

Abalon

Report of the Directors for The year Ended 2018/19

Outline of Project Objectives, Principal activities and Organisation of Our Work

The project will have three key phases.

Phase I –Eye screening in schools

Phase II (which will overlap with Phase I) is aimed at intervention. Where possible, this will include immediate treatment

Evolving results will be used to inform additional research and treatment initiatives.

Finally, **Phase III** involves building a world-class regional eye research and care centre. This will be called Southern African Eye Care & Research (SACER) institute

SACER will develop and coordinate the regional eye research (clinics, hospitals, universities and health ministries);

Coordinate major international research collaborations;

implement an international student and (research) staff , trainees/Fellows exchange program;

and develop a regional command centre for tele-ophthalmology (and other telemedicine) initiatives

We anticipate implementation of these phases will overlap.

Phase I. –vision screening in schools

- **Key objectives:**
- (i) Raise funding and technical assistance for eye research in SSAs;
- (ii) Detailed profiling of refractive errors, visual impairment and blindness in schools;
- (iii) Training low-level technical staff in basic visual assessments and diagnostics. Selected individuals will be retained for ongoing research and provision of primary eye healthcare;
- (iv) Commissioning people-based research on improving primary eye healthcare ;
- (iii) Developing a patient database primarily for research and developing bespoke treatments;
- and (iv) increase patients and the public participation in research and ongoing improvements in primary eye healthcare.
- **Personnel:** Ophthalmologists, Optometrists, Ophthalmic nurses, public health specialists, investors, policymakers, teachers and trainees

- **Disease spectrum:** We anticipate the spectrum of eye conditions will include cataracts, posterior capsular opacification, glaucoma, AMD, myopia, refractive errors, corneal opacity, diabetic retinopathy, childhood blindness and trachoma.
- Within the context of global initiatives, WHO's Vision 2020 has largely focused on elimination of anterior eye diseases, primarily cataracts. However, local public health communities believe that prevalence of posterior segment eye diseases (PSEDs) such as DR and glaucoma has been rising significantly among SSAs^{1,2}, but not being sufficiently addressed within the Vision 2020 framework. To our knowledge, specific studies that focus on glaucoma and DR are scant to non-existent.
- . We will initially engage local leaders, community-based healthcare professionals, teachers and the local government to highlight the significance of our initiatives. Emphasis will be paid on improvements in quality of life from school going children right through to the elderly. As highlighted above, makeshift centres will be placed around religious centres, schools, community centres, shopping centres, clinics and hospitals.

Researchers will also conduct door-to-door visits, both for data collection and as also as part of the initial stages of primary eye care interventions. Data will be logged onto mobile devices (such as iPads) linked to a central database.

Data collected will be evaluated across key variables such as gender, age, socio-economic status, geographical location and (previous) access to eye-care facilities. These data will be stored on centrally managed servers at Africa University, UCL and Moorfields NHS. Images will be accessible to selected experts as part of the broader tele-ophthalmology initiative. Statistical analysis will be performed using the SPSS statistical software.

Inventory for Phase I

- **Key institutional partners:** These will include Ministry of Health (Zimbabwe), WHO, Africa university, University College of London (School of Tropical Diseases), Moorfields Eye Hospital NHS Foundation Trust, Murambinda General Hospital, Mutare General Hospital, Morgenster Eye Department and Royal College of Ophthalmology among others. We are also in the process of engaging key industry partners.
- **Training program:** As highlighted above, training for low level screening and diagnostics will be administered at Africa University for the selected group.
- In the medium term, we anticipate the training program will be scaled up to become region-wide in association our academic partners.
- **Database:** The database server will be kept inline with governance

Key measurable outcomes for Phase I

1. **Semi-annual report for partners:** This will highlight key research findings, ongoing patient engagements, societal impact (assessment of quality of life) and gathering feedback on avenues for improving patient care.
 2. **Presentation of results at academic and community health symposia.** This research will be the first of its kind in Zimbabwe and we expect at least two publications in peer-reviewed journals.. Target audiences include these will include UK Royal College of Ophthalmologists Congress, ESSAO (in full), European School for Advanced Studies in Ophthalmology Cambridge Ophthalmological Symposium,
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United Kingdom and Ireland Society of Cataracts and Refractive Errors, among others.

3. **Snapshot reports to inform government policy.** Our goal is to inform (regional) health policy. We will therefore provide summary reports of findings to respective health ministries and NGOs participating in public healthcare improvement. We will also foster dialog with regional governments and multi-lateral agencies on public-private collaborations (PPPs).
4. **Training in collaboration with Institutional Partners.** As highlighted above, initially, the project will train 100 technicians (to include ophthalmic nurses), who will aid with disease screening, triaging and data collection. Ultimately, we expect trainees to provide ongoing assistance and become regular practitioners in our broader agenda of improving primary eye healthcare in SSAs. Overall, we aim to extend the program across the region with regular refresher courses and annual mandatory training. The large training programs will be administered in collaboration with UCL, Africa University, Moorfields Eye Hospital and Murambinda general Hospital. Additional partners will be chosen once the training program extends beyond Zimbabwe.
5. **Establish a well-equipped tele-ophthalmology unit at Chiurwi Manicaland Province.** This site has been chosen for its centrality and being one of the less serviced areas in Zimbabwe with respect to broader primary healthcare.

Based on the above, and our initial scoping studies, we see significant opportunity for telemedicine, starting with ophthalmology. Specifically, relatively complex cases identified from the research project and our general consultations will be made available to our panel of experts for potential diagnosis and treatment advice.

Phase II: Intervention

The unique feature of this project is its heavy focus on intervention and treatment. We intend to go beyond simple academic research; aim to significantly transform eye health delivery among SSAs.

The targeted population surveys, intervention (treatment) programs, eye research unit and tele-ophthalmology should provide a solid platform for sustainable development of eye healthcare systems across SSAs, and where transferable, other LICs.

Initial stages of this initiative will be funded via our partner network. However, in the medium term we expect the training and telemedicine components will be provided on a commercial basis, generating cashflows to support our initiatives on an ongoing basis. The accessory document outlines target commercial activities to complement the project in the medium term.

- **Key objectives:**
- (i) Establishing a tele-ophthalmology unit, to ultimately cover other areas of medicine, and across the sub-region;
- (ii) Cataract removal;
- (iii) Diagnosis of other eye diseases and providing treatment/disease management advice. Where diabetes is diagnosed, our designated team of public health specialists involving Diabetes Nurse Specialists and Dietician will provide patient advice and ongoing community health education;
- (iv) Providing a refractive error correction service;
- (v) Commissioning additional eye care research within a broader community health context, partly directed by our initial research findings in Phase I;

- (vi) Capacity building, with respect to regional training programs on screening/eye care technicians, establishing SACER and a tele-ophthalmology unit;
- (vii) Provide placements for medical students, student nurses, ophthalmic nurses trainees and other trainees. This will be on an agreed commercial contract bases; and
- (viii) Continuous engagement via a community health clinic. Key local persons (church, community leaders, teachers and nurses) will be encouraged to attend and help in designing and co-leading the initiatives, where possible.

Key measurable outcomes for Phase II

- Research publications on unique disease pathology and/or anomalies that may be identified during the course of screening. Where academic papers are produced, these will also be presented at national and international symposia;
- Develop robust electronic patient records including treatment records and outcomes;
- Record of complex case diagnosis via tele-ophthalmology, details on expert participation on the tele-diagnosis and treatment recommendations, and potential cost-savings;
- Cost analysis with the view to inform pricing and resource allocation into primary healthcare program;
- Developing an index on quality of life and scoring with assistance of patients; and
- Regular network reports on progress in community intervention highlighting challenges, community impact assessments, and potential new areas of research and policy suggestions/prescriptions.

Phase III: Establish a world-class centre for ophthalmology, treatment and community engagement

Our medium to long-term objectives is to develop training, research and treatment capacity in SSAs. This strategic approach will enable mobilisation of resources and developing bespoke and sustainable solutions for primary health care challenges within the region. We therefore intend to build a regional centre for ophthalmology; SACER, as highlighted above. This will be modelled along the Lions International Eye Centre in Ghana.

- **Key objectives:**
- (i) Engage and implement cutting edge research in the region;
- (ii) Conduct major medical trials in collaboration with the network of industry partners;
- (iii) Implement new and cutting edge eye care/treatment technology; (iv) Provide training for healthcare technicians in eye care and other primary healthcare areas; and (v) broad design and implementation of community outreach programs on eye care.

Note: We intend to expand the training program to other areas that require low level expertise such as maternity care, pre- and postnatal care, general public health (sanitation etc) and chronic disease management. The mobile clinics will be geared towards the both research and community outreach programs.

- **Key deliverables:** These include:
 - i. **Diagnosis and treatment of eye diseases.**
 - ii. **Disease surveys to inform research and public (health) policy..**

- iii. **Perform detailed ophthalmological research, largely focused on the region's challenges and also in collaboration with our network of leading partner scholars and institutions (both public and private).** Key areas will include comparative disease development studies, association epidemiology (to include genetic eye disease, diet, local environment, psychology in eye diseases), testing new diagnostic tools and treatments in association with industry and partner research and public health institutions. Initially, our main focus will be on diabetic retinopathy and glaucoma, the two diseases known to be quite prevalent among black populations. Additional detailed research will be driven by findings in epidemiological screening.
- iv. **Establish successful industry collaborations.** This will include developing technical capacity in provision of key research and treatment equipment. In some cases, the latter may involve RCTs offering local patients free medicines.
- v. **Establish a tele-ophthalmology centre.** As highlighted above, one of our main objectives is to tap into the network of international experts and implement virtual medicine. That would plug the gap from brain drain and under-investment in training budgets.
- vi. **Perform complicated surgical interventions in collaboration with our partner network of hospitals.** SACER will work closely with Mutare General Hospital, Morgenster Eye Department and Murambinda General Hospital in resolving complex cases. Where necessary, international medical experts will also participate in treatment delivery (surgical procedures).
- vii. **Training:** This will include, but not exclusively, ophthalmic personnel including village healthcare workers, high school leavers and other professional domains for diagnostic procedures such as visual acuity tests, diagnostics, training ophthalmology students (and where possible, include exchange programs to develop local capacity), post-graduate seminars on eye research and care held at African university, lead research on new diagnostic techniques and treatments, hold public engagement forums for research dissemination (establish community relevance) and staff/student exchange programs. We also aim to develop region-wide guidelines for eye care medical staff (optometrists, ophthalmologists and doctors) and to be incorporated into training of healthcare students. Training accreditation would be via institutional partners.
- viii. Discussions on structure of accreditation are ongoing.

Based on the above, we anticipate SACER will have the following facilities:

- a) **Public Eye Clinic:** This will offer vision testing and provide glasses on a commercial basis. It will contain non-invasive and invasive medical imaging, ultrasound, CT scans and phlebotomy.

For the research community, SACER will also have the following units:

- b) and patient data
- c) **Tele-consultation centre.** To facilitate discussion of complex cases, recommending course of action (treatment advice), general update on research developments.

With the help of our donors, supporters and volunteers, Abalon has supported education in Eye healthcare professionals in Zimbabwe.

In November 2018 Abalon participated in medical missions in Mutasa Manicaland Zimbabwe . A multidisciplinary team of doctors, nurses and pharmacists traveled from Harare to Manicaland Eastern Zimbabwe. Hundreds of people benefited from this initiative through disease screening and primary care interventions. This was also collaborative efforts with local healthcare professionals. Abalon representatives and programme directors for Abalon activities in Zimbabwe coordinated the medical missions.

In September 2018, Abalon was awarded training and development grant by World Sight Foundation Chief Executive Officer. A senior Clinical Ophthalmic Nurse was identified by Abalon executives in Zimbabwe. She was presented with the opportunity for further training in Durban through World Sight Foundation. The named practitioner, Manicaland based, will be the lead nurse for Abalon eye clinic in Manicaland.

Building on the success of the previous years Abalon has built a clinic, training and staff quarters in Buhera Manicaland Zimbabwe. The 6 roomed infrastructure clinical facility will provide primary care services for villagers in Buhera. Abalon is currently fundraising for equipment and other infrastructure needed for ophthalmic service delivery. The expected date for opening the Rural Buhera Abalon eye clinic is September 2019. Abalon Executives programme lead in Zimbabwe will be responsible for day to day operations of the clinic in Buhera.

	Unrestricted funds	Restricted funds	Total Funds 2018	Total funds	
Incoming resources					
Income from Donors	£2,500	0	£2,500	£2500	
Other income	£1000	0	£500	£500	
Total income resources	£3500	0	£3500	£3500	
Administration and management	£0	0	0		
Total funds as at 1 st July	£250	0	£250	£250	

