MODEL OF CARE

ACI Ophthalmology Network

Community Eye Care (C-EYE-C) Model for Glaucoma and Diabetic Retinopathy

NSW GOVERNMENT

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Glossary

Acronym	Definition
C-EYE-C	Community Eye Care project
Diabetes	A group of different conditions in which the body cannot maintain healthy levels of glucose in the blood. Glucose builds up in the blood leading to high blood glucose levels which cause the health problems linked to diabetes.
Diabetic retinopathy	A condition when the tiny blood vessels inside the retina at the back of the eye are damaged as a result of diabetes. This can seriously affect vision and in some cases cause blindness.
Glaucoma	A group of eye diseases where vision is lost due to damage to the optic nerve. Glaucoma cannot be self-detected, and many people affected by glaucoma may not be aware of any vision loss. Glaucoma can occur at any age, but is more common in older people. There is no cure for glaucoma and vision cannot be regained, although early detection and adherence to treatment can halt or significantly slow progression.
NPDR	Non-proliferative diabetic retinopathy. Part of a grading scale for disease severity. There is mild, moderate and severe NPDR.

Contents

Introduction

The Community Eye Care (C-EYE-C) model of care is a service delivery model for those with, or at risk of developing, glaucoma and/or diabetic retinopathy to prevent avoidable vision loss and blindness.

This is achieved via improving access to appropriate management for people with, or at risk of, diabetic retinopathy and glaucoma. It is a collaborative care model for chronic eye-disease patients that shares care between local optometrists (private) and a public hospital eye clinic. The C-EYE-C model of shared care aims to streamline referral pathways and improve access to ophthalmology services for patients with chronic eye disease, ensuring timely and appropriate care is given.

The C-EYE-C model of care was developed after extensive consultation with optometrists, ophthalmologists, general practitioners (GPs), ophthalmic nurses, policy makers and health managers. The model was piloted at two sites within Western Sydney Local Health District to establish sustainability, examine patient and clinician satisfaction, and assess the potential impact on the current ophthalmology outpatient waiting times.

Case for change

a. Increasing demand as population ages and associated increase in diabetic retinopathy and glaucoma

As the population ages, the prevalence of glaucoma in Australia is expected to increase to 379,000 by 2025. The number of people with diabetes in Australia is predicted to rise to 2 million people by 2025.[1] This is expected to substantially increase the number of Australians impacted by diabetic eye disease and resultant vision loss. Almost all those with type 1 diabetes and more than 60% of those with type 2 diabetes will develop diabetic eye disease within 20 years of diagnosis.[1]

b. Demand on ophthalmology outpatient services is unsustainable with current workforce and resourcing

Current models place high demand on hospital outpatient departments. These models may become unsustainable with current workforce numbers estimates[2] and limited ophthalmology services available beyond metropolitan and large rural areas. These trends suggest that an increased number of ophthalmologists will be needed to meet growing demand. Optometrists have higher numbers and spread across rural and metropolitan areas providing greater opportunity for patient care activities.

c. Increasing health care costs to hospitals, patients and the community

Australian health system costs for the management of glaucoma are estimated to increase from $355 million to $784 million between 2005-2025 million, with total costs (health system costs, indirect costs and costs or loss of wellbeing) increasing from $1.9 billion to $4.3 billion.[3]

d. Glaucoma is the world's leading cause of irreversible blindness, and poses serious public health concerns[3]

The social and economic impact of impaired vision makes improving access to specialist eye services an urgent priority.[4] Compared to the general population, those with reduced vision are:

- twice as likely to experience a fall
- 4-8 times more at risk of experiencing a hip fracture
- at risk of hospitalisation and premature death (particularly senior populations)
- twice as likely to experience depression.

e. Current extended wait times for patients and patient dissatisfaction at long wait times

Inefficiencies of current/previous service models are illustrated by inconsistent quality of referrals and poor communication between referrers and public ophthalmology clinics. This has led to prolonged wait time for patients, resulting in complaints and the associated risk of adverse patient outcomes. The findings of the diagnostic phase of the C-EYE-C project were consistent with previous research demonstrating a high rate of inappropriate referrals to specialist eye clinics.[5] Improving referral quality maximises existing capacity and ensures patients receive the level of care most appropriate to their needs.

The C-EYE-C model proof of concept findings for new and follow up glaucoma assessments

More than half (51%) of glaucoma referrals were diagnosed with early or more severe glaucoma.

84% of diabetes referrals were diagnosed as having no diabetic retinopathy or mild non-proliferative diabetic retinopathy (NPDR) requiring routine follow up and screening in 24 or 12 months respectively. These patients would be suitable for ongoing collaborative care shared between an optometrist and ophthalmologist as per The Royal Australian and New Zealand College of Ophthalmologists (RANZCO) guidelines.[6]

f. C-EYE-C model allows early identification and intervention for patients in need of urgent care and is seen by patients as more user friendly than traditional appointments

The C-EYE-C model also demonstrated the need for clearly defined processes to allow the identification of people with an urgent need for specialist eye services in line with NSW Health's 'Right care, right place, right time'. During the C-EYE-C trial phase, seven patients received urgent care that would have otherwise been subjected to an average wait time of 389 days for a glaucoma appointment or 118 days for a diabetes appointment.

Outcomes from implementing C-EYE-C at Westmead Hospital

Reduction in patients having to attend hospital

Effective triaging means patients are seen by the most appropriate care-provider, increasing capacity in outpatient clinics for patients with more complex needs requiring specialist level care, and supporting patients who do not require this service to access local community-based management. In this case, 62% of patients avoided having to attend hospital.[7]

Cost effective care for hospitals

A literature review on the cost effectiveness of monitoring glaucoma patients in a shared care model demonstrated that patients with a stable glaucoma can access faster assessment and management in a community setting rather than specialist level environment and still maintain good patient outcomes.[8]

In 2017, the average cost of a new glaucoma patient referred to a C-EYE-C appointment was $133.60[7] versus a hospital outpatient appointment at $171.[9] This is a saving of 22% on patient care costs. It is estimated that a C-EYE-C model of care could save $37,400 per 1000 patients by providing new glaucoma patients with clinically suitable levels of care.

A reduction in patient waiting times, improved patient outcomes and patient preference of care

There was improved capacity in specialist outpatient clinic to see patients with higher clinical needs and translation into surgical management and revenue from additional clinical services. The C-EYE-C trial demonstrated 10 weeks of hospital outpatient appointments were freed for use by patients with higher clinical need with a significant reduction in waiting time of 9.8 months for first assessment for patients at risk of, or with, diabetic retinopathy and glaucoma, compared to hospital-based appointments.[7]

Overall economic and social impact of chronic eye conditions is reduced by patients receiving earlier access to care improving quality of life and safety related to vision loss.[10]

In surveys of both the ophthalmology clinic and the C-EYE-C clinic, there was no difference reported by patients in the level of care or the health professionals at C-EYE-C compared to hospital care ($p=0.647$). Patients in the C-EYE-C program reported higher satisfaction levels with car parking (61% vs 31%, $p<0.001$), appointments starting on time, (61% vs 4%, $p<0.001$) and privacy both during examination (100% vs 87%, $p=0.009$) and discussions with the health professional (100% vs 87%, $p=0.001$).

Patient feedback

'I would definitely use this service again, because it's convenient, it saves time, everybody is nice.' – Patient

See https://bit.ly/2HJBfVS for further patient feedback.

Improved integration and relationships between the primary and secondary health sector

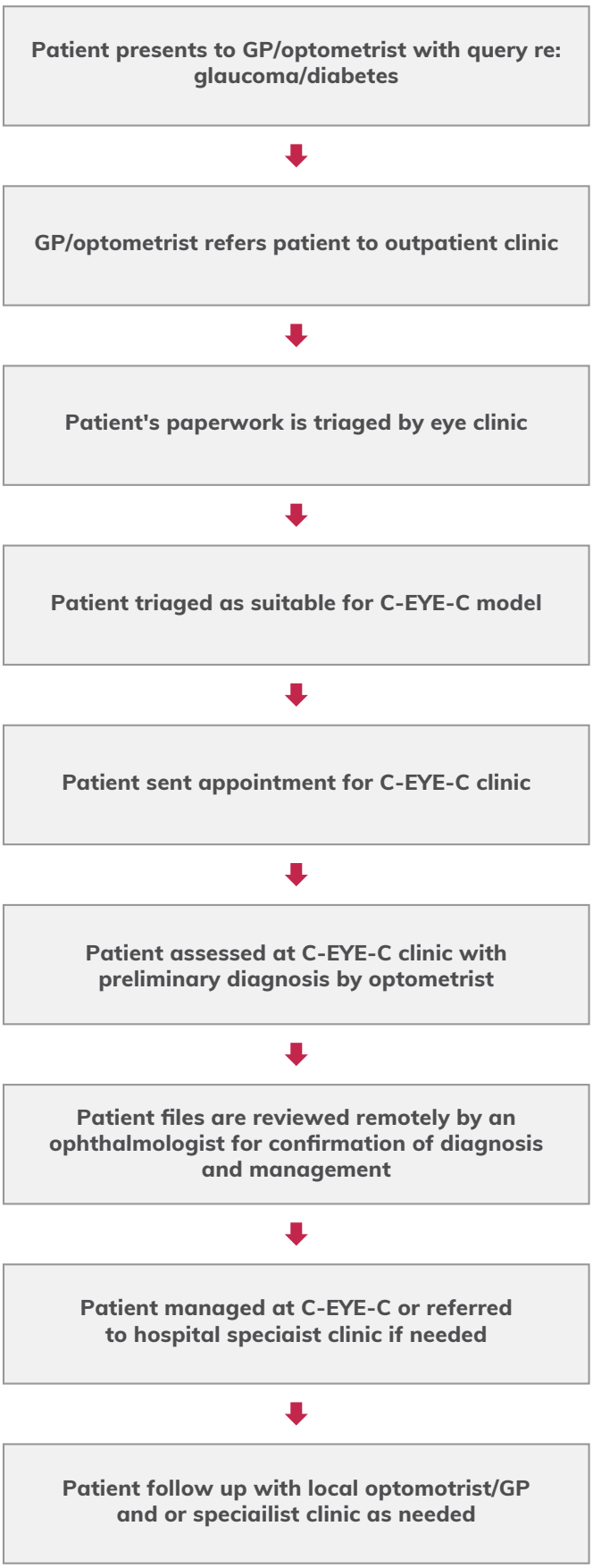
The C-EYE-C model of care provides the opportunity for specialists and hospitals to work in collaboration with referrers and provide a collaborative service by qualified staff. This is supported in literature that improved communication can reduce inappropriate referrals to specialist clinics.[11]

By improving communication between referrer and the clinic, and through jointly agreed standardised protocols, the C-EYE-C pilot agreement rates on the management of a patient were recorded at 83%. Oversight by ophthalmologists ensures that all patients have appropriate management and optometrists can improve their care through feedback.

Patient feedback

'Patients are happy with the outcome, and it reduces the wait at the hospital. Collaborative care is the future for all chronic eye care issues in Australia.' – Joe Nazarian, Optometrist

Patient journey under the C-EYE-C model of care



Key lesson for successful implementation of the C-EYE-C model

Aim	Key lesson	Points to keep in mind in local implementation	Part of this document to support implementation/ examples of implementation
Support high quality referrals for patients with glaucoma and diabetic retinopathy criteria to ensure appropriate patients are referred to specialist eye clinics.	Define, agree and communicate with stakeholders regarding the service definition and criteria for inclusion and exclusion of the C-EYE-C clinic.	Minimum standards are needed for assessment to triage referrals to decide appropriateness for shared clinic versus needing to be seen in a hospital clinic Criteria for community based eye clinic need to be agreed between specialist eye services and community provider. A process is needed for managing patients who do and do not meet the agreed criteria, and how this integrates with existing service policies and procedures System is needed for triaging referrals – personnel, process, criteria for triage	Appendix 1: Westmead Hospital Flow chart of process of C-EYE-C Appendices 2-3: Template for shared eye care model referral triage process (based on Westmead Hospital C-EYE-C) Appendix 4: Shared eye care model clinical inclusion and exclusion criteria Appendix 5-7: Optometrist assessment and ophthalmologist review, including diabetes and glaucoma pro forma Appendix 9: C-EYE-C transfer of booking lists an notes to optometrists Appendix 10: C-EYE-C file receipt and virtual review clinic booking
Processes developed and endorsed to support safe and timely coordination of care between the hospital service and community based service.	Identify appropriate numbers of staff to implement and maintain the shared care model.	The C-EYE-C team in the proof of concept included: -three community based optometrists (from two clinics) -two optometry clinic administration staff (practice managers) -one hospital service coordinator -two hospital based ophthalmologists (glaucoma specialist and retinal specialist). Identify equipment needs (See Appendix 12: Optometrist assessment for clinical requirements) Provide supervision and capacity building opportunities Electronic receipt of patient files (from optometrist) Ophthalmologist 'virtual' review clinics Quality assurance check and performance indicators	Appendix 9: C-EYE-C transfer of booking lists an notes to optometrists Appendix 10: C-EYE-C file receipt and virtual clinic review Appendix 11: Sample patient letter including patient information and clinic map

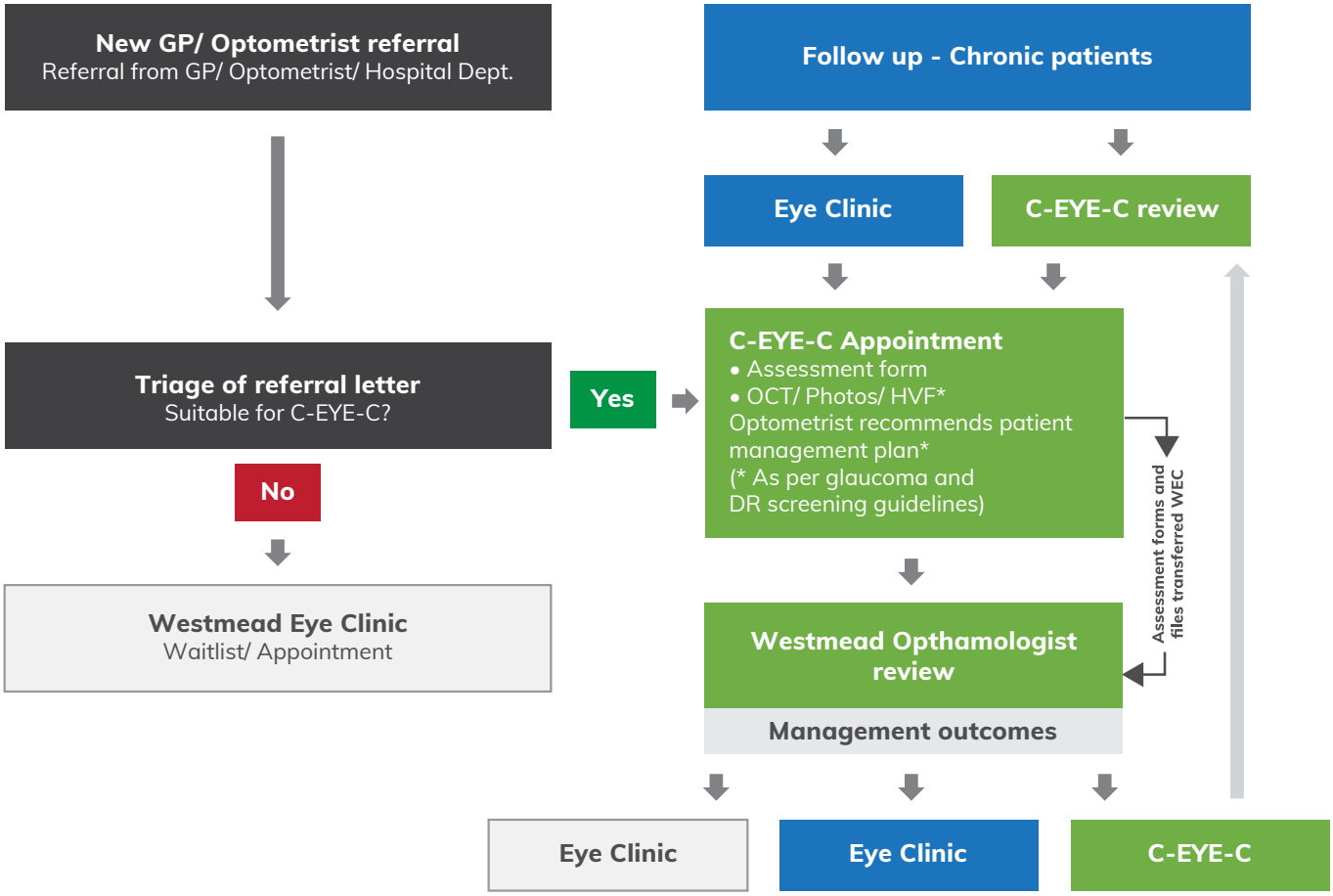
Aim	Key lesson	Points to keep in mind in local implementation	Part of this document to support implementation/ examples of implementation
	Ensure community staff employed to meet conditions of local health district for shared care including access to hospital electronic medical record (eMR) and patient data systems.	Agree on the roles and responsibilities of community and specialist eye services staff, including copies of optometrist registration and indemnity insurance Technology needed for sharing information including images and access to public health systems from community locations Contingent working status – state contingent worker guidelines allow the optometrist to log in and view patient status Local decision and approval needed at LHD/SHN level Secure electronic transfer needed. A service level agreement (SLA) is needed to outline the overarching governance of the partnership and activities, with the following: – ensure indemnity and insurances are in place – ensure patient confidentiality and privacy is maintained – describe the project, including purpose and need – outline shared care protocols, including testing and equipment requirements, referral pathways, transfer of information, record keeping – indicate expected patient volume – indicate timeframes of partnership – define the governance of the partnership, for example stakeholder steering committee, reporting requirements, and other milestones or deliverables – outlines and incentive payments (if negotiated – this will become a contract).	Appendix 3: Flowchart for C-EYE-C referral triage process Appendix 5: Template for shared eye care model patient assessment process

Aim	Key lesson	Points to keep in mind in local implementation	Part of this document to support implementation/ examples of implementation
Appropriate community-based provider identified to partner with hospital.	Process map for patient journey in local clinic developed and implemented. Need for communication and implementation plan to be developed with local stakeholders and for potential consumers.	Established communication point for community stakeholders to reach service to address issues early, communicate with patients and collect data (hospital service coordinator)	Appendix 6: Template for shared eye care model Assessment pro forma variables (based on Westmead Hospital C-EYE-C) Appendix 13: C-EYE-C Coordinator position description
Consider capability development to ensure the local team has sufficient skills to implement change effectively.	Need for project sponsorship and project manager.	Gain executive support and establish governance framework Organise the implementation team Identify objectives and develop an appropriate implementation and communication plan Assess change readiness and needs Analyse activity and demand in your local service / district Gap analysis Determine needs for people, resources and equipment Develop and implement project plans Monitor and evaluate outcomes of implementation	The ACI Centre for Healthcare Redesign (CHR) provides capability development for the NSW Health workforce, enabling frontline staff to successfully redesign and improve service delivery across all aspects of the patient's journey. See https://www.aci.health.nsw.gov.au/make-it-happen/centre-for-healthcare-redesign

Aim	Key lesson	Points to keep in mind in local implementation	Part of this document to support implementation/ examples of implementation
Demonstrate improvement in agreed areas.	Need to agree evaluation plan associated with implementing the C-EYE-C model for patients with diabetic retinopathy and glaucoma.	Evaluation plans could consider: -types and numbers of referrals -types of appointments -change in waiting times from referral to clinic appointment (median and range) before and after implementation of shared care model -numbers of patients assessed for C-EYE-C including appropriate and inappropriate referrals -number referrals with adequate information for triage (considered high quality referrals) -demographic details of shared care model patients -management outcomes -glaucoma and diabetes assessment outcomes -patient reported outcome measures and patient experience measures. Patient experience data could be captured with support of the LHD Consumer and Community Participation Managers (or equivalent) or through accessing patient experience data from the Bureau of Health Information filtered by the relevant district/site.	For further information on types of program evaluation and key steps in undertaking an evaluation including suggested governance process, see Understanding Program Evaluation: An ACI framework on https://www.aci.health.nsw.gov.au/__data/assets/pdf_file/0008/192437/Framework-Program-Evaluation.pdf#zoom=100

Appendix 1: Westmead Hospital Flow chart of process of C-EYE-C

Local process maps should be developed to account for existing hospital and community services and processes to be accurately reported.



Appendix 2:
Template for shared eye care model referral triage process (based on Westmead Hospital C-EYE-C)

Process name	[Name of shared care service] Referral Triage
Prepared by	
Prepared in consultation with	
Sign-off date	
Relevant team	Clinicians completing referral triage (i.e. CNC, NUM, RN, Fellow, Registrar)

Rationale

[Name of shared care service] is a community based model of care for the management of patients with low risk and stable glaucoma and diabetic retinopathy. Definitive clinical criteria have been developed for inclusion and exclusion in [Name of shared care service]. All new referrals to the eye clinic are triaged by a clinician to determine clinical urgency. This ensures that the right patients are assessed at [Name of shared care service], and those requiring more urgent or complex care are seen within the hospital. [Name of shared care service] clinical criteria align with National clinical management guidelines. NB: Conditions not suitable for [Name of shared care service] can be assessed under the [name of] Hospital Eye Clinic guidelines (as appropriate).

STEP 1: Receipt of referrals

- There is no direct referral from external providers to [Name of shared care service].
- Referral to [Name of shared care service] is processed through the existing eye clinic referral pathways (email, fax, letters or hand delivered).
- All referrals are documented by eye clinic administration team in the Referral Action Sheet [or other system as appropriate for local context].
- Administration team transfer new referrals to Clinical Nurse Consultant (CNC) [or other role as appropriate in local context] for review.

STEP 2: Referral triage to determine clinical suitability

- Clinical suitability for [Name of shared care service] appointments is determined based on the clinical inclusion and exclusion criteria tabled below.
- The CNC [or other role as appropriate in local context] triages all new referrals, and patients are allocated to an appointment category (triage outcome) based on clinical need and urgency.
- Referrals for [Name of shared care service] are marked on referral sticker.
- It is expected a large proportion of new referrals will go to [Name of shared care service].

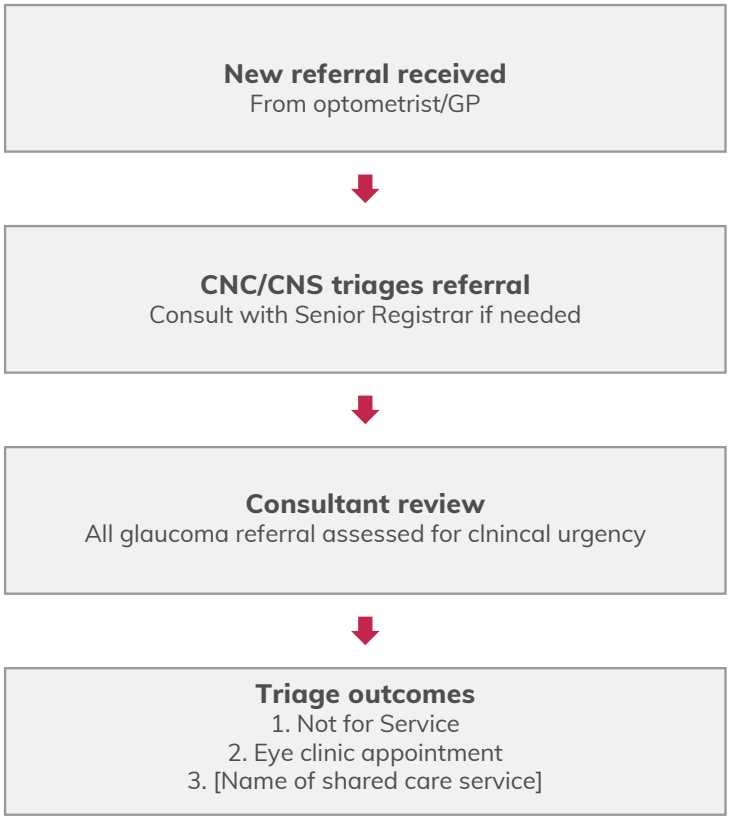
STEP 3: Ophthalmologist review for clinical suitability

- As required, CNC consults with senior registrar to query suitability of referrals with unclear data against triage guidelines.
- CNC [or other role as appropriate in local context] identifies Glaucoma/Diabetes referrals and sends these for further triage by a specialist to query suitability of referrals with unclear data against triage guidelines.
- Referrals for [Name of shared care service] are marked on referral sticker.

STEP 4: Triage outcomes

- Referrals suitable for [Name of shared care service] will be updated in the Referral Action Sheet [or other system as appropriate for local context], and allocated a [Name of shared care service] appointment.
- All other referrals are assessed for suitability to hospital clinics (as per local guidelines) or allocated Not for Service.

Appendix 3: Flow chart for C-EYE-C Referral Triage Process



Appendix 4: Shared eye care model service eligibility criteria (based on Westmead Hospital C-EYE-C)

	Glaucoma	Diabetes
Inclusion	**Stable glaucoma:** • No change in the management of the patient's glaucoma for 1–2 years • No new progressive visual deterioration, such as a drop in acuity or progression of visual field defect over last 1–2 years • Stable intraocular pressure well controlled on current drug regime (monotherapy, e.g. Xalacom, Duotrav, ganfort) • No progressive optic disc thinning for 1-2 years. This should preferably be based on good quality optic disc photography or OCT • Monitoring for ocular hypertension	• No retinopathy (diabetic screening) • Mild non-proliferative diabetic retinopathy – microaneurysms only AND good vision (6/9 or better) • Moderate non-proliferative diabetic retinopathy – microaneurysms and mild retinal pathology e.g. haemorrhages, cottonwool spots, AND good vision (6/9 or better)
Exclusion	• Newly diagnosed glaucoma • Narrow angles, angle closure glaucoma requiring gonioscopy • Unstable glaucoma – Chronic or acute angle closure – Progressive optic nerve changes, expanding nerve fibre layer defect, enlarging cup, new disc haemorrhage, and rim thinning – Progressive visual field changes, progressive visual field defect, confirmed by repeat testing – >3mmHg IOP change from last visit (i.e. beyond regression to the mean) – Clear VF (based on Hodapp Parish Anderson criteria - see Asia Pacific Glaucoma Guidelines Vol 3) or OCT progression on reliable testing (>4 micron change on OCT) or photo disc changes, i.e. new notch or haemorrhage • IOP >30 • Complex ocular pathology/ secondary glaucoma (except for PXF or PDS) • Monocular patients • Visual field loss of ≥12dB or within 10 degrees of fixation • Target IOP <12mmHg • Patients requiring surgery for glaucoma, e.g. trabeculectomy or tube implant	• Diabetic macular oedema or clinically significant macular oedema (new hard exudates) • Severe non-proliferative diabetic retinopathy – numerous microaneurysms, haemorrhages, reduced vision. • Proliferative diabetic retinopathy (PDR) – abnormal vascular proliferation is seen in one or more sites; iris, optic, or elsewhere • Vitreous haemorrhage, pre-retinal haemorrhage, severe retinal haemorrhage • Vision worse than 6/9 without clear reason, e.g. cataract
Additional exclusion criteria	• Patients requiring interpretation services (unless available at optometry clinic) • Justice Health patients • Patients ineligible for Medicare, such as non-resident • Patients with known infectious disease e.g. tuberculosis • Patients unable to cooperate e.g. dementia • Hospital inpatients • Patients <16 years of age	

Appendix 5: Template for shared eye care model patient assessment process (based on Westmead Hospital C-EYE-C)

Process name	[Name of shared care service] Assessment process
Prepared by	
Prepared in consultation with	
Sign-off date	
Relevant team	Clinicians completing assessments (optometrists)

Rationale

[Name of shared care service] uses standardised assessments to ensure a high level of the service and consistency of patient information between service providers. [Name of shared care service] patients are referred from [name of] Hospital to partner optometrist service for a diabetes or glaucoma assessment, or both. Standardised assessment include completion of a clinical information on a template pro forma, and relevant testing and imaging.

Step 1: Clinical assessment and Imaging

Refer to [Name of shared care service] diabetes and glaucoma assessment templates, including standardised protocols for each of the [Name of shared care service] clinical assessment variables.

Step 2: Transfer to Hospital Eye Clinic

All patient files, including completed optometrist assessment forms and imaging are transferred to [name of] Hospital Eye Clinic electronically. Current process is via secure email. Patient files to be saved with a standardised naming convention using patient name and/or MRN, and/or date of birth.

Step 3: Ophthalmologist review of assessment

All patient files are reviewed at [Name of hospital] by an ophthalmologist for confirmation of diagnoses and management. Changes in management plan or diagnoses by the ophthalmologist are final.

Appendix 6: Diabetes form

C-EYE-C diabetes eye assessment report

Date: ___/___/___ ☐ **F/U appointment**

Patient name:
Patient DOB:
(Or place Patient Label here)

Optometrist name & Location

Patient information

Diabetes mellitus ☐ Type 1 ☐ Type 2 Duration of diabetes (years)

HbA1c Date

Current diabetes therapy ☐ Diet ☐ Insulin ☐ Oral hypoglycaemic agents

Visual symptoms
Ophthalmic history
Medical history
Other history

Examination finding

Visual acuity (best corrected)	RE				LE			
IOP	RE				LE			mmHg (normal 12-22mmHg)
Rx/autorefraction	RE	S	C	A	LE	S	C	A	Add:
Cataract	RE	Y / N			LE	Y / N		

☐ Dilated fundus examination performed ☐ Fundus photograph attached
☐ OCT performed ☐ OCT attached

No diabetic retinopathy ☐ RE ☐LE
Non proliferative diabetic retinopathy
Mild ☐ RE ☐LE Moderate ☐RE ☐LE Severe ☐RE ☐LE
Proliferative diabetic retinopathy ☐RE ☐LE
Clinically significant macular oedema ☐RE ☐LE
OCT macular oedema ☐ RE ☐LE
Other_____ ☐ Unable to assess

Management Plan

☐ Discharge (local optometrist/GP)
☐ 6-month review C-EYE-C ☐ 12 month review C-EYE-C
☐ Review at {Name} Eye Clinic in _____ wks/ mths Reason:_____
☐ Referred for treatment (private)
☐ Urgent ophthalmologist review (call registrar via hospital switch ph: XXXXXXX)
Comments:_____

Ophthalmologist remote assessment

Management plan
☐ Agree
☐ Change: _____ in _____wks/ mths

Diagnosis
☐ Agree
☐ Change_____

Comments: _____

Ophthalmologist name_____ Signature_____Date_____

Appendix 7: Glaucoma form

C-EYE-C glaucoma assessment report

Date: __/__/__ ☐ **F/U appointment**

Patient name:
Patient DOB:
(Or place Patient Label here)

Optometrist name & Location

Patient information

Optical history

Comments: _____

History of eye trauma☐ Family history of glaucoma☐ Diabetic☐ Autoimmune disease ☐

Medications: Steroids☐ Antidepressants☐ Atypical Antiepileptic Drugs☐ Topical treatment ☐

Visual acuity (best corrected)	RE	6/			LE	6/			
Rx/autorefraction	RE	S	C	A	LE	S	C	A	Add:

Examination finding

Anterior chamber findings

Pseudo exfoliation (PXF) ☐ Pigment dispersion syndrome (PDS) ☐

CCT:	RE	LE
AC (van Herrick):	RE	LE
Intraocular pressure (IOP):	RE	LE
Optic disc/cup disc ratio:	RE	LE

☐OCT report attached Time: ☐

Visual field

☐HVF Report Attached

- ☐ No visual field loss
- ☐ Visual field loss <6dB not within 10° of fixation
- ☐ Visual field loss >6dB <12dB not within 10° of fixation
- ☐ Visual field loss >12dB within 10° of fixation

Final assessment

Code	IOP (mmHg)	Optic Disc	Visual Field
A	22 ≤ mmHg < 28	Normal	Normal
B	Asymmetry but < 28	Normal	Normal
C	< 22	Suspicious	Normal
D	< 22	Normal	Suspicious
E	< 22	Normal	Normal

☐ Low risk glaucoma suspect: Circle (A, B, C, D or E)
☐ High risk glaucoma suspect: Circle (A, B, C, D or E)
☐ Early glaucoma
☐ Stable early glaucoma
☐ Moderate glaucoma
☐ Stable moderate glaucoma
☐ Advanced glaucoma
☐ Acute raised IOP
Other_____ ☐ Unable to assess

Management Plan

☐ Discharge (local optometrist/ GP)
☐ 6-month review C-EYE-C ☐12 month review C-EYE-C
☐ Review at {Name} Eye Clinic in _____weeks/months
Review reason: _____
☐ Urgent Ophthalmologist Review (call Registrar via hospital switch XXXXXXX)
Comments:_____
_____
_____

Ophthalmologist remote assessment

Management plan
☐ Agree
☐ Change: _____ in _____wks/ mths

Diagnosis
☐ Agree
☐ Change_____

Comments: _____
Ophthalmologist Name_____ Signature_____ Date_____

Appendix 8:
Template for shared eye care model assessment pro forma variables (based on Westmead Hospital C-EYE-C)

Variable	Descriptor	Assessment type
Patient name and DOB	Minimum data for patient identification	Diab and Glau
Date	Date of assessment	Diab and Glau
Optometrist name and location	Identifies clinician and location of assessment	Diab and Glau
Patient information	Relevant details for patient optical and medical histories, medications, and other comments	Diab and Glau
Examination		
Visual acuity	Best corrected. Snellen	Diab and Glau
Rx/autorefraction	To determine if hypermetropic	Diab and Glau
Intraocular pressure (IOP)	Goldmann applanation, including time collected	Diab and Glau
OCT	Any machine RNFL and Macular	Diab and Glau
Cataract	identify if there is a cataract	Diab
Dilated fundus examination	Standard exam	Diab
Fundus photograph	Fundus in focus, and clear view of the disc for glaucoma	Diab
Pseudo exfoliation (PXF)	Y/N	Glau
Pigment dispersion syndrome (PDS)	Y/N	Glau
Central corneal thickness	Optical or ultrasound measurement	Glau
Anterior chamber (AC)	van Herrick Gonioscopy is preferable	Glau
Optic disc/Cup disc ratio	Include notches, haemorrhages and wedge defects	Glau
Visual field	HVF SITA 24-2 Record MD field loss in dB and degrees of fixation	Glau
Final assessment	Diagnoses as per optometrist recommendation	Glau
Management plan	Management as per optometrists recommendation	Diab and Glau
Reason for review	If referred to Westmead then identify reason for review	Diab and Glau
Comments	As required	Diab and Glau
Ophthalmologist remote assessment	Confirmation of management plan and diagnoses, and any comments	Diab and Glau

Appendix 9:
[Name of shared care] transfer of booking lists and notes to optometrists

Process name	[Name of shared care] transfer of booking lists & notes to optometrists
Prepared by	
Prepared in consultation with	
Sign-off date	
Relevant team	Part A: Administration team; Part B: Eye clinic Nurses

Rationale

[Name of shared care service] is centrally coordinated by the [Name of hospital], including booking patients and patient file management. Governed by a SLA with [Name of hospital], [Name of shared care] optometrists conduct standardised assessments for [Name of hospital] patients. Regular and timely communication with optometrists is an essential component of [Name of shared care service] and collaborative care.

Appointment booking lists for [NAME OF SHARED CARE] clinics are prepared and sent to two weeks in advance to optometrists to provide enough notice for planning service delivery, and communicating effectively with patients who enquire about appointments. Appointment booking lists can be compiled by administration team following completion of booking.

Optometrists require relevant patient information, such as original referral details and previous eye examinations, to ensure effective care is provided to [Name of shared care] patients, as well as maintain continuity of care across [Name of shared care] and hospital-based eye services. The collation of patient files requires clinical acumen and should be undertaken by a clinical team member, such as a nurse or orthoptist.

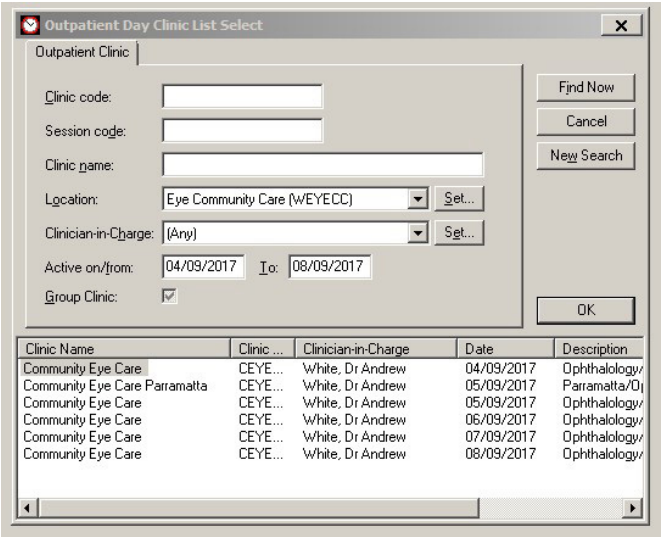
Patient files are transferred to and received from [Name of shared care] optometrists using secure email. NB The method for transfer should be approved by [Name of hospital] privacy team and comply with privacy and confidentiality regulations. Standardised file naming conventions are in place so that optometrists can identify patient records.

Part A: Optometrist booking lists

Step 1: Prepare Excel spreadsheet

Open a new Excel spreadsheet to create booking sheet. Use the following file naming convention: CLINIC DD-DD MMM YYYY.xlsx (e.g. ClinicName 21-25 Aug 2017.xlsx).

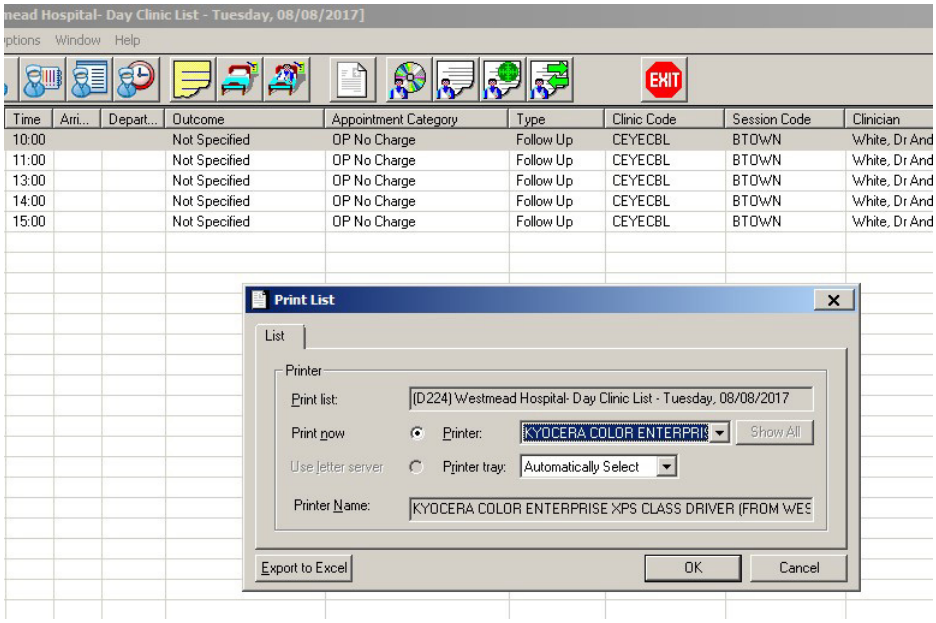
Step 2: Search for clinic details in [Patient management system]



Step 3: Copy daily/weekly appointment list to Excel

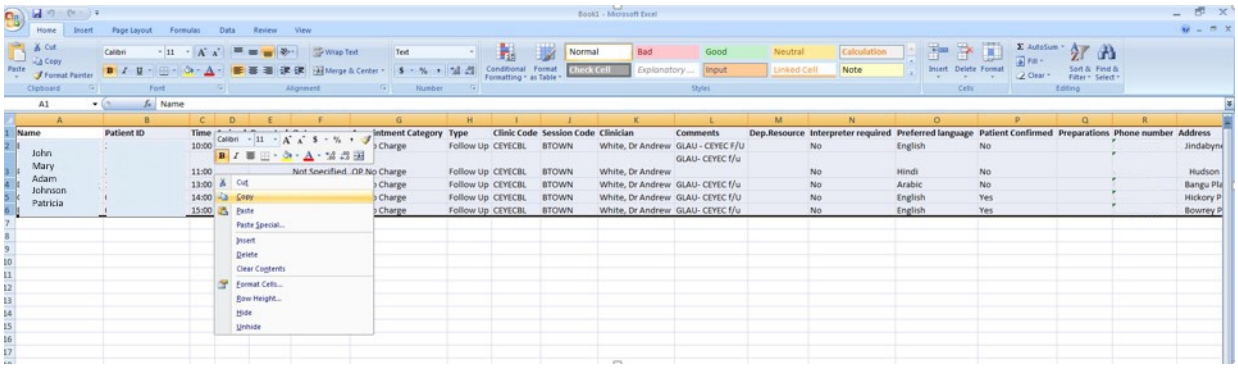
NB this may need to be repeated for each day of the week, and placed in the same Excel sheet.

From iPM day list view: Press F2 button. The Print List Screen Window will pop up, and click Export to Excel.

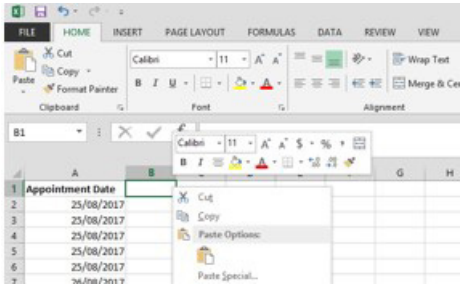


An Excel sheet will open. NB this cannot be saved to the share drive so information needs to be copied to the new Excel sheet prepared in Step 1.

From the exported Excel sheet, highlight the cells with patient booking details. To copy, right click highlighted cells and select 'Copy' or Press Ctrl+C.



Go to the saved Excel sheet and paste the copied cells, right click Paste or Ctrl+V into cell B1.



Repeat the copy and paste for each clinic day. Doublecheck that the date of appointment is lined up next to the correct date entered in Column A.

Step 4: Delete additional details columns

For example delete columns labelled: Departed, Resources, Booked by. Click SAVE

Step 5: Scan referrals for "New" patients.

Use booking list 'Type' column to determine if patients are New. For New patients gather referral letters in appointment Date order. Scan as one document. File naming convention:

ClinicName_New referrals_Dates, e.g. Blacktown_New referrals_19-23 Feb 2018.PDF

Step 6: Transferring Appointment booking list and patient files to Optometrists

NB Transfer of booking lists and patients files should use a secure email address [in accordance with local requirements]. The email subject should clearly state the information is for [Name of shared care service], the type of information contained, and relevant booking dates.

e.g. Subject: [Name of shared care] follow up - 19-23 Feb 2018 or [Name of shared care] Booking list 19-23 Feb 2018.

Part B: Compiling referrals and patients follow up notes

Step 1: Open relevant booking list

Step 2: Identify 'follow up' patients

Refer to the booking list column labelled 'Type'. All patients listed as 'follow up' require clinical notes pulled and saved from the patient's medical record for referral to the optometrist.

Refer to booking list Excel sheet column 'Comments' to identify patient clinical assessment type.

	Follow up from eye clinic	Follow up from CEYEC
Glaucoma patient	GLAU	GLAU CEYEC F/U
Diabetes patient	DIAB	DIAB CEYEC F/U
Both glaucoma and diabetes	GLAU + DIAB	GLAU + DIAB CEYEC F/U

NB Patients listed as Follow up with a comment 'C-EYE-C Follow up-C-EYE-C F/U' only require the previous C-EYE-C assessment to be pulled and saved from the medical records. All other follow up patients will require previous eye clinic notes related to their assessment type.

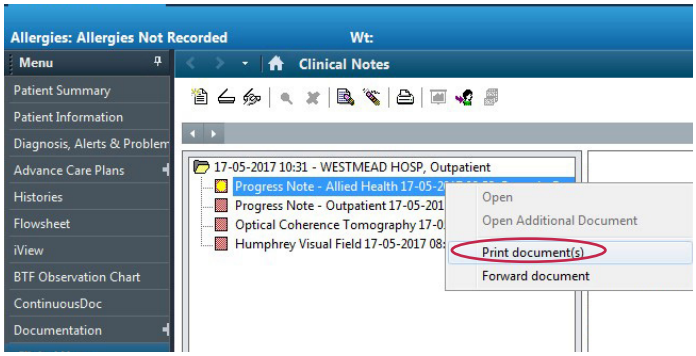
Step 3: Find notes

Open patient's electronic medical record. Search Patient by MRN (refer to booking list). Find last encounter for appropriate eye assessment (either [Shared Care] or eye clinic appointment).

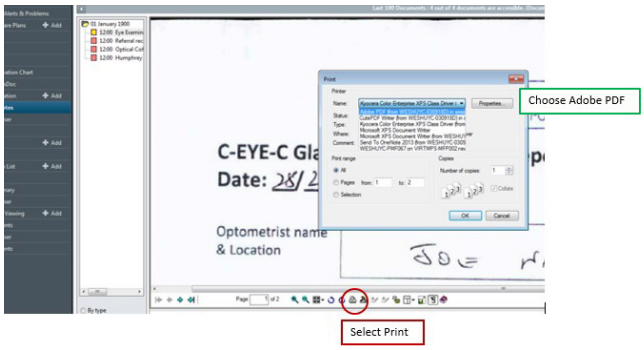
NB this may be several visits if patient's tests and consultation with an ophthalmologist were at different appointments (e.g. visual fields then a follow up appointment with ophthalmologist).

Step 4: Save patient files (using print to PDF)

Open the file and select the Printer icon, then select Draft print and OK.

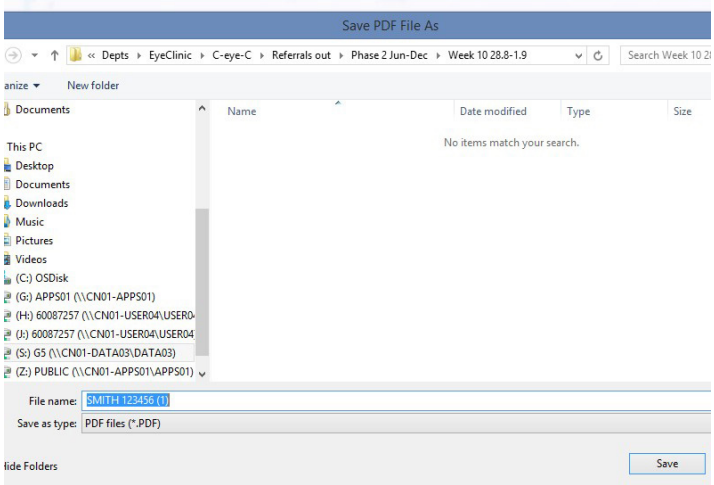


From the Print screen, select PDF Printer from the drop down (e.g. Adobe PDF) and click OK



The next screen will prompt you to save the PDF file.

Navigate to the appropriate clinic and week folder



Type the file name as outlined below:

File type	Glau or Diab	File naming	E.g. File save name
Progress Notes, or consult, or CEYEC assessment	All patients	LASTNAME MRN (1) LASTNAME MRN (2)	SMITH 123456 (1) SMITH 123456 (2)
Optical Coherence Tomography (OCT)	All patients	LASTNAME MRN (OCT)	SMITH 123456 (OCT)
Humphrey Visual Field	Glaucoma only	LASTNAME MRN (HVF)	SMITH 123456 (HVF)

If any files are not available, e.g. OCT or HVF, make a note in the Excel sheet next to the patient name. (Remember to save.)

Step 5: Repeat for all patients in the booking sheet

Repeat to collect all files for each patient listed in the booking sheet.

Tips

Once the first file has been saved the save option will automatically direct to the correct folder.

To save time, when you start typing a repeat file name, you can select the name as it drops down, but edit the text in the brackets.

Step 6: Notify Admin team when file collection is complete

Please notify Administration team when the files collection is complete. Admin team will transfer files to the optometrists prior to patient appointments using secure email. (See Section A, Step 6).

Appendix 10:
[Name of shared care] file receipt and virtual review clinic booking

Process name	[Name of shared care] File receipt and virtual review clinic booking
Prepared by	
Prepared in consultation with	
Sign-off date	
Relevant team	Eye Clinic Administration

Rationale

Complete [Name of shared care] assessment files are securely transferred electronically to [Name of hospital] eye clinic where the ophthalmologist will review and confirm diagnosis and management. A virtual clinic is set up in [name of booking system] to ensure recording and accountability of ophthalmologist review of patient files. Program performance measures, such as time to review, and file receipt data can be captured through patient management systems.

Arrival of patients at this clinic facilitates direct entry into the electronic medical records system by the ophthalmologist at time of file review. An administrative patient tracking sheet (yellow sheet) is prepared for the virtual clinic to facilitate booking of follow up appointments.

Part A: Receipt of files and labelling

Step 1: Print and save patient assessments

Accessing the [Name of shared care] secure email open and save all patient records in folders under relevant dates. Print all records in colour and double sided, or upload directly to patient medical record if the facility permits this.

Step 2: Arrive/Depart patients in [Name of patient management system]

Check patient files are complete and arrive and depart patients on day of booked optometrist appointment.

Step 3: Print and attach appointment labels

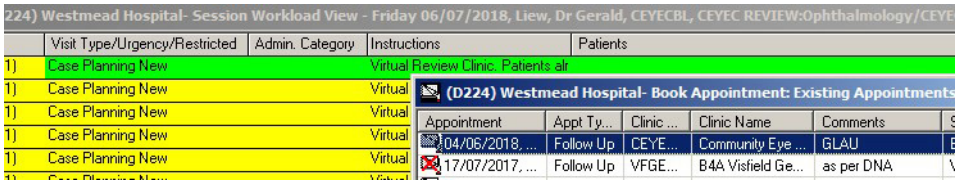
Part B: Booking a virtual [Name of shared care service] review clinic

Step 1: Book patient (files only) into a virtual review

Check patient details and confirm MRN on patient notes. Select the next available Virtual review clinic. Search for patient using patient MRN or name/ DOB.

Step 2: Booking type

Book under 'Case Planning' new slots.



STEP 3: Select 'Fin Class'

This is OP No charge.

Part C: Preparing for virtual review clinic

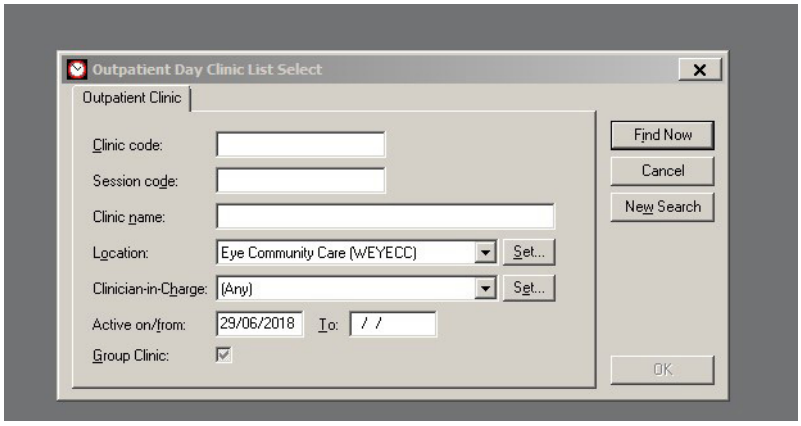
Step 1: Prepare 'yellow sheet' for the virtual review clinic

You will need to create a Virtual 'yellow sheet' (see Appendix) to provide with the paper files to the reviewing doctor.

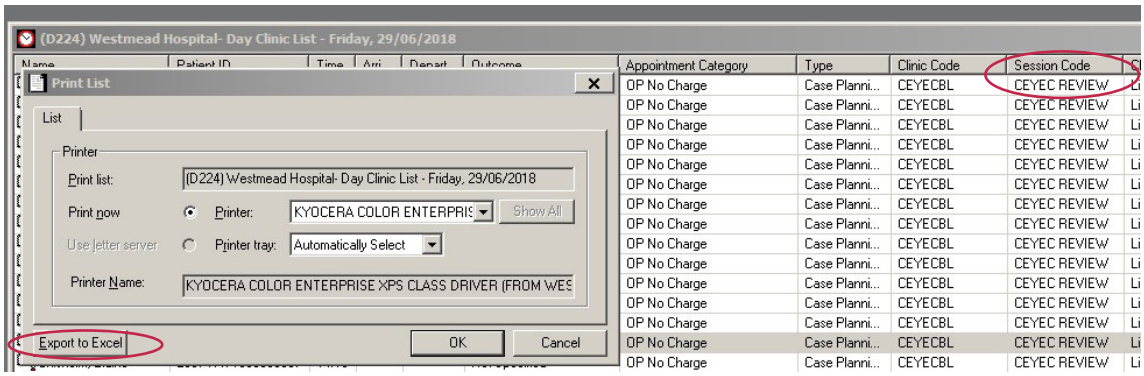
Open Yellow sheet template and enter the date of the review clinic e.g. 29/6/18, and the name of the reviewing clinican

Step 2: Fill in virtual review clinic lists on the 'yellow sheet'

Open the 'Day Clinic List in iPM'



Clinic anywhere on clinic day list and Press F2 button. Then click Export to Excel.



Return to the yellow sheet template and highlight cells in the patient name and MRN. Note you will need to copy as many rows as there are patients booked in the review clinic, and then paste.

Tips	
To copy use Control + C	To paste use Control + P. Print on yellow paper.

Step 3: Organise patient notes for review clinic

Organise a paper folder with patient notes for the ophthalmologist to review. [if uploaded directly in medical records the ophthalmologist can direct access from there.]

Step 4: Arrival of patients for virtual review

On the day of the virtual review clinic, organise patients so that the reviewing doctor can directly review/enter the notes in Powerchart.

Step 5: Departing patients in virtual review

At the end of the clinic, or on the following work day depart all patients.

Step 6: Send patient notes for scanning into electronic medical records

Part D: Processing follow up appointments

Step 1: Follow up booking – eye clinic

Check the 'yellow sheet' and book appointments for the patients requiring an eye clinic follow up (as per 'yellow sheet' instruction).

Step 2: Follow up bookings: return to [Name of shared care service]

Enter details of patients requiring follow up appointments for [Name of shared care service] in the [Name of booking system] wait lists so they can be booked for follow up at the correct interval.

C-EYE-C follow up booking sheet

Department of Ophthalmology

CEYEC Review Clinic Date: _____

Review Ophthalmologist: _____

	Patient details		Next appointment (Please tick)									Comments
			CEYEC		Next CEYEC appt type		Eye Clinic			Rebook	Discharge	
	Patient Name	MRN	6-mth	12-mth	Diab	Glau	GL	DR	Other clinic: (Specify)	Wks/ Mths (Specify)	GP/ optom	e.g. 2nd booking
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Booking and Administration purposes only.

Page 1

Appendix 11: Sample patient appointment letter

MRN: XXXXXXXXXXX

AUID: XXXXXXXXXXX

1 January 2017

FIRST NAME SURNAME

ADDRESS 1

ADDRESS 2

SUBURB STATE POSTCODE

Dear TITLE SURNAME,

Your doctor/eye care practitioner has referred you to the [Name of hospital].

[Name of hospital] has checked your referral, and you are suitable to attend our new [Name of shared care service] for assessment. Information on [Name of shared care service] is enclosed.

Your [Name of shared care service] appointment details:

DATE: DATE

TIME: TIME

Please allow up to 2 hours for your appointment as you will have multiple tests performed.

LOCATION: [Optometrist details] A map and directions are attached.

The following is required on the day of appointment:

- Medicare Card and/or DVA Card

Please be aware that it is possible that your pupils may be dilated with eye drops, which could affect your ability to drive for a period of time.

Should your clinical condition change or you have any concerns regarding your vision, please do not hesitate to attend your referring practitioner for advice. Changes in your condition or health may have implications on your appointment timing.

Please call XX XXXX XXXX to confirm your appointment, or if you have any questions or concerns.

Yours sincerely,

Eye Clinic, [Name of Hospital]

Sample patient flyer

C-EYE-C Community Eye Care

What is C-EYE-C?

Westmead Eye Clinic is trialling a new Community Eye Care (C-EYE-C) assessment program that will help patients access the right services and shorten waiting times to get to hospital appointments.

Your C-EYE-C eye assessment will be at an optometrist clinic located in Blacktown. At this appointment an optometrist will test your eyes, and your results will then be checked by an eye doctor (ophthalmologist) from Westmead Hospital.

What happens after my appointment?

The optometrist and ophthalmologist will work together to decide if you need an appointment for further tests or treatment. Some people will not need any further appointments and can continue having regular eye checks with their local optometrist.

If you need further appointments, you will be notified by post. Further appointments may be located at Westmead Eye Clinic or a community eye care optometrist clinic in the area.

Appendix 13: Example of the C-EYE-C Coordinator position description

POSITION TITLE	C-EYE-C Coordinator
AWARD	Does this role require Multiple Awards? ☐Yes ☐No
	Award: Health Managers (State) Award
	Classification:
SUPERVISORY	Does this role manage or supervise others? ☐Yes ☐No

PRIMARY PURPOSE *Write one or two paragraphs* describing the main purpose of the role and how it contributes to service needs. This answers the question "why does this role exist?".	The Coordinator will deliver quality project management to support the eye clinic team to effectively implement and evaluate a service improvement project, including a new screening pathway. This project aims to improve patient outcomes, increase service efficiency, and reduce burden of disease for patients with chronic eye diseases. *3400 characters max.*
KEY ACCOUNTABILITIES (Maximum 12) *Key accountabilities should be:* • outcome focused, rather than process focused • ordered in importance and/or frequency • as specific to the role as possible while not detailing tasks. • See Public Service Commission website for more information	• Manage assigned [Name of shared care project] from the concept phase to project closure to ensure it is successfully completed within scheduled timeframes, reach quality standards, and achieve agreed targets. • Support services and/or operational functions of the eye clinic to identify and facilitate the implementation of initiatives aimed at improving both the patient experience and system performance to meet services demand and targets. • Provide a range of project management services, preparation of detailed project documentation and plans including project scopes, briefs/discussion papers, and ethics applications. • Review, monitor and provide progress reports on project plans, to ensure the successful delivery of [Name of shared care service] project on time and within budget. • Meet all reporting requirements and deadlines. • Identify and manage project risks, problems or conflicts including development and implementation of risk mitigation strategies. • Develop, maintain and foster effective networks, relationships and partnerships with a diverse range of internal and external stakeholders, and work collaboratively with clinical teams to effectively manage system change. *3800 characters max*

WSLHD Standard Key Accountabilities that apply to all managers *(not to be removed except for the "optional" statement)* This section is in addition to the character count (3800) of the section above. These paragraphs can be moved up into the key accountabilities section above, however note that will impact character count in that section.	• Demonstrate relational leadership behaviours which shape a workplace culture embodying CORE values and continuous learning together with mutual respect, having a disposition of mindfulness in all actions with an awareness and application of the Code of Conduct. • Ensure that all team members receive regular performance feedback, coaching for performance and formal review. Provide all team members with the opportunity to discuss and agree on a Work Plan for the year ahead, and a Development Plan which identifies areas for personal and professional development for the next 12 months. • Manage all resources including finances/assets/leave balances) in a cost effective, transparent and accountable manner in accordance with all internal, legislative, audit, other compliance and Ministry of Health requirements. • Promote and coordinate quality improvement and person centred care within the department, facility and district. Utilise key performance indicators that provide outcome measures. Include quality improvement, patient safety and consumer participation as standard agenda items at department meetings. Include consumers in the evaluation and planning of services. Ensure timely and accurate reporting and management of near or actual, incidents or patient safety concerns. • Serve as a leader and support the organisation to achieve the aims of the safety management system, to establish and maintain a positive health and safety culture in the workplace and to consult with workers and others when making decisions that may impact upon the health, safety and welfare of those in the workplace. • Risk management: Actively identify, communicate and escalate risks and understand their responsibility to manage these risks for the organisation. This responsibility includes the use of enterprise risk systems, and the review of adequacy and effectiveness or risk controls and treatment. • Promote a positive risk culture where understanding, managing and accepting appropriate risk is part of all decision making processes.

KEY CHALLENGES *2–3 key challenges* A summary of the role's key challenges, indicating the complexity of the role. These inform job evaluation and are an important consideration when selecting the capability levels required for the role.	• Manage projects and activities given tight timeframes, and the need to produce high quality outcomes and deliverables. • Develop and maintain strong interpersonal relationships with eye clinic and external stakeholders to build capacity and effective project management focused on whole of departments outcomes as well as individual projects. • Assist with developing new processes and change management change to enhance the projects. *1000 character limit per challenge*

WHO YOU ARE WORKING WITH	WHO	WHY
Internal Relationships *Outline 3 key internal stakeholders and customers* the role is expected to interact with on a regular basis	Eye clinic nursing and allied health team	To promote a dynamic team and share knowledge within the department
	Optometrists	To promote a dynamic team and share knowledge within and across the health system
	Eye clinic administration team	To promote a dynamic team and share knowledge within the department
External Relationships *Outline 2 key external stakeholders and customers* the role is expected to interact with on a regular basis	Agency for Clinical innovation (ACI)	**Report on project funding and deliverables and transfer of lessons learnt to develop innovative strategies**
	Stakeholder and consumers	To deliver patient centred care for people who attend our service.
Financial delegation	☐As per Delegations manual	
Job Requirements Tick the relevant box/es. This information will be used to ensure the position is appropriately marked in StaffLink and informs the advertisement	Vaccination Category: ☐ A ☐ A High Risk ☐ B **Information Sheet – Risk categorisation guidelines** Checks: ☐National Criminal Record Check ☐Aged Care Check ☐Working with Children Check **Is the position targeted to 'eligible persons' under the Government Sector Employment Rule 26 – please indicate below:**	

	Aboriginal /Torres Strait Islander
Targeted	
Identified	

Disability	**Refugee**	**Gender**	**<25**

References

1. Baker IDI Heart and Diabetes Institute and The Centre for Eye Research Australia. *Out of Sight: A Report in to Diabetic Eye Disease in Australia*. 2013. Available at: https://www.cera.org.au/wp-content/uploads/2015/11/OutOfSightReport.pdf
2. Department of Health. *Australia's Future Health workforce – Ophthalmology*. July 2018. Available at: https://www.health.gov.au/internet/main/publishing.nsf/Content/647197A62CC6E179CA2582C8000CDC9E/$File/AFHW-Ophthalmology%20Report%20Final.pdf
3. Dirani M, Crowston JG, Taylor PS, Moore PT, Rogers S, Pezzullo ML, et al. *Economic Impact of Primary Open-angle Glaucoma in Australia*. Clinical & Experimental Ophthalmology. 2011;39(7):623-32. Available at: https://www.ncbi.nlm.nih.gov/pubmed/21631669
4. Attebo K, Mitchell P, Smith W. Visual Acuity and the Causes of Visual Loss in Australia. *The Blue Mountains Eye Study.* Ophthalmology. 1996;103(3):357-64. Available at: https://www.ncbi.nlm.nih.gov/pubmed/8600410
5. Bowling B, Chen SDM, Salmon JF. *Outcomes of Referrals by Community Optometrists to a Hospital Glaucoma Service.* British Journal of Ophthalmology. 2005;89(9):1102-4. Available at: https://www.ncbi.nlm.nih.gov/pubmed/16113358
6. White A, Goldberg I, & Australian and New Zealand Glaucoma Interest Group and the Royal Australian and New Zealand College of Ophthalmologists. *Guidelines for the Collaborative Care of Glaucoma Patients and Suspects by Ophthalmologists and Optometrists in Australia*. Clinical & Experimental Ophthalmology. 2014:42(2):107-117.
7. Ford, B., Angell, B., Liew, G., Keay, L., & White, A. *Does Integrated Hospital and Community Care Improve Patient Access and Reduce the Costs of Care for Glaucoma?* Clinical and Experimental Ophthalmology. 2018;46:103-103.
8. Holtzer-Goor KM, van Sprundel E, Lemij HG, Plochg T, Klazinga NS, Koopmanschap MA. *Cost-effectiveness of Monitoring Glaucoma Patients in Shared Care: An Economic Evaluation Alongside a Randomized Controlled Trial. BMC Health Services Research.* 2010;10:312. Available at: https://www.ncbi.nlm.nih.gov/pubmed/21083880
9. NSW Health. *Activity Based Management Portal in Non-Admitted Patient Data Local Health District and Cost Type- 20.17 Ophthalmology*. 2017. p. NSW Health ABM Portal 4.5- Build 18.1.
10. Access Economics. *Investing in Sight. Strategic Interventions to Prevent Vision Loss in Australia*. 2005. CERA.
11. Wright, HR, Diamond, JP. *Service Innovation in Glaucoma Management: Using a Web-based Electronic Patient Record to Facilitate Virtual Specialist Supervision of a Shared Care Glaucoma Programme*. British Journal of Ophthalmology. 2015;99(3): 313-317.