



YEAR IN REVIEW

2022

In a year of further Covid-disruption; change of leadership; and a detailed review of structure and strategy, the Centre for Eye Health (CFEH) team have performed exceptionally, as always with the focus of reducing the incidence of preventable blindness. The commitment and passion of all staff at CFEH is inspirational and hugely valued.

The departure of our esteemed Centre Director, Prof Michael Kalloniatis, was testing for all here at CFEH and I would like to acknowledge his tremendous contribution to the industry, as a whole and to us individually at CFEH. Michael's passion and achievements set CFEH up for success and we have worked hard to continue his legacy.

CFEH only exists thanks to the financial and governance support from Guide Dogs NSW/ACT and support in-kind from UNSW. Key parties from both organisations have worked closer than usual with us over the past year to support the changes and set the plan for the coming years to ensure alignment and continued exceptional services for our community.

This report will outline our key achievements of the 2022 calendar year as well as touching on the future focus for CFEH.

2022 Highlights

- Over 13 500 patients examined.
- Introduction of eligibility criteria to ensure CFEH resources are reaching those most in need, and to protect the longevity of the centre.
- 17 peer-reviewed publications with a further 2 accepted for future publication.
- Invitations to present at both national and international optometry conferences.
- Successful re-design and delivery of a third year undergraduate course on posterior eye disease for UNSW.
- Hosted 83 final year Optometry students from UNSW for 6 week clinical rotations.



Sarah Holland, General Manager



CFEH Clinical Services



Michael Yapp, Head of Clinical Operations

Despite further disruptions from the ongoing pandemic, 2022 proved to be another successful year in the clinic as we work towards preventing vision loss through the early detection of eye disease.

Over the course of 2022, there were several key highlights within clinical services:

- Over 13,500 patient examinations performed in 2022 (projected)
- The significant backlog of COVID delayed appointments from the previous year were cleared with the waiting time for appointments reduced to less than 2 weeks.
- An eligibility criterion for CFEH referrals was launched in October. This has been designed to ensure we focus on the most vulnerable members of our community, ensuring GDN donor funds assist those in most need while simultaneously ensuring the longevity of the Centre.
- An expansion of the Community-Eye-Care program with Westmead Hospital (Ophthalmology and Rheumatology) to include a screening program for patients taking Plaquenil.
- Completing a 6-week training placement for 83 final year optometry students from the School of Optometry and Vision Science (SOVS) at the University of New South Wales.

CFEH has continued to collaborate closely with both Prince of Wales and Westmead ophthalmology departments. These relationships are a key factor in the success of the Centre's clinical model through a combination of sharing care and expertise to ensure timely detection and management for patients.



"focus on the most vulnerable members of our community"

CFEH Education

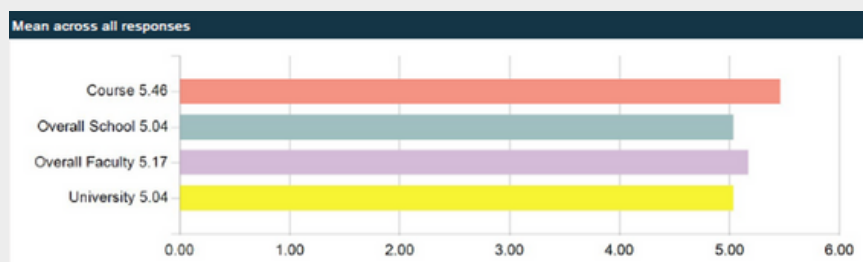
Michele Clewett, External Relations and Education
Manager

The after-effects of COVID were still very much present in education during 2022 with much of our teaching still taking place online, although fortunately we were able to return to in-person tutorials and clinic rotations.

Our 2022 CFEH webinar program consisting of 10 webinars logged a total of 795 CPD hours this year with a similar number of hours of independent learning logged. Additionally, our educators were invited to present at the American Academy of Optometry conference in New Orleans; to present several Optometry Australia national webinars; and also to speak at Optometry NSW/ACT's Super Sunday and Optometry Australia's Optometry Virtually Connected (OVC) conference. All presentations received very positive feedback and have resulted in additional invitations for the 2023 CPD year.

Throughout the year, we also continued to add cases to the CFEH Atlas, produced 4 literature updates covering key developments in the knowledge base throughout 2022, and contributed articles to the industry publications Mivision, Optometry Connection and Insight.

Our Education team also developed and delivered an undergraduate course on ocular disease to third year students of Optometry and Vision Science from the University of New South Wales (OPTM3205). Using the latest educational tools and pedagogical principles, they made the course as engaging and easy to understand as possible. Student feedback from the course was excellent with an average score across all areas of 5.46 out of a possible score of 6 (the average across the university by comparison was 5.04).



Extract from "My Experience" report - OPTM3205, 2022

"The CFEH rotation was an
amazing experience!"

Feedback from a final year Optometry student, 2022

2022 also allowed the Centre to return to hosting final year UNSW Optometry students for 6 week clinical rotations, following Covid-induced reductions in the program over the previous 2 years. The feedback from students on completing this rotation was extremely positive with students grateful for the experience gained during an intensive 6 weeks. The average feedback across multiple facets of the program was 4.64 (out of 5).



What Does the Future Hold? 2023 and Beyond

Sarah Holland, CFEH General Manager

In early 2022 Guide Dogs made the decision to focus future funding on the continuation of CFEH's clinical services, wanting to ensure these remain cutting edge and focused on those most vulnerable within our communities. Whilst Guide Dogs is committed to facilitating both clinical research and undergraduate education, it was decided that there would be no direct funding for these areas moving forward.

Further to this decision, a project team was established composed of key senior staff across GDN, CFEH and UNSW. Pathways were reviewed and agreed for future working and a transition agreement was established. As a result of these changes CFEH altered to become a wholly owned subsidiary of Guide Dogs, working with UNSW in close partnership.

In the latter part of the year CFEH introduced eligibility criteria for all referrals to ensure that the generous charitable funding from Guide Dogs is focused on those most in need across our communities. As at early November, 86% of CFEH patients meet the criteria with the aim to ensure those that are no longer eligible are reviewed prior to discharge with a clear future clinical plan in place.

Moving into 2023 CFEH is excited for the upcoming year. CFEH is in the process of agreeing a three year Collaboration Agreement with UNSW ensuring continuity for both patients and staff.

Clinical services will continue to offer both assessment and management options, working closer with high risk communities. Telehealth and Collaborative care arrangements will be trialed with input from our key industry stakeholders, and the collaborative work with Westmead and Prince of Wales will continue.

The 2023 CPD webinar program has been agreed and shared with community optometrists. Equally, final year UNSW optometry students will continue to conduct their clinical placements at CFEH on a rotational basis.

Several new research studies are in the process of beginning, facilitated by CFEH, with the plan to encourage more research, focused beyond previous clinical areas, in the New Year.

Finally, my role will work with the newly appointed CFEH Board and the Guide Dogs Executive Team to finalise the future strategy for CFEH ensuring alignment with GDN's 2030 strategy and involving thought leadership from UNSW, Ophthalmology and other key partners.



Acknowledgement

The work of the Centre is only made possible thanks to the generosity of Guide Dogs NSW/ACT and their donors, as well as the support of the University of New South Wales.

Guide Dogs.



UNSW
SYDNEY

Peer-Reviewed Publications 2022

CFEH Research

Whilst 2022 prompted some changes across the CFEH research team (most notably the departure of Professor Michael Kalloniatis and Professor Gordon Doig) the team continued to contribute to projects supported by active grants including an NHMRC ideas grant, NHMRC investigator grant and a project grant from Novartis Australia and New Zealand.

New processes have been established to ensure the continuation of future projects at CFEH, supported by both Guide Dogs and SOVS. Several projects are in the final stages of approval as the year comes to a close and we are excited for what 2023 will bring.

Our research team published 17 papers in peer-reviewed journals in 2022. This includes several publications in top-tier journals such as the American Journal of Ophthalmology and Ophthalmology.

Papers published in 2022

1. Cheung R, Ly A, Katalinic P, Coroneo MT, Chang A, Kalloniatis M, Madigan MC & Nivison-Smith L. (2022) Visualisation of peripheral retinal degenerations and anomalies with ocular imaging. *Seminars in Ophthalmology* Vol 37(5) <https://doi.org/10.1080/08820538.2022.2039222>
2. Ho S, Doig GS, Ly A. (2022) Attitudes of optometrists towards artificial intelligence for the diagnosis of retinal disease: A cross-sectional mail-out survey. *Ophthalmic Physiol Opt.* Nov;42(6):1170-1179. <https://doi.org/10.1111/opo.13034>
3. Ho S, Kalloniatis M, Ly A. (2022) Clinical decision support in primary care for better diagnosis and management of retinal disease. *Clinical and Experimental Optometry* Vol 105(6) 562-572 <https://doi.org/10.1080/08164622.2021.2008791>
4. Kalloniatis M, Wang H, Katalinic P, Ly A, Apel W, Nivison-Smith L, Kalloniatis KF. (2022) Ocular ischaemia: signs, symptoms, and clinical considerations for primary eye care practitioners. *Clinical and Experimental Optometry*. Vol 105(2) <https://doi.org/10.1080/08164622.2021.1999771>
5. Kugelman J, Allman J, Read SA, Vincent SJ, Tong J, Kalloniatis M, Chen FK, Collins MK, Alonso-Caneiro D et al (2022). A comparison of deep learning U-Net architectures for posterior segment OCT retinal layer segmentation. *Sci Rep*; 12(1): 14888. <https://doi.org/10.1038/s41598-022-18646-2>
6. Nam J, Ly A, Kalloniatis M & Nivison-Smith L. (2022) Multispectral pattern recognition measures change in drusen area in age-related macular degeneration with high congruency to expert graders. *Sci Rep* 12, 7442 <https://doi.org/10.1038/s41598-022-11070-6>
7. Phu J, Kalloniatis M. (2022) Gaze tracker parameters have little association with visual field metrics of intrasession frontloaded SITA-Faster 24-2 visual field results. *Ophthalmic Physiol Opt.* 2022; 42: 973- 985. <https://doi.org/10.1111/opo.13006>
8. Phu J, Kalloniatis M. (2022) The Frontloading Fields Study: The Impact of False Positives and Seeding Point Errors on Visual Field Reliability When Using SITA-Faster. *Trans. Vis Sci Tech*, Vol 11(2):20. <https://doi.org/10.1167/tvst.11.2.20>

Peer-Reviewed Publications 2022

CFEH Research

9. Phu J, Masselos K, Sullivan-Mee M, Kalloniatis M. (2022) Glaucoma Suspects: The Impact of Risk Factor-Driven Review Periods on Clinical Load, Diagnoses, and Healthcare Costs. *Trans. Vis. Sci. Tech.* Vol 11(1):37
<https://doi.org/10.1167/tvst.11.1.37>
10. Phu, J, Kalloniatis M. (2022) Patient and technician perspectives following the introduction of frontloaded visual field testing in glaucoma assessment. *Clin Exp Optom* Aug;105(6):617-623. <https://doi.org/10.1080/08164622.2021.1965461>
11. Tong J, Alonso-Caneiro D, Kalloniatis M, Zangerl B (2022). Prediction of visual field defects from macular OCTs in glaucoma using models applying cluster analysis principles. *Ophthalmic Physiol Opt*; 42(5): 948-64.
<https://doi.org/10.1111/opo.12997>
12. Tong J, Phu J, Alonso-Caneiro D, Khuu S, Kalloniatis M (2022). Prediction of retinal ganglion cell counts considering various displacement methods from OCT-derived ganglion cell-inner plexiform layer thickness. *Trans Vis Sci Tech*; 11(5): 13. <https://doi.org/10.1167/tvst.11.5.13>
13. Tong J, Phu J, Alonso-Caneiro D, Khuu S, Kalloniatis M (2022). Clinical evaluations of macular structure-function concordance with and without Drasdo displacement. *Trans Vis Sci Tech*; 11(4): 18. <https://doi.org/10.1167/tvst.11.4.18>
14. Trinh M, Kalloniatis M, Nivison-Smith L. Should clinical automated perimetry be considered for routine functional assessment of early/intermediate age-related macular degeneration (AMD)? A systematic review of current literature. (2022) *Ophthalmic Physiol Opt.* 2022;42(1):161-177. <https://doi.org/10.1111/opo.12919>
15. Trinh M, Kalloniatis M, Alonso-Caneiro D, Nivison-Smith L. High-density optical coherence tomography analysis provides insights into early/intermediate age-related macular degeneration retinal layer changes. *Invest Ophthalmol Vis Sci.* 63(5):36. <https://doi.org/10.1167/iovs.63.5.36>
16. Trinh M, Eshow N, Alonso-Caneiro D, Kalloniatis M, Nivison-Smith L. Reticular pseudodrusen are associated with more advanced para-central photoreceptor degeneration in intermediate age-related macular degeneration. *Invest Ophthalmol Vis Sci.* 63(11):12. <https://doi.org/10.1167/iovs.63.11.12>
17. Wang E, Kalloniatis M, Ly A. Assessment of patient education materials for age-related macular degeneration. *Ophthalmic and Physiological Optics.* 42:839-848 <https://onlinelibrary.wiley.com/doi/full/10.1111/opo.12991>

Papers accepted but not yet published in 2022

1. Tong J, Phu J, Alonso-Caneiro D, Khuu S, Kalloniatis M (2022). Author's reply to: Expected improvement in structure-function agreement with macular displacement models. *Trans Vis Sci Tech*; Accepted for publication.
2. Ho S, Ly A, Ohno-Matsui K, Kalloniatis M, Doig GS. Diagnostic accuracy of OCTA and OCT for myopic choroidal neovascularisation: A systematic review and meta-analysis. *Eye.*