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Diabetic Eye Journal

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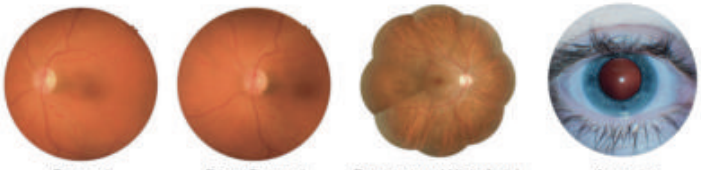

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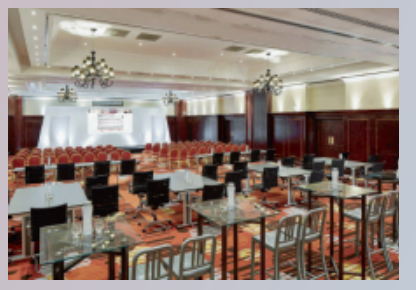

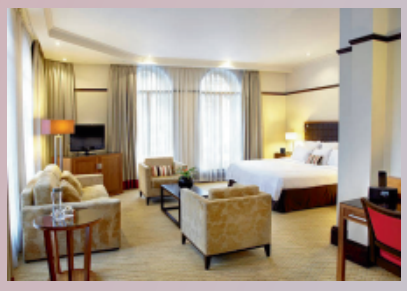

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Diabetic Retinopathy – Potential New Treatments

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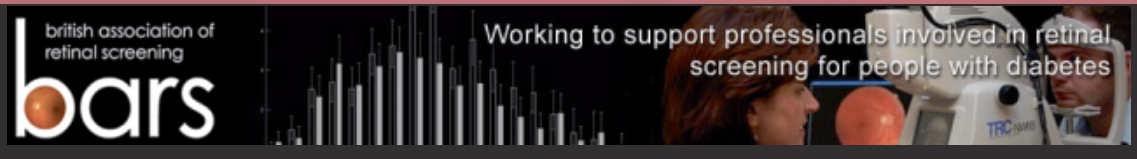

DiabeticEyeJournal is published and produced by BARS with support of its founders from North Central London Diabetic Eye Screening Programme.

Education and Events Corner for Profesionals in Diabetes and Eye Care

• **Retinopathy Screening Centre**, Heartlands Hospital, Birmingham
Screener Training
Introduction to DR Grading
Advanced DR Grading
OCT Interpretation for DR Graders
Clinical Leads Programme
www.retinalscreening.co.uk/training/training-courses/

• **City University of London**, London EC1V 0HB
Professional Certificate in Medical Retina
www.city.ac.uk/courses/cpd/medical-retina

• **Gloucestershire Retinal Education and Retinal Research Groups**, Gloucester Royal Hospital, Gloucester GL1 3NN
L3 Health Screeners Diploma
Qualifications in Diabetic Retinopathy Screening
Qualifications in OCT
www.drscreening.org

• **UCL Institute of Ophthalmology and Moorfields Eye Hospital**
Retinal Disease - online course
http://www.ucl.ac.uk/lifelearning/courses/retinal-disease-methods-diagnosis-treatment

• **Diabetes UK**
Diabetes in Healthcare
Clinical Champions
https://www.diabetes.org.uk/Professionals/Training--competencies/Courses/

• **Moorfields Eye Hospital**, 162 City Road, London EC1V 2PD
Slitlamp Workshops
https://checkout.moorfields.nhs.uk/catalog?pagename=Slit-Lamp-Workshops

• **Reading Centre,** Moorfields Eye Hospital, 162 City Road, London EC1V 2PD
Diabetic Retinopathy Screening Training
Contact enquiry: *readingcentre@moorfields.nhs.uk*

• **World Sight Day 2017**
Thursday 12 October 2017
The International Agency for the Prevention of Blindness
https://www.iapb.org/advocacy/world-sight-day/

• **Prevention of Cardiovascular Diabetes**
Wednesday 18 October 2017
The Royal Society of Medicine, London W1G 0AE
https://www.rsm.ac.uk/events/events-listing.aspx

• **OIA 2017 Annual Conference**
17 to 18 November 2017
Stratford Upon Avon
http://www.oia.org.uk

• **National OCT Conference 2017**
Sunday 19 to 20 November 2017
Hilton Hotel in Paddington, London
http://www.topcon-medical.co.uk/uk/events/01/11/2017/

• **Clinical Leads Forum**
Thursday 30 November 2017
The Royal College of Ophthalmologists, 18 Stephenson Way, London NW1 2HD
https://www.rcophth.ac.uk/events-and-courses/

• **Macular Diseases Seminar**
Friday 1 December 2017
The Royal College of Ophthalmologists, 18 Stephenson Way, London NW1 2HD
https://www.rcophth.ac.uk/events-and-courses/

• **Are we managing diabetic retinopathy or is diabetic retinopathy managing us?**
Thursday 8 February 2018
The Royal Society of Medicine, 1 Wimpole Street, London W1G 0AE
https://www.rsm.ac.uk/events/events-listing.aspx

• **Diabetes UK Professional Conference 2018**
14 to 16 March 2018
ExCeL London, Royal Victoria Dock, 1 Western Gateway, London E16 1XL
https://www.diabetes.org.uk/Professionals/Conferences/

DiabeticEyeJournal

From the Editor

Diabetic eye care has come a very long way and is continuously improving, giving hope to those with persistent long-term eye conditions. Diabetic Maculopathy, which affects one's central vision, is one of such conditions. Any advances in its treatment that can improve a patient's vision can prove significant for many. Having multiple options, including the use of Fenofibrate - a lipid-lowering drug, or combination of few treatments can also prove beneficial. Mira Deshmukh and Hemal Mehta from the Royal Free Hospital London have summarised such options in the section on Diabetic Eye Disease.

Diabetic Retinal Screeners come across many other eye conditions, some benign and some significant. The ability to pick up such conditions makes the difference between routine or urgent referral for the patient to hospital eye services. Paul Sullivan and Evgenia Anikina from Moorfields Eye Hospital in London review the current knowledge of the condition called Retinoschisis, which is mostly common and asymptomatic but occasionally proves sight-threatening. (See section on Other Lesions).

The British Association of Retinal Screening (BARS) is supporting the retinal screening community on many levels. This includes annual conferences, competitions, courses and representation at other national meetings. Phil Gardner, the current chair, together with council members, has devised the plans on how to build upon the education that is already in place for many in our ever evolving and changing profession, as we diversify into more and more specialised fields. You can find out about these plans and much more in the section from BARS.

We hope that you will find this Autumnal issue interesting and inspiring. There is much more than the topics mentioned above and the aim of our publication is to bring you up-to-date news affecting our profession and challenge you to get involved in research and provide articles for our future issues.

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Maculopathy supplied by NCL DESP NMUH

COMMENTS and CONTRIBUTIONS

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ONLINE VERSION

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Contents:

What's new in the management of diabetic retinopathy?

Dr Mira Deshmukh MBBS BSc (Teaching Fellow) & **Mr Hemal Mehta** MA FRCOphth (Consultant Ophthalmic Surgeon and Ophthalmology Clinical Trial Lead)

Royal Free London NHS Foundation Trust

Introduction

Diabetic eye disease poses a significant burden on health services and globally, diabetic retinopathy (DR) is the leading cause of acquired blindness in the working age population. Recent figures from the International Diabetes Federation suggest over 415 million adults suffer with diabetes, with 46% of all those affected in the 40-59 working age group [(1)]. The number of people living with diabetes globally is predicted to increase to 642 million by 2040 [(2)]. In the UK, 11,300 disability adjusted life years (DALYs) were lost due to visual disability attributed to DR in 2008 [(3)]. There is a need for ongoing research and development of better treatments and this article aims to summarise recent advances.

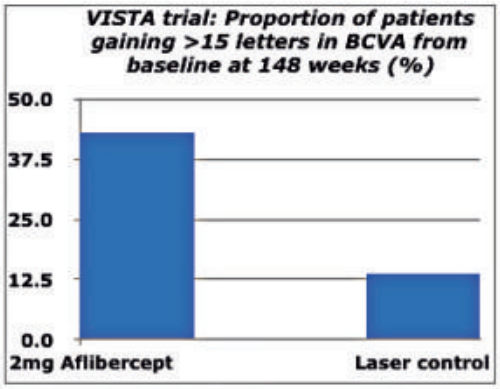
Diabetic Retinopathy is no longer the leading cause of blind registration in the working age population in the UK – a success of screening and new treatments

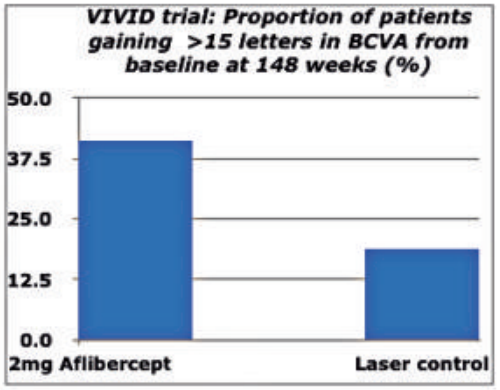
The success of NHS diabetic eye screening programmes has resulted in DR being identified at early stages. Additionally, the development of more effective treatments means that the burden of DR-related blindness in the UK is much improved compared with the beginning of the millennium. This is reflected in results from a recent analysis of blindness certificates of vision impairment issued in England and Wales which has shown that inherited retinal disease has now overtaken diabetic retinopathy as the leading cause of certifiable blindness in working aged adults [(4)].

Anti-VEGF injections are superior to macular laser for centre-involving diabetic macular oedema (DMO)

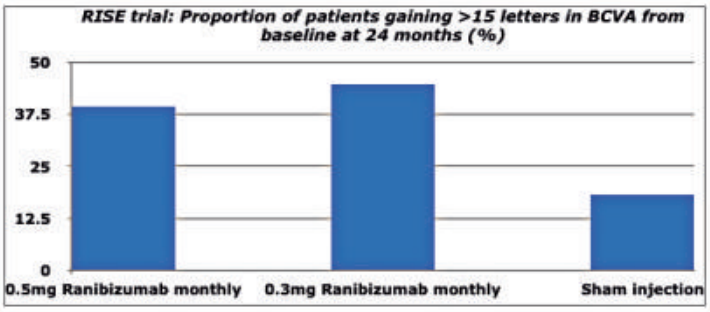
Vascular endothelial growth factor A (VEGF-A) is one of a subgroup of growth factors that has been implicated in the development of diabetic macular oedema [(5)]. It has been shown to cause an increase in vascular permeability and oedema in vascular endothelial cells. Thus, it has been a logical target in the management of DMO and has led to the development of anti-VEGF agents that are injected into the vitreous of the affected eye.

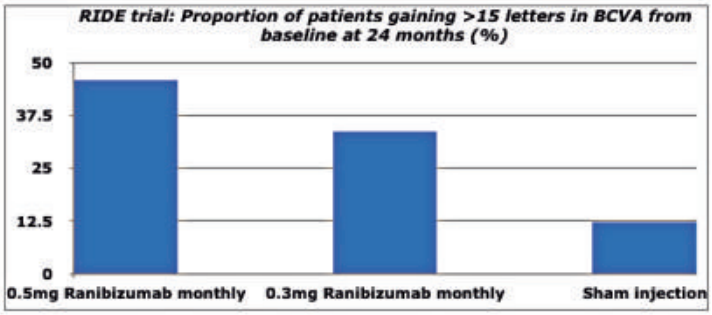
A recent Cochrane review confirmed anti-VEGF injections to be superior to macular laser (previously the gold standard treatment for DMO) for vision improvement [(8)]. Patients treated with anti-VEGF agents were more likely to gain three or more lines of vision at one year. The VIVID and VISTA phase 3 clinical trials have reported an improvement in best corrected visual acuity (BCVA) and central retinal thickness with the use of intravitreal Aflibercept injections compared with macular laser control [(9)].





Similarly, Ranibizumab was shown to be superior to sham injections for centre-involving DMO, with the RISE and RIDE trials reporting improvement in BCVA and significant improvements in macular oedema on OCT [10].





These studies describe only the rare occurrence of severe ocular adverse events, such as endophthalmitis, and no significant difference in severe systemic adverse events, such as thromboembolic events and overall mortality compared with sham injections or macular laser in populations included in these clinical trials [8]. Patients with recent stroke or heart attack were not included in these clinical trials.

New treatments for DMO are not available to all patients in the NHS

There are two agents currently licenced for use in the NHS - Aflibercept (Eylea), a recombinant fusion protein and Ranibizumab (Lucentis), a recombinant humanised monoclonal antibody. NICE has restricted the use of these agents to cases when central retinal thickness (CRT) is >400µm on OCT imaging [6,7] on the grounds of cost effectiveness. This does however mean that a large proportion of patients with significant oedema (300-400µm CRT) are unable to receive anti-VEGF treatment on the NHS.

Intravitreal anti-VEGF agents offer an alternative to laser panretinal photocoagulation for proliferative diabetic retinopathy

Panretinal laser photocoagulation (PRP) is the current gold standard in treatment of proliferative diabetic retinopathy (PDR). It involves creating small laser burns at peripheral sites on the retina in an attempt to reduce new vessel growth and the risk of vitreous haemorrhage. A large American clinical trial (DRCRnet Protocol S) identified regular intravitreal Ranibizumab injections offered similar visual acuity outcomes compared with PRP for PDR over 2 years [11]. A similar trial has been conducted in the UK (CLARITY) comparing intravitreal Aflibercept versus PRP for PDR and has reported Aflibercept to be non-inferior and superior in terms of visual outcomes to PRP [12]. The advantage of intravitreal injections is they do not impair the peripheral visual field, in contrast to PRP laser treatment which can lead to loss of driving license. The disadvantage of injections is the small risk of intraocular infection, their cost and need for patients to maintain regular follow-ups. Intravitreal anti-VEGF agents have been licensed in the USA to reduce DR progression in the setting of existing DMO. Such a license is not currently available in Europe and therefore intravitreal anti-VEGF therapy for this indication is not available on the NHS.

Intravitreal steroids have a role in the management of DMO

Inflammation is known to be a contributory factor in the breakdown of the BRB (Blood Retinal Barrier) leading to macular oedema [13,14]. Thus, steroids have been studied and utilised in the management of DMO. A randomised control trial comparing intravitreal Dexamethasone to Bevacizumab in patients with centre-involving DMO revealed that the two interventions achieved similar rates of visual acuity improvement in pseudophakic patients [15]. An important consideration with the use of steroids is the increased rates of cataracts and elevated intraocular pressure. Therefore, they tend to be used when intravitreal anti-VEGF therapy is not effective or suitable. The intravitreal steroid with the most predictable and favourable intraocular pressure rise profile is the Ozurdex slow-release Dexamethasone implant. NICE recommends that steroid implants are used only in cases where DMO does not respond to non-corticosteroid treatment and in eyes which are pseudophakic [16]. We will also consider intravitreal steroids at the time of cataract surgery in patients with pre-existing DMO.

Fibrates may be beneficial in the management of diabetic retinopathy in type 2 diabetes

Fenofibrate is a medication used in the treatment of high cholesterol and triglyceride levels. Two large randomised clinical trials have examined the effect of Fenofibrate on diabetic retinopathy in type 2 diabetes. The FIELD study showed that patients receiving Fenofibrate had a 31% lower relative risk of requiring retinal laser treatment compared to placebo over 5 years [17]. The ACCORD-Eye Study reported a 79% lower relative risk of diabetic retinopathy progression over 4 years in patients receiving Fenofibrate in combination with a statin compared with a statin alone [18]. These ocular benefits appear to be independent of its lipid lowering effects.

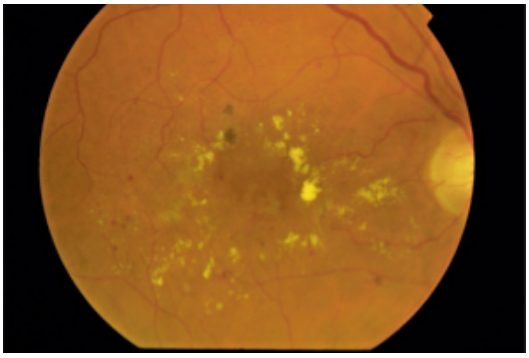


Figure 1: Colour fundus photograph showing exudative maculopathy in a patient with diabetes

Though restricted licensing for this use exists in the UK, it would be reasonable to consider Fenofibrate in patients with type 2 diabetes, diabetic retinopathy and an abnormal lipid profile. Kidney function should be monitored if commenced and patients should be advised of the early warning symptoms (muscle pain, tenderness and weakness) of the rare complication of myopathy. Fenofibrate is contraindicated in pregnancy.

Summary

With a greater understanding of the mechanisms underlying the development of diabetic retinopathy, we are now able to manage the condition with several new treatment options. Fenofibrate may have a beneficial effect on diabetic retinopathy in type 2 diabetes. Macular laser still has a role in the treatment of non-centre involving DMO and sub-threshold lasers may cause less damage than argon laser. Anti-VEGF injections form the gold standard treatment for patients with centre-involving DMO and have a good safety profile. In cases of insufficient response to anti-VEGF agents, difficulty achieving regular injections or systemic contraindications, corticosteroids can be used in patients who are pseudophakic or about to undergo cataract surgery. There are also newer longer acting anti-VEGF agents in clinical trials.

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AT THE FOREFRONT OF OPHTHALMIC TECHNOLOGY

The North East London Diabetic Eye Screening Programme

The Past

Homerton University Hospital (HUH) National Health Service (NHS) Foundation Trust (FT) began diabetic eye screening in City and Hackney Health Authority in 1993. It expanded into Redbridge Primary Care Trust (PCT) in 2007 and Barking and Dagenham PCT in 2010.

The Present

Background: The North East London Diabetic Eye Screening Programme (NEL DESP) is based at HUH NHS FT and was established in November 2015, the third largest DESP in the country.

In the last year, we screened 97,976 patients; including routine digital screening, digital surveillance and slit-lamp biomicroscopy clinics; referred 4,236 patients for routine and 527 patients for urgent (R3) diabetic retinopathy (DR), 2,594 patients for non-DR, answered 72,480 phone calls with an average waiting time of 27 seconds (our welcome message is 12 seconds)!

Mr Louis Bolter
Programme Manager

Dr John Anderson
Clinical Lead,
Consultant Endocrinologist

Mrs Gohar Beint
Clinical Manager,
Optometrist

Hackney Diabetes Centre

The NEL DESP is fortunate to be adjacent to the Hackney Diabetes Centre at HUH. This unit consists of 3 consultant physicians in general medicine, endocrinology and diabetes, 1 psychological therapist, 14 diabetes specialist nurses, 8 diabetes specialist dieticians and 6 diabetes lay educators. They offer a wide range of services to in and outpatients including prevention of diabetes, psychology support, Ramadan and other religious fasting preparation and diabetic feet assessment. Patients are referred by their GP and can self-refer to education groups, walking group and awareness events.

Jamaica with Gohar

What happened in Jamaica?

On 19th March 2017 the Ophthalmological Society of Jamaica (OSJ) in collaboration with the VISION 2020 LINKS Programme, presented the 7th Annual Scientific Symposium on the theme of 'Diabetes and The Eyes'. It was essentially an A-Z of Diabetic Retinopathy covering many topics from the management of diabetes to telemedicine and imaging and the latest treatments available. The aim was to raise awareness of the importance of diabetic retinopathy screening and was attended by ophthalmologists, optometrists and family physicians.

What was one of the aims of this initiative?

The VISION 2020 DR-NET LINK is a programme linking UK Trusts with Commonwealth countries to work towards a common goal of reducing avoidable blindness due to diabetic retinopathy. One of these links involves Homerton University Hospital, Moorfields and the University Hospital of West Indies, Jamaica. The Homerton's role is to provide training and support for the new diabetic eye screening service and the technical, clinical and managerial input necessary to set up a pilot scheme in Jamaica. This will then act as a centre of excellence for training in diabetic retinopathy screening to help support the development of an island-wide (and ultimately Caribbean-wide) screening service.

What are the plans for the future?

There are many exciting and innovative plans for setting up a service from scratch, including the use of portable screening devices for hard to reach areas and an IT system that is country - wide.

What was your highlight?

This is such an exciting project. The impact of poorly managed diabetes on sight is devastating for the individual, the family and the community. Often the Jamaican ophthalmology service only sees people with advanced sight loss from diabetes requiring laser and vitrectomy treatment. In the UK, in the decade of running a National Diabetic Retinopathy Screening Service we have seen diabetes-related sight loss in the working age population fall to second place. We have learnt many lessons, both successes and failures, and hope to help Jamaica learn from what we have encountered. I look forward to a long term partnership in this project.

Multi-Disciplinary Team Days

We have multi-disciplinary team (MDT) days four times per year. Attendance is strongly encouraged to all screeners, photographers, graders and management. The day typically consists of a programme update in terms of key performance indicators and acknowledging outstanding work by individuals, addressing common or unclear issues and lectures from keynote speakers. This year we've been fortunate to have Dr Francesco Medici and Dr Gordon Hay. Dr Francesco Medici is a consultant endocrinologist at the Hackney Diabetes Centre. We found his lecture on "Diabetic Medicines" to be extremely informative and easy to comprehend. Dr Gordon Hay is a senior ophthalmic specialist in ocular oncology at Moorfields Eye Hospital. We thoroughly enjoyed his lecture titled "Lumps and Bumps," which clarified signs of a suspicious naevus. We are very grateful for his expert opinion on naevi which he shares with us via email upon digital image exchange which minimises inappropriate hospital eye service referrals.

The Future

Artificial Intelligence

Diabetic retinopathy and maculopathy is no longer the number one cause of blindness in the working age population in the UK. This is likely to be because of better patient awareness of diabetes and its related complications, improved systemic and ocular treatment, but also because of early detection and timely referral by DESPs.

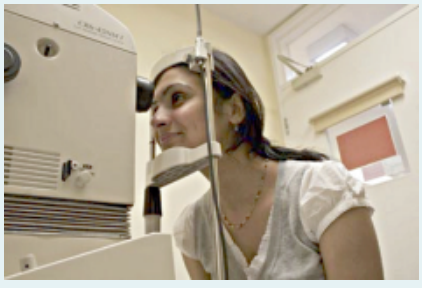
The prevalence of diabetes is predicted to reach epidemic levels. In countries like China and India with a predicted total of 120 million diabetics by 2030, with a potential half a billion retinal digital images per year to grade, this would put tremendous pressure on finances and resources on any DESP. One approach to limit the burden would be to implement automated grading using machine learning algorithms in DESPs. We already see this in other areas such as face recognition at passport control and self-driving cars.

Miss Catherine Egan, Professor Adnan Tufail; both consultant ophthalmologists at Moorfields Eye Hospital; and their study team have shown that automated grading does not miss serious DR any more than a human grader (acceptable sensitivity and sufficient specificity) and is a very cost effective alternative to manual grading. In the near future we will be implementing automated grading as part of our routine digital screening pathway to partly replace primary graders but other graders will remain as part of quality assurance.

Reference: Automated Diabetic Retinopathy Image Assessment Software: Diagnostic Accuracy and Cost-Effectiveness Compared with Human Graders. In Ophthalmology March 2017 124(3):343-351.

Awarding Centre for Level 3 Diploma for Health Screeners (Diabetic Eye)

The NEL DESP is currently in the process of becoming an awarding centre for Level 3 Diploma for Health Screeners (Diabetic Eye). We hope to achieve this in the next six months. Unlike City and Guilds where each unit had specific tasks and questions, the new qualification only states the learning outcomes and assessment criteria and leaves it to each awarding centre to decide upon the methods and tools of achieving this. Becoming an awarding centre will allow us to structure learning and on job training that is meaningful to DESPs.



Key Points about NEL DESP

We had a successful External Quality Assurance visit in May 2017

We achieved at least 70% attendance across all ethnicities

We achieved at least 70% attendance across all local postcodes

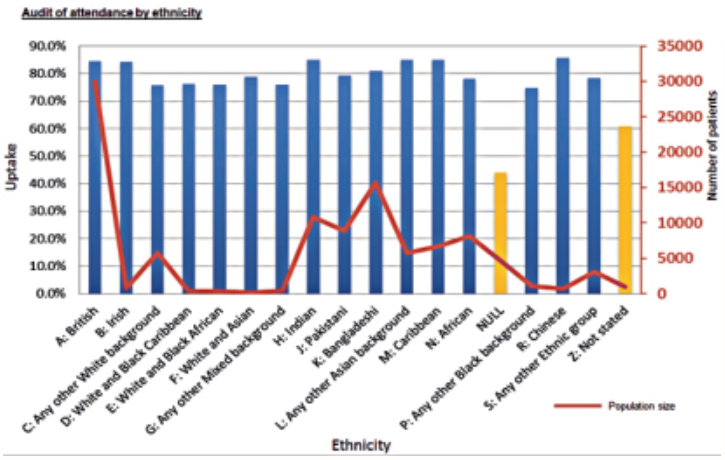
We screened 555 patients on 09/05/2017 – our best to date

We pride ourselves in not turning away patients

Our fixed sites have excellent public transport links

We take a detailed history and measure blood pressure on all our patients routinely

We pride ourselves in a low turnover and healthy return rate of staff



Patient Feedback

Dear Mr Ahmed,

'I would just like to record the wonderful service of the Eye Screening Centre at Homerton having had my annual check-up. I have had to attend for some years now and I have always received such good treatment. Not only that, the service is so efficient and when I have been unable to attend pre-arranged visits it has always been so easy for me to rearrange and have the screening carried out when it is convenient to me. I feel we are very privileged to have access to the Service which is of such importance to diabetics and probably goes a long way in preventing the types of complication that can arise with the condition.

Many thanks to all the Staff who are involved'.

Research Project

RESEARCH PROJECT at HACKNEY DIABETES CENTRE
HARD TO REACH COHORT OF PATIENTS AND THEIR ENGAGEMENT WITH DIABETES HEALTH SERVICES

Miss Nazmin Khan
Diabetes Lay Educator

Mr Isidoro Jesus
Operations Support Manager

Introduction

A pilot research project study conducted between the periods of June 2015 and May 2016 (11 months) to Investigate factors influencing engagement with health services by people with both Type 1 and Type 2 diabetes living within the City and Hackney boroughs of London.

What do we know?

a) Diabetes is a very expensive condition, costing the NHS over £9 billion a year with around 80% of that expenditure spent on related complications such as foot ulcers and amputations, blindness, neuropathy, kidney failure and stroke. The cost to the NHS of missed appointments was estimated at £225 million in 2012-2013. With an increase in the diabetic population, the cost pressure that the condition exerts on the NHS is expected to also escalate.

b) So far there is no known cure for diabetes, but prevention and good management are the best approaches to this condition. Prevention being the best way of reducing the cost attached to diabetes (Diabetes UK)[1].

Diabetes management in City and Hackney Borough

There are currently 13,000 patients over the age of 16 with Type 1 and 2 Diabetes in City and Hackney, this correlates to about 1:20 people in the borough. In addition, due to the transient nature of the population, it is thought that there is a significant cohort of undiagnosed patients. Undiagnosed and untreated diabetes can lead to significant health needs; patients with diabetes who are difficult to engage in services are likely to face health needs comprising of multiple long-term complications. These conditions can be a significant strain on the health economy. Therefore, there is a need to identify and engage patients who fall into the 'hard to reach' category.

Research Aims & Outputs

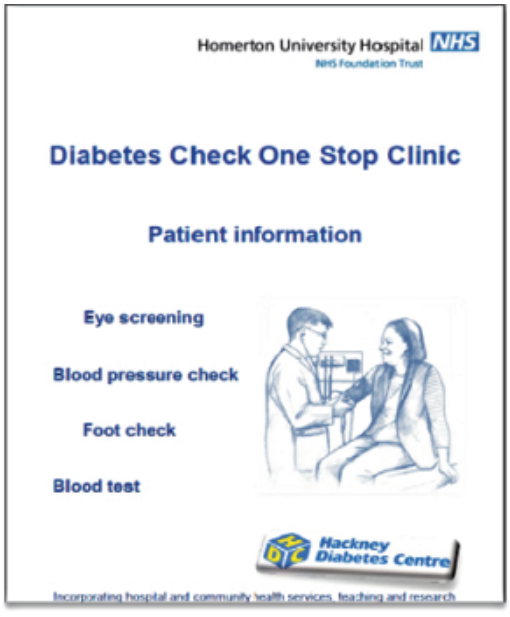
• To identify and engage patients with Type 1 and Type 2 diabetes living in City and Hackney who do not currently access diabetes care in either primary or secondary care

• To establish factors influencing engagement and barriers to the uptake of services

• To encourage attendance at screening and health appointments prior to developing complex problems associated with diabetes

Offering Diabetes **'One Stop Shop'** Clinic

In order to successfully and credibly accomplish the aims of the project, two Diabetes Lay Educators (who were piloted by the project) were trained and accredited in *Phlebotomy, X-PERT Education Diabetes Programme, Diabetes Eye Screening and Foot Check examination.*



Case study: **Patient Mr. A**

Mr. A, a retired Turkish male, 78 years of age, Type 2 Diabetic, presented for his appointment at the "Diabetes One Stop Clinic", with complains of bilateral poor vision and more accentuated in the left eye, with no known cause. His blood pressure was 139/80. Diabetic since 2000, Mr. A is on a combination of Insulin and oral medication for diabetes, never smoked and is not on any medication for hypertension.

History:

• 2007 - Mr. A was first invited to attend Diabetic Retinal Screening in October 2007 which he DNA'd; he was re-invited in November 2007, which he attended. He presented with a visual acuity of 6/6 in the right eye and 6/9 in the left eye. The results of this appointment showed background diabetic retinopathy (R1).

• 2008 - Mr. A attended his annual appointment the following year in 2008, this time with a bilateral drop in his visual acuity (6/12) and bilateral background retinopathy (R1).

• 2009 – 2010 - Mr. A DNA'd 1 appointment in 2009 and 3 appointments in 2010.

• 2011 - Mr. A attended his next appointment in January 2011 with an improved visual acuity of 6/9 in the right eye and a decrease in visual acuity of 6/18 in the left eye accompanied with bilateral background retinopathy and newly developed Maculopathy in the left eye. In view of these results, he was invited for a six month review to which he failed to attend on 3 occasions in 2011 up until November. Mr A last attended his appointment at the Diabetes Retinal Screening service in November 2011, having subsequently been referred to Ophthalmology for further investigation/treatment due to bilateral pre-proliferative diabetic retinopathy (R2) and Maculopathy (M1) in the right eye, with visual acuity of 6/18 and 6/24 in the left eye.

• 2012 - Mr. A attended all his Ophthalmology appointments from February 2012 up until September of that year when he was discharged and referred back to the eye screening service for a follow up.

• 2013 - In March, Mr. A attended his appointment at the eye screening service, where he had shown bilateral pre-proliferative retinopathy (R2) with bilateral Maculopathy (M1) and visual acuity of 6/9 in the right eye and 6/18 in the left eye. Once again he was referred to the Ophthalmology service due to suspected neovascularization. He attended the Ophthalmology appointment in April 2013, was discharged and referred back to the eye screening for a follow up. Since then Mr. A has not attended any other appointments offered to him by the eye screening service, subsequently failing to attend the next seven appointments from 2013 up until 2016 when he was invited and attended the "Diabetes One Stop Clinic".

• 2016 - In February 2016, after missing his screening appointments for the last 3 years Mr. A was referred to the “hard to reach patients” project by his GP and was invited to attend the “Diabetes One Stop Clinic”. At the clinic, the Diabetes Lay Educators measured his blood glucose level, including other requested blood tests, and also conducted eye screening. The foot check, however, was not carried out at the clinic as Mr. A was already under the care of the Chiropodist at the Saint Leonards Hospital and had an appointment in 2 days. It was noted that the patient had diabetic ulcers in his right foot, and in need of a more specialised assessment.

Findings

Mr. A’s eye screening results have shown a right retina subjugated by an active proliferative diabetic retinopathy (R3), which are the late stages of the diabetic retinal disease accompanied by maculopathy and a marked drop in his visual acuity (6/24). Neovascularization and suspected vitreous haemorrhages were also noted. In his left eye, however, the visual acuity dropped so much that he could now only recognise hand movements. . His left retina could not be assessed due to cataracts but from the retinal images one can clearly see retinal lesions such as haemorrhages and large exudative areas, but unable to ascertain the extent of these lesions.

Mr. A was urgently referred to an eye hospital service due to the advanced nature of the diabetic retinal lesions and a marked drop in his visual acuity in the hope that prompt treatment will be given to prevent further loss of vision.

Mr. A presented himself to A&E at the Homerton Hospital, almost one month after this appointment, on the 19th March 2016 with critically high blood glucose levels of 27.1 mmol, which was fluctuating during that day between 13.4 mmol and 19.5 mmol. It was very fortunate that Mr. A had successfully engaged and attended the “Diabetes One Stop Clinic” and the service managed to capture his retinal lesions, albeit at this late stage, but nonetheless able to urgently refer him to hospital for treatment in order to prevent further loss of vision, which would potentially lead to not only a great deal of financial strain to the National Health Service, but also create major difficulties to this patient’s daily activities, quality of life, emotional and physical wellbeing and place a great deal of burden on his family and friends.

Conclusions

This patient was referred by his GP due to the fact that he has not been consistently engaging with eye screening. Upon referral to the “Diabetes One Stop Clinic”, several attempts to contact him were made and eventually the team managed to arrange a date to see him in clinic.

This case study is an obvious example of how effective and convenient to the patient a service such as the “One Stop Clinic” is, therefore being a very important step forward in patient centred care.

Considerations

Housebound patients were not included in this project. Although both Lay Educators were trained in diabetic foot check, phlebotomy and diabetic retinal screening, another important component was missing in their training in order to be fully able to effectively see housebound patients. This is the training in the use of an ophthalmoscope to conduct a fundoscopy in patients who are unable to leave their homes to have their eyes screened. Consideration should be given in adding to the training of the Lay Educators, the use of ophthalmoscope, to offer the thorough diabetes health check to these patients.

To Summarise

Overall, the project has been a success; the pilot study shows that taking into consideration the very nature of this group, a good number of patients engaged and benefitted from the service provided as seen in the case study described in this report.

In total 38 patients were invited to the “Diabetes One Stop Clinic“ of which 29 confirmed their attendance and 19 of these have attended their appointments. Most of the patients needed more than one invite to the clinic and different means of reminders before their appointment, however once they attended the clinic, a change in perception towards available healthcare services was noticeable and they were highly praise worthy of the service being provided. The short time period of the project means that those patients that were successfully engaged, would not have had the opportunity to make use of the service a second time.