

South-South collaboration for the treatment of avoidable blindness in Botswana

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This article describes the value of South-South collaboration in the reduction of avoidable blindness. Specifically it describes a South-South collaboration between India and Botswana that evolved out of the VISION 2020 LINK between Cambridge University Hospitals, two institutions in India and the Ministry of Health and Wellness in Botswana. It addresses the problem of how to manage a backlog of cataract blindness through a programme of intensive surgical campaigns and also how to build capacity to increase the rate of cataract surgery so that a backlog does not develop again.

So what is a South-South collaboration? Historically, the term was first used in the 1950s to describe co-operation between developing countries; it was mainly an economic / political alliance to foster mutual exchange of resources, technology and expertise. Key to its success were shared problems and shared solutions, which were not necessarily a feature of North-South collaboration, which was predominantly facilitatory, financial and educational. It is recognised that South-South collaboration as well as North-South and North-South-South (triangular collaboration) are important determinants to develop strategies to achieve the Sustainable Development Goals (SDGs) [1]. South-South health collaborations often relate to investments in education either by short-term exchange visits, or long-term projects such as the Chinese African links, Mission for Vision or the pan African e-Network under the auspices of the Indian Ministry of External Affairs.

North-South collaborations are exemplified by the VISION 2020 LINKS Programme [2]. Based at the International Centre for Eye Health, in the London School of Hygiene & Tropical Medicine, it has established 30 long-term institution-to-institution partnerships between eye departments in the UK and overseas, mainly in Africa. These formal LINKS are based on an initial needs assessment process, the preparation and signing of a Memorandum

of Understanding (MoU), followed by exchange training visits to address specific priority needs identified by the African partner. Such LINKS foster the sharing of knowledge and skills, to the benefit of each institution.

Addenbrooke's Abroad [3], a charity within Cambridge University Hospitals, inspires and enables people to improve healthcare globally by facilitating and supporting international volunteering and managing long-term health partnerships between Cambridge and overseas institutions. Through the VISION 2020 LINKS Programme it had a partnership with the Sankara Eye Care Institute in India. Surgeons from Sankara visited Addenbrooke's for subspecialty training in glaucoma, vitreoretinal and oculoplastic surgery. A surgeon from Addenbrooke's visited Sankara to learn the surgical technique of small incision cataract surgery (SICS), and, most importantly, the organisational structure needed to carry out high volume, high quality cataract surgery as part of the exchange in skills learning.

The SICS system evolved in India from a need to treat the increasing number of cataract blind patients. It demanded a highly organised hospital outreach system to identify, transport, counsel, treat and follow-up patients. At Sankara Eye Care Institutes, for example, the throughput is around 1000 patients per week. The innovative surgery requires a high level

of surgical skill. It is fast, sutureless, does not need expensive equipment and the outcomes are comparable to phakoemulsification [4].

Since 2007, Addenbrooke's Abroad and Cambridge University Hospitals has had a partnership (including a VISION 2020 LINK) with the Ministry of Health and Wellness in Botswana. It has facilitated the implementation of a national diabetic retinopathy screening programme, the development of child eye health services and strengthened the optometric service. It also supported a Rapid Assessment of Avoidable Blindness survey (RAAB) [5] in 2014, which confirmed that cataract was the main and increasing cause of blindness. Roughly half of the world's blind people are blind due to unoperated cataract [6]. A backlog of cataract blind represents those people who have not accessed treatment, are unlikely to and who may die blind. This occurs when the cataract surgical rate (CSR) – the number of cataract operations per million population per year [7] – is less than the number of new cataract blind each year (cataract incidence).

So why do countries have a cataract backlog? It is worth looking at the strategies that have been used to deal with the anticipated increase in avoidable blindness. In the mid-1990s it was predicted that the number of blind people globally would rise from 35 to 76 million by 2020 [8].

In 1999 the World Health Organization

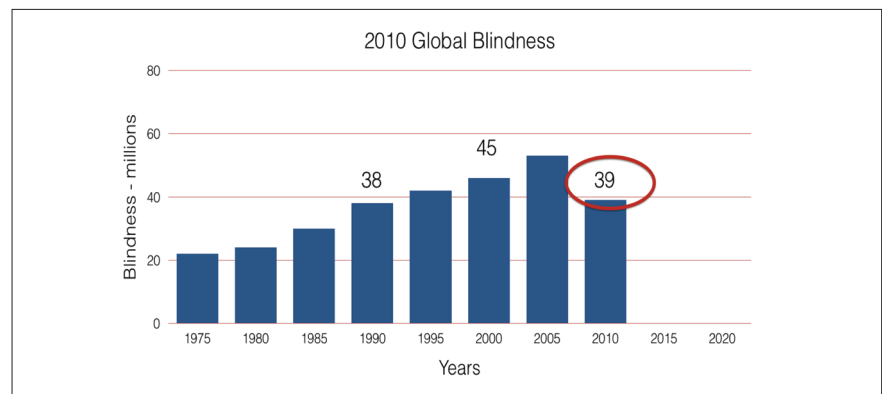


Figure 1: Global blindness in 2010.

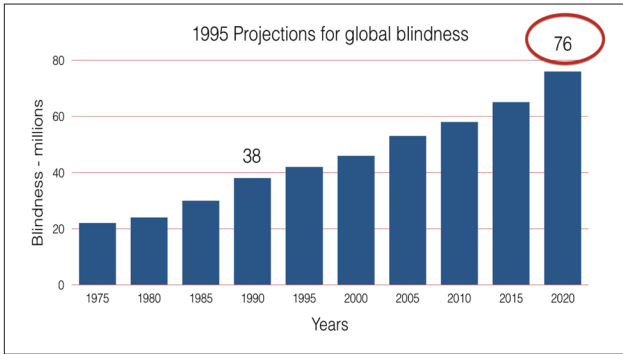


Figure 2: Projections for global blindness, 1995.

(WHO) and International Agency for the Prevention of Blindness (IAPB) initiative, 'VISION 2020: The Right to Sight', was launched, with the goal of eliminating avoidable blindness by 2020 [9]. This used a district-level, disease-focused model, targeting the main causes of avoidable blindness, cataract and refractive error, as well as supporting preventive services for trachoma, onchocerciasis and vitamin A deficiency. By 2010, world blindness had reduced to 39 million people despite an increase in population and especially in those over 50 years of age.

Whilst this was encouraging, the original target would not be met, particularly in sub-Saharan Africa where one of the main reasons was the scarcity of medical and nursing personnel [10]. The VISION 2020 recommendation to achieve a CSR of 2000 requires a minimum of four ophthalmologists per million population; by 2011 all but five African countries had less than four eye surgeons per million population [11]. Recognising this, together with issues of access, equity, cost and governance, IAPB has embraced the WHO initiative of Universal Health Coverage, in the Global Action Plan for Eye Health (2013) whose target by 2019 is to reduce avoidable blindness by 25% relative to the 2010 level.

Given that it will take years for the requisite number of cataract surgeons to be trained, one way to assist countries with a shortage of doctors is to relieve the cataract surgical burden by having campaigns of high volume surgery. This would mean a partnership with a country that has successfully managed to address the problem of cataract backlog. This, however, is no substitute for the development of eye services. While cataract campaigns will reduce the backlog they need to be accompanied by simultaneous training of local surgeons in small incision cataract surgery. In addition, there must be local training of ophthalmic nurses, optometrists and managers to develop robust systems for the delivery of quality eye care in a community setting, and that build capacity to increase the CSR.

Given its North-South experience in India and Botswana, Addenbrooke's Abroad initiated a North-South-South partnership to facilitate cooperation between the Ministry of Health and Wellness in Botswana [12] and Dr Shroff's Charity Eye Hospital in Delhi (SCEH) [13]. Funds for the campaign were from three sources: the Ministry of Health and Wellness, Botswana, SCEH, India and Combat Blindness International, USA [14]. There were two

objectives; first, to eliminate the backlog of cataract blindness, and second, to facilitate implementing the goals of the National Eye Care Plan by enhancing the skills of the local surgeons in the technique of SICS, to strengthen all aspects of the cataract patient pathway, and establish governance through monitoring and evaluation.

The innovative approach of the Ministry of Health and Wellness (MoHW) in Botswana to take this opportunity of assistance for their population has resulted in a valuable partnership that addresses a key need in eyecare provision.

Over three years, in a series of twice yearly visits each lasting 28 days the combined Indian and Botswana eye teams will have treated the 6000 patients currently registered as blind. This highly concentrated project requires careful preparation. However, the prerequisites are common to all country to country links. The Tropical Health Education Trust's (THET) Principles of Partnership are a succinct and comprehensive description of these prerequisites - <http://www.thet.org/pops/principles-of-partnership> [15] and guidelines for ophthalmic work are available in the VISION 2020 LINKS Toolkit [16].

A needs assessment is followed by a declaration of goals and objectives that are

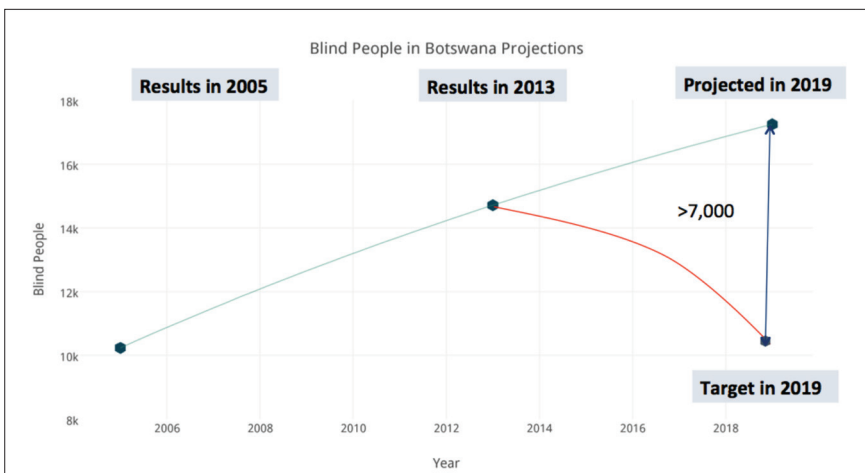


Figure 3: Summary of key outcomes set out in the Botswana National Eye Care Plan.

Principles of partnership

1. Strategic
2. Harmonised and aligned
3. Effective and sustainable
4. Respectful and reciprocal
5. Organised and accountable
6. Responsible
7. Flexible, resourceful and innovative
8. Committed to joint learning

in accordance with the National Eye Care Plan (NECP), leading to a Memorandum of Understanding that details clear accountability and a system for monitoring and evaluation.

The SCEH team comprised three ophthalmologists, six theatre technicians, a liaison officer and an optometrist. The preoperative outreach assessments and postoperative examinations were done by local ophthalmologists, ophthalmic nurses and optometrists. By the end of the second campaign 2004 registered blind patients had received surgery. Whilst 65% of the surgery was conducted by SCEH staff on the initial visit, subsequent campaigns will see a transfer of the surgery and eye care systems

to local personnel.

There needs to be an appropriate lead-in time to deal with issues such as visa and medical and nursing registration requirements, customs clearance, transport and accommodation. It is important that the participants are sensitive to the cultural differences that will exist between the partner countries to ensure maximum harmony and efficiency. During campaigns, a key component to achieve this is to have daily debriefing sessions where hierarchy gives way to the needs of the day to day running of the project. Nothing is more effective than a candid review of each day's activity.

The Botswana MoHW has had the

foresight to use this method of addressing cataract blindness. The Indian partner is sharing its expertise, and the combination has provided a practical solution for those blind patients to regain their independence.

This template of a South-South / Triangular partnership has the potential to be effective in any country with a backlog of cataract blindness. In essence, it is the matching of appropriate expertise from one country to the defined needs of its partner country to work together as part of a National Eye Care Plan to achieve the Global Action Plan for a reduction in avoidable vision impairment by 25% by 2019 [17].

Participant reflections

"The purpose of this project is not only to conduct high volume quality cataract surgeries, but to transfer skills and knowledge to the local ophthalmology team. In preparation for the campaign Dr Shroff's Hospital (through the Indian government) sponsored one local ophthalmologist and ophthalmic nurse to a month long benchmarking expedition (March 2017) on good eye health care practices at SCEH. During the campaigns the partnership has been very successful. The exchange of skills has continued and will help the longer-term development of eye services in Botswana as part of the National Eye Care Plan. Here are two sayings supporting partnerships: 'If you want to go fast go alone, if you want to go far go together' and using the words of the IAPB 10th General Assembly 'Stronger Together.'"

Alice Lehasa, National Eye Health Coordinator, Department of Public Health, Ministry of Health and Wellness, Botswana.

"We have had a good experience, we have learnt a few things, and shared and taught a few things. Everyone has been really cooperative, they are always happy and ready to help us. Sometimes when you go overseas to perform surgeries, the local team are a bit apprehensive, that has not been the case here. We are all working well together. The senior sister is always there to guide us and take care of us."

Dr Shroff's support team, India.

"This campaign is going really well. The patients are very satisfied. Many patients have come and told me after surgery that they are grateful to be able to see the blue sky again. To see that smile on the face of the patient, then you know the campaign is going well."

AK Singh, Dr Shroff's support team, India.

"Disease and disability knows no boundaries. We are proud to participate in this unique partnership of organisations from four different continents in reducing suffering from cataract blindness in Botswana. Our team of nurses and doctors from Shroff hospital find the opportunity to travel and operate in the beautiful African country an enriching experience. The gratitude and affection expressed by the patients and people of Botswana has been very humbling."

Dr Umang Mathur, Medical Director, Dr Shroff's Charitable Eye Hospital, New Delhi, India.

"The highlight of the Cataract Campaign has been the teamwork. Both teams are very different, but we are working really well together. I look forward to continuing working hard with the Indian team so that we can get more experience."

Mma Sethunya, Principal Registered Nurse, Scottish Livingstone Hospital, Botswana.

"This campaign has really helped us because it has helped us reduce the cataract backlog in our country. It has played a very vital role and we appreciated the assistance of Dr Shroff's Charity Eye Hospital, Combat Blindness International and Addenbrooke's Abroad for having seen the need of coming to Botswana to assist us. The patients that have been treated have had their vision restored and are very happy. Everything is going well and we look forward to the continued collaboration."

Deborah Motsilenyane, MoHW, Botswana.



Figure 4: Botswana. SLH - Scottish Livingstone Hospital, Molepolole. SMH - Segkoma Memorial Hospital, Serowe.

References

1. United Nations Sustainable Development Goals: <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>
 2. VISION 2020 LINKS Programme. International Centre for Eye Health: <http://iceh.lshtm.ac.uk/vision-2020-links-programme/>
 3. Addenbrooke's Abroad. Addenbrooke's Charitable Trust: <https://www.act4addenbrookes.org.uk/Aboutus/AddenbrookesAbroad>
 4. Comparing two different techniques of removing cataracts. The Cochrane Library: http://www.cochrane.org/CD008813/EYES_comparing-two-different-techniques-of-removing-ataracts
 5. RAAB. Community Eye Health Journal: <https://www.cehjournal.org/resources/raab/>
 6. What is VISION 2020? Prevention of Blindness and Visual Impairment. World Health Organization: <http://www.who.int/blindness/partnerships/vision2020/en/>
 7. Foster A. VISION 2020: The Cataract Challenge. *Community Eye Health* 2000;**13(34)**:17-9.
 8. Global trends in the magnitude of blindness and visual impairment. Prevention of Blindness and Visual Impairment. World Health Organization: <http://www.who.int/blindness/causes/trends/en/>
 9. Global data on visual impairment. Prevention of Blindness and Visual Impairment. World Health Organization: <http://www.who.int/blindness/publications/globaldata/en/>
 10. Addressing the Eye Health Workforce Crisis in Sub-Saharan Africa. IAPB: <https://www.iapb.org/wp-content/uploads/Addressing-the-Eye-Health-Workforce-Crisis-in-Sub-Saharan-Africa.pdf>
 11. Palmer JJ, Chinanayi F, Gilbert A, et al. Mapping human resources for eye health in 21 countries of sub-Saharan Africa: current progress towards VISION 2020. *Hum Resour Health* 2014;**12**:44.
 12. A model of excellence in quality health services. Ministry of Health, Botswana: www.moh.gov.bw
 13. Dr. Shroff's Charity Eye Hospital: <http://www.sceh.net/index.php>
 14. Combat Blindness International: <https://www.combatblindness.org/>
 15. Overseas Partners Toolkit. VISION 2020 LINKS: <http://iceh.lshtm.ac.uk/files/2014/03/Links-Toolkit-2011-Overseas-Partners.pdf>
 16. Principles of Partnership. THET: <http://www.thet.org/pops/principles-of-partnership>
 17. Universal eye health: a global action plan 2014–2019. Prevention of Blindness and Visual Impairment. World Health Organization: <http://www.who.int/blindness/actionplan/en/>
- (All links last accessed September 2017)

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