



PREFACE

THE FRED HOLLOWS FOUNDATION SEEKS
TO UNDERTAKE AND SUPPORT HIGH
IMPACT RESEARCH AND INNOVATION TO
ACCELERATE ELIMINATION OF AVOIDABLE
BLINDNESS.

This report provides a snapshot of the impact of The Foundation's research, innovation and evaluation activities in 2018.

Vision problems and blindness impact the ability of individuals and their families to participate in education, employment and maintain their role as active members of their community. Restoring vision is about more than being able to see well, it's about ensuring all people have the best possible chance to live healthy and happy lives.

The Fred Hollows Foundation is an international development organisation, committed to a world in which no person is needlessly blind or vision impaired.

Thanks to advances in medical treatment, health care and technology, 4 out of 5 people who are blind don't need to be. The Foundation works with local partners and governments in more than 25 countries to deliver essential eye operations and treatments, train surgeons and health care workers, provide equipment and advocate for sustainable eye care services.

To ensure our programs deliver the best possible solutions, The Foundation maintains a portfolio of high quality, high impact research and innovation. These investments strengthen the evidence base, improve program performance, further global thinking on ending avoidable blindness and support our advocacy and policy efforts. Our research is complemented by rigorous program monitoring and evaluation, which build our organisational capacity and strengthen the performance of our programs ensuring we continue to deliver what works for individuals and communities in need.

Our commitment to innovation, and to improving and evaluating our work sets The Foundation apart. We believe in delivering the best possible solutions, backed by evidence. We remain willing to trial new approaches and are committed to continuous quality improvement and excellence. We believe that sharing our insights, facilitating knowledge exchange with our partners and scaling-up innovative solutions is key to driving large scale systemic change.

RESEARCH AND INNOVATION AT THE FOUNDATION

RESEARCH, INNOVATION AND THE EFFECTIVE USE OF EVIDENCE UNDERPINS ALL WF DO.

- Research provides evidence to strengthen the case for investment in eliminating avoidable blindness and advocate for approaches to health system reform.
- Research provides evidence to inform program targeting, design, implementation, improvement and scale up.
- Research and innovation provide the opportunity to develop and test new interventions, strategies and tools.
- Research and innovation initiatives provide an opportunity to establish and foster strong and effective partnerships





The Foundation undertakes and supports high quality, high impact research and innovation focused around five priority areas:

- 1. Cataract surgical quality, productivity, and equity
- **2. Trachoma** understanding transmission of the infection, and how to increase uptake of surgery, and hygiene and sanitation practices
- **3. Diabetic Retinopathy (DR)** understanding the burden of DR, and the potential role of task shifting (and sharing), improved care coordination and integration, and innovative technology assisted DR care solutions
- **4. Health systems strengthening –** developing innovative models of eye health financing, and technology and models of care that strengthen eye care coordination, integration and access
- **5. Community engagement** developing methods and tools to better understand and increase engagement of communities in eye health care.

OUR PORTFOLIO - 2018 SNAPSHOT

The Foundation has significantly expanded the scale and scope of its research, innovation and evaluation activities progressively over the past 4 years, in support of the organisation's Strategic Plan 2014-2018.

A total of 90 publications resulted from The Foundation's research, innovation and evaluation activities 2018:

In 2018, The Foundation's research, evaluation and innovation portfolio consisted of:

30





research
projects^

39

7 global projects 11 East Asia region projects 10 South Asia and Middle East region projects 10 Africa region projects 1 Australasia region project

Total (multi-year value) of these projects was approximately AUD\$12.2M



innovation initiatives

3

Cameroon Cataract Bond Alina Vision Philippines Quality of Care Project



project evaluations

Across 14 countries

16



s, rough guides, discussion

Development effectiveness tools - data profiles,

Project evaluation reports

16

11

Research and strategic

strategic evaluations

1

An in-depth evaluation of the Comprehensive Eye Care model used in Vietnam projects between 2003 and 2016.

^See Annex 1 for a list of projects.

*See Annex 2 for a list of publications.

OUR IMPACT - 2018 HIGHLIGHTS

Our investment in research, innovation and evaluations strengther the evidence base, improve program performance, further global thinking on ending avoidable blindness and support our advocacy and policy efforts

CASE STUDY: BOOST

BO[©]ST

BETTER OPERATIVE
OUTCOMES SOFTWARE TOOL

The Fred Hollows Foundation played a leading role in developing a new smartphone application to improve cataract surgical outcomes, especially for people in developing countries. In developing countries many patients do not return for follow up care because of lack of transport and other costs, making it hard for doctors to monitor the quality of surgery and respond to problems.

In June 2018, a global consortium launched **BOOST** (Better Operative Outcomes Software Tool), a simple, free and easy-to-use app to help surgeons monitor and improve outcomes of cataract surgery.

BOOST was developed with financial support from Standard Chartered Bank and following a study of 40 hospitals in 12 low and middle income countries published in Lancet Global Health, that showed measuring vision one to three days after surgery is a valid indicator of longer-term outcomes. The app now gives surgeons and clinics a simple tool to measure, benchmark and improve their results, even when few patients return. The app also suggests tailored strategies to improve outcomes. Tools like BOOST are essential for surgeons and hospitals to maintain high standards of quality and ensure patients get the best possible results from surgery. BOOST is currently being trialed to determine its effectiveness and usability.

"You have to impart skills and technology and help them help themselves. Leave the world a better place."

- Fred Hollows

Our **global expertise in trachoma** was showcased in a World Health Organization (WHO) Special Bulletin on Eye Health, with a rallying call to focus on behaviour change for facial cleanliness and environmental improvements to sustain trachoma elimination

For the first time we assessed the diagnostic accuracy of diabetic retinopathy (DR) screenings done by non-ophthalmic staff in **Bangladesh**. Using trained, non-ophthalmic technicians helps address the critical eye health workforce shortages, which limit the capacity of services to screen, treat and refer patients in a timely and efficient manner. The accuracy of trained technicians was satisfactory, and informed advocacy efforts to integrate this type of screening within the national DR plan.

We supported the costing and systems integration evaluation of primary eye care in **Cambodia**. A policy advisory committee of senior government officials were actively involved in the project, which will be used to inform future Ministry of Health plans and budgets.

In **Australia**, we brought together key stakeholders to assess critical gaps and identify solutions to finally eliminate trachoma. We also facilitated the supervision of WHO expert grader trainers at routine surveillance activities in 2018. As a result, affected jurisdictions are now using nationally consistent standards and processes, a key requirement for validating the elimination of trachoma in Australia and ensuring high-quality data is collected.

In **Cambodia**, the mid-term evaluation of the Provincial Primary Eye Health Strengthening Project led to a re-design of the project. The evaluation found the training and supervision arrangements around the health centres were insufficient to increase the staff's technical capacity and so recommended new models of capacity building and the need for more on the job supervision by people with technical skills.

In **Eritrea**, a partnership with UNICEF was established, to include face washing components in their standard questionnaires. This is data that The Foundation and other eye health agencies don't currently have easy access to. The information collected by UNICEF will inform national discussions around facial cleanliness and environmental health strategies for trachoma.



CASE STUDY: COMPREHENSIVE EYE CARE MODEL IN VIETNAM

In 2018, The Foundation commissioned an in-depth evaluation of the Comprehensive Eye Care model used in Vietnam projects between 2003 and 2016.

The evaluation examined longer-term changes in provinces where The Foundation had worked, and how The Foundation's programs had supported stronger eye health services in the medium to longer term. Designed to provide lessons that will guide programming in other countries, the evaluation documented key lessons about what had worked in particular sites and why. It produced case studies on partnership and governance, health professional training, community education campaigns, transition to social health insurance and sustainability, which summarise issues and lessons that The Foundation should consider when designing new projects. Investments in this type of evaluation underlies The Foundation's commitment to share lessons about effective eye health programs across contexts, and continually improve its approach to program design.









CASE STUDY: UNDERSTANDING THE ENIGMA OF TRACHOMA IN THE PACIFIC

Trachoma is the leading infectious cause of blindness worldwide, and is a public health problem in several Pacific Island countries, including the Solomon Islands, Vanuatu, Kiribati and Fiji. Further investigation is needed to determine the prevalence of trachoma in Nauru, Samoa and Papua New Guinea. Trachoma is caused by the infection of the eye by the chlamydia trachomatis bacterium. Infection can spread easily in areas where there is insufficient access to water and sanitation, and overcrowded living conditions.

Managing trachoma

The infection often begins during childhood and if left untreated, leads to trichiaisis, where eyelashes turn inward and scratch the eyeball. This causes irritation, painful scarring and ultimately, irreversible blindness. Trachoma is prevented and treated through implementation of the SAFE strategy: Surgery for trichiasis; Antibiotics to treat the infection, Face washing to prevent transmission; and Environmental health improvements to ensure access to clean water and sanitation.

Since 2013, The Foundation has managed the Pacific Trachoma Initiative, funded by The Queen Elizabeth II Diamond Jubilee Trust and the International Coalition for Trachoma Control, to eliminate blinding trachoma in Fiji, the Solomon Islands, Vanuatu and Kiribati.

The enigma of trachoma in the Pacific

Trachoma appears differently in the Pacific and our research is trying to understand why. The prevalence of early-stage, inflammatory trachoma is relatively high, but the prevalence of late-stage, sight threatening trachoma and trichiasis is relatively low. To understand this clinical picture, and how to better tailor interventions in response, a program of research led by the London School of Hygiene and Tropical Medicine and supported by The Foundation was implemented in parallel with programmatic activities.

The pathway from research to practice change

In January 2018, following publication of initial research results, the WHO convened an expert consultation in Melbourne with representatives of the research team, The Foundation and leading eye health experts to discuss next steps towards trachoma elimination in the Pacific.

The WHO endorsed recommendations to undertake ancillary surveys using specially trained ophthalmic nurses or ophthalmologists in the Solomon Islands and Vanuatu to inform the elimination strategies, and further diagnostic investigation to identify what is driving the spread of trachoma in areas where anomalies persist. The ancillary surveys showed that while the trachoma inflammation was present (TF), it does not seem to be associated with blinding trachoma in the same populations.

Next steps for trachoma elimination

As a result of the research, the Government of Vanuatu was authorised to start compiling a dossier to claim validation of elimination of trachoma as a public health problem. Ongoing surveys are needed to validate the impact of elimination work in Kiribati and the Solomon Islands; and establish baseline prevalence of trachoma in suspected endemic areas of Fiji and Papua New Guinea. With its partners in the Pacific, The Foundation will continue to support efforts to better understand trachoma to ensure that treatment strategies are effective and all countries are equipped with high-quality evidence to support their efforts to eliminate this painful disease.



Children are examined for trachoma in the Solomon Islands

CASE STUDY: RAAB SURVEYS

The results of the first Rapid Assessment of Avoidable Blindness (RAAB) in Papua New Guinea were published 2018. This survey enhanced understanding of the scale of cataract blindness and other eye health diseases in PNG. The findings have been accessed more than 6,500 times online, and were presented to the Australian Government, to reinforce The Foundation's call for renewed investment in avoidable blindness efforts across the Pacific.

The the first time in over a decade, a RAAB was undertaken in Eritrea. The RAAB will provide up-to-date data on the prevalence and causes of avoidable blindness in Eritrea, which is critical to the design of eye health programs and policy frameworks.

CASE STUDY: HUMAN CENTRED DESIGN

Working with patients to develop eye care solutions was the driving force behind a 2018 innovative pilot project in the Philippines.

Using a human-centred design approach to improve quality of care in two provincial partner hospitals, patients were encouraged to co-design solutions to their eye health needs.

The project, involving eight workshops and 78 patients and health workers in Tarlac and Surigao del Norte, provided The Foundation valuable feedback on models of patient care.

Immediate improvements were made to the appointment and waiting systems, and patients and health workers reported higher standards of care and fairer access to services. The results were presented at a WHO and International Agency for the Prevention of Blindness meeting, and the Annual Philippines Academy of Ophthalmology National Convention.

We facilitated an introduction to health financing for eye health in **Mongolia**. A number of officials from the Ministry of Health as well as the ophthalmologist association and Asian Development Bank participated and engaged in productive debate about financing cataract surgery and the inclusion of spectacles provision for children.

For the first time, we formally assessed loss to followup in diabetic retinopathy (DR) services in **Pakistan and Bangladesh**, and interviewed patients who failed to present for treatment when referred. Findings will inform changes to protocol for the provision of DR services. Specifically, early findings indicate that the provision of additional counselling at the time of screening results in improved rates of follow up.

A mid-term evaluation of an innovative gender project in the **Philippines** identified a significant drop-out rate for cataract referrals: only 30% of referred patients were taking up referrals for surgery. In response, the program team implemented a number of recommendations to address the barriers resulting in drop-outs, and improve women's access to eye health services.

A comprehensive program of research looked into refractive error in **Vietnam**, with a particular focus on children. The project found that screenings performed by teachers in school were inadequate. In response, The Foundation improved the approach to training of teachers - highly skilled trainers were sought, longer trainings and refresher trainings were also provided. The Foundation is now working to improve screening protocols as well.

Early results and relationships were developed through the TT Plus pilot in **Ethiopia**. The data will be analysed to inform development of the new comprehensive eye care program in Ethiopia, a key component of the country's transition strategy as the national trachoma program enters its final phase.

We established our first collaborative research project with the **Kenya** Medical Research Institute (KEMRI): one of the leading research groups in the region.

We were part of a consortium of donors, including the WHO, World Bank and International Labor Organisation, co-funding the **Laos** national costing of health services for the new national health insurance benefit package and essential service package. Our involvement ensures eye care procedures will be considered for government financed health care packages.



ANNEX 1: 2018 RESEARCH, EVALUATION AND INNOVATION PROJECTS

Global studies	Duration	Country
Upgrading metrics to measure the impact of The Foundation	2017-2019	
Social impact of avoidable blindness amongst women	2016-2018	
Estimating the economic impact of DR in low- and middle-income countries	2016-2019	
Development of cataract BOOST	2016-2018	
Cataract BOOST acceptability study	2018-2020	
Development of The Eye Health and Service Engagement Assessment Tool	2017-2019	
Investing in eye health and restoring sight to women study	2018-2020	
South Asia and Middle East studies	Duration	Country
Delivering a tailored, safe, and effective model of care in Bangladesh	2016-2019	Bangladesh
Building the evidence to step up diabetic eye disease advocacy efforts	2018-2018	Bangladesh
Population-based survey of blindness and visual impairment in Kabul	2017-2019	Afganistan
Provision and demand for eye care services in urban slums of Lahore	2016-2019	Pakistan
Delivering a tailored, safe, and effective model of care in Pakistan	2017-2019	Pakistan
Comparative study on gender and eye health in Nepal	2017-2019	Nepal
M-Health: Piloting SMS technology and use of Community Health Volunteers	2016-2019	Nepal
Delivering a tailored, safe, and effective model of care in the Gaza Strip	2017-2020	Palestine
Understanding eye health seeking behaviours in Shan State	2018-2019	Myanmar
Situation analysis in Jordan, Lebanon and Turkey	2018-2018	Jordan, Lebanon, Turkey

East Asia studies	Duration	Country
Delivering a tailored, safe, and effective school-based eye health program in Vietnam	2017-2019	Vietnam
Assessing the quality of refractive services provided by optical shops	2017-2019	Vietnam
China INROADS	2016-2020	China
Identifying local circumstances affecting eye care access among ethnic minorities in Xinjiang	2018-2018	China
Understanding Lixin Communities: Strengthening Rural Eye Health in Anhui	2018-2019	China
Delivering tailored, safe, and effective DR care in Yunnan Province, China	2017-2018	China
PEC-CI - Primary eye care - costs & benefits of integration	2017-2019	Cambodia
National health insurance benefit package costing - ensuring inclusion of eye health	2017-2019	Laos
Financing for RE - exploring affordability & support under JKN	2018-2019	Indonesia
Health Financing Research on Cataract and Diabetic Retinopathy (DR) Related Services in Yunnan Province, China	2017-2019	China
Out of pocket costs for cataract surgery - burden, variation & drivers in Yunnan	2018-2019	China
Africa studies	Duration	Country
Delivering a tailored, safe, and effective model of care in Kenya	2017-2020	Kenya
Cataract financing under NHIF	2017-2018	Kenya
Cataract surgery - costing and drivers of cost to inform NHIF leveraging	2018-2019	Kenya
Costs and cost efficiency of changes in TT case finding strategy for last mile	2018-2019	Kenya
Ethiopia TT Plus Pilot	2018-2019	Ethiopia
Impact Evaluation of the Children Hygiene and Sanitation Training (CHAST)	2018-2019	Ethiopia
Increasing cost efficiency in TT surgery	2017-2019	Eritrea
Estimating population denominators and coverage of Mass Drug Administration using Polio's Vaccination Tracking System	2017-2018	Nigeria
Stronger SAFE	2017-2022	Ethiopia
Population-based survey of blindness and visual impairment in Eritrea	2017-2019	Eritrea
Australasia studies	Duration	Country
Pacific Trachoma Initiative	2016-2019	Pacifc Islands

ANNEX 2: 2018 RESEARCH AND EVALUATION PUBLICATIONS

Strategic evaluations

REPORT: Evaluation of The Fred Hollows Foundation Vietnam Comprehensive eye Care Model 2003-2013

ARTICLE: Structuring and Funding Development Impact Bonds for Health: Nine Lessons from Cameroon and Beyond

Prevalence of blindness studies

ARTICLE: Rapid assessment of avoidable blindness in Papua New Guinea: a nationwide survey

ARTICLE: Rapid assessment of avoidable blindness and diabetic retinopathy in people aged 50 years and older in the National Capital district of Papua New Guinea

Cataract studies

ARTICLE: Prevalence & causes of blindness, visual impairment among different ethnical minority groups in Xinjiang Uygur autonomous region, China

ARTICLE and REPORT: Beyond monetary benefits of restoring sight in Vietnam: Evaluating well-being gains from cataract surgery

REPORT: Extending financial protection for cataract surgery in Vietnam

REPORT: Partnership with the private clinic Clinique de l'Oeil for clinical and surgical outreach in four Eastern provinces of Burundi: Final Evaluation

ARTICLE: Process redesign of a surgical pathway improves access to cataract surgery for Aboriginal and Torres Strait Islander people in South East Queensland

Diabetic retinopathy studies

ARTICLE: Diabetic retinopathy in a remote Indigenous primary healthcare population: a Central Australian diabetic retinopathy screening study in the Telehealth Eye and Associated Medical Services Network project

ARTICLE: Task sharing in the eye care workforce: Screening, detection, and management of diabetic retinopathy in Pakistan. A case study

ARTICLE: Adapting clinical practice guidelines for diabetic retinopathy in Kenya: process and outputs

ARTICLE: A mobile phone infomational reminder to Improve eyecare adherence among diabetic patient in Rural China: A randomized controlled trial

REPORT: Saving sight in China and beyond: the Lifeline Express model

ARTICLE: Review of the Lions Outback Vision Diabetic Retinopathy Screening Coordinator Project 2014-2018

REPORT: Baseline Survey on Diabetes and Diabetes Retinopathy in Migori and Baringo Counties, Kenya - Mbagathi and Kikuyu hospitals

REPORT: Final Evaluation of the Pacific Diabetic Retinopathy Programme



Refractive error studies

REPORT: Tackling childhood refractive error in China

ARTICLE: Teachers' influence on purchase and wear of children's glasses in rural China: the PRICE study

REPORT: Final Evaluation of the National Refraction Training Project Phase II (2013-2017)

REPORT: Standard school eye health quidelines for low and middle-income countries

Trachoma studies

ARTICLE: Conjunctival transcriptome profiling of Solomon Islanders with active trachoma in the absence of Chlamydia trachomatis infection

ARTICLE: Clinical signs of trachoma are prevalent among Solomon Islanders who have no persistent markers of prior infection with Chlamydia trachomatis

ARTICLE: Celebrating 20 years of progress: accelerating towards elimination

ARTICLE: One round of azithromycin MDA adequate to interrupt transmission in districts with prevalence of trachomatus inflammation follicular of 5.0-9.9%: Evidence from Malawi

REPORT: Evaluation of the Trachoma Elimination Program 2015-2017

ARTICLE: Quality Assurance and Quality Control in the Global Trachoma Mapping Project

ARTICLE: A diagnostic instrument to help field graders evaluate active trachoma

ARTICLE: Behavioural change interventions for sustained trachoma elimination

ARTICLE: A systematic review of historical and contemporary evidnce of trachoma endemicity in the Pacific Islands

REPORT: Eritrea Trachoma Program Review Report

REPORT: Trachoma Action Plan Progress Workshop, Eritrea

Equity studies

ARTICLE: Factors associated with social participation amongst elders in rural Sri Lanka: a cross-sectional mixed methods analysis

REPORT: Mid Term Evaluation of "Building Gender Equitable Eye Health Systems in Barisal Division" Project

ARTICLE: A qualitative study on gender barriers to eye care access in Cambodia

ARTICLE: Reference values for body composition and associations with blood pressure in Kenyan adults aged ≥50 years old

REPORT: End of Project Assessment Report: Universal Access to Eye Health in Surigao del Norte Province, Philippines

REPORT: Mid-Term Evaluation Report for Promoting Rural Eye Health in Anhui by Community Empowerment, Participation and Inclusion

Health systems strengthening studies

ARTICLE: Knowledge translation for public health in low- and middle- income countries: a critical

interpretive synthesis

REPORT: Final Evaluation of the Top End Ophthalmology Outreach Resources Project

ARTICLE: Demonstrating the value of community development: An inclusive evaluation capacity building approach in a non-profit Aboriginal and Torres Strait Islander organisation

ARTICLE: Process evaluation of a national primary eye care programme in Rwanda

ARTICLE: Conceptualisation and development of the Conversational Health Literacy Assessment Tool (CHAT)

REPORT: Line of Sight - The Pilbara Case Study: Evaluating the impact of the Lions Outback Vision Program

REPORT: Situation Analysis of Eye Health in Azad jammu & Kashmir 2018

REPORT: State of Azad Jammu & Kashmir, First Five Years eye Health Plan 2018-2023

REPORT: Sustainable Financing for Eye Health in the Context of Universal Health Coverage: An Overview of Access to Eye Care Services and the National Hospital Insurance Fund

REPORT: Review of the Regional Implementation Project Officer Role

REPORT: Nganampa Health Council: Eye Health Coordination Project Evaluation

ARTICLE: Development of the Organisational Health Literacy Responsiveness (Org-HLR) self-assessment tool and process

REPORT: Report of Rapid Assessment of Avoidable Blindness Survery -2018

REPORT: Mid Term Evaluation of the Provincial and Primary Eye Health Strengthening Project (PPEHS) Cambodia

REPORT: End of project evaluation report for Xingtang County Pilot Project

ARTICLE: Participatory evaluation is the sea eagle looking "long way wide eyed"

ARTICLE: Development and testing of a framework for analysing health literacy in public policy documents

REPORT: Review of the CABIEHS Regional Implementation Project Officer (RIPO) role



Development effectiveness tools

EVIDENCE SUMMARY: School-based eye health programs: approaches and impact

DISCUSSION PAPER: Housing policy and infrastructural inequality in indigenous Australia and beyond

DISCUSSION PAPER: Extending financial protection for cataract surgery in Vietnam

DISCUSSION PAPER: Rohingya Refugees Analysis

DISCUSSION PAPER: Building a learning NGO by design not by accident

GUIDANCE: Communication and Engagement Plan and Rough Guide for Research and Evaluation

GUIDANCE: Rough Guide to Completing a Quarterly Learning Review

REPORT: Annual Effectiveness Report 2017

GUIDANCE: Annual Results Report Guidance and Template

GUIDANCE: End of Project Report Guidance and Template

FACT SHEETS: Series of Country Data Profiles







