

Kam Chun Ho¹, Fiona Stapleton¹, Dian Rahardjo¹, Louise Wiles², Peter Hibbert², Andrew White³, Isabelle Jalbert¹

¹ School of Optometry and Vision Science, UNSW Sydney. ² Centre for Healthcare Resilience and Implementation Science, Macquarie University. ³ Westmead Institute for Medical Research, University of Sydney.

Case for change

Translation of best available evidence into clinical practice is important as this will improve both efficacy and cost-effectiveness of patient management (1). Health care system are continually being reformed, but care improvement and intervention effectiveness are often assumed, not measured (2). A better understanding of existing eye care delivery can guide priorities within eye care delivery, monitor quality improvement initiatives and inform consumers, communities and eye care practitioners.

Recently, the National Eye Health Survey (NEHS) has reported the prevalence of ocular conditions and showed that more than 50% of Australians with visual impairment were undiagnosed (3). The Caretrack study in Australia showed that 57% (range 13% - 90%) of Australian adults receive appropriate care across 22 health conditions (4). However, eye care was not included in the Caretrack study.

Goal

To improve primary eye care delivery in NSW.

Objectives

To measure the compliance of eye care delivered against sets of clinical indicators. To identify inappropriate care and related patient or practitioner factors.

Methods

Glaucoma and diabetic retinopathy were selected based on burden of disease, and availability of Australian clinical practical guidelines.

1) Indicator development On going...

Clinical indicators for glaucoma, diabetic retinopathy and preventative eye care were created based on existing evidence-based clinical practice guidelines, using a modified Delphi method.

2) Feasibility of record review ✓

Six optometry and one ophthalmology practices with different settings were recruited to test the feasibility of record review to measure the alignment of eye care delivered with the clinical indicators.

3) Record review in NSW Next...

Based on demonstrated feasibility, around 40 practices will be randomly selected for on-site record review.

Results

1) Indicator development On going...

	Preventative care	Glaucoma	Diabetic retinopathy
Evidence-based clinical practice guideline [#]	NHMRC, Australia COS, Canada AAO, USA	NHMRC, Australia COS, Canada NICE, UK AAO, USA	NHMRC, Australia COS, Canada SIGN, UK
No. of external experts involved	3	5	3
No. of indicators			
Drafted from clinical practice guidelines	8 (27)*	53 (82)	32 (39)
1 st round (modified Delphi method)	7 (21)	13 (44)*	17 (22)*
2 nd round (modified Delphi method)	On going...	On going...	On going...

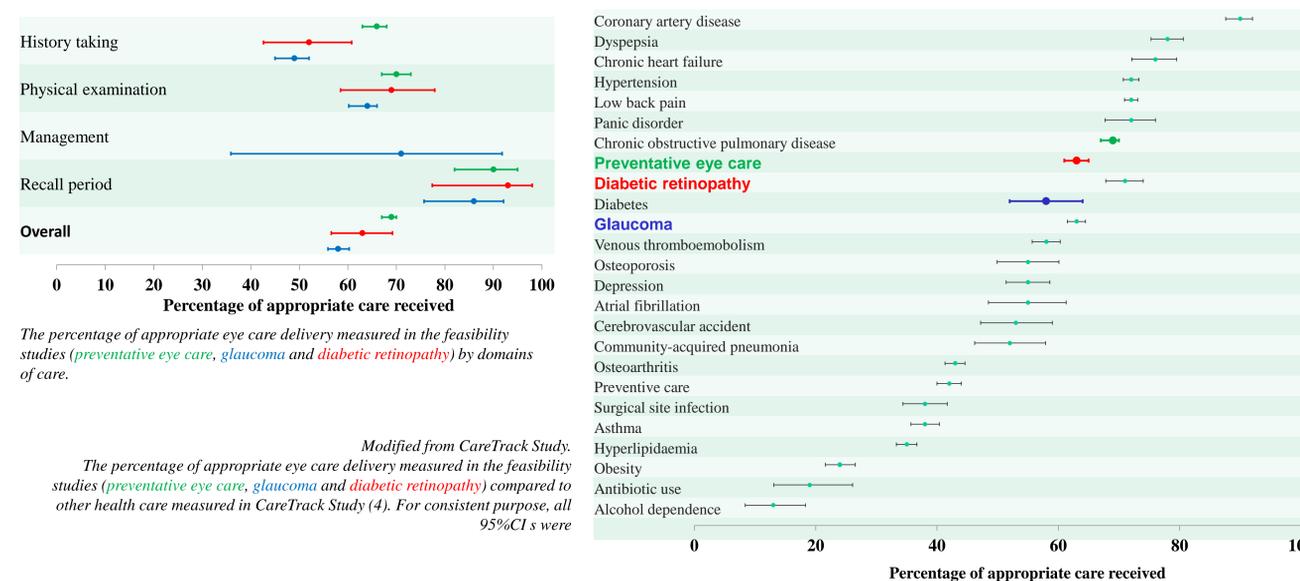
Clinical indicators were drafted from 3 to 4 national evidence-based clinical practice guidelines and reviewed by 3 to 5 experts in the field in Australia via a modified Delphi method based on
1) impact to health outcome,
2) feasibility to assess by record review, and
3) applicable in Australian eye care settings.

[#]NHMRC (<https://www.nhmrc.gov.au/guidelines>)
COS (<http://www.cos-sco.ca/clinical-practice-guidelines/>)
AAO (<https://www.aao.org/guidelines>)
NICE (<https://www.nice.org.uk/guidance>)
SIGN (<http://www.sign.ac.uk/guidelines/published/>)
^{*}Sets of indicators used for the feasibility studies.

2) Feasibility of record review ✓

	Setting 1	Setting 2	Setting 3	Setting 4	Setting 5	Setting 6	Setting 7
Professions	Optometry						Ophthalmology
Practice type	Teaching clinic	Independent clinic	Independent clinic	Franchise	Franchise	Referral clinic	Independent clinic
Record management system	Sunix	Sunix	Optomate	Optomate	own system	own system	own system
Record types	Electronic + structured paper	Unstructured paper	Electronic	Electronic	Electronic	Electronic	Electronic + semi-structured paper
Sampling method	By visit	By visit	By patient	By patient	By appointment date	By patient	By appointment date
No. of records reviewed							
Preventative eye care	50	21	23	-	-	-	-
Glaucoma	11	-	10	12	8	20	10
Diabetic retinopathy	2	-	10	4	1	10	1
No. of practitioners	>10	1	2	3	1	>10	3

Different sampling methods were applied with the diverse record management system and record types. For practices without diagnostic coding, sampling by patient was the most promising method to identify patients with glaucoma and diabetes mellitus compared to sampling by visit and appointment date.



The percentage of appropriate eye care delivery measured in the feasibility studies (preventative eye care, glaucoma and diabetic retinopathy) by domains of care.

Modified from CareTrack Study. The percentage of appropriate eye care delivery measured in the feasibility studies (preventative eye care, glaucoma and diabetic retinopathy) compared to other health care measured in CareTrack Study (4). For consistent purpose, all 95%CI s were

Acknowledgements

Terry Ho is supported by a UNSW Tuition Fee Scholarship and Dr Isabelle Jalbert by a June Griffith Fellowship. Funding supported was provided by a UNSW Faculty of Science Research Program. The Authors thanks Prof. Andrew Hayen for project support.

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Diagnostics

- The feasibility studies provided an insight into potential logistical difficulties that may be encountered in conducting a large scale optometric and ophthalmological record review.
- Different sampling strategies used at different practices are inevitable with the diverse nature of eye care practices and record systems.
- A record review manual and sets of clinical indicators for preventative care, glaucoma and diabetic retinopathy have been developed for the upcoming larger scale study and would be generalizable to other studies.
- Experienced eye care professionals are needed to make 'judgement calls' on parts of the review process.
- In our feasibility study, regular diabetic eye checks were recommended 89% of the time, a slightly higher frequency than that of 78% found in the NEHS (3).

Sustaining change

The process of conducting a record review and reporting of findings to practices post study may induce beneficial change. Preliminary anecdotal findings from Setting 1 support this as the following changes were made:

- Modification of record form and training to reinforce the importance of addressing the chief complaint and history taking of driving status.
- Add diagnostic coding for new patients with diabetes to improve patient management and promote a strong care evaluation culture.

Conclusion

Variations from best eye care practices were identified in our feasibility studies. Actionable change of existing care delivered highlighted the importance and usefulness of measuring the care delivered by eye care practitioners.

Partner with us

- **Identify gaps in care:** overuse, underuse and misuse of care can be identified for care improvement interventions.
- **Actionable feedback:** record review provided clear, straightforward feedback for the care process (Examples under **Sustaining change** section).
- **Intervention evaluation:** care improvement can be assessed and monitored by repeated record review pre- and post-intervention

Contact

Terry Ho, PhD Student. E-mail: kam.ho@unsw.edu.au

