

# The BARS

BRITISH  
ASSOCIATION  
OF  
RETINAL  
SCREENING

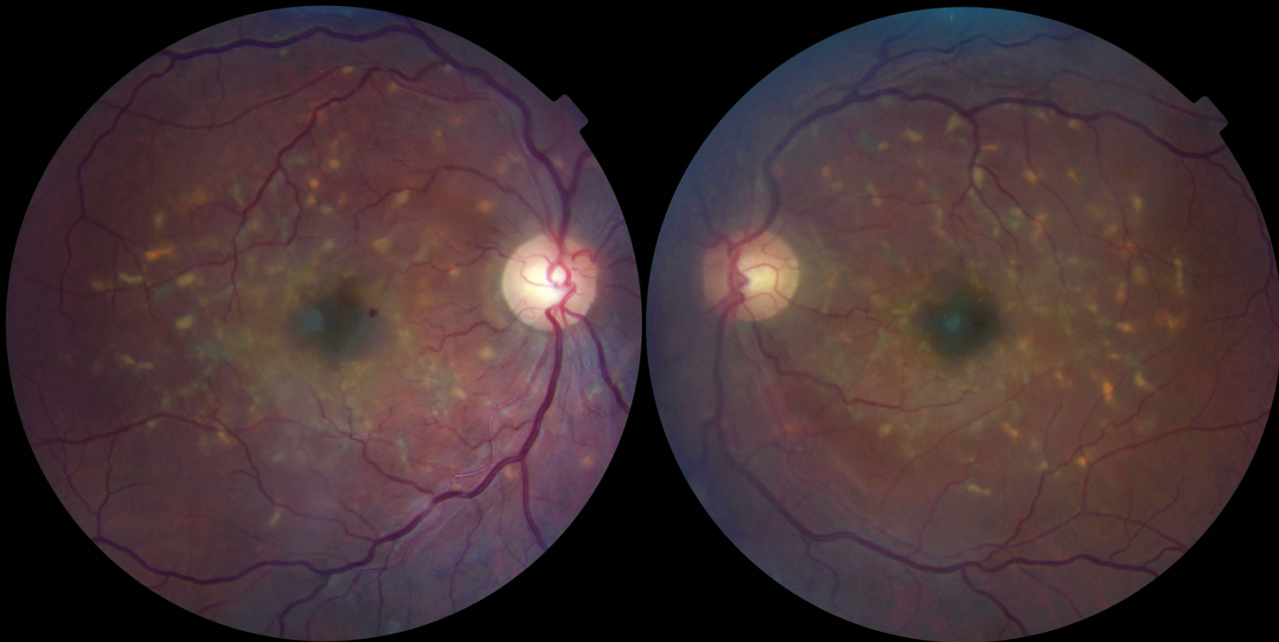
## Chronicle



*Competition  
Winners*



AYODEJI DADA, SOUTH EAST LONDON DESP



BARTHOLOMEW ENTIRE, SOUTH WEST LONDON DESP

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# BARS Conference 2023

By Richard Bell, BARS Co-chair



The British Association of Retinal Screening (BARS) annual conference was held on the 28th and 29th September at the Delta Marriott Hotel, Bristol with over 185 registered participants and divided into 4 separate sessions, following the taster workshops and the administration meeting workshop. Charlotte Wallis and I (BARS Co-chairs) started the proceedings by giving an overview of what to expect and thanked everyone for attending and the sponsors for making this possible. It was delightful to see so many faces for people to network, make new friends and catch up with old friends.

The first speaker was Abosede Cole (Consultant Ophthalmic Surgeon, Bristol Eye Hospital) who gave us an insight into the development of their diagnostic hub which stemmed from the Covid pandemic. Next up was Emma Payne (Programme Manager, East Sussex DESP), who talked about their ways of dealing with health inequalities within eye screening. Following this was an interesting talk about artificial intelligence, which was a big theme at this year's conference, which was delivered by Diederik Sackers and Mark Grinsven from Thirona Retina. AI already exists in Scotland and this talk was about how it could be applied within a large English population.

At BARS, we always give out a Lifetime achievement award and this year we presented it to Nick White (Chair, Institute of Medical Illustrators) who received this last year (2022) but was not able to attend. He presented to us a lovely slideshow of 42 years in a nutshell within diabetic eye screening and medical photography.



Photography by Kamran Rajaby

Following on from Nick and ending the first session was a talk given by Jane Starr (West Sussex DESP), Andrew Gray (NHS Tayside) and Michael Foster (Northern Ireland DESP). This talk was entitled Three Nations Screening Delivery – Unique Approach, Same Goal. We had hoped to have four nations talk but unfortunately, we were unable to get a speaker from Wales. This talk provided a lively debate.

The second session resumed after a tea/coffee/trade break with a talk by Clare Bailey (Consultant Ophthalmologist, Bristol Eye Hospital), who gave us an insight into intra-vitreous treatments for patients with diabetic retinopathy. We were then given an update from Kim Lovell (National Grading Lead) on R2 developments and developments within NHS England. For those of you who are graders you will be well versed about doing your TAT every month. Steve Aldington (Retinal Research and Professional Development Manager) presented a talk on how the images are chosen. Our last talk was by Jane Wallace (Associate Specialist in Ophthalmology, NHS Tayside) who demonstrated a pilot study undertaken on using a handheld camera for diabetic eye screening.

With the second session closed, it was time to prepare for our Gala Dinner and Entertainment. This usually follows a drinks' reception. During the drinks reception we were given a wonderful demonstration and presentation by our main sponsor, Sense Medical/Canon, who kindly sponsored the audio-visual requirements and half of the drink's reception.



Photography by Kamran Rajaby

They gave us an insight to the future of diabetic eye screening by showcasing their new combined Canon retinal camera/OCT device followed by a Japanese drum display. During the conference Sense Medical/Canon also provided a Japanese calligrapher who was there to write out anyone's name in Japanese.



# DAY 2

Day 2 started bright and early, and the first session of the morning was started by the BARS President Samantha Mann (Consultant Ophthalmologist & Clinical Lead, South East London DESP) who provided an update on the NHS future platform for people to login and learn/educate themselves with case studies and quizzes to test their knowledge. Samantha also gave us an insight into a new OCT interpretation course developed by King's Health Partners and St Thomas's research department. This will be beneficial for graders to learn from.

The BARS AGM followed this and was delivered by Charlotte and myself.

Next up we were treated to a talk by Robert and Maria Collett along with Mac the dog. Mac is a medical detection dog who has helped Robert control his blood sugar levels. Robert and Maria explained how Robert has not been able to control his blood sugar levels and has never been able to detect them going low or too high. Mac has been trained to alert him by the smell of Robert's breath. A fascinating story.

The next speaker was all about being green.... I'm talking about how we can make DESP's more environmentally aware. This was given by Sadhana Kulkarni (Operational Clinical Lead, West Hertfordshire DESP) who features later on in the Chronicle.



Photography by Kamran Rajaby



The BARS President, Samantha Mann, came back up to present a video that had been developed by Guy’s and St Thomas’ Hospital to promote the importance of attending eye screening and hospital appointments. The video came about after last year’s conference in Newcastle upon Tyne, where we had one of the patients speak about their experiences of laser treatment and vitrectomy surgery. The video will be available on the BARS website.



As said earlier, the BARS Lifetime award this year went to Grant Duncan (Director of Professional Development, Specsavers). Grant gave us his insight of 20 years of Grade Expectations and the highs and lows of diabetic eye screening to finish off the first session before tea/coffee/trade and poster judging.



The final session was started by Sandra Tweddell (Co-ordinator, Bristol Diabetes Support Network), a type 1 diabetic who presented a patient experience on how the support network was set up and developed. The next speaker was Paul Dimmock (Snr Learning Technologist/Assessor, Gloucestershire Retinal Education Group - GREG), who gave us an insight into all the training courses offered by GREG. They provide many courses to help in diabetic eye screening as well as being the provider of the Health Screening Diploma.

Next up was prize giving. BARS always holds a poster and photography competition. The results are further in the chronicle. Our keynote speaker and final presentation was delivered by Dr Paul Nderitu (ST6 Ophthalmology Registrar & Diabetes UK Sir George Alberti Research Fellow 2020 – St Thomas’ Hospital, London) on Artificial Intelligence and its application to Diabetic Retinopathy. A fascinating insight into what the future may hold for diabetic eye screening.



Photography by Kamran Rajaby

As the conference closed, I gave a final few words of thanks to everyone again and the sponsors. It was a truly remarkable conference, and we hope to see many of you again next year in Liverpool at the Crowne Plaza Hotel on 26th and 27th September.

Richard (BARS Co-chair)

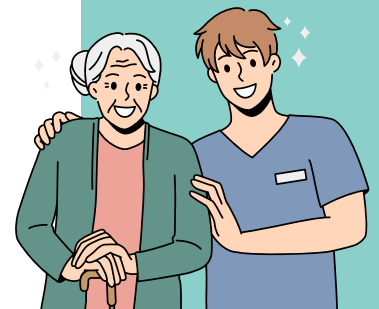
# Working Towards a Greener DESP

Dr Sadhana Kulkarni

As I begin to write this article, the Secretary General of the UN has warned that the ‘era of global warming has ended and the era of global boiling has arrived.’ Leaders have been warned to step up for climate action and climate justice for the greater good of the world and the generations to come!

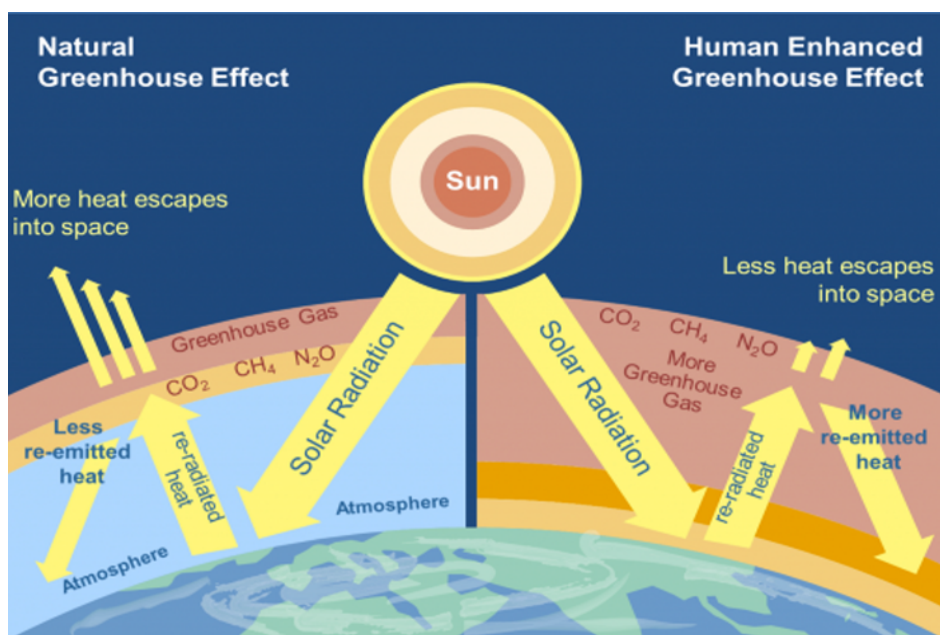
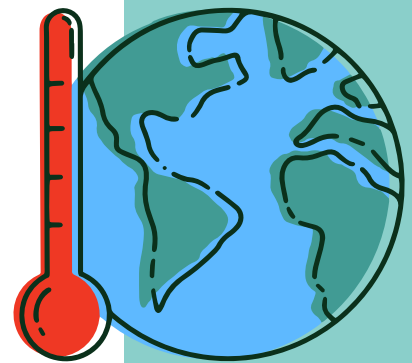
As the retinal screening family, we know how hard we work to provide a highly efficient and safe screening programme, aiming for zero risk to our patients and the best possible images to ensure high quality grading and decisions on patient outcomes.

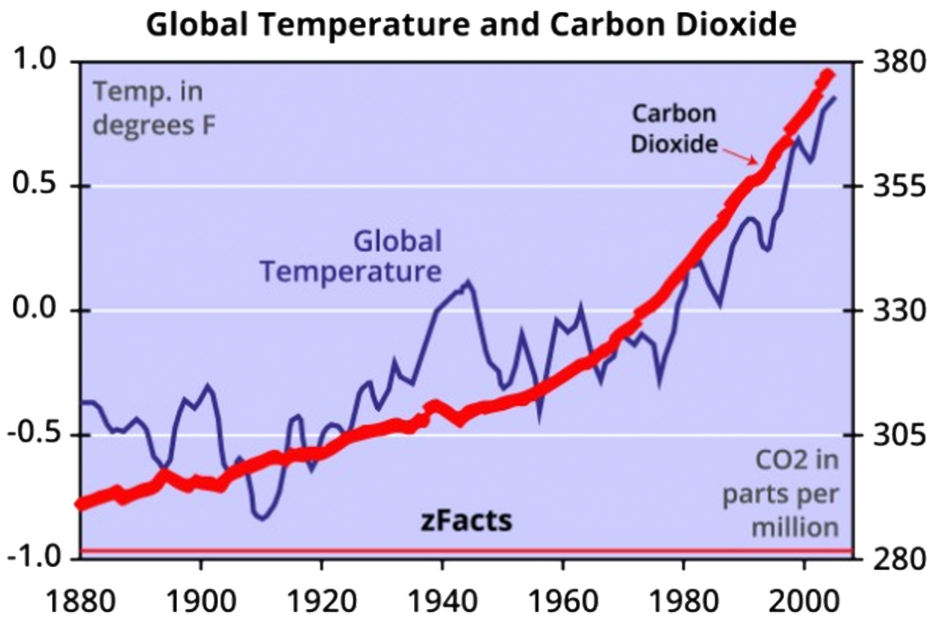
This article looks at why we need to think outside the box of Standards and KPIs, that so closely allows us to monitor our excellence, to alternative ways of working but with maintenance of the high standards we have already achieved.



## What is global warming and how are we involved ?

This picture summarises the effect of an increase in carbon dioxide, methane and nitrous oxide (greenhouse gases) which prevent escape of extra heat from the sun and thus cause an increase in the temperatures we are seeing worldwide .



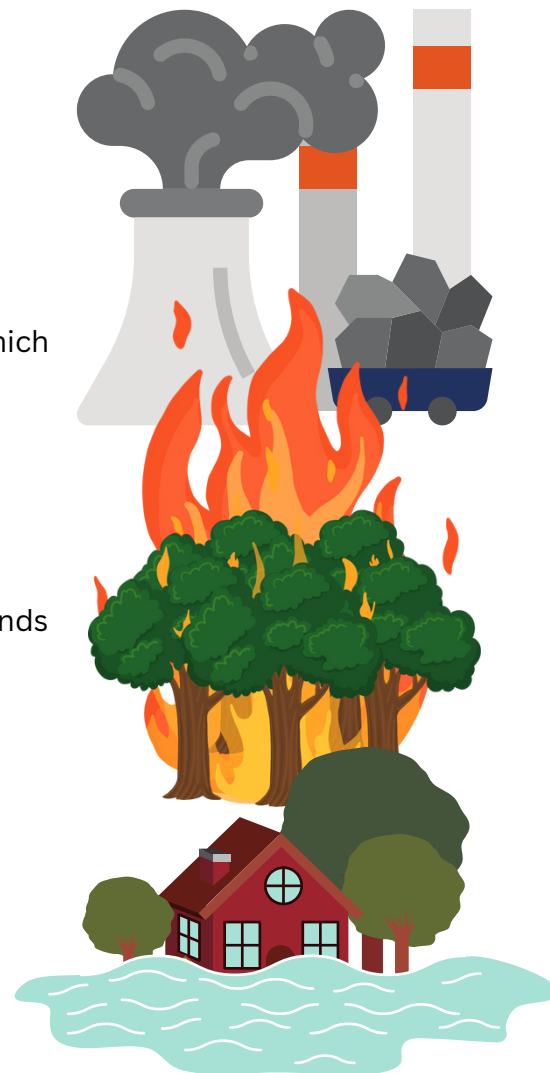


The graph above shows the increase in temperature and its correlation with carbon dioxide in the air, especially since the 1960's.

The biggest reason for the increase is the use of fossil fuels, which when burned, produce more than 2 billion tons of greenhouse gases per year, a number which is set to triple by 2050. The increase in temperature no doubt causes warm/hot summers allowing us to enjoy barbeques, sunbathe and have seaside holidays, but it also causes life threatening wildfires, drought, famine, loss of farming crops, melting of the ice glaciers at the largest rate ever seen. The rise in sea level will cause some islands at sea level to be submerged in less than 50 years.

The heat also increases evaporation of water from the sea followed by torrential rains and floods and once again threatens our very existence.

98% of plastics made are from burning fossil fuels and including every part of the extraction, production and disposal of the plastic.





In diabetic eye screening services nationally,

- We use over 20 million pieces of paper per year in call/recall and information letter
- We use over 8 million wipes which are plastic based and end up in landfill or in the sea
- 5 million single use tropicamide minims causes 5000kg of plastic waste every year

We are therefore having a measurable impact on the climate change that we are expecting someone else to solve.

## What can we do to help this threat?

Ask yourselves 'Do we settle for the world as it is or do we work for the world as it should be?'

We need to come together as a retinal screening family and consider alternative ways of working.

Answers on a postcard please....

### **Dr Sadhana Kulkarni**

Operational Clinical Lead,  
West Herts Diabetic Eye Screening Programme

Email : [Sadhana.kulkarni1@nhs.net](mailto:Sadhana.kulkarni1@nhs.net)





# Competition Winners & Runners Up Photography Artistic



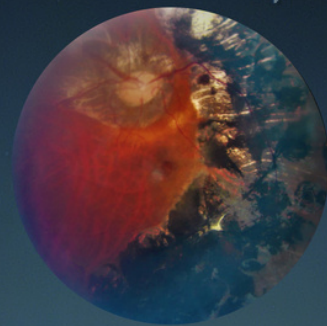
**WINNER**  
Artistic  
Ayodeji Dada  
South East London  
DESP

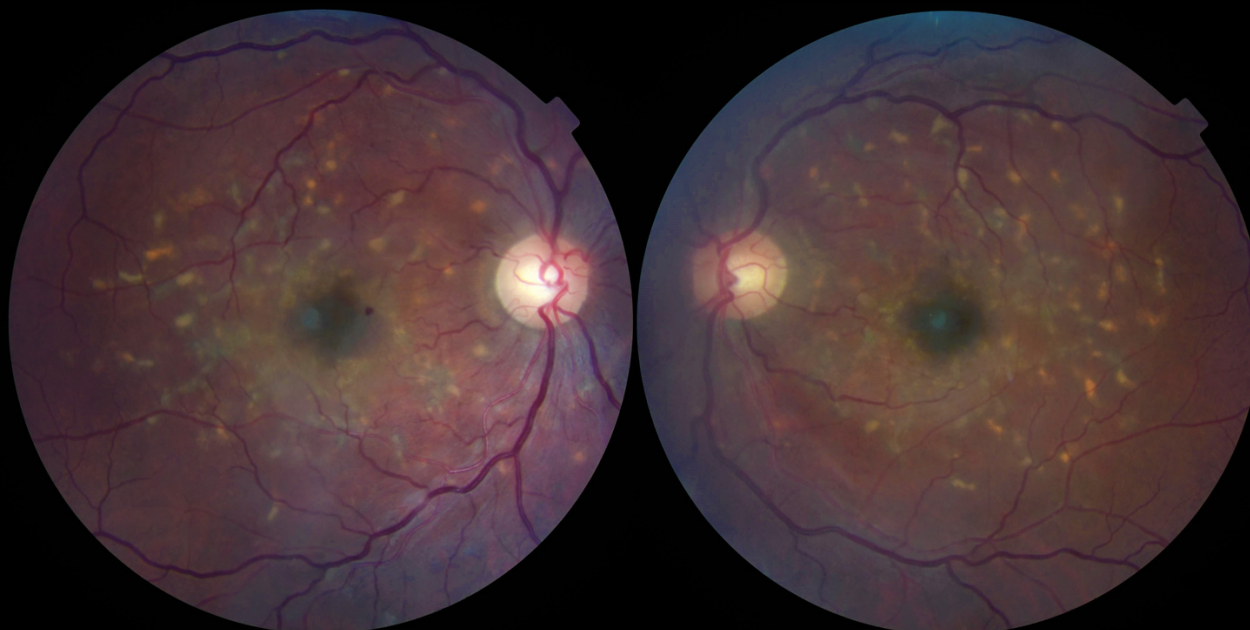


**RUNNER-UP**  
Artistic  
Bartholomew Entire  
South West London  
DESP



**mainline**  
INSTRUMENTS  
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This image illustrates a Stargardt disease which occur in both eyes. Stargardt disease is a rare genetic eye disease that happens when fatty material builds up on the macula. This disease affects one in 8,000 to 10,000 people.

Symptoms of the condition typically develop before the age of 20 and include:

- A loss of detailed vision and colour perception
- Wavy vision
- Blind spots
- Blurriness
- Difficulty adapting to low light levels

Whilst people with Stargardt's do not lose their peripheral (side) vision, many people will reach the point of severe vision loss. Vision loss usually starts in childhood – but some people with Stargardt disease don't start to lose their vision until they're adults. There's no treatment for Stargardt disease, but vision rehabilitation can help people make the most of their remaining vision.

Vision Acuity Check

Right Eye: 6/6 Using correction

Left Eye: 6/6 Using correction

Routine Digital Screening

Grade:

Right Eye: R1 M0

Left Eye: R2 M1

Outcome:

Patient was referred to Ophthalmology for DR

Ophthalmology DR Examination Grade:

Right Eye: R1 M0

Left Eye: R1 M0

Outcome:

Keep in Ophthalmology (routine)

# INTERESTING IMAGES COMPETITION EDITION

## RUNNER-UP

Clinical  
Becky Stephenson  
Northamptonshire DESP



This patient has been diagnosed with Diabetes since 2012, the patient has regularly attended his Diabetic eye screening over the years. Our first encounter with the patient was in February 2014, they were graded ROMO and early signs of Age Related Macular Degeneration were visible. The visual acuities at this stage were 6/9.

The vision began to deteriorate in 2020 to 6/12 and a significant change in the AMD appearance was identified. This resulted in our service referring the patient into the Hospital Eye Service, for non-DR.

In 2021, the Hospital Eye Service confirmed that the AMD was advanced and the visual acuities had deteriorated further to hand movements. Therefore the patient no longer fitted the criteria for treatment. The patient was discharged back to our service.

We have screened this patient every year since 2021 and the appearance remains unchanged, his visual acuities are counting fingers and mostly recently graded as ROMO and sent for annual recall.

I have submitted this particular image, as I have across many cases of Macular Degeneration over the years, but I have never seen this appearance before. The deterioration of the macula has changed the macula to take on the appearance of a myopic disc!

If there is a certain subject you'd like us to cover please contact us at:  
[chair@eyescreening.org.uk](mailto:chair@eyescreening.org.uk)



# Competition Winners & Runners Up POSTERS



Photography by Kamran Rajaby

**E McBride, J Harmon, S  
McMahon, E Crealey & J Lawton  
NEC Care - Ireland  
'USING TOPCON MAESTRO 2 OCT  
CAMERAS TO ENABLE MOBILE,  
REMOTE CLINICS'**

## USING TOPCON MAESTRO 2 OCT CAMERAS TO ENABLE MOBILE, REMOTE CLINICS

**NEC**  
NEC Care



### AUTHORS

E Crealey, J Lawton1, E McBride1, J Harmon1, S McMahon1  
1  
NEC Care, Cork, Ireland

### INTRODUCTION

Ireland's national diabetic eye screening programme, RetinaScreen, aims to reduce the risk of sight loss among people with diabetes through early detection and treatment of retinopathy. In 2019, NEC Care introduced a new Digital Surveillance (DS) pathway which provides non-invasive Optical Coherence Tomography (OCT) screening. This improves the referral process for those who do not require treatment but do need more regular monitoring. Eligibility was subsequently expanded, allowing more patients to be screened in our DS clinics.

To maximise accessibility and flexibility, we proposed to offer mobile, community-based DS clinics. Appointments were previously available only in static clinics with stable internet connections. To extend the service into communities, we collaborated with Topcon Healthcare and Armstrong Bell to devise a safe method of using and transferring the OCT equipment between clinics.

### OBJECTIVES

To provide a new community-based service, in line with both Sláintecare aims and our service objective from the National Screening Service (NSS), we planned to:

- Collaborate with Topcon Healthcare and Armstrong Bell to ensure that the software systems used in static clinics would function equally well in community-based mobile settings without stable internet connections.
- Include failsafe processes to ensure compliance with strict government procedures and programme quality assurance standards.
- Monitor more closely the progression of diabetic retinopathy in patients and ensure accurate and timely referrals.
- Reduce the waiting lists in treatment centres (TCs) by enabling more frequent community-based appointments and facilitating the discharge of patients from the TCs.
- Develop safe methods for the transfer of the Topcon Maestro 2 between clinical venues.

### IMPLEMENTATION

#### The challenges

Historically, Topcon Maestro 2 OCT instruments are used with one central database stored on a server. Therefore, at each screening location, each desktop links directly to the server so that the central database can be picked up. Equally, when images were captured, they are saved straight to the server so that the grading team are able to view any scan captured live across the team.

We recognised that internet connections were not always available and that slower connection speeds also impacted patients as fewer people could be screened.



This meant our choice of venues was limited as we needed strong and stable internet connections.

We also had no way to transport the Topcon Maestro 2 from one venue to another in a way that minimised risk of damage to this specialist equipment.

#### The solution

To overcome the challenges, we:

- Made each OCT instrument standalone, with its own database, so that it could work offline and therefore open up more venue options.
- Created our own secure central server that allowed multiple users to connect to it and import the information from all scans captured in the clinic. This server became the central database which now allows graders to log in and view scans from each of the mobile clinics.
- Designed a purpose-built trolley and travel box with foam inserts moulded to the exact shape of the Topcon Maestro 2 OCT instrument.



#### OUTCOMES

- More convenient for patients, with appointments and equipment available in communities across the country to reduce travel time.
- Exceeding programme objectives for patient wait times.
- Reduction in TC referrals, reducing backlogs and decreasing wait times within the TCs.
- Closer monitoring of patients' Diabetic Retinopathy progression: patients are now seen within one month of discharge from the TC and then every six months to monitor their progression.
- We have provided 20,000 Digital Surveillance appointments to over 8,000 patients within the community across Ireland:
  - Only 3% of these patients required a subsequent referral back to the TC for further assessment. This 3% of patients were classed as urgent referrals, meaning they got treatment much sooner than if they had been waiting in a TC.
  - 16% of patients were referred back to the routine digital screening pathway.
  - 73% of patients continue to be safely managed in the DS pathway within the community.

#### CONCLUSION

NEC Care successfully implemented a new, secure and innovative pathway facilitating the use of OCT in a community-based mobile setting. This provides an additional layer of specialist care and offers patients exceptional healthcare monitoring locally. It also relieves pressure on TCs by allowing them to focus more on at-risk patients who require treatment.

## 1st place

**E McBride, J Harmon, S McMahon, E Crealey & J Lawton  
NEC Care - Ireland**

**'USING TOPCON MAESTRO 2 OCT CAMERAS TO ENABLE MOBILE, REMOTE CLINICS'**

## 2nd place

**L Batton & L Manili  
South East London DESP**

**'PERSISTENCE PAYS OFF FOR PAEDIATRIC ATTENDANCE'**

## 3rd place

**J Harmon & S McMahon  
NEC Care - Ireland**

**'RESULTS OF THE RETINASCREEN TWO-YEAR SCREENING INTERVAL INITIATIVE'**



**TOPCON**

**Sponsored kindly by  
Topcon (GB) Medical Ltd**

# Persistence Pays Off For Paediatric Attendance

Louise Batten & Lucia Manili

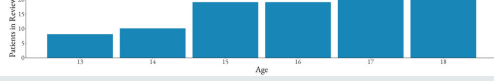


## The Problems

- 78 paediatric patients, aged between 12 and 18 years, missed all appointments during the 2022/2023 screening year (10.9% of the South East London DESP paediatric cohort)
- Each patient was invited by letter three times and sent multiple text reminders



The prevalence of non-attending patients increased with patient age



## The Investigation

- We sought to understand the barriers to screening and improve uptake in this cohort
- A screener-grader (who has lived experience of type 1 diabetes) persisted to make phone contact with these patients/parents/guardians:
- They discussed the non-attendance and noted the stated reasons, e.g., not believing the diabetes diagnosis, school/work commitments, and short-term illness
- Where possible a new appointment was booked that fitted the family's schedule
- Other mitigating factors such as diabetes status queries, or the child no longer living in the family home led to follow-up calls to the relevant teams, i.e., the GP or social services
- A tracking table was updated to follow the patients through the pathway (from phone call to attendance outcome), so that progress could be regularly reviewed

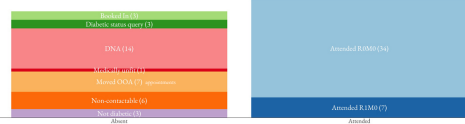


## The Outcomes

- A personalised approach to engaging with this cohort improved attendance by 54.6%
- Attendance was aided by offering Saturday or evening appointments



- 20.5% of the patients who have since attended were found to have R1 pathology, compared to an average of 0.3% in the whole 12 to 18 age group. This suggests that young patients who frequently miss appointments are not accessing the same level of diabetes care as their peers
- Safeguarding concerns regarding diagnosis denial, and refusal to book appointments were raised with the relevant care teams to help improve education and access for the patients



Persistent empathetic engagement works! A win for both patients and DESP programmes!

## L Batten & L Manili South East London DESP 'PERSISTENCE PAYS OFF FOR PAEDIATRIC ATTENDANCE'



Photography by Kamran Rajaby

Full versions of posters will be available to view on the BARS website



## J Harmon & S McMahon NEC Care - Ireland 'RESULTS OF THE RETINASCREEN TWO-YEAR SCREENING INTERVAL INITIATIVE'

## RESULTS OF THE RETINASCREEN TWO-YEAR SCREENING INTERVAL INITIATIVE



NEC  
NEC Care

### AUTHORS

J. Harmon, S. McMahon

### INTRODUCTION

Diabetic retinopathy affects approximately 5.2% of the population of Ireland. The Irish National Diabetic Retinopathy Screening Programme, RetiScanCare, was launched in 2013 as a free service for all diabetic patients over the age of 12 years. RetiScanCare is now the first provider, the study only looks at data from the NEC Care database. Originally, patients with no retinopathy or background retinopathy were put in a yearly interval for screening. In July 2020, a two-year interval screening pathway (2YIS) was added for patients who were deemed safe to be screened. This included those with a worst fundus grade of R0 and no Non-Exfoliated Cup Disease (NECD) for two consecutive years within the RetiScanCare Screening (RSC) pathway. According to international evidence, extended interval screening is safely managed within best practice guidelines<sup>1</sup>. This study was undertaken to evaluate the safety and outcomes of extending the screening interval from one to two years.

### METHODOLOGY

Patients who met the criteria for two-year interval screening (two consecutive R0/R1 grades within 12-13 months) after the inception of 2YIS were compared against comparable patients who had two consecutive R0/R1 grades but were outside of the two-year time interval cohort.

The data was extracted from the RetiScanCare programme that is used when processing patients. Factors considered include age, gender, diabetes type, diabetes duration, treatment type and time between appointments. The study compared the change in grade, visual acuity and outcomes between the two groups to explore the safety of the increased screening interval. Patients who graded as un-screenable, were deemed unfit, de-completed, were deceased or moved out of area were excluded.

### RESULTS

We identified 2,212 patients who had been moved into the two-year interval pathway and 2,642 patients who had two consecutive R0/R1 grades but were outside of the two-year time interval criteria. Both cohorts are very similar demographically. The average age of the patients was 63.3 and 61.4. The 2YIS group had more males in their cohort and the R0/R1 cohort had more in their SD. Both cohorts were 95-97% male. Diabetes type and duration were similar in both cohorts, with 72-93% being Type 2 and the average duration being 12 years in both cohorts. 70% used tablets to treat their diabetes. See Figure 1 for details.

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### VISUAL ACUITY

Visual acuity changes are similar between the two cohorts. However, the 2YIS cohort shows slightly more clinically significant deterioration in visual acuity (24%) than the R0/R1 cohort (23.5%). Figure 2 below shows the changes in visual acuity.



Figure 2: Changes in Visual Acuity for the two cohorts.

Looking at patients' progression, we saw a slight increase in non-urgent threatening diabetic retinopathy in the two-year interval group, with 18.15% progressing from R0 to R1, R2, R3, and a similarly expected increase in maculopathy with 2.95% progressing from R0 to R1. The R0/R1 group progressed to non-urgent threatening retinopathy with 13.15%, with 3.63% progressing to maculopathy. Looking at sight-threatening retinopathy, we saw a very similar minimal risk of progression for both cohorts with 0.27% of the two-year interval group progressing and 0.23% in the R0/R1 group. As can be seen in Figure 3.



Figure 3: Progression in retinopathy and maculopathy for the 2YIS cohort and the R0/R1 cohort.

### OUTCOMES

Looking into the outcomes for both cohorts, we saw that the majority of the 2YIS cohort stay in 2YIS (no progression in pathology), with 83.7% remaining in 2YIS and 20% going to urgent referral. Similarly, in the R0/R1 cohort we saw that 85.6% remain in annual recall and 18.1% go to 2YIS. Only a very small proportion of patients in either cohort are sent as a routine referral to ophthalmology. 2.52% of 2YIS and 2.43% of the R0/R1 cohort had up to 2YIS as a referral category, with 0.24% of R0/R1 patients. This can be seen in Figure 4.



Figure 4: Outcomes for 2YIS patients and R0/R1 patients.

### DISCUSSION

This study compared the safety and outcomes of patients being seen annually to those being seen in a two-year extended interval screening pathway. It found that the two cohorts were similar demographically. Looking at the visual acuity of the two groups it found that both showed similar changes, with clinically significant deterioration of 24% for the two-year extended interval screening cohort and 23.5% for the R0/R1 cohort.

It also found that the progression of the two-year interval pathway was safe. This is a slight, expected increase in non-urgent threatening diabetic retinopathy in the two-year interval group. There was no significant difference in progression to sight-threatening retinopathy.

### CONCLUSION

The results of this study are in line with international studies showing that the Irish diabetic programme can safely run an extended interval screening pathway with no increased risk to patients.

### References

1. Chohan V, Narendran A, et al. (2019) International review of national retinopathy screening programmes for adults with diabetes: a large population-based review. *BMJ Open*. Available from: <https://doi.org/10.1136/bmjopen-2019-025482>
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3. Harman J, et al. (2021) The safety and outcomes of extended interval screening for diabetic retinopathy: a retrospective cohort study. *BMJ Open*. Available from: <https://doi.org/10.1136/bmjopen-2020-025482>



Photography by Kamran Rajaby

# “Spotlight on...”



*BARS are interested in hearing from you!*

We would like to run a series of articles as a “Spotlight on...” looking at both DESP programmes and the various staff roles within them.

## **For programme themed articles it would be good to include:**

- Catchment area and population/cohort
- Numbers of clinics/locations/referral centres
- Numbers/roles of staff
- Prevalence of DR and grades
- Any other information the programme thinks it might be useful to share.

## **For staff role themed articles it would be good to include:**

- Role title
- Brief description of duties (day to day activities)
- What motivated you to join a DESP?
- Any other information it might be useful and/or you would like to share.

As we all discovered at the conference, there are differing ways of running DESPs but with the same vision and mission so we thought this would be a good way of sharing practices and learning and developing with (and from) each other.

Please contact us with your ideas at [chair@eyescreening.org.uk](mailto:chair@eyescreening.org.uk)

# BARS 2024

Liverpool

26th - 27th September  
Crowne Plaza Hotel

