision was recorded as 6/9 in the right and HM in the left. He was diagnosed with a tractional retinal detachment (R3) in the left eye and referred to Eye Casualty and then to the Medical Retina clinic.

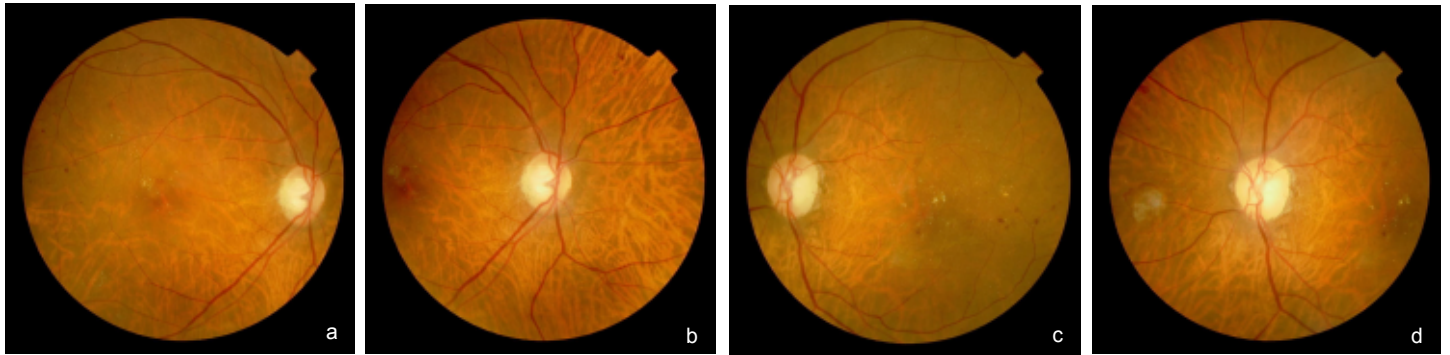


Figure 5 a to d.

Grade of R2M1 in the right eye - a and b, and grade of R3M1 in the left eye - c and d.

In the clinic, further imaging with Optical Coherence Tomography (OCT) scanning, showed mild vitreomacular traction in the right eye and advanced tractional retinal detachment in the left (see **Figure 6 a-b**). The Optos colour images (see **Figure 7 a-b**) confirmed evidence of haemorrhages in the right eye and traction in the left eye. A subsequent fluorescein angiogram (see **Figure 8 a-b**) showed the presence of neovascularisation in both eyes which was not evident on the colour photographs. He therefore required urgent pan-retinal laser in the right eye to reduce his risk of visual loss in his only good eye which was carried out in 2 sessions. The left eye required a vitrectomy operation with delamination but the prognosis was poor and surgery was not undertaken. His final visual acuity was recorded as 6/9 in the right and 4/60 in the left eye.

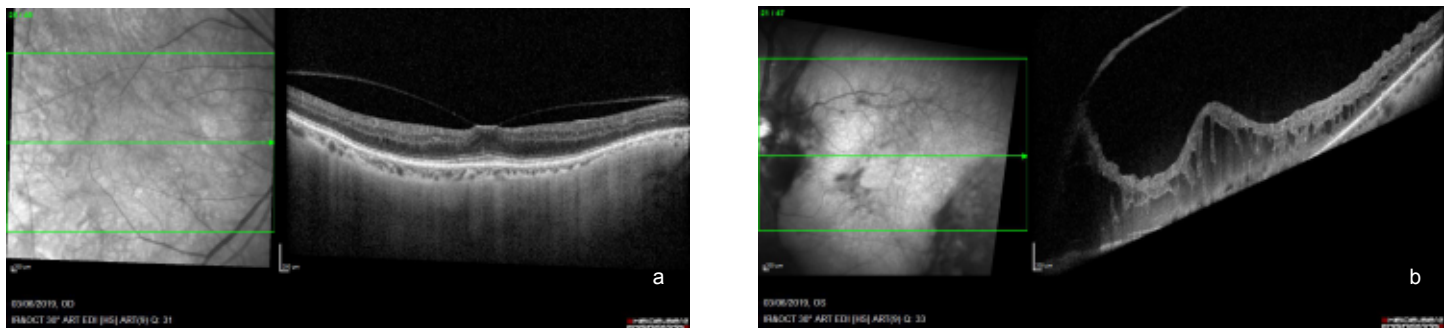


Figure 6 a, b.

OCT images of right eye with vitreomacular traction - a, and left eye with tractional retinal detachment - b.

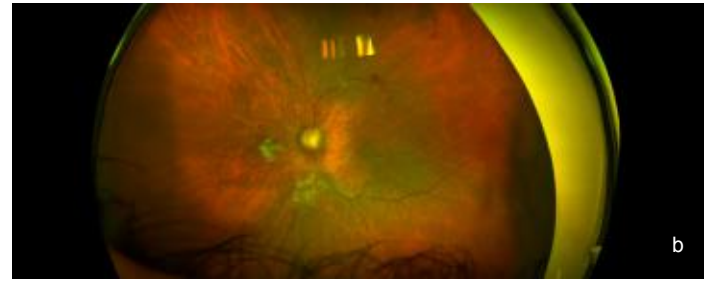
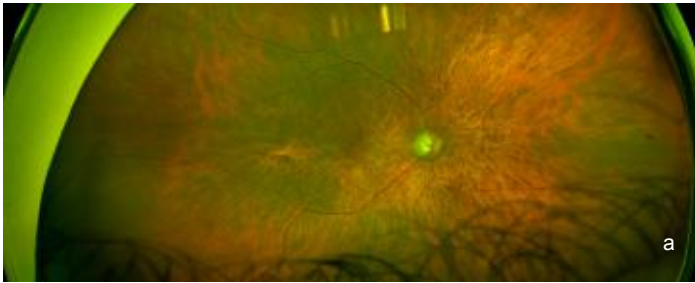


Figure 7 a, b.

Optos images confirming haemorrhages in the right eye - a, and traction in the left eye - b.

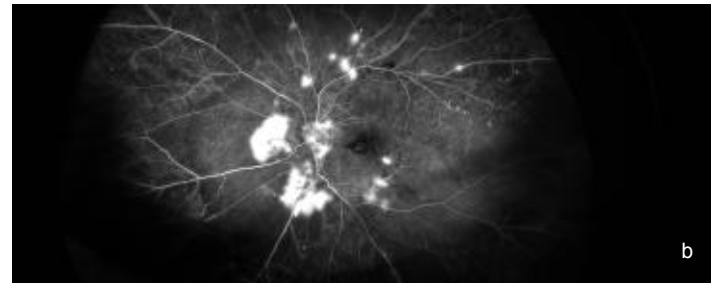
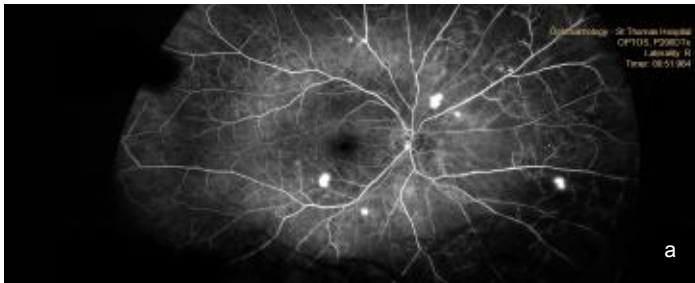


Figure 8 a, b.

Images of fluorescein angiogram with neovascularisation in both eyes.

Case Study 2

A 70 year old male patient with diabetes for 17 years was screened back in 2015 and referred to his local Hospital Eye Service with a grade of R2 M0 in the right eye and R1 M0 in the left. The vision was recorded as 6/9 bilaterally. The patient remained under the care of the eye department over the subsequent 4 years and when last seen, had progressed slightly with grades of R2M0 in both eyes. Five months later, he was admitted to our hospital with hyperglycaemia (BM=33) ataxia and falls. Whilst on the ward he complained of floaters and some double vision that had been longstanding due to a right sixth nerve palsy caused by the diabetes. There was no evidence of an acute neurological problem. In view of the floaters, he was referred to the eye clinic and found to have a visual acuity of 6/24 in both eyes with bilateral vitreous haemorrhages (R3) (see **Figure 9 a-b**). PRP laser treatment was therefore initiated in both eyes during his admission to limit further progression of disease (see **Figure 10 a-b**). Unfortunately, due to further haemorrhage, the uptake of laser was only moderate requiring him to be listed for right vitrectomy and endolaser and further laser treatment with the indirect ophthalmoscopy in theatres. The patient however did not attend any of the three appointments made for him despite repeated reminders. His last recorded vision was 6/36 in the right eye and 6/48 in the left eye due to early maculopathy and cataract.

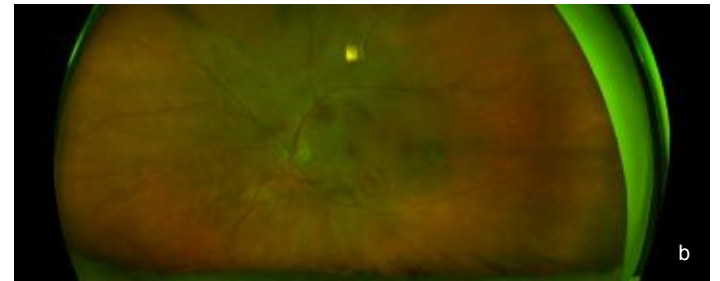
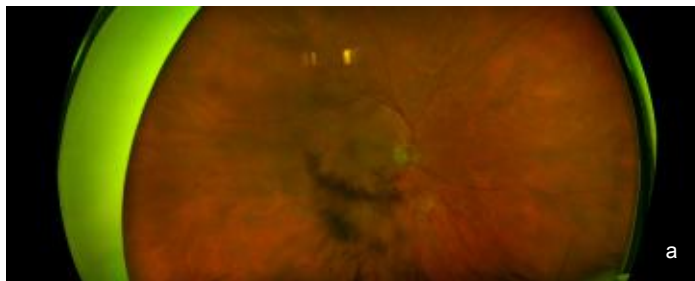


Figure 9 a, b.

Optos images of vitreous haemorrhage in both eyes.

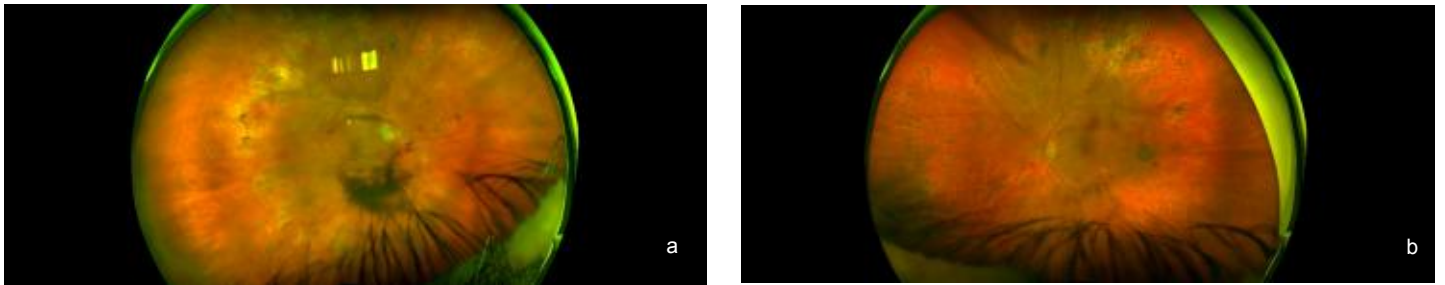


Figure 10 a, b.

Optos images of post treatment by Pan Retinal Photocoagulation (PRP) in both eyes.

Conclusions

- The level of retinopathy amongst our inpatient cohort (43%) is in line with other studies 1 and is significantly more than in the outpatient population (28.3% in T2DM). This is often accelerated by acute illnesses and worsening of diabetic control prior to admission. Sudden improvement of control prior to planned surgery may also cause more retinopathy progression.
- All the patients with significant retinopathy levels had already been referred to HES services due to the ongoing communication between nursing, medical and admin teams and were undergoing appropriate treatment. Treating patients while inpatients may be the only opportunity available to instigate appropriate laser treatment as patients may subsequently did not attend (DNA) their appointments once discharged.
- Many patients could not be mobilised to attend for screening due to infection risk and poor mobility and screening patients on the ward itself was not that useful as there was a limited view with indirect ophthalmoscopy and limited treatment available.
- Liaison with diabetic specialist nurses and diabetic teams is essential to identify those high risk patients that can be screened and treated effectively just prior to discharge.
- This also highlighted a useful way of identifying possible exclusions from the DESP programme- especially those who are terminally ill or who are very immobile.

Recommendations

This audit evaluation emphasised the importance of communication between teams within a hospital setting, especially the diabetes nurse specialists, as a way of finding at risk patients and allowing appropriate referral. We therefore recommend regular cross-referencing of Inpatient lists with those overdue DESP screening and liaise with diabetes hospital staff to allow screening and possible treatment just prior to discharge when patients are more mobile.

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Brighton and Sussex DESP



Brighton and Hove City is located on the South Coast of England and lays claim to hosting the Eurovision the year that ABBA won (1974); one pier (there was another which Chris Eubank tried to buy before it burnt down in 2003); Brighton Pride and the i360.

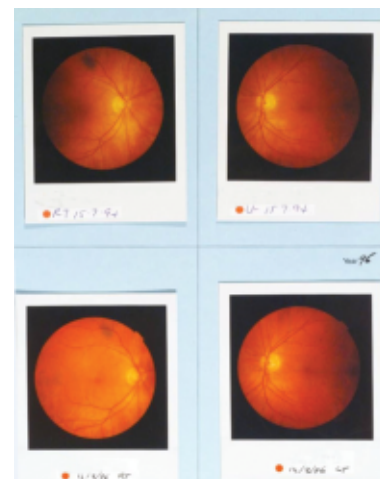
It has a population of 290,395 and encompasses diverse cultures and demographics; in fact the term DFL (Down From London) is synonymous with Brighton. It is the base for Brighton and Sussex DESP.

Brighton and Sussex DESP origins start in 1987 after one Kowa and one Topcon fundus camera were funded from a charitable donation.

The following year, a 67-year-old man with type-2 diabetes became the first person ever to be screened for diabetic retinopathy in Brighton; it was none other than Sir Harry Secombe.

In those days images were captured on Polaroid film by qualified medical photographers, and then graded by an ophthalmologist from the Sussex Eye Hospital. Patients were recalled every two to three years, and walk-in clinics were introduced.

In contrast to the current situation, the numbers being screened were in the hundreds. By the time Nick White (B&H DESP Programme Manager) took over the Medical Photography department in 1995 we were screening 1400 patients a year.



Polaroids taken with Kowa Fundus camera

Up until this point, ophthalmologists had taken sole responsibility for the grading of photographs, but as more GPs began to refer their diabetic patients, and numbers increased, it was decided to expand this role. Nick was trained to grade and as the use of Polaroids was phased out, he switched to the fundus camera at the Sussex Eye Hospital.

By 2002 it was decided to go digital and a Topcon digital fundus camera, complete with JVC camera unit was installed. Shortly afterwards another camera was purchased and located in another hospital.

In the first year of digital retinal photography, those two cameras screened a total of 2,228 patients. The Clinical Lead for Diabetes Dr Nick Vaughan was instrumental in setting up and supporting the programme in its infancy.

The following years saw expansion and with the introduction of the national programme in 2003 retinal screening moved away from Brighton's medical photographers and into the hands of dedicated screener/graders. A total of five PCTs came on board, with new cameras being added in Lewes, Horsham and Crawley.

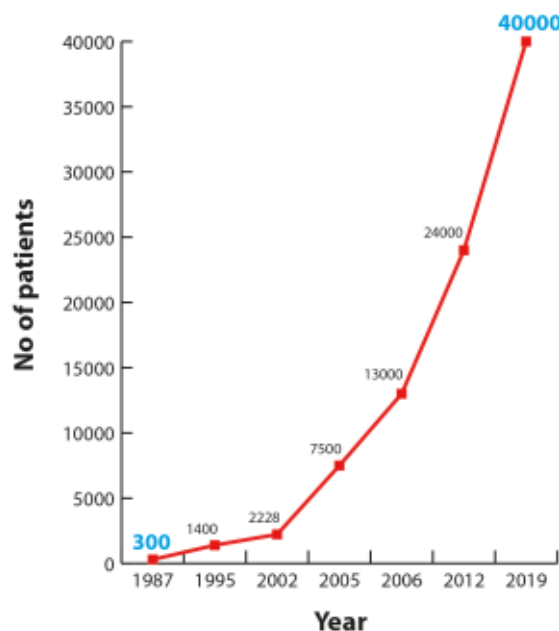
By 2005 we were screening approximately 7,500 patients a year. In 2006, this almost doubled within twelve months to more than 13,000. By 2019 this figure had increased to 40,000 registered patients with about 35,750 invited for screening. It encompasses two universities and one prison.

The 13 locations are spread over a 50 mile radius and are based in major hospitals, community hospitals, health centres and GP practices. In the last few years there has been a move from mobile to fixed locations due to an acute shortage of space in GP surgeries and rising costs.

Where we are today

The model we use today consists of fixed locations, screening and grading in clinics, in house SLB and ROG grading. The staff team has 12 screener/graders and six administrators, a Programme Screening Manager, a Team Leader, Office Manager and a Failsafe Officer.

Annual number of patients screened: 1987 - 2019



Screeners work alone, with an average of 29 patients booked into a full day's clinic, and a total of 3-3.5 days in clinic per week. Our clinics are run live on networks with a stand alone option available for when there are network problems. All new members of the screening team undertake HSD (Health Screeners Diploma).

With the introduction of the common pathway in 2014 our then Clinical Lead Mike Eckstein was instrumental in training graders in slit lamp examination to provide an in-house service with the Screening Team rather than outside Optom involvement.

We have representation at the Grading College and training sessions every month with our Grading Lead. We have limited OCT access across the patch and eagerly await OCT guidance for best practice.



Brighton and Hove DESP team

Map of Brighton and Sussex DESP locations



Challenges

Over the years the programme has had to deal with serious incidents, staff shortages and ongoing technology issues. These have only made the programme stronger and highlighted the need to keep it a professional, safe organisation. Giving people access to the service while limitations to facilities such as accommodation and equipment such as slit lamps and OCTs mean we have to improvise with available resources to improve provision to all users of the programme.

Reaching our population

The future involves transition work with the Paediatric team at Brighton setting up an information service for 15-25 year olds in an informal setting to access information about managing diabetes. The DESP involvement will include giving information, answering any queries and having a drop-in screening service so young people can have all their tests in one go if they wish.

We are also involved in a Diabetes Skills Day, updating practice nurses and GPs with information about diabetic eye disease. We plan to visit staff at GP practices with the lowest attendance to look at ways of increasing attendance and raise the profile and work of DESP in the bigger healthcare settings.

The next year will see the programme being involved in screening within Lewes Prison for the first time to increase accessibility for this population.

Brighton and Sussex DESP - Overseas



The Eye Screening Team, Mandeville Hospital, Jamaica.

Joan Musa, Executive Director of The Belize Council for the Visually Impaired (BCVI) came to visit Mike Eckstein, Clinical Lead of Brighton and Sussex DESP in November 2012. He had been working with them for some time and had also completed a feasibility visit to the Caribbean for the WHO around their ophthalmology services and diabetic eye screening.

The BCVI had managed to secure some funding from the Lions charity for some cameras and Joan asked Nick White, Programme Manager of Brighton DESP when she visited, if he would go out to Belize to help set up the cameras, do some training on the cameras and about DR and also work with BCVI to devise a strategy. As a result he flew out for two weeks in June 2014.

Nick found some of the challenges involved getting the patients to engage and getting the message out there. Finding patients with diabetes was tricky as there were no definitive registers and a mix of private and public healthcare. It was also important to help them understand the risks of DR. Many would lose sight in one eye and only turn up at a hospital when the sight in the second eye was going by which time it is often too late. Politics was also difficult particularly in Belize.

IT issues

IT was a similar remit in Feb 2016 when Nick went to Jamaica and St Lucia. Nick set up the cameras and tried to establish an IT system for image and data storage which could be accessed for grading. Both Belize and St Lucia and Jamaica ended up with a cloud version. At the training in St Lucia there was someone from Dominica as they were setting up a camera there too.

Unforeseen challenges consisted of IT issues and a total lack of any cleaning materials for removing smudges on the lens. This was a major problem.

Belize

Once the Belize team had passed the international certificate they started participating in the online test and training.

One of the primary issues identified whilst they were completing the certificate was that the screeners were not being exposed to enough patients to learn from and become familiar with the features of retinopathy and disease progression. It was suggested that they may benefit from feedback provided by the Brighton team upon completion of their test sets each month.

Lauren McQuillan and Edyta Cartwright, Senior Screeners from Brighton DESP provided online monthly support to the team for a year.

They went through each screener's results and then emailed feedback with annotated images to ensure that each screener could understand their results and learn to use the features based grading system.

Dominica

Lauren and Edyta have also worked closely with screeners from our other Link country – Dominica. In July 2018 a team of healthcare professionals from Brighton and Sussex University Hospitals travelled out to Jamaica where they attended a Diabetes Stakeholder Workshop. The team was comprised of a diabetologist, podiatrist, diabetes specialist nurse, dietician and the two screeners. They met with healthcare professionals from Dominica to share information and ideas.

Dominica already had two trained nurses screening patients for diabetic eye disease and one ophthalmologist managing referrals and treatment.

One of the primary difficulties facing the Dominica team was uptake of screening. It is still the case that many people are first presenting at the eye clinic once the retinopathy is already very advanced. Further to this, the screeners only have access to two retinal cameras, a static one at the hospital and a hand-held one that the screener is required to take out with her to the most remote parts of the island.

During the visit Lauren visited the Eye Clinic at the Princess Margaret Hospital in Roseau and observed the screeners in clinic. It was agreed

that the two screeners would visit the Brighton and Sussex programme the following November for a week of intense training to prepare them for the grading module exam. During the visit Lauren and Edyta delivered presentations on features based grading and other pathology. They provided one-to-one support during mock exams and spent time grading real images with the Dominica screeners.



Lauren (centre) with Carlene (left) and Nanda (right); two members of the team at the Eye Clinic, Princess Margaret Hospital, Roseau.

Achievements

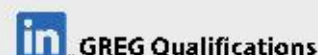
Nick felt that in the time he had, they did pretty well. In St Lucia, there were quite a few people to train but only three cameras which was a bit tricky. Both visits had patients who already had a lot of pathology and were already in ophthalmic care so they were far from ideal for training people. The cameras in Belize were not great; particularly image quality and they took a lot of getting used to. Jamaica and St Lucia had cameras which worked automatically and they struggled with some of the more challenging patients.

Belize is still running the cameras and further training has been provided on-line by Edyta and Lauren with Belize staff undertaking and passing the qualification run by Birmingham.

Jamaica, Dominica and St Lucia are also using their cameras and seeing patients and they, along with Belize receive on-going support from the Vision 2020 project.



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Should we photograph eyes with perception of light (PL) and no perception of light (NPL) during diabetic eye screening?

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Purpose

In the English NHS Diabetic Eye Screening Programme (DESP) there are no guidelines as to whether retinal photographs should be taken for eyes with NPL vision.

The purpose of the audit is to determine whether there is any value in taking images of eyes with NPL or PL in retinal screening.

Methods

Screening results and demographics of patients who attended screening in and around Birmingham (BSBCDESP) over a six month period for those with PL (n = 99) and a 12 month period for NPL (n = 308) were analysed.

Other data collected were reason for PL/NPL vision, whether retinal photographs of the PL/NPL eye were taken and the assessability of images, the presence of any diabetic retinopathy (DR) and patient outcome. Vision of the subsequent screen was also looked at to determine variances in visual acuity (VA) testing.

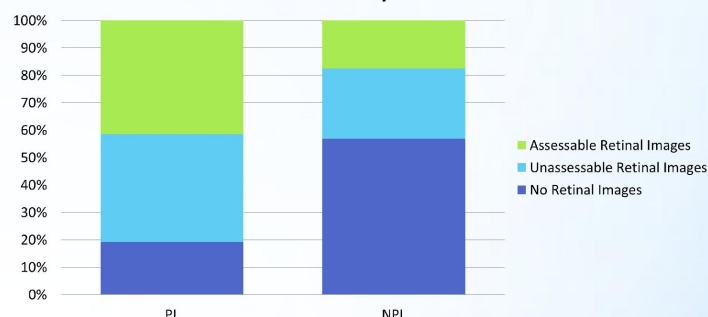
Results

	PL N = 99	NPL N = 308
Sex		
Male	46 (46%)	188 (61%)
Female	53 (54%)	120 (39%)
Mean age	69 years (37-94)	72 years (20-96)
Ethnicity		
Asian	16 (16%)	78 (25%)
Black	2 (2%)	30 (10%)
Caucasian	68 (69%)	198 (64%)
Chinese	0	2 (1%)
Unknown	13 (13%)	0
Affected eye		
Right	56 (57%)	154 (50%)
Left	43 (43%)	154 (50%)

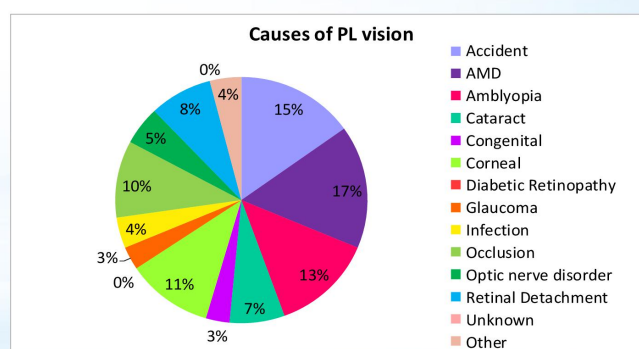
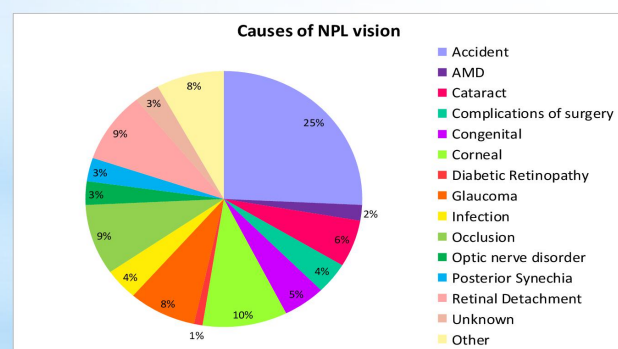
Conclusions:

- This data suggests that there may be no value in photographing NPL and PL eyes during screening. Only a minority of NPL eyes were assessable and no significant DR requiring ophthalmic intervention was found.
- Other eye conditions may be discovered but this is not the main purpose of diabetic eye screening.
- Accuracy of VA measurement during screening also needs to be considered.

Percentage of patients with no retinal images or retinal images that were unassessable or assessable in the PL or NPL Eye



Demographics of PL and NPL patients



Referable DR

PL Group

- 2 (2%) referred for maculopathy (false positives after examination by an ophthalmologist).
- 2 (2%) had wet age-related macular degeneration and was referred urgently.

NPL Group

- 1 (0.5%) stable treated DR being monitored under digital surveillance.
- In total 11% had a minor improvement in VA at next screen. Most of which improved to PL, count fingers (CF) or hand movements (HM).
- One patient in each group had a large increase in VA (6/6 and 6/9) due to having cataract extraction.

NHS Diabetic Eye Screening Programme National Update

General update

There are now 57 local screening programmes providing diabetic eye screening across England.

Programme eligible population 2018/19 – **3,451,681** – 16.2% increase since 2015/16

Number screened 2018/19 (RDS) – **2,321,872** – 13% increase since 2015/16

The National team are involved in a number of workstreams to support the programme nationally. Here is a short update on the main areas they are working on currently.

Digital Surveillance Pathway Review

The digital surveillance (DS) pathway was designed to manage people with diabetes who require more frequent than annual screening, but do not require referral to hospital eye services (HES).

The original guidance was produced in October 2012, as part of the Common Pathway. Whilst parts still remain relevant, more detail is required in order that it is a more standardised pathway, without the high levels of clinical variation which have been introduced across provider services over the last seven years.

PHE Screening has undertaken a comprehensive piece of work to review the digital surveillance pathway and findings have indicated that a major review of the pathway is necessary.

A working group has been put together with the intention of considering the following;

- Grades/disease levels to be included in the DS pathway
- Recall intervals within the pathway and timescale thresholds for intervals
- Improving the reportability of the pregnancy pathway
- Software changes required to facilitate the pathway.
- How to ensure DS Pathway is monitored using DES pathway standards
- Arbitration and quality assurance of the DS pathway

Extended screening intervals for low risk people with diabetes

In 2016, the UK National Screening Committee (UK NSC) recommended a modification to the National Diabetic Eye Screening programme:

- extending screening intervals for people at low risk of sight loss from one year to 2 years
- retaining current annual screening interval for people at higher risk of sight loss

Individuals eligible to transfer to the extended screening interval will be those who are low risk (two consecutive R0M0 grades between 46 and 58 weeks of each other).

As a result of the UK NSC recommendation, extended screening intervals has been included in the national service specification since 2018/19 and work is ongoing between PHE Screening and NHS England & NHS Improvement (NHSEI) to progress the extended screening intervals project. NHSEI are leading on the project with expert guidance and support from PHE Screening.

PHE Screening has developed a criteria process document following discussion with grading and statistical colleagues, and using atypicality and grading outcome data. The new grading report is now available and has been sent to all the local DES providers. Providers with unusual grading outcomes compared to all others are identified as 'atypical'. This means they do not follow along the same lines as other providers in terms of their grading and are therefore considered to be demonstrating 'atypicality'.

We have asked the atypical providers to review the data, plan and conduct audits from the grading outcome categories and report the findings to their commissioners and SQAS. Once the criteria has been approved by NHSEI, it can be used by local commissioners to assess the state of readiness of each diabetic eye screening service.

PHE Screening has described in detail the required software changes to support extended screening intervals and has provided this to NHSEI and the software providers. NHSEI is in discussion with the 2 DES software provider companies to determine timescales for developing the software, revision of the pathway standards the IT development period and any associated costs.

Pathway standards

Routine data collection continues with both quarterly and the 18-19 annual data submission. The routine quarterly collection now includes the updated versions of some of our performance standards (implemented in April 2019). Collection of data for these new standards started this quarter:

Standard 2 (new patients invited to attend within 3 months)

The way that open appointment models have the due date of their appointment letter calculated was altered to allow providers that use this model more time to generate the invitation for new patients, making comparison between open and fixed model appointments more appropriate in our Performance Standard 2.

Standards 3 and 4 (timely appointments)

Performance Standards 3 and 4 (timely appointments for routine and slit-lamp surveillance screening) were amended, removing the '- 6 weeks' restriction for timely appointments. This means the standard now fully focuses on appointments that were offered late, rather than both late and earlier than '- 6 weeks'.

Standard 8 (the measure of people with diabetes eligible for routine screening who have not attended in the previous 3 years)

This standard has now had a threshold added, meaning services now have a benchmark to measure themselves against and continue to improve uptake amongst people who DNA screening long-term.

Key Performance indicators

The KPI's since 2015/16 for the screening programme are highlighted below:



DE1 has increased steadily over the last 3 years, but has not reached achievable threshold since they were updated in 2017.

DE2 achievable threshold was obtained for first time since 2015/16 with all programmes meeting the acceptable standard. Therefore, PHE Screening will be undertaking a review of KPI DE2 over the next 12 months to determine if it should be retired and a different metric used as a KPI within the screening programme.

PHE Screening are assessing whether it could be replaced with DES PS 8 (number of people who DNA for 3 years or more) as a meaningful measure of how local services are able to achieve this standard by reducing inequalities within their services and improving uptake of people in harder to reach areas.

DE3 has increased slowly over the last 3 years and local services and HES should be commended for their hard work in maintaining these standards.

Virtual clinic guidance for referrals from DES to HES

Following requests from local services/commissioners and SQAS guidance has been produced to support the use of virtual clinics in HES for screening referred patients.

Use of virtual clinics in DES to HES pathways

A virtual clinic is one in which the face to face clinician-patient consultation is removed. In an HES virtual clinic, additional quantifiable data can be collated and assessed (for example, additional OCT images) for appropriate staff to make clinical decisions. In virtual clinics, considerably more patient data can be reviewed than in traditional face to face clinics, allowing efficient use of time and resources.

Urgent referrals

Virtual clinic dates should not be used for urgent referrals from DES to HES. For urgent referrals the date of first face to face attended consultation with an appropriate clinician must be used.

Non-urgent referrals

Use of virtual clinic dates can be used for non-urgent referrals from DES to HES for first attended consultation date.

Following referral from the local DES service to the HES, the referred individual should have their screening images or up to date retinal images and any additional information assessed by appropriate clinical specialists. This can be within a multidisciplinary team meeting or a specific virtual clinic environment. The date that the clinical decision regarding the referral is made within the HES should be the date reported back to the DES programme as the date of first attended consultation to enable calculation of pathway standards and key performance indicators.

An appointment for additional retinal imaging prior to a virtual clinic within the HES does not constitute a consultation date unless the results are interpreted and outlined to the patient by appropriately qualified clinical staff at the appointment.

GP2DRS

The GP2DRS system collects patient information from GP practices on a monthly basis and shares this with local DESPs to ensure that all eligible people are invited for screening. GP practice systems use a set of codes to record clinical information, and GP2DRS uses these codes to correctly identify individuals with diabetes and ensure that the right information is passed to the DESPs.

Until now, the system has relied on the Read code set, which was introduced in the 1980s and was the first common clinical coding scheme used in primary care, but Read Codes are now being replaced by SNOMED CT, a new coding system which will become the single clinical terminology used by the NHS.

The GP2DRS team have been working closely with NHS Digital and GP system suppliers over the past year to develop a new extract based on SNOMED codes, which will replace our old Read Code extract, and in December 2019 the monthly GP2DRS collection was run using SNOMED for the first time.

At present, we are 'parallel-running' these extracts. Two data collections are being carried out each month: one using our old Read code set, and one using the new SNOMED set. This allows us to undertake detailed quality assurance on the new extract, investigate any differences, and ensure that it's identifying the correct individuals for screening. DESPs will continue to receive data from the established Read Code extract until this quality assurance work has been completed, at which point the old extract will be switched off and the GP2DRS system will use SNOMED codes exclusively.

The GP2DRS helpdesk issued advice to DESPs last autumn regarding the move to SNOMED, and further information will be provided when the final switch is made.

Fundus Camera Assessments

All fundus cameras used in the national programme must be tested and approved by PHE Screening before they can be used for screening by local services. Assessment days are held once or twice a year and an expert team evaluate new cameras against a detailed specification to ensure they meet the requirements of the national programme, both in terms of usability and image quality.

Minor changes were made to the camera specification last year, and we are now undertaking a larger piece of work to review not only the specification, but the assessment process as a whole, with the aim of formalising our procedures and ensuring we have the fairest and most effective method of identifying suitable cameras. This work is currently underway, and details of the new process will be published later this year.

Ocular Coherence Tomography Best Practice Guidance

PHE screening formed a working group over two years ago to assess the use of OCT within screening programmes locally. From this group, best practice guidance for programmes that are commissioned to provide OCT separately from the screening programme has been produced to help support local services.

The guidance is due to be published shortly on the PHE Screening GOV.UK webpages and has been ratified as best practice by the Royal College of Ophthalmologists. A PHE Screening blog will be produced at the same time to inform services that it has been published.

CET points for Optometrists undertaking Test and Training

PHE Screening has been working with the General Optical Council to allow optometrists who undertake the full requirement for Test and Training to claim CET points for this. We are unable to do this retrospectively but the TAT provider will be informing those optometrists who are eligible how to claim at the end of this year.