Health and Social Care

NI PEARS
Primary Eyecare Assessment and Referral Service

NI PEARS PLUS PILOT

April – December 2023

Evaluation Report

Ophthalmic Services
Strategic Planning and Performance Group
December 2024

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1. Background and rationale

The Northern Ireland Primary Eyecare Assessment and Referral Service (NI PEARS) was implemented as a regional service in 2018 and is an optometric enhanced service for patients who present with acute eye problems. It successfully enables circa 4,000 patients a month to be assessed in primary care optometric practices with 78% of those patients managed to completion in the primary setting. Circa 12% of the patients require urgent onward referral to Eye Casualty.

The NI PEARS Plus pilot is an extension to the NI PEARS service aimed at managing a further cohort of those patients who are symptomatic of specific acute eye conditions to be managed in primary care who would otherwise require management by HSC Trust Eye Casualty services. The pilot service is provided by optometrists qualified as Independent Prescribers (IP optometrists) and Ophthalmic Medical Practitioners (OMPs). It facilitates these IP optometrists and OMPs to manage patients with these specific conditions that are outside the scope of non-IP qualified practitioners in regards provision of management and treatment for the condition. This should enable this additional cohort of patients to be managed to completion locally by making use of this skilled group of practitioners and thus release further capacity in secondary care.

A similar service was successfully trialled in Wales during the COVID Pandemic as reported in Ophthalmic and Physiological Optics - *Optometry Independent Prescribing During COVID lockdown in Wales*: Cottrell *et al* https://doi.org/10.1111/opo.13028

The evidence to support the provision of this extension to the NI PEARS Enhanced Service was also found during the evaluation of the original SPEARS pilot which informed the implementation of NI PEARS. This identified the benefit of the investigating optometrist/OMP having the ability to prescribe treatments for patients rather than having to direct the patient to their GP to have a prescription issued. See SPEARS PILOT Evaluation Report March 2016.pdf

A joint statement from the Colleges of Ophthalmologists and the College of Optometrists entitled "Our vision for safe and sustainable eyecare services" also supported development of the service. It identified optometrists as being the first point of contact for patients with eye problems and highlighted the benefit of making use of the skills of IP qualified optometrists in primary care.

2. Aim and objectives

The overall aim of the NI PEARS Plus Pilot was to make use of the clinical skills of primary care IP optometrists and ophthalmic medical practitioners (OMPs) to provide appropriate and timely care for patients presenting with specific acute conditions, enabling the patients where possible to be managed to completion in primary care, who would otherwise have to attend secondary care Eye Casualty services.
The specific objectives were:

- To make optimum use of clinically skilled primary care optometrists.

- To facilitate primary care IP optometrists and OMPs who currently provide the NI PEARS to manage patients with specific acute eye conditions to completion within the primary care setting with clinical support from secondary care if required e.g. through the Eye Casualty clinical advice line.

- To facilitate appropriate access to eye care for patients with specific conditions rapidly and as close to home as possible.

- To reduce the number of patients requiring specialist secondary care ophthalmology services.

- To ensure an appropriate and timely pathway for those patients who do require rapid onward referral to specialist ophthalmology services.

- To optimise the inter-professional interface including communication, relationships and awareness of professional services between:
  a) Primary care optometrists through inter practice referral and communication.
  b) Primary care clinicians: GPs, community pharmacists and optometrists
  c) Primary care optometry and secondary care ophthalmology, in particular, Eye Casualty services.

- To promote public health messages in relation to eye health including antimicrobial stewardship, promotion of self-care and prevention of eye injuries.

- To mitigate climate change through promotion of sustainable and environmentally friendly clinical services, delivered closer to home.

3. Pilot Development, Implementation and Management

The pilot required collaborative and co-productive work between SPPG Ophthalmic Services, BHSCT Eye Casualty, Optometry NI and the primary care optometry contractors and individual IP optometrists and OMPs.

A regular monthly Belfast Trust Eye Casualty multidisciplinary meeting, with SSPG optometric adviser attendance, provided an invaluable forum for developing and managing the service.

1.1 Identification of funding

A business case was developed and approved with funding secured from General Ophthalmic Service budget in-year slippage **

A service specification was developed by SPPG with significant input from BHSCT Eye Casualty and an ONI working group: NORTHERN IRELAND DES 06/07 (hscni.net)

An NI PEARS Plus Pilot Protocol working document was provided to all participating contractors and practitioners: NI PEARS_Plus_Protocols_March_2023.pdf (hscni.net)

1.2 Identification of participating practices/practitioners

Optometry practices within the catchment area of BHSCT Eye Casualty, who had an IP optometrist, were invited to participate in the pilot. I8 practices with 18 practitioners - 16 Optometrists, 2 Ophthalmic Medical Practitioners (OMPs) - joined the pilot at the outset with a further 6 practices with three more recently qualified IP Optometrists joining during the period of pilot.

1.3 Identification of patients.

The main cohort of patients were identified by Belfast Eye Casualty triage staff reviewing referrals of patients to Eye Casualty with potentially one of four specific conditions: Foreign Body, Herpes Simplex Keratitis, Marginal Keratitis, Anterior Uveitis.

The majority of patients were referred to Eye Casualty following an NI PEARS assessment.

A smaller cohort of patients were identified from within a participating practice either as a patient seen by another NI PEARS accredited optometrist within the pilot practice diagnosing one of the four conditions and making an internal referral to the practice IP optometrist/OMP or identified by the IP optometrist/OMP while providing an NI PEARS assessment and upgrading the patient to NI PEARS Plus.

1.4 Patient exclusions

Certain conditions/patient groups were specified as excluded from the service and retained in Eye Casualty for management including:

- any patient identified with acute conditions other than the specific four identified conditions.
- all contact lens wearers presenting with a red/painful eye to reduce the risk of missing a serious infection e.g. acanthamoeba
- patients already under the care of ophthalmology, other than those presenting with recurrent anterior uveitis.

While an ultimate aim of a regional service could be to enable direct inter-optometry practice referral of patients rather than involving Eye Casualty in the triage, to enable safe and controlled testing of the pilot service no inter-practice referral was permitted.

1.5 Access to the service

Weekly survey of pilot practices
SPPG Ophthalmic Services issued a weekly survey to practices to identify the days that each practice had an IP optometrist/OMP available to provide the NI PEARS Plus Service. The survey was issued to each of the pilot practices each Monday for return by Thursday and the information collated and provided to Belfast Eye Casualty on each Friday showing availability in each practice for the incoming week. The aim was to reduce the risk of patients being directed to practices that did not have an IP optometrist/OMP available on a particular day thus delaying access to care.

Practice capacity and ability to provide foreign body removal
During the first few weeks of the pilot two issues of capacity and capability in practices were identified. Some practices had more patients directed to them than they could manage while others had unused appointments. Also, some IP optometrists did not have the equipment and/or experience to manage deep foreign bodies so the patient had to be rereferred back to Eye Casualty delaying the treatment of this often very painful condition.

To manage these issues a one-off survey was issued to the pilot practices asking a) how many appointment slots they could allocate each day to NI PEARS Plus patients b) if the IP optometrist had the ability and equipment to manage foreign bodies. A list was then provided to Eye Casualty to ensure that patients were directed in appropriate numbers to each practice and those patients with foreign bodies were directed to the practices that had the facility to manage them.

Process for patients accessing an NI PEARS Plus appointment.
Patients identified by Eye Casualty as appropriate to be redirected to NI PEARS Plus were contacted by Eye Casualty staff and provided with the names and phone number of two pilot practices local to the patient. If one was the patient’s usual practice they were encouraged to attend it. The patient contacted the practice to request an NI PEARS Plus appointment.

As a safety net, if neither of the two practices had an appointment available, the patient was directed to phone back to Eye Casualty who would provide an appointment there

1.6 Management of Patients

The practices were enabled to provide a first appointment, and up to two follow up appointments if required, and a further follow up with approval of SPPG if required.

The optometrist/OMP either:

1. investigated and managed the patient to completion (in line with the College of Optometrists guidelines and with local Eye Casualty clinical guidance), issuing a prescription of therapeutic medication if required, *or*
2. if the condition was beyond their competency to manage, or was not resolving, they referred the patient back to Eye Casualty.

Continuity of care: on completion of care and discharge of the patient, a report was sent from the IP optometrist to the original referring optometrist on the outcome and the patient advised to return to their usual optometrist for ongoing routine eyecare.

1.7 Attendance assurance

During the period of the pilot two samples of 100 patients each were cross checked between Eye Casualty and SPPG to ensure that the patients directed by Eye Casualty into the pilot did actually attend the primary care practice under NI PEARS Plus.

1.8 Practitioner support

A clinical advice phone facility was available for the primary care IP optometrists/OMPs provided by a rota of Eye Casualty optometrists.

Three zoom meetings were held during the period of the pilot, facilitated by an SPPG optometric adviser involving Eye Casualty clinicians and the primary care IP optometrists/OMPs to review the pilot progress, address any issues and discuss case management.

An SPPG optometric adviser was available during weekdays to answer queries relating to all aspects of the pilot.

1.9 Claim process

The claims were submitted using a paper claim form to BSO Ophthalmic Payments. The data was manually logged and paid monthly with the GOS payments. This was a very resource intensive process. The claim form included clinical data for both assurance and to inform the pilot evaluation. See **Annexe 1** for the claim form template.

4. Evaluation methodology

4.1 Data sources

a) **SPPG**: data extracted from claim forms on patient profile, presentations, diagnosis and outcome.

b) **BHSCT Eye Casualty**: data extracted on
- Number of patients directed into pilot from Eye Casualty
- Numbers, reasons and outcomes of patients rereferred from the pilot practices to Eye Casualty.

4.2 Patient Attendance review

Two samples of 100 patients who were directed from Eye Casualty to an NI PEARS Plus practice were traced to ensure that had attended and been seen under NI PEARS Plus.

4.3 Patient Experience survey

An electronic link, a QR code and paper versions of the survey with stamped addressed envelopes were issued to practices to give out to patients following their attendance for NI PEARS Plus.

It was felt that may be a better uptake of responses if the practitioner gave the patient the survey in person and explained the background.
See annexe 2 for the patient experience questions.

4.4 Practitioner and Contractor experience survey.

An electronic survey was issued, using Microsoft Forms, to all primary care optometry practices and clinicians providing the pilot.

See annexe 3 for the practitioner experience questionnaire.

4.5 Clinical Record Audit

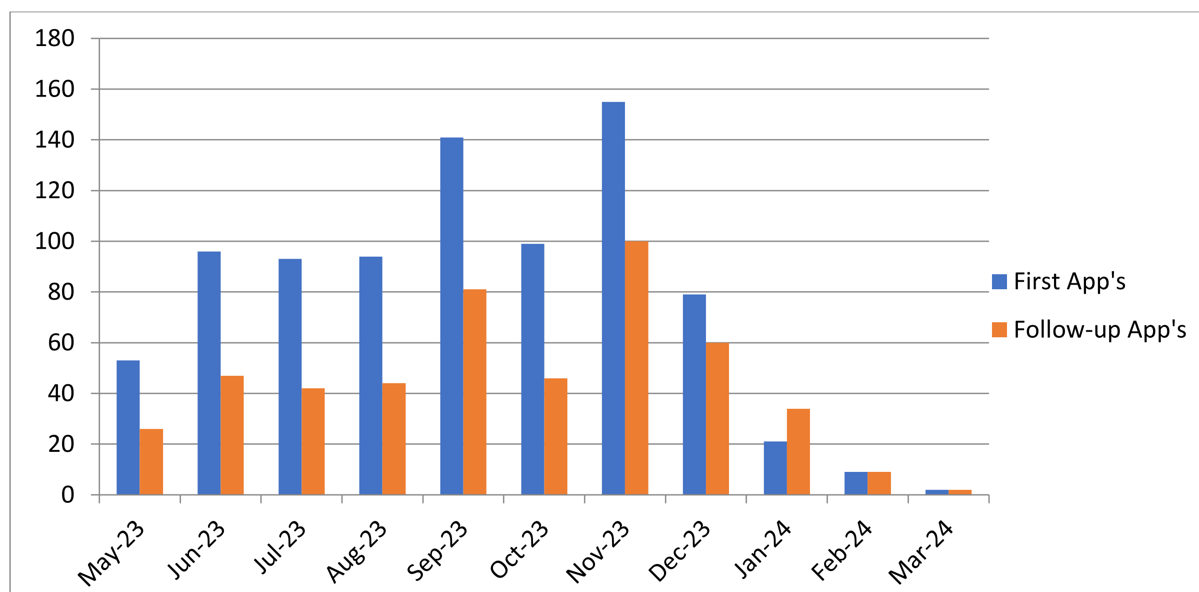
A 20% random sample of patient records was requested from each practice participating in the pilot. The records were anonymised and reviewed by the Eye Casualty Clinical lead and a second Eye Casualty ophthalmologist to assess the appropriateness and safety of the service provided in primary care.

5. Pilot Activity Figures

5.1 Overall Activity

Pilot ran for 32 weeks from 24/04/23 to 08/12/23
Total number of patients attended: **841**
Total number of appointments provided, including follow ups: **1331**

5.2 Activity by date of claim form submission



Note: the pilot commenced 24/04/23 and was paused on 08/12/23. Follow up appointments continued to be provided to Feb 2024 for some patients whose management commenced i.e. had their first appointment prior to 8th December.

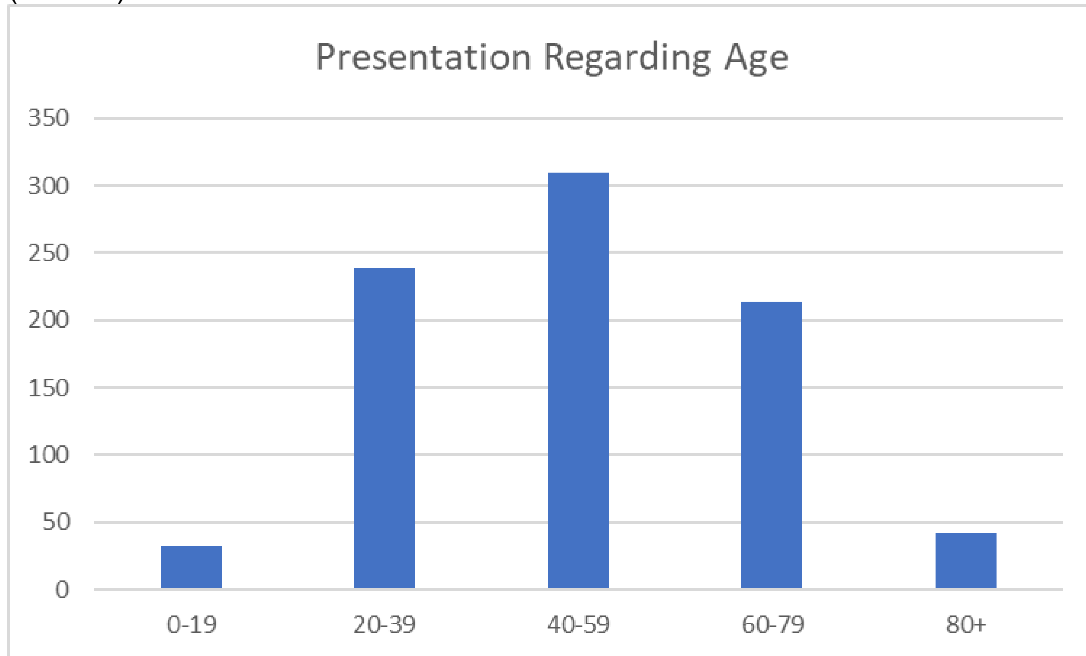
Practice Location and availability

20 practices participated in the pilot

Practices had between 1 and 3 appointments that they could allocate daily to NI PEARS Plus Pilot patients. Two practices (same contractor) could provide appointments for up to 5 patients per day.

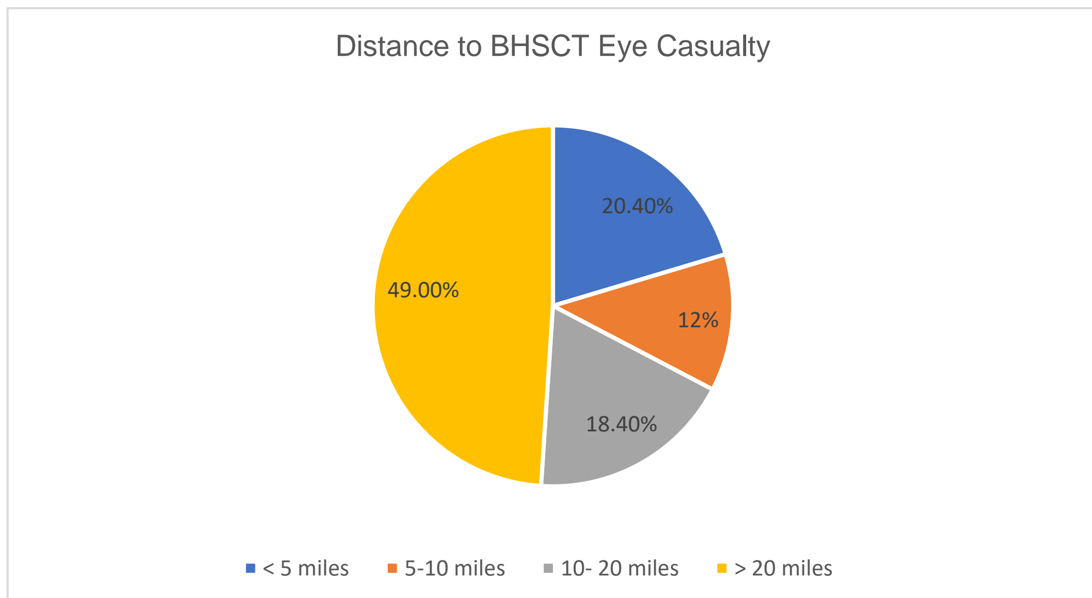
5.3 Patient Age Range

(n =841)

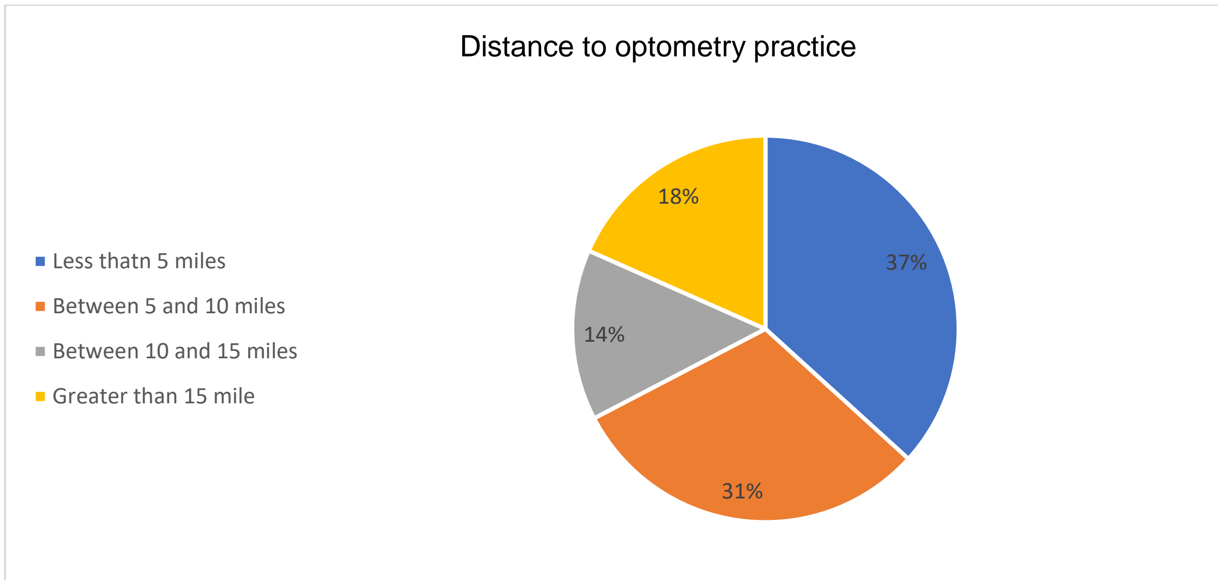


5.4 Patient Access to Service

Distance to Belfast Eye Casualty (n=49)
The majority of patients patients lived 10 miles or more from Belfast Eye Casualty and 49% lived further than 20 miles



Distance to Optometry practice (n=49)
67% of patients had to travel less than 10 miles to the Optometry practice.



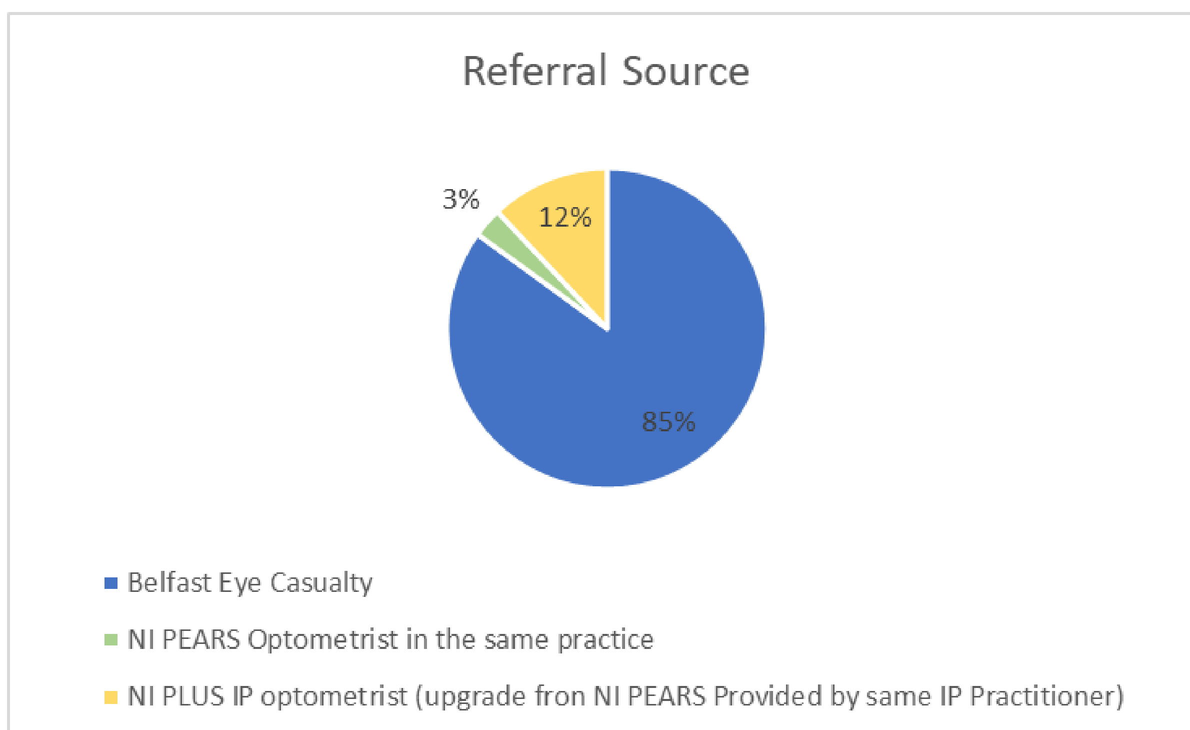
Practice Availability (n=40)
73% of patients were offered an appointment by the first practice they contacted. This evidenced that the weekly survey of practice/practitioner availability played a vital role in ensuring patients were, as far as possible, directed to a practice that could provide them with an appointment.

While all of the participating practices reported that submitting the weekly survey was manageable for the practice, it was a resource intensive process for SPPG that became more complex as additional practitioners/practices joined the pilot and when unplanned changes/updates had to be communicated to Eye Casualty at short notice.

Appointment availability (n=49)
The majority of patients were seen within 48 hours in the primary care optometry practice.

Appointment provided:	
Same day	55%
Next day	37%
Within a week	9%

5.5 Referral Source (n=841)



The majority of patients were directed to the service following triage of the referral by BHSCT Eye Casualty; 92.7% of the Eye Casualty triage was carried out by the triage nurses and 6% by the out of hours doctors.

5.6 Redirection of patients from Eye Casualty

10.6% (n=628) of all the patients (n= 5914) referred to Eye Casualty during the pilot period were directed to NI PEARS Plus and managed by primary care IP optometrists/OMPs.

Of those patients the majority, 91%, had originally been referred to Eye Casualty from optometry practices and most of these patients had been originally assessed under NI PEARS. The remainder had been referred to Eye Casualty via other routes including GP practices and Emergency Departments.

Attendance assurance
To provide assurance that the access to the primary care optometry enhanced service was safe and appropriate, i.e. that the patients directed from Eye Casualty to an NI PEARS Plus optometry practice actually received an appointment, two samples of 100 patients each, directed from Eye Casualty to the service, were followed up to ensure they had attended the primary care optometry practice for an NI PEARS Plus appointment. This evidenced **99%** attendance. Initially 5 were identified as not attending but on follow-up phone call to the patients 3 had actually attended, the practices hadn't submitted a claim form so there was no record of attendance in SPPG data. Of the two patients who did not attend, one had a foreign body that they removed themselves and so did not need to attend the optometry

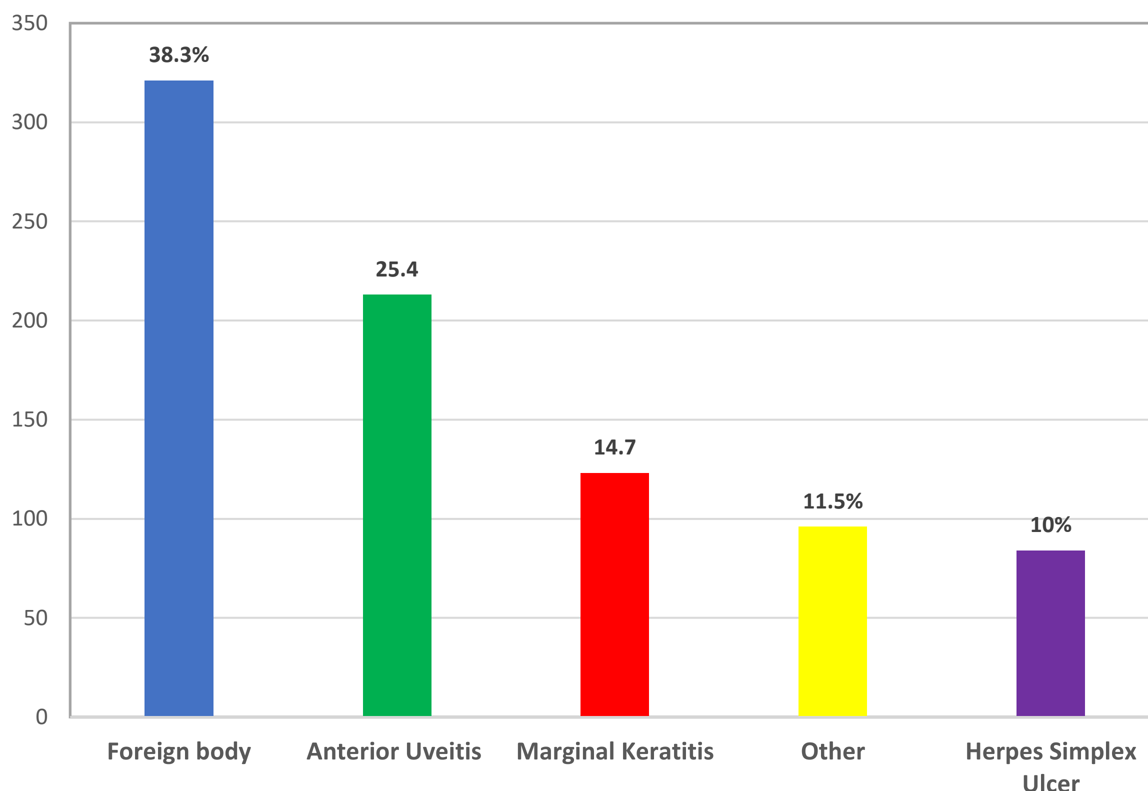
practice and the second was a patient who was initially advised to attend for NI PEARS Plus but was subsequently managed otherwise by Eye Casualty

This provided assurance that the process followed to ensure patients gain access to the NI PEARS Plus service is appropriate.

6. Clinical Results – SPPG data from claim forms

6.1 Diagnosis

n= 837 (4 claim forms submitted without a diagnosis recorded)



Triage Challenges/Issues

"Other" refers to patients referred to the pilot identified at Eye Casualty triage of having one of the four specified conditions but, on investigation by the IP optometrist/OMP, diagnosed with a different condition. The triage decision to direct a patient to NI PEARS Plus is based on information provided on the referral form and some patients had either insufficient information provided or an incorrect diagnosis, by the original optometrist referring the patient to Eye Casualty.

Many of the patients who were treated in EC with a final diagnosis of marginal keratitis could not be triaged to PEARS PLUS as it was not mentioned as a provisional diagnosis in the original optometrist referral letter or there was insufficient information to conclude that condition was marginal keratitis.

Solutions to Triage Challenges

- additional training for core NI PEARS accredited optometrists in regards to correct identification/diagnosis of the four specific conditions
- guidance for primary care optometrists on optimising clinical information to be included when making referrals to Eye Casualty

6.2 Patient Outcomes

89.2% (n=750) patients were managed to completion by the IP optometrist/OMP in primary care.

Treatment: 91.4% (n=769) patients were prescribed one or more therapeutic medications.

Prescribing pattern

Medication	% prescribed (n=1125)
Topical Steroid	27.7%
Chloramphenicol	25.2%
Other topical antibiotic	3.1%
Oral antibiotic	1%
Lubricating drops	19.4%
Cyclopentalate	21.8 %
Topical Antiviral	7.1%
Oral antiviral	0.8 %

Note 1: The total percentage patients prescribed treatment is higher than the total % of patients managed to completion as a small of patients initially prescribed treatment were subsequently, at follow up, referred to Eye Casualty as they weren't responding to the treatment. i.e. initially treated but could not be managed to completion.

Note 2: The total number of therapeutic treatments supplied is greater than the number of patients who had prescriptions issued as some patients required more than one medication.

Note 3: An additional 12 patients were recommended treatment but a prescription was not prescribed.

Note 4: the percentage of patients prescribed topical steroid correlates closely with the prescribing pattern in the Welsh model. (*Optometry Independent Prescribing During COVID lockdown in Wales*: Cottrell *et al* https://doi.org/10.1111/opo.13028)

Chloramphenicol and lubricating drops are the only medications that could be provided by a non-IP optometrist who could direct the patient to purchase the treatment over the counter from the community pharmacy. The provision of topical steroid, topical antivirals and all oral medication would have required a request to the GP for issue of a prescription, normally taking a minimum of 48 hours to provide.

The IP optometrist, having both the knowledge on what treatment to provide and the facility to write the prescription would enable much more rapid commencement of treatment.

6.3 Follow up appointments

490 follow up appointments provided

Condition	% requiring 1 or more follow-ups
Anterior Uveitis	39.3% (192)
Microbial Keratitis	23% (94)
HSK	21.3% (87)
Foreign Body	14.2% (58)
Other	14.4% (59)

- 409 patients required one follow up

  The majority of patients requiring 2 or more follow ups had either Anterior Uveitis or Herpes Simplex Keratitis

- 75 patients required 2 follow ups
- 5 required 3 follow ups
- 1 required 4 follow ups

6.4 Patients requiring referral back to Eye Casualty

10.8% (n = 91) patients required referral back to Eye Casualty

Conditions / reasons for patients requiring referral back to Eye Casualty

Condition	Reason for referral back by IP optometrist
Foreign body 9% referred back	➢ Could not remove ➢ Rust ring remaining ➢ FB close to visual axis
Anterior Uveitis 10.4% referred back	➢ Not responding to treatment ➢ Developed intermediate uveitis ➢ Frail/immunosuppressed patient
HSK 16% referred back	➢ Not responding to treatment
Marginal Keratitis 4% referred back	➢ Not responding to treatment ➢ Developed corneal infiltrates
Other 3.6% referred back	➢ Not within competency to manage ➢ Not responding to treatment

6.5 Clinical management challenges/Issues

Clinical outcome, from Eye Casualty, for patients referred back

Foreign Bodies:
80% of patients with foreign bodies referred back to Eye Casualty were for rust ring removal as the practitioner did not have a burr to remove the ring.

Not all practitioners had the experience, competence and equipment to remove embedded metal foreign bodies, resulting in some patients having to be redirected back to Eye Casualty delaying treatment of this painful condition.

A further challenge to foreign body removal was the absence of Occupational Health cover for optometric needlestick injuries. This placed a further limitation on the techniques available to the primary care optometrist for foreign body removal.

Herpes Simplex Keratitis (HSK)

20% of patients with HSK required referral back to Eye Casualty optometrist of the patients with HSK referred back to Eye Casualty.
Approx. one third of these patients were found by Eye Casualty not to have HSK but another condition. Some of these patients were misdiagnosed by the original primary care optometrist, triaged by eye Casualty based on the information provided and then managed for HSK by the NI PEARS Plus optometrist

Marginal Keratitis

The main challenge identified by Eye Casualty was misdiagnosis of marginal keratitis by the initial primary care optometrist resulting in patients being incorrectly triaged and inappropriately directed to the NI PEARS Plus optometrist.

Anterior Uveitis

Majority of cases requiring referral back to eye casualty were due to not responding to treatment in line with the protocol.

Overall clinical outcomes /challenges

Some patients, in particular some with Herpes Simplex, were retained longer than they should have been in primary care. No patient came to harm but some may have had their condition resolved more quickly.

The practitioner survey indicated that 73% of practitioners felt they were always competent to manage the presenting conditions and the remaining 27% felt they were usually capable of managing the conditions. However, the pilot identified that the core IP training and qualification does not fully cover the skills required to manage acute presentations in primary care.

The clinical advice line support provided by Eye Casualty proved an essential and welcome aspect of the service, as reported by the practitioners.

Solutions to clinical management challenges

- Additional training for the primary care optometrists providing core NI PEARS on identification / differential diagnosis of Marginal Keratitis.
- Additional guidance on optimum information to include in an Eye Casualty referral
- Additional training, including practical workshops, for the IP optometrists wishing to provide NI PEARS Plus on the four conditions, in particular foreign body removal and diagnosis and management of herpes simplex should be provided and be a prerequisite for any practitioner wishing to provide the service.

- Provision of a grant towards foreign body removal equipment in particular for. a burr and disposable heads.

- Development of an IP Acute Eyecare ECHO program to further support the learning and shared clinical experience for the practitioners providing the service.

7. Clinical Records Audit – produced by BHSCT Eye Casualty November 2024

Audit Sample

- Notes sent from Community Optometrists engaged in PEARS PLUS for audit
- April 2023 – December 2023
- Variety of documentation types depending on source
- % samples from each of the four conditions to obtain sufficient numbers to assess safe management

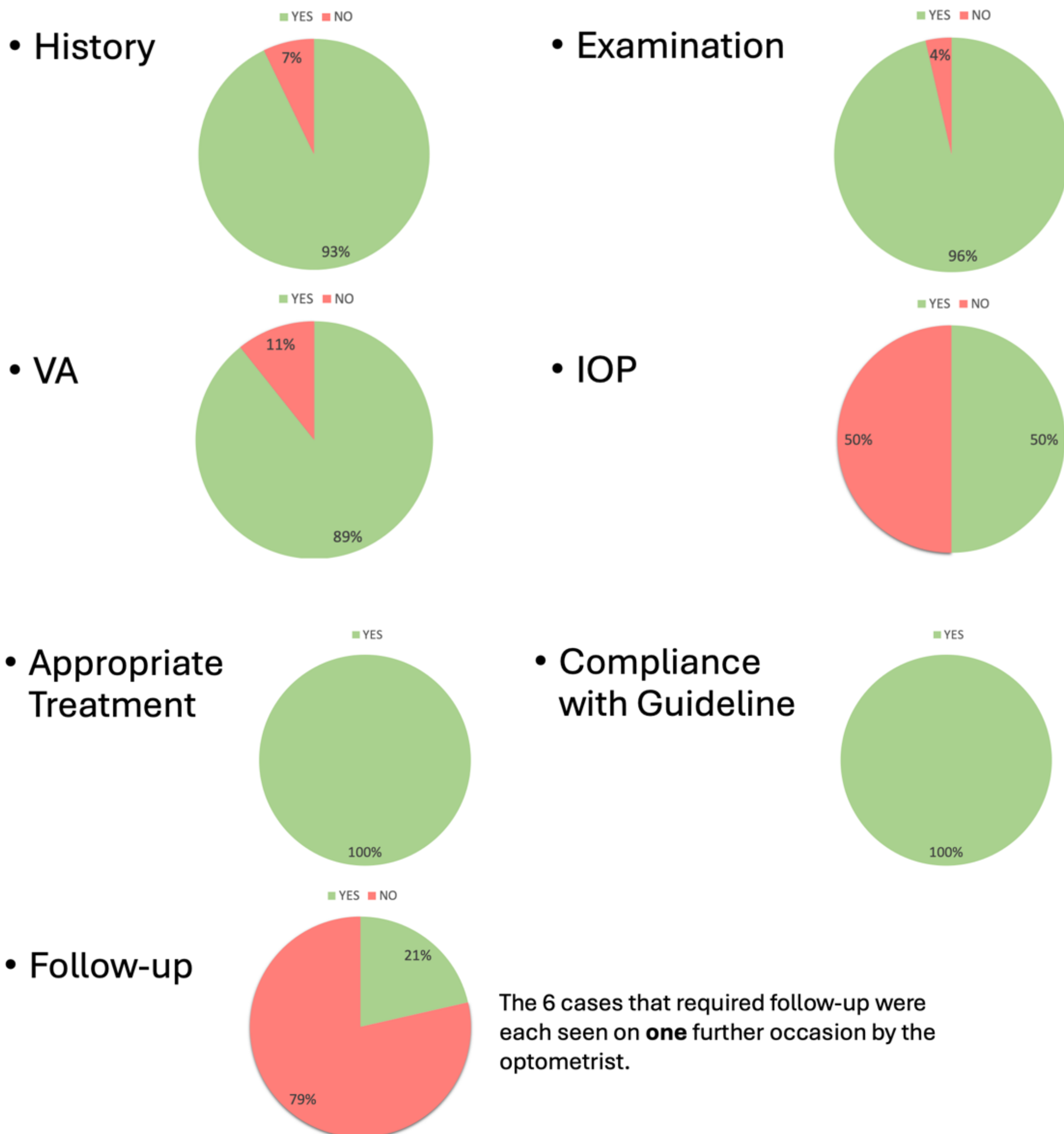
Four Conditions

- Foreign Bodies (n=28)
- Anterior Uveitis (n=30)
- Herpes Simplex Keratitis (n=24)
- Marginal keratitis (n=17)

Standards

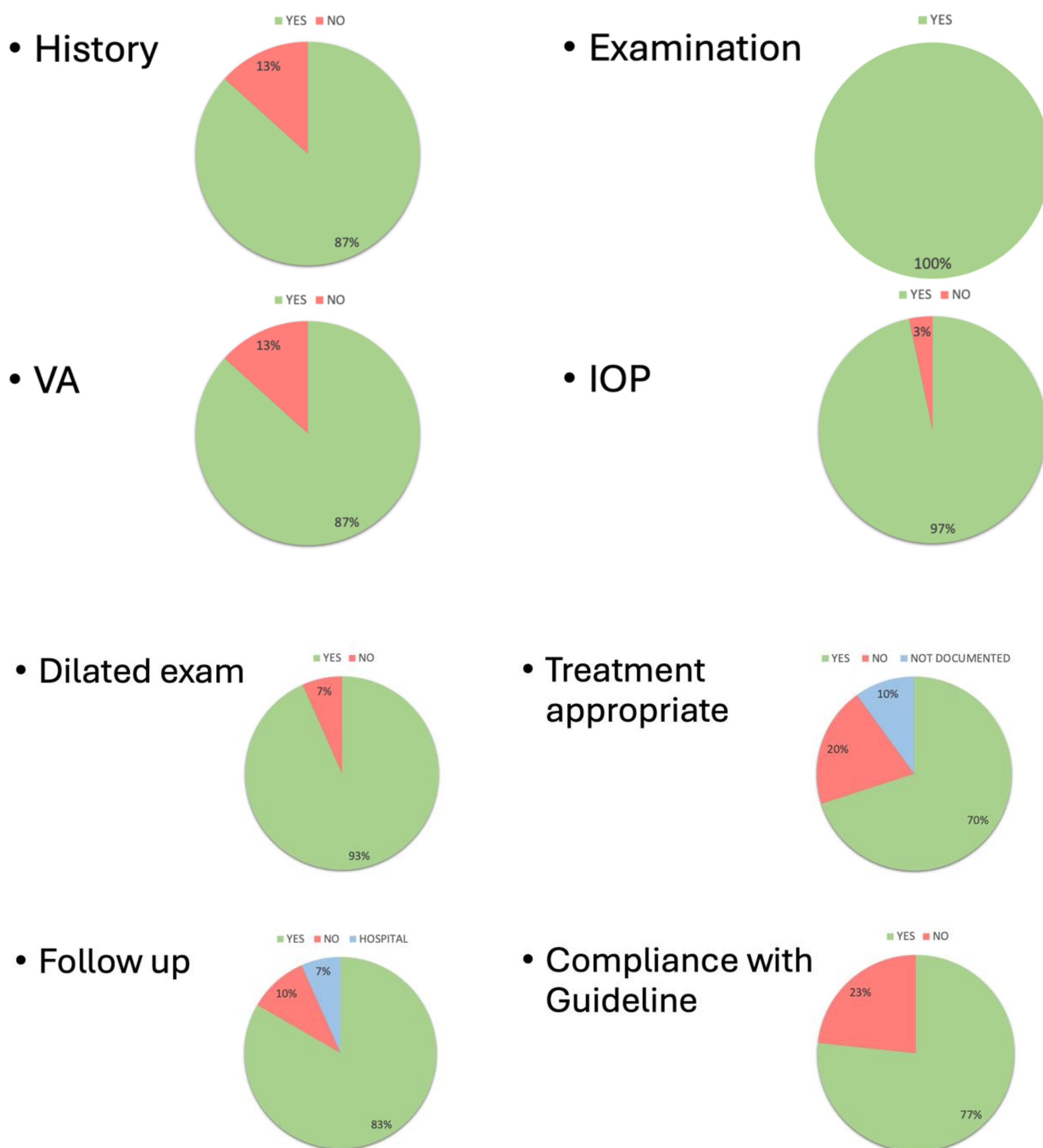
- College of Optometrists Clinical Management Guidelines (CMGs)
- Backdated to guidelines in place during audit period

7.1 Foreign Bodies (n=28)



- Disregarding the sparse documentation (history/exam/VA/IOP), all cases were
- felt to display good compliance with the management guidelines from the
- College of Optometrists.
- One case was a LASIK patient that was redirected from eye casualty, which in
- hindsight may have justified an initial assessment in eye casualty.
- One case was a potential high velocity foreign body but fundal examination was
- carried out – again may have been more appropriately assessed in eye casualty.
- There were NO red flag concerns regarding management. N.B. "Red flag" in this context does not refer to suspect cancer, but to "high risk".

7.2 Anterior Uveitis (n=30)

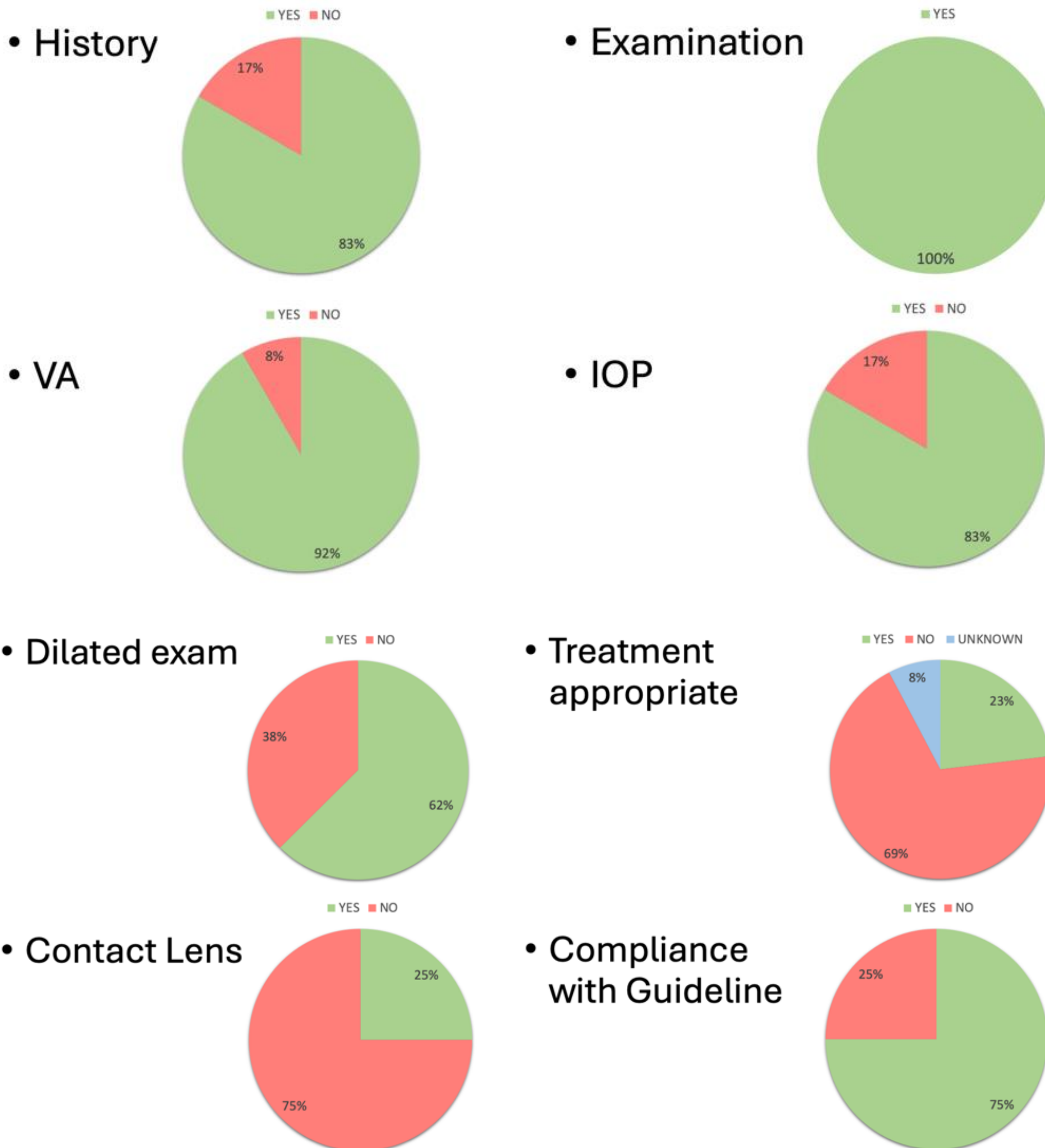


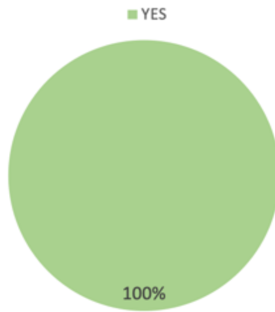
7 Cases Deviated from Guidance (red flags in red) N.B. "Red flag" in this context does not refer to suspect cancer, but to "high risk".

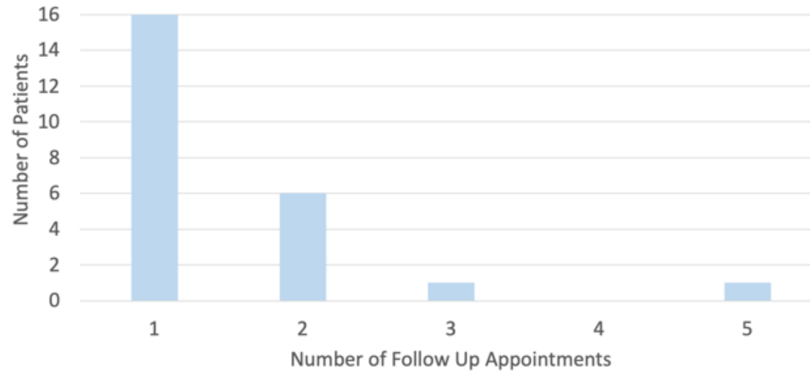
- Two patients commenced on treatment with no convincing evidence of acute anterior uveitis.
- Patient inappropriately referred to hospital despite documented good clinical
- improvement.
- Patient was kept on inappropriately prolonged course of topical cycloplegic
- despite being asymptomatic.
- Patient known steroid responder and should have been followed up or
- discussed with hospital eye service

- Patient management deviated from guidance (undertreated and not referred to eye casualty despite 4 reviews) and subsequently seen separately in eye casualty with severe anterior uveitis and established posterior synechiae.
- Patient with co-existing HSK and probable disciform keratitis.

7.3 Herpes Simplex Keratitis (n=24)







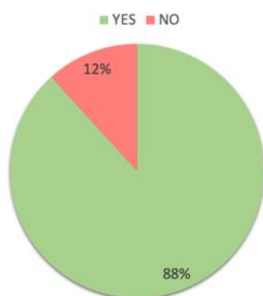
Every patient seen in optometry with HSK had follow-up. Many patients were reviewed at 24 hours (ie too early to expect improvement)

7 Cases Deviated from Guidance (red flags in red) N.B. "Red flag" in this context does not refer to suspect cancer, but to "high risk".

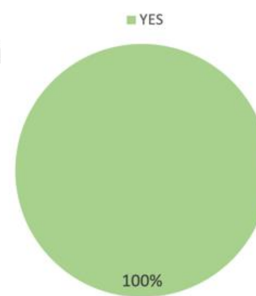
- Obvious HZO but managed as HSK with inadequate medications and dosages – should have been referred.
- Unclear examination findings and should have been referred.
- No dendrite and stromal involvement - should have been referred.
- Unnecessarily prolonged but not unsafe treatment course.
- History not consistent with HSK and treated with hourly exocin with differential diagnosis HZO/?fungal ulcer – should have referred.
- Incorrect topical treatment duration and inappropriately commenced oral
- antiviral solely as "recently had COVID".

7.4 Marginal Keratitis (n=17)

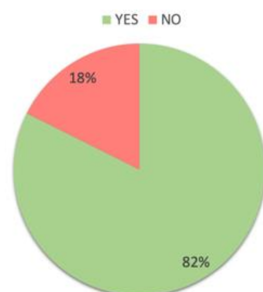
• History



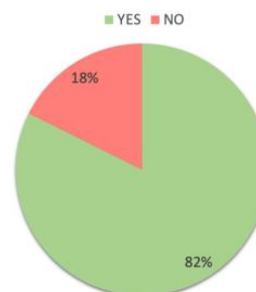
• Examination



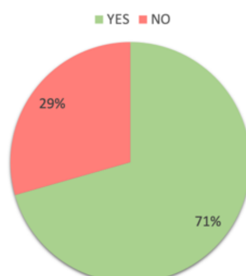
• VA



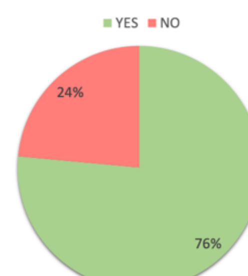
• IOP



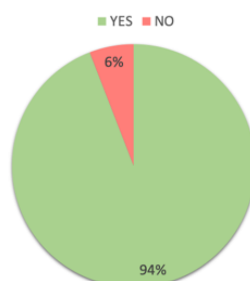
• Appropriate Treatment



• Compliance with Guideline



• Follow-up



All but one patient was followed up by the optometrist (all but one patient only required a single follow-up).

4 Cases Deviated from Guidance (red flags in red) N.B. "Red flag" in this context does not refer to suspect cancer, but to "high risk".

- Deviated significantly from guidance with intensive steroid but not reckless –
- reviewed patient.
- No topical antibiotic and prolonged steroid taper.
- Topical steroid chosen deviating from College guidance
- Prolonged and intensive steroid dosing and bilateral disease with multiple follow-ups – should have been referred to eye casualty.

7.5 Conclusions

The majority of the cases were managed according to the College of Optometry guidelines at the time:

- Foreign Body 100%
- Acute anterior uveitis 77%
- HSK 75%
- Marginal Keratitis 76%

A small number of red flag concerns were raised N.B. “Red flag” in this context does not refer to suspect cancer, but to “high risk”:

- Acute anterior uveitis 2 cases in 30
- HSK 2 cases in 24
- Marginal keratitis 1 case in 17

Most importantly, **no patients were identified that came to harm**.

7.6 Observations

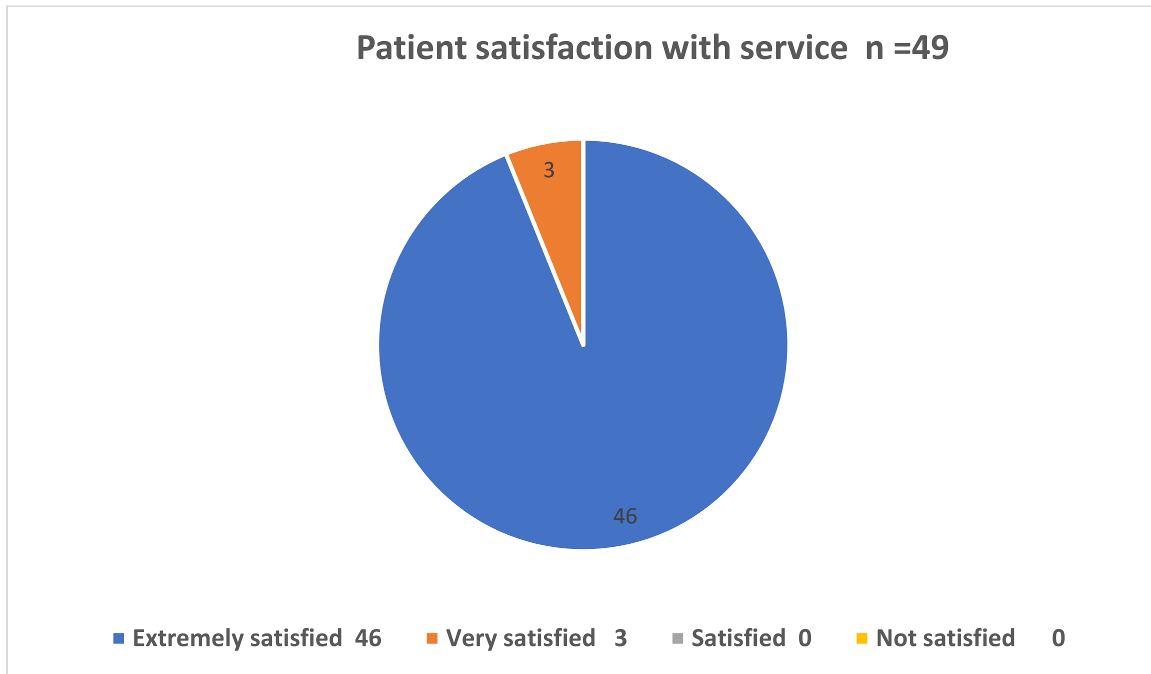
1. There is a huge variety in the way each NI PEARS Plus practitioner documented their findings - some proformas are comprehensive and prompt the clinician to document relevant findings, while others are not.
2. The quality and legibility of the information supplied for the audit varies widely.
3. Some cases probably should not have been triaged to NI PEARS and would have been more appropriately managed in eye casualty from an early stage.
4. A significant number of patients are being reviewed in the community within 24 hours of their initial assessment, in the vast majority of cases this is going to be too soon to see an improvement.
5. A minority of patients were seen for excessive reviews without considering hospital advice/involvement.

7.7 Recommendations for Improvement

- Documentation standardisation
- Adherence to College guidelines OR more proscriptive local guidelines
- Organised secondary care/peer delivered teaching
- More personalised feedback for learning purposes

8. Patient Feedback

8.1 General



All the patients who responded to the survey said they would use the service again if it was offered to them.

8.2 Access

There were no negative comments received via the 49 patient experience questionnaires returned. Below are some of the comments received.

"Extremely fast and effective service. Much more convenient than attending eye casualty, I phoned for the appointment and was booked for 1 hour later, on arrival was treated straight away with no waiting time".

"As I have an ongoing eye condition, I would have attended RVH at least once every couple of years. This service means I have access to treatment much closer to home. It is so much more convenient for me.

"So much easier than trying to get to the hospital. My optometrist was so knowledgeable. Due to my condition I need to go back to the hospital but grateful to get my treatment started quicker"

8.3 Patient experience of management of condition

Patient comments on the management of their condition by the IP optometrist/OMP included:

"This was a great way to conveniently access the diagnosis and help I needed. The service was very professional and thorough with a great follow up review after the medication came to an end".

"I was impressed with the level of service and assiduous care I received".

"Excellent treatment received. My appointment was on a Saturday…. I was suffering a lot of pain and it was great for local treatment to be available".

9. Specific Contractor / Practitioner feedback

16 survey responses were received

- 11 were from contractors who were also IP practitioners (10) or OMPs (1) i.e. both a contractor and a practitioner providing the service
- 4 were from individual IP optometrists providing the service within a practice
- 1 was from a contractor who was not the practitioner providing the service.

9.1 Feasibility of Service Provision

The majority of practitioners felt that the number of patients directed to them daily was manageable. This was supported by the information provided to Eye Casualty on the total number of appointments a practice would allocate to NI PEARS Plus on a daily basis which ranged from 1 to 3, and 2 practices who could see up to 5 patients per day.

Clinical competency
All responders reported that they usually or always felt competent to manage the patients directed to them.

Support from Eye Casualty and SPPG

The majority of practitioners **(87%)** answered "yes" to the question "Was there sufficient support provided by SPPG?" and the same for support from Eye Casualty. In particular there were very positive comments about the clinical support provided by Eye Casualty staff.

Comments included:

"Any questions arising were dealt with swiftly"

"Excellent service delivered with great courtesy and consideration"

"Never felt alone"

Two practices commented on difficulties contacting Eye Casualty

"Weekends are very difficult to speak to anyone and the CCG referral don't go online at the weekend"

The majority of practitioners found the zoom meetings beneficial, and that a future ECHO type program would provide clinical support.

A helpful suggestion from a practitioner:

"On occasion there were complex patients and I do think having a direct line for HES would've been better or a WhatsApp group to discuss directly. Sometimes you would have had to wait for feedback and advice from HES".

9.2 Training needs

There was significant variation reported in clinical exposure that practitioners had access to during their IP training; some had at least 4 sessions in an Eye Casualty setting while others had none.

53% of practitioners reported that they would need further training, particularly in foreign body removal.

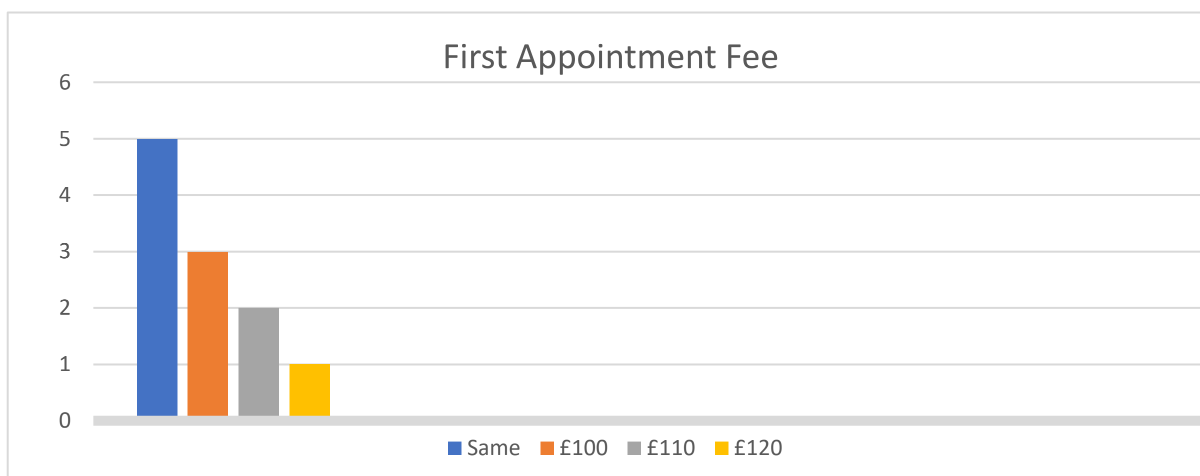
The preferred method of training delivery was reported as either practical workshops or observation at Eye Casualty.

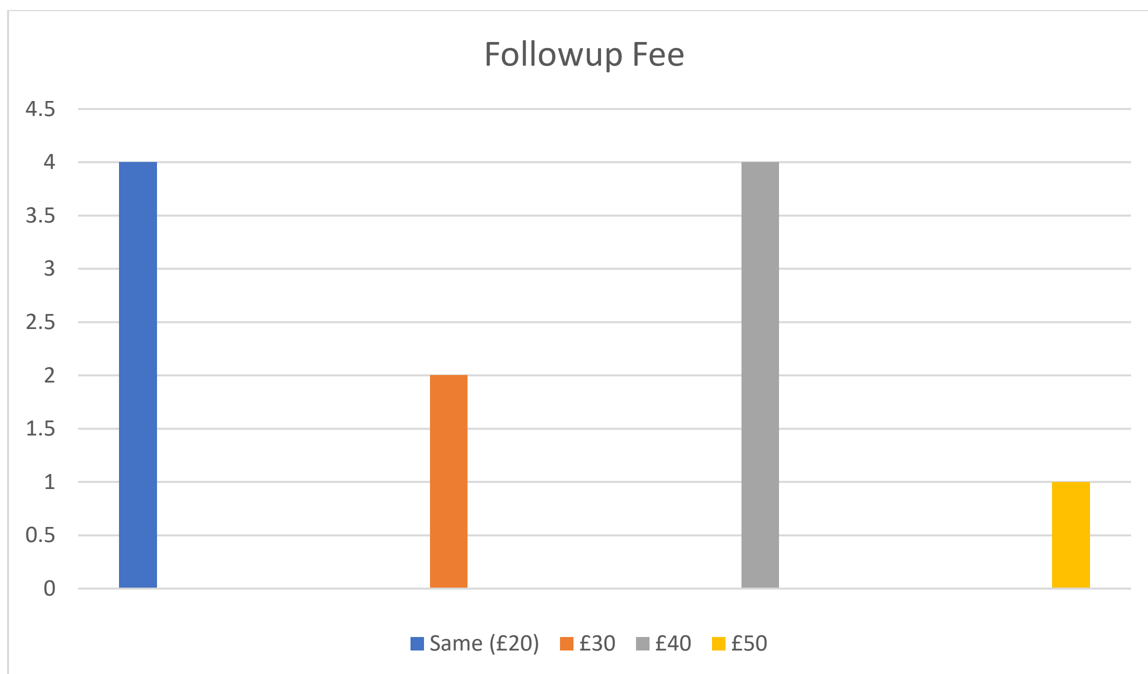
9.3 Future participation in the service

The majority of practitioners reported that they would participate in the service again but at a different fee structure.

Proposes future fee structures

Responses considered were from contractors who were also practitioners (n=11) and contractors only (n=1) as the fee structure relates directly to the feasibility of service provision from a business perspective for contractors.





10. Eye Casualty Benefits Realisation

Median of 19 patients/week or 10% of patients were averted from Eye Casualty to PEARS PLUS (QI aim achieved).

90% of these were treated to completion by an IP optometrist in community setting.

11. Project Costs

Pilot Service Delivery Costs

The fees paid to the ophthalmic contractors for the service provided in their practice were £90 for a first appointment and £20 follow up appointment.

First appointments	£75,780
Follow up	£9,820
Total cost	£85,600

Additional costs

SPPG/BSO business support to manage weekly practice availability information, payment process, support and training of practitioners.
Eye Casualty clinical triage and admin cover to contact patients
During the pilot period these costs were absorbed within the existing services but would need considered in any roll out of the service

Cost effectiveness

Although current developments around patient-level indicative costings (PLICs) may be useful in the near future, as there is no set tariff for Eye Casualty attendances a direct comparison between the cost of the patient being manged in Eye Casualty and being managed by a primary care optometrist/OMP cannot be made at this stage but an attempt to calculate this would be needed to further assure the appropriateness of the spend.

12. Conclusions and Recommendations

12.1 Conclusions

The **overall conclusion** from this evaluation is that a regional NI PEARS Plus Service would release capacity in both Eye Casualty Services within NI while ensuring a safe, effective and timely service, accessible close to home, for patients with access to specialist ophthalmology care if required.

Access for patients was both local and timely with the majority of patients living within 10 miles for a participating optometry practice and the majority of appointments provided by the optometry practices the same day or the next day. The majority of patients, 88.5%, presented with one of the specified four conditions and were therefore appropriate for management within the pilot.

Capacity release in that patients managed to completion in primary care, released 650 appointments in in Eye Casualty, excluding follow up appointments, in the 32-week period of the pilot.

This would equate to the release of approx. 1000 appointments annually in Belfast HSC Trust (RVH) Eye Casualty and approx. 330 appointments in the Western HSC Trust (Altnagelvin) Eye Casualty annually.

Clinical Safety
As per the conclusions from the Clinical Records Audit (Section 7), the majority of the cases were managed according to the College of Optometry guidelines at the time. A small number of red flag concerns were raised. Most importantly, **no patients were identified that came to harm**.

Workforce retention would be dependent on a fee review and additional clinical training for practitioners as a prerequisite to enrolment to provide the service.

12.2 Recommendations

The **overall recommendation** from this evaluation is that funding should be sought to implement the NI PEARS Plus service as a regional Enhanced Ophthalmic Service, reducing pressure on both Trust Eye Casualty Services and providing local access to urgent eyecare services for specific groups of patients.

Specific recommendations

- Review of the appropriateness of inclusion of the four specific conditions, and other conditions, and of the exclusion criteria

- Updated guidance on when to refer a patient back to Eye Casualty.

- NI PEARS Plus Service specific clinical training for IP optometrists, in addition to the IP qualification, to accredit practitioners to provide the service, particularly in Foreign Body removal and management of HSK.

- Additional training for general primary care optometrists on diagnosis of the specific conditions, in particular marginal keratitis and HSK and optimal referral information to aid triage.

- Establishment of an Occupational Health Needle Stick Injury policy.

- Management of service:
  - i) Review of process for managing weekly practice/practitioner availability surveys and reporting, possibly transfer to the Trusts. To manage directly with the practices
  - ii) Development of an eform for submitting claims or incorporation of claim process into the Ophthalmic Claims System.
  - iii) Continuation of regular Eye Casualty multidisciplinary interface meetings, extended to include Western Trust (Altnagelvin) Eye Casualty staff and primary care IP optometry representation. Review of fee structures

- Specific equipment list required by practices before undertaking the service

- A practice grant towards specialist foreign body removal equipment e.g. a burr.

- Ongoing multidisciplinary working group extended to include clinicians from WHSCT (Altnagelvin) Eye Casualty, an SPPG optometric adviser, primary care optometry representation and a GP representative (possibly an SPPG medical adviser), to support the service management.

- Development of an Acute Eyecare Pathway ECHO program

Further service development

An extension of the pilot to trial inter optometric practice referral into the NI PEARS Plus service (i.e. not involving redirection from Eye Casualty). This would require very careful protocols and monitoring during the test period.

13. Acknowledgements

The Strategic Planning and Performance Group would like to extend their thanks and appreciation to the many people who assisted in the planning, delivery and evaluation of the NI PEARS Plus pilot.

This project was the realisation of a vision conceived by Mr David Armstrong, Dr Deirdre Burns and Sister Sharon Alexander and thanks are due to all three of these clinicians, as well as to all of the staff of Belfast Trust Eye Casualty, for their commitment and energy.

The pilot could only be delivered through the enthusiasm, hard work and commitment of all of the IP optometrists and OMPs who participated, and their practice staff.

Thanks are also extended to Kathryn Bradley and Colin Lyle in SPPG Business Support, Gareth Drake in BSO Ophthalmic Services and the Eyecare Network staff for their hard work behind the scenes.

Most importantly, we recognise and are grateful to all of the patients who attended for eyecare through this pilot service.

Fiona North
Optometric Adviser and Project Lead SPPG
April 2024

Additional acknowledgment

Fiona North, who led both NI PEARS and NI PEARS Plus from their inception, retired from SPPG in April 2024. We are indebted to Fiona for her tireless work to improve acute eyecare patient pathways.

Raymond Curran
Head of Ophthalmic Services SPPG
December 2024

Annexe 1: NI PEARS PLUS PILOT - OUTCOME & CLAIM FORM

Patient Details	Optometric Practice Details
Name:	NI PEARS Plus IP Optometrist:
DOB:	Personal Code:
Health and Care Number:	Practice Name:
	Practice Code:

Referral Source (please tick)	BHSCT Eye Casualty ☐ Name of original optometry/GP practice who referred patient to Eye Casualty if known ____ NI PEARS optometrist in same practice ☐ NIPPlus IP optometrist (upgrade from NI PEARS provided by same IP practitioner) ☐ __________________	
NI PEARS Plus Activity (please tick)	Date of Referral: __________	Appointment Date: _______ First appointment ☐ Follow up appointment ☐
Diagnosis (please tick/specify)	Foreign Body ☐ Anterior Uveitis: First episode ☐ Recurrent episode ☐ Herpes simplex Ulcer ☐ Marginal keratitis ☐ Other (Please specify) ______________________________	
Outcome of NI PEARS Plus Attendance (please select all that apply)	Discharge with advice ☐ **Or** Manage and Treat ☐ If foreign body removal state method ________________________ Ophthalmic Medication recommended Yes ☐ No ☐ Prescription Issued Yes ☐ No ☐ If yes indicate type: Lubricant ☐ Chloramphenicol ☐ Other topical POM antibiotic ☐ Oral antibiotic ☐ Topical Steroid ☐ Topical Cycloplegic ☐ Topical anti-viral ☐ Oral Anti- viral ☐ Other (please state) ☐ Other: ____________________________________ BHSCT Eye Casualty referral required Yes ☐ No ☐ If yes reason for referral ____________________________	
Patient/Practitioner Declaration	Complete LESPR form; use code NIPP A (if First Attendance) NIPP F (if Follow Up)	

Annexe 2

Belfast Trust Eye Casualty
NI PEARS PLUS
Referral Feedback Form

Dear IP optometrist,

Your participation in the PEARS PLUS PILOT scheme is very much appreciated.

With the patient's consent and as part of an improved communication pathway between the Emergency Hospital Eye Service (Eye Casualty) and Primary Care Optometry the comments below have been added. These comments are to aid learning and development of the pathway between our services

Optometrist Name & Practice Address/Stamp for return letter

The patient was seen on ____
_________________________(date)

The patient was seen by
____
(please circle): Consultant | ST3-7 | ST1-2 | FY2 | Optometrist | Nurse Practitioner

Patient name, HCN, DOB (attach addressograph

Eye Casualty Diagnosis
____

Does this support the initial referral suspected diagnosis? YES ☐ NO ☐

Comments

NI PEARS Plus Patient Experience Questionnaire

Access to the NI PEARS PLUS service

1. How far do you live from the Royal Victoria Hospital Belfast, where Belfast Eye Casualty is located?

2. When you were advised by Belfast Eye Casualty about the NI PEARS PLUS service how many optometry practices did you have to contact to get an NI PEARS PLUS appointment?

3. How far did you have to travel to the NI PEARS PLUS optometry practice for this eye assessment?

4. Compared to having to travel to RVH Belfast Eye Casualty, was attending the practice:

- ○ More convenient
- ○ Less convenient
- ○ About the same

5. When you contacted the NI PEARS PLUS optometry practice for an appointment, how soon were you offered the appointment?

Experience of the NI PEARS PLUS Service

6. Did the NI PEARS PLUS Optometrist find out what your eye problem was?

7. Did they advise you of the name of the condition?

8. Did you feel that there was good communication between you and your NI PEARS PLUS optometrist?

Outcome of your visit

9. Following the NI PEARS PLUS eye examination did the Optometrist give you:

Please tick all that apply.

- ☐ Advice only
- ☐ Advice and treatment
- ☐ A prescription for eye medication
- ☐ A referral back to Eye Casualty

Follow Up

10. Since visiting your NI PEARS PLUS Optometrist, has your eye problem:

- ○ Improved
- ○ Not changed
- ○ Got worse

11. If your eye condition has not changed or has got worse have you:

- Gone back to the NI PEARS PLUS optometrist
- Attended another optometry practice
- Attended your GP
- Attended a hospital
- Not taken any action at this time

12. Please specify which hospital and clinic, for example Eye Casualty.

Overall Impression of the NI PEARS PLUS Service

13. How satisfied were you with the service that you received at NI PEARS PLUS Optometry practice?

14. Would you use this NI PEARS PLUS service again if you had a sudden eye problem and it was offered to you?

Comments

15. Please feel free to add any other comments about this service and your experience.

Annexe 4

NI PEARS Plus Practitioner/Contractor Experience Questionnaire

Your Details

1. Practice Name

2. Practice Code

3. Your Name

4. GOS Code

The Service

5. Was there sufficient guidance available on the service process?

6. What additional information would be useful?

7. Was the weekly availability survey manageable?

8. Please explain why you feel that the weekly availability survey wasn't manageable

9. Were the number of patients directed to you manageable within your appointment diary?

10. Are you a

- ○ contractor only (i.e. with an IP optometrist on your staff who provided the service)
- ○ IP optometrist and contractor
- ○ IP optometrist within a contractor practice

11. Did you feel competent to manage the patients directed to you?

11. Did you feel competent to manage the patients directed to you?

12. If you answered "Rarely" or "Sometimes" to the previous question, please explain why.

13. Was there sufficient support provided by SPPG?

14. Comment

15. Was there sufficient support provided by Eye Casualty (if requested)?

16. Comment

17. Was there sufficient support provided through the Eye Casualty Feedback Forms?

18. Comment

19. Was there sufficient support provided through the 3 Zoom meetings?

20. Comment

21. Did you have practical FB removal training?

22. As part of your IP training how many sessions did you observe in Eye Casualty?

23. Did you feel this was sufficient?

24. What would be the most useful training format for participating in the NI PEARS Plus Pilot?

Future Training Needs - Clinical Management

What additional training /support do you feel you would need to continue providing the service?

25.Clinical management of FB removal training

26.Clinical management of Herpes Simplex Keratitis

27.Clinical management of Marginal Keratitis

28.Clinical management of Anterior Uveitis

Future Training Needs - Clinical Support

What additional clinical support do you feel you would need to continue providing the service?

29. ECHO type peer support sessions

30. Attendance at Eye Casualty sessions

31.Participation in Teach and Treat clinics

Fee Level

32.If the service was recommenced would you participate?

- ○ At the same fee level
- ○ At a different fee level

33.What fee do you feel would be appropriate for the service?