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USAID CHILD BLINDNESS PROGRAM

DELIVERY & EXPANSION AND INNOVATION

FIELD PROJECT SUMMARIES 2013-2018



Africa Eye Foundation (AEF)

AEF curbed the limited access to affordable comprehensive eye care for children in Cameroon by strengthening the child blindness prevention activities carried out at the Magrabi ICO Cameroon Eye Hospital (MICEI). It increased the number of children with access to quality eye care services by training key informants and primary health care workers to reach children in underserved communities and identify those with eye problems. In addition, AEF trained teachers and nurses to



screen students for significant refractive error or severe eye disorders. For children with cataract, squint/strabismus and glaucoma, MICEI provided safe and high-quality surgery. AEF distributed low vision devices to low-income children, as well as provided follow-up and optical services. It also engaged the government and local authorities to ensure data collection was in alignment with the National Program for the Prevention of Blindness.

The Impact

Through the project, AEF achieved the following:

- Trained key informants and primary health care workers to identify and refer children with eye conditions.
- Trained school teachers and school nurses to screen and refer children.
- Screened 385,639 children for eye diseases, refractive error, and other eye conditions.
- Distributed eyeglasses to children and provided surgical and non-surgical treatment as necessary.

Aravind Eye Care System (AECS)

AECS's project was designed to test a model for scalability for early detection of retinopathy of prematurity (ROP), a disease occurring in premature babies that could lead to blindness. The project consisted of four phases:

- Phase 1): Strengthening the network for screening and referring ROP babies: This involved identifying and enlisting local neonatal intensive care units (NICU); developing protocols for screening, referral, and follow up; and building the local capacity of the NICUs and general hospitals by training them to recognize babies prone to develop ROP.

- Phase 2): Awareness creation and treatment: This phase aimed to create awareness on indicators and disease signs, treatment, and the importance of long-term follow-up. This was accomplished through distribution of awareness materials, such as brochures for health care personnel, posters displayed in pediatric clinics, and advertisements in local newspapers. Treatment and service delivery at Aravind included follow-up examinations for babies at risk and treatment interventions, such as laser, intra-vitreous injections, surgeries, and rehabilitation services when needed.
- Phase 3): Dissemination through continuing medical education (CME): A CME was conducted for pediatricians, NICU staff, OB&GYNs, and allied staff to share with them the project outputs and insights from the data analysis on NICUs.
- Phase 4): Replication and Scalability: The model developed at Aravind Madurai was considered for replication at other Aravind centers.

The Impact

Through the project, Aravind achieved the following:

- Performed ROP screening and examination for 5,558 preterm infants, including infants from neonatal intensive care units (NICUs).
- Provided surgical treatment, non-surgical treatment, and rehabilitation services as necessary.
- Trained medical staff, including ophthalmologists, pediatricians, and obstetricians, on ROP.
- Developed a network of NICUs, including district level government hospitals, which regularly refer infants for ROP screening and treatment.

Aravind Eye Hospital (AEH)

AEH Coimbatore implemented a service delivery project designed to expand low vision care for visually impaired children in South India. Their efforts to tackle the inaccessibility of vision services and the inability for low-income families to provide them included an extensive outreach plan and comprehensive rehabilitation services. AEH Coimbatore trained vision technicians, who were placed in vision centers to perform screenings, to conduct refraction tests in children.

AEH Coimbatore also employed field workers who trained key informants each to help identify and refer children with low vision in the Coimbatore district. Refractionists and ophthalmologists then examined and treated the children. Further, AEH Coimbatore worked with the local government to enhance their existing teacher training and



school-screening program, as well as with primary health care staff to help them identify children with poor and underdeveloped vision.

The Impact

Through the project, AEH Coimbatore achieved the following:

- Recruited and trained key informants to identify and refer children with low vision.
- Built the capacity of healthcare staff and teachers in school screening programs to identify children with low vision.
- Screened 799,438 children, including those with developmental delays, for low vision and eye conditions.
- Provided eyeglasses and low vision and rehabilitation services to children.

Aravind Eye Hospital 2 (AEH)

Retinopathy of Prematurity (ROP) is an eye disease occurring in premature babies that causes abnormal blood vessels to grow in the retina. This growth can cause retinal scarring or detachment, which can lead to blindness. To tackle the growing problem of ROP in underserved and rural areas of the Tamil Nadu and the Kerala States in India, AEH in Coimbatore designed the ROP Eradication – Save Our Sight (ROPE-SOS) telescreening program.

The project trained non-ophthalmic technicians to screen premature babies for ROP using a highly innovative portable retinal camera called the RetCam Shuttle. In place of specialized ophthalmologists that are in short supply the project trained technicians to travel to special neonatal care units (SNCUs) in district hospitals in a van equipped with the RetCam Shuttle to conduct screening; capture retinal images and send these images in real-time via broadband Internet to a remote ROP expert for further assessment. All babies identified with ROP were monitored, and, if needed, referred to the base hospital for treatment such as laser surgery by ROP experts.

The Impact

Through the project, AEH Coimbatore achieved the following:

- Received permission to conduct ROP screening in government and private hospitals in the Tamil Nadu and Kerala States.
- Screened 4,240 preterm babies for ROP and conducted a review of ROP cases for 3,059 babies.
- Identified 1,431 babies in various stages of ROP and treated babies with vision-threatening ROP.
- Educated staff members in the SNCUs (including nurses, pediatricians, and gynecologists) on ROP prevention and treatment.

Association Sister Emmanuelle (Asmae)

Asmae's project promoted specialized and inclusive education for blind children ages three to 15 in Burkina Faso. It increased access to and improved the quality of specialized/inclusive education for blind and visually impaired children, and strengthened the administrative, technical, and financial capacity of a local eye-health organization. Asmae established an inclusive preschool pilot class to create a continuum of services between preschool and primary school. The foundation of their model included training teachers and building the school's capacity, networking with partner organizations with expertise on pre-school and community mobilization, and deploying awareness campaigns designed to foster acceptance and reduce marginalization of blind and visually impaired children.

The Impact

Through the project, Asmae accomplished the following:

- Opened the first inclusive preschool classroom for children with and without visual impairment in Burkina Faso.
- Prevented school drop-out and improved students' chances of academic success by meeting students' needs related to nutrition, health, and hygiene.
- Improved the social inclusion of children who are commonly marginalized by developing solidarity between children with and without visual impairment.
- Increased awareness of child blindness through radio campaigns.

B.P. Eye Foundation (BPEF)

Inspired by previous successful and innovative student-led public health initiatives, BPEF implemented a project that trained secondary school students to help screen their schoolmates for visual problems and refer children with abnormal visual acuity for further assessment by optometrists. With CBP's support, BPEF sought to validate the model of vision screening of school children performed by secondary level students to help expand access to refractive services. BPEF implemented project activities in 25 public schools in three districts in mid-western Nepal with the highest reported prevalence of blindness. It trained 150 students to screen children in their respective schools. Optometrists subsequently retested children referred by the students and the error of referrals was assessed (see results below). Children found to have poor visual acuity were subsequently tested for refraction and eyeglasses were provided to children in need. Findings were subjected to statistical analysis to draw inference on validity and



reliability of vision screening done by the students. The study findings were submitted for publication in an international journal.

The Impact

Through the project, BPEF achieved the following:

- Provided vision screening training to 150 students, who then screened 10,774 students for visual impairment and referred students for additional examination by optometrists as necessary.
- Distributed eyeglasses and provided non-surgical and surgical treatment to students as necessary.
- Demonstrated that trained students can serve as effective vision screeners, which led the Nepal Ministry of Health to include student screeners in its National Eye Health Policy.

Blantyre Institute for Community Ophthalmology (BICO)

As part of BICO's commitment to address childhood blindness in Malawi, it undertook a training and capacity building project to scale up access to pediatric services across the central region of Malawi using a previously successful model. BICO established community screening outreach clinics (through the key informant method-KIM) to identify and screen children needing surgical services. Outreach was linked to eye units and resource centers in Ntcheu so that children identified with eye conditions could be referred to a pediatric unit to help correct refractive error and be supplied with low vision glasses and devices. They also increased the capacity to manage children with visual impairment in two resource centers. Further, they trained schoolteachers and primary education advisors to help identify children in need of eye care. BICO embedded sustainability by integrating a low vision curriculum in schools, by establishing an optical shop, and by establishing a meal project to raise revenue for the resource centers.

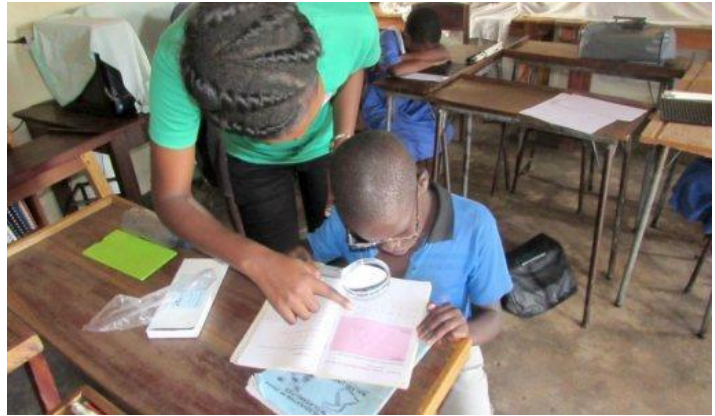
The Impact

Through the project, BICO achieved the following:

- Built the capacity of eye care staff in pediatric eye care and strengthened the capacity of resource centers to manage children with visual impairment and low vision.
- Integrated pediatric eye health into the training curriculum for teachers and trained teachers to screen children
- Screened 3,468 children through community screening outreach clinics and provided eyeglasses and treatment as necessary.
- Established an income-generating optical shop which was integrated into the Daeyang Luke Hospital.

Blantyre Institute for Community Ophthalmology 2 (BICO)

BICO's project aims to provide a continuum of pediatric eye-care in the largely underserved southeast zone of Malawi. This will be accomplished by building the capacity of the Zomba eye hospital and enabling them to offer refractive error screening and services for low vision children. This support will alleviate the overstretched pediatric eye unit in Blantyre Hospital. It also will identify and refer children with vision problems from schools and community and increase uptake of cataract surgery for children in Blantyre by establishing referral mechanisms between



Zomba and Blantyre eye units. BICO's strategy is to work with ophthalmic personnel from the eye hospital in Zomba and teachers from the entire zone to build local capacity in low vision and refraction, and demonstrate that through the provision of equipment and training for service delivery, a continuum of pediatric eye-care can be provided at all levels. Overall, the project will incorporate mechanisms to address three key pillars of VISION2020: 1) Infrastructure and equipment, 2) human resources development, and 3) disease control.

The Impact

Through the project, BICO achieved the following:

- Trained optometrists and refractionists on low vision and refraction; trained teachers on how to identify and refer children with eye problems.
- Screened 5,337 children and distributed 1,025 eyeglasses.
- Built the capacity of the Zomba Eye Hospital by providing upgraded equipment for the hospital's operating theater.
- Set up an optical center and low vision clinic at the Zomba Eye Hospital.

Brien Holden Vision Institute PNG (BHVI)

BHVI's project launched a child eye health outreach program targeting thousands of children in underserved urban areas and rural communities and helped strengthen administrative, technical, and financial functions of vision centers in Papua New Guinea. The outreach program developed a framework that strengthened the existing continuum of care by expanding screening activities for children in schools, urban and regional clinics, and settlement areas. It also included the creation and distribution of children eye health promotion activities and education materials for teachers and community organizations. To increase provider's capacity to service children, BHVI also provided scholarships for refractionists to participate in a pediatric fellowship program in Australia, with the purpose of bringing that specialty back to PNG and training their colleagues. Another significant

focus of the project was to build the capacity of local staff in management, administration, and accountability. To accomplish this goal, BHVI convened business experts to present on topics such as stock management and distribution, HR development, employee retention, and the importance of donor reporting.

The Impact

Through the project, BHVI achieved the following:

- Developed protocols for children's eye and vision screening that were specific to the local context in PNG.
- Trained health practitioners, including members of the National Department of Health, in eye and vision screening.
- Screened 2,419 children for eye health conditions.
- Funded advanced pediatric skills training for refractionists and built the capacity of management and administrative staff.

Brien Holden Vision Institute Zanzibar (BHVI)

BHVI's research project compared an integrated school eye health program and a stand-alone eye health initiative within public elementary schools in Unguja and Pemba Islands in Zanzibar, using principles of simplicity, scalability, and sustainability. The study aimed to determine the effectiveness and efficiency of integrating eye health programs into an existing school health program. Data provided evidence to determine the impact of integrating eye health into existing School Health and Nutrition (SNH) programs. The objectives of the project were to: (1) determine and compare the financial, institutional, and infrastructural resources required for an integrated school eye health program and a stand-alone school eye health program; (2) determine the number of children referred and compare it with the up-take of referrals and further treatment, including the time elapsed between screening and referral; (3) determine the financial costs of the programs versus the projected cost of a child's vision remaining uncorrected/untreated in each model; (4) compare the cost incurred and the benefit gained from each model (cost benefit); and (5) compare among the students spectacle usage and compliance with regards to the two respective models.



The Impact

Through the project, BHVI achieved the following:

- Trained teachers on vision screening for the integrated and stand-alone school eye health programs.
- Screened 27,503 children for eye diseases, refractive error and other eye conditions.
- Distributed eyeglasses to children and provided treatment as necessary.
- Completed a manuscript comparing the integrated and stand-alone school eye health programs that will contribute to forward knowledge of the two programs.

Catholic Relief Services (CRS)

CRS project will focus on increasing quality eye care services for underserved children in remote areas of Lesotho. The Eye Can See project will serve three community councils in Thaba Tseka and provide vital eye care services for underserved areas to ensure children with vision problems receive the follow up care they need. The Eye Can See project will screen thousands of children for eye health problems through Wellbeing days held at the community or school level. Children identified with a need for eye care and support -- such as eyeglasses, surgery, or low vision devices – will be referred for appropriate treatment and services. Since financial barriers are often a constraint to those in greatest need, CRS will partner with the private sector to help subsidize care for children with eye health problems. It also will partner with spectacle shops to help them conduct intensive assessments after referrals have been made from the screening exercises, and it will tap into their partnership with the Lesotho National League of the Visually Impaired Persons (LNLVIP) to develop trainings to support the continuum of care for children with visual impairment. To increase sustainability, CRS will work with government ministries and incorporate their resources and technical guidance, and collaborate with different eye care stakeholders to extend the impact and serve as many low-income children possible.

The Impact

Through the project, CRS achieved the following:

- Trained teachers, auxiliary social workers, and community health workers on vision screening and referrals.
- Screened 10,216 children for eye diseases, refractive error, and other eye conditions at wellbeing days and primary schools.
- Distributed eyeglasses and provided non-surgical treatment and low vision services to children as necessary.

Child Sight Foundation Bangladesh (CSF)

The southern and coastal regions of Bangladesh include some of the most underserved areas of eye care in the country. CSF's proposed project is designed to expand eye care services for children with blindness, severe visual impairment, and refractive error in three districts through large-scale key informant (KI) trainings and to help identify children with eye problems for referral to appropriate care. CSF will organize eye camps to provide additional examination to children identified by the KIs. If needed, children will be referred for cataract, squint, and other surgeries and will receive follow up services. Additionally, CSF will distribute spectacles, low vision devices, and white canes and will refer children to blind schools and resource centers for rehabilitation.

The Impact

Through the project, CSF achieved the following:

- Trained 2,508 key informants to detect children with blindness or visual impairment and create awareness of the rights of these children.
- Screened 23,411 children through eye examination camps.
- Distributed eyeglasses to 8,436 children and provided additional treatment as necessary.
- Built the capacity of local organizations and hospitals by providing training on childhood blindness and its treatment and the provision of pediatric eye care services.

Child Sight Foundation Bangladesh 4 (CSF)

Visual morbidity among children with disabilities contributes extensively to several adverse consequences. However, little is known about the burden of eye diseases in this vulnerable population. Building on research previously conducted on children with blindness, refractive error, and disability in impoverished rural communities in Bangladesh, the proposed study quantified—for the first time—the burden of eye diseases in a general population-based sample of disabled children. It also investigated risk factors for eye diseases, access to services, barriers to service uptake, and effectiveness of community-based detection and intervention programs for this special population. The project established a cohort of children with disabilities through a community-based, key informant (KI) survey of childhood disability in Shahjadpur, including children with physical, visual, and hearing impairment, and the Bangladesh Cerebral Palsy Register study. The two existing disability cohorts were linked to carry out detailed ophthalmological assessments for the sample. The study, facilitated by unique linkages of disability cohorts in low-income and middle-income countries, provided population-level data on eye diseases among children with disabilities. The findings of this study will support the development of research-based, effective, low-cost, and culturally appropriate solutions for eye care services for this vulnerable group.

The Impact

Through the project, CSF achieved the following:

- Established a disability support center called the CSF “Shishu Shorgo” (Children’s Heaven) Early Intervention and Rehabilitation Center to provide therapy and education sessions to children as well as walk-in clinic services.
- Screened 1,302 children through multidisciplinary medical camps and provided eyeglasses and treatment as necessary.
- Trained key informants to identify and record cases of children with disabilities in their local communities.
- Defined the burden of eye diseases among children with disabilities in the study cohort and disseminated study findings to policy makers and government officials

Child Sight Foundation 2 (CSF)

CSF worked in four districts of Northern Bangladesh, a highly underserved area with very low access to eye treatment, to identify and treat children with potential low vision. CSF recruited community mobilizers (CMs) to help identify Key Informants (KIs) at the community level. These CMs also helped identify service providers for a referral network. KIs were then trained to identify blind children in their local communities and disseminate health communications messages. CMs then organized eye camps so that KIs could conduct a large number of screenings in one day. Children needing additional examination were scheduled for examination by a visiting eye team of ophthalmologists, pediatricians, and counselors within a week of the eye camp. The project also distributed posters and leaflets containing key messages related to the prevention, early detection, and treatment of childhood blindness to increase community awareness of childhood blindness and eye care.

The Impact

Through the project, CSF achieved the following:

- Recruited and trained 1,573 KIs to identify blind and visually impaired children.
- Screened 10,508 children through eye examination camps.
- Distributed eyeglasses to 4,050 children and provided additional treatment as necessary.
- Increased community awareness of the prevention and treatment of child blindness through the distribution of communications materials, including posters, brochures, and leaflets

Child Survival Foundation International-Nigeria (CSFI)

To help reduce childhood visual impairment and blindness in Kwara, Nigeria among children between the ages of zero and two, CSFI leveraged children visits to clinics for routine immunizations to include vision screening tests. It trained community health workers to take the lead in providing routine vision screening during immunization, ultimately to help increase access to early visual evaluation and early detection of visual problems. CSFI also strengthened a tertiary child eye health facility to provide follow-up care for children identified with eye conditions. It further provided high quality, cost effective, and subsidized eye care interventions, including surgery, to help correct eye conditions. To ensure sustainability, CSFI provided regular feedback, supervision, and retraining to participating health facilities and undertook multiple policy and advocacy efforts to demonstrate the value of the program. Lastly, CSFI disseminated results of its efforts to key stakeholders and plans to publish the research findings.

The Impact

Through the project, CSFI achieved the following:

- Trained health workers to perform vision screening during routine immunizations.
- Established vision screening services in four immunization clinics and referral pathways between the clinics and hospitals for further evaluation and treatment.
- Screened 6,192 children for eye diseases, refractive error and other eye conditions.
- Distributed eyeglasses to children and provided surgical and non-surgical treatment as necessary.

Child Survival Foundation International-Nigeria GR4 (CSFI)

In Kwara State, Nigeria, visual problems in children are often undetected or receive delayed treatment due to lack of awareness, resources, and accessibility to visual screening services. School screening services is a key component for increasing eye health services. Tapping into this gap, CSFI's project aimed to reach children ages 2 to 14 years old using a multi-prong, largely community- and school-based continuum of care approach, from detection to treatment to rehabilitation



of children with eye problems. CSFI trained teachers to use the Teacher–Led Vision Screening (TELVIS) kit on school children for detection of refractive errors and other eye problems, and on the use of an instrument vision screener on pre-school children. Additionally, the organization distributed eyeglasses and provided refraction, non-surgical care, and low-vision treatment to children in rural and urban communities.

The Impact

Through the project, CSFI achieved the following:

- Trained school teachers in vision screening and childhood blindness prevention.
- Screened 64,098 children through the Comprehensive Teacher Led Vision Screening program and community outreach events.
- Established referral pathways for treatment from local communities and schools to the University of Ilorin Teaching Hospital.
- Distributed eye glasses to children and provided necessary treatments at the University of Ilorin Teaching Hospital.

The College of Ophthalmology of Eastern, Central & Southern Africa (COECSA)

COECSA implemented a project that focused on building the capacity of primary care personnel to provide child eye care services in Northern Tanzania. Using the Continuum of Care as the fundamental model for the program, COECSA adopted an eight-pronged approach to achieve its objectives. To amplify the capacity for identification of patients, COECSA first trained assistant medical officers (AMOs) and ophthalmic nurses (ONs) in pediatric ophthalmology. Trained in this capacity, the staff was able to screen children in their clinics to identify cases that may need additional eye examinations. Key to a complete Continuum of Care, the program supported the

referral of the identified eye patients to the Kilimanjaro Christian Medical College (KCMC), a member and partner of COECSA, which provided treatments and surgery for patients in need. Further, to increase the patient service capacity of KCMC, the project sponsored sub-specialty training for one of their ophthalmologists as well as continuing professional development for ophthalmic professionals. Post rehabilitation and education was provided for patients needing the services. Lastly, the program supported operation research to expand the knowledge base and information about eye diseases in the regions.

The Impact

Through the project, COESCA achieved the following:

- Screened 38,680 children for eye diseases, refractive error and other eye conditions.
- Referred children to KCMC and other tertiary eye care centers for further diagnosis and treatment, including non-surgical and surgical treatment.
- Provided equipment and supplies to KCMC to enhance its capacity to deliver quality eye care services.
- Trained health providers, including ophthalmologists, ophthalmic nurses, and medical officers, on pediatric ophthalmology.
- Developed retinoblastoma management guidelines for Tanzania

Elim Eye Hospital (Elim)

Elim's project created an effective continuum of care for child eye care services, particularly for the delivery of pediatric cataract surgery in six states of Nigeria. A key and first component of its continuum was to increase identification of children with cataracts. To accomplish this, Elim conducted refresher courses on pediatric eye health for clinicians. It also trained local physicians to apply the latest techniques in pediatric cataract surgery. After cataract surgery



The Impact

Through the project, COESCA achieved the following:

- Screened children for eye diseases, refractive error, and other eye conditions.
- Distributed eyeglasses to children and provided surgical treatment (including cataract surgeries) and non-surgical treatment as necessary.
- Outfitted the Calabar Children's Eye Center at the University of Calabar Teaching Hospital with new equipment, which enhanced the hospital's ability to provide pediatric cataract surgeries.
- Provided training to medical staff on pediatric cataract surgeries and referral systems.

was performed, Elim provided spectacles to children. Further, recognizing the importance of follow-up care, Elim provided a hospital card with appointment dates, texted appointment reminders, and coordinated transportation to the hospital.

EyeCare SA

EyeCare SA seeks to test the usage of its recently developed and patented mobile application to determine if it is a viable, low cost tool for conducting screening of children with sight problems. The program will involve an initial screening of children using the application by two technicians. Following the initial screening, EyeCare SA will conduct gold standard screenings of the same children. The data from those screenings will be compared to determine the quality of the application in determining whether a child suffers from low vision sight issues.

The Impact

Through the project, EyeCare SA achieved the following:

- Screened children for refractive error, strabismus, or other eye conditions using the MDEyeCare app and an ophthalmologist.
- Distributed eyeglasses to children and provided other treatments as necessary, including non-surgical and surgical treatments.
- Analyzed study results and found that although the sensitivity and specificity of screening using the app is lower than screening by an ophthalmologist, the app may still be useful in rural areas where ophthalmologists are not available.

Helen Keller International Indonesia (HKI)

HKI will partner with the Department of Health and a tertiary hospital in Jakarta, Indonesia, to train key staff on a telemedicine project for the treatment of Retinopathy of Prematurity (ROP). ROP is a disease occurring in premature babies that could lead to blindness, and it is likely that ROP will become more prevalent as access to neonatal intensive care units improve in Indonesia. To help identify babies before the onset of blindness, HKI will collaborate with pediatric ophthalmologists in Jakarta to adapt guidelines for a telemedicine screening program: the Karnataka Internet Assisted Diagnosis of Retinopathy of Prematurity (KIDROP) program. For KIDROP, trained staff travel to Neonatal Intensive Care Units (NICUs) with a portable wide-field retinal digital camera (Retcam) to photograph the retinas of premature infants. These images are graded, and they determine whether an infant should be immediately referred for further assessment and care by a trained ophthalmologist or placed on a schedule for a follow up screening. HKI will train non-medical staff to coordinate with neonatologists and ophthalmologists in district hospitals so that at-risk premature infants are screened early and routinely. Infants requiring additional assessment by a trained ophthalmologist will receive immediate follow-up, and vision-saving treatment will be provided to those who need it. In addition, HKI will advocate with the hospitals and the Provincial Department of Health to ensure that the capacity established with USAID support is maintained beyond the life of this grant.

The Impact

Through the project, HKI achieved the following:

- Trained health care providers on the detection, management, and treatment of ROP.
- Held a workshop for five district hospitals, two provincial hospitals, and six private hospitals to increase the awareness of ROP and the telemedicine screening program for ROP.
- Screened premature infants for ROP.

Helen Keller International Nepal (HKI)

Fully integrated and complementary systems of care that focus equally on prevention along with the identification and treatment of retinopathy of prematurity (ROP) are needed in order to reduce the incidence of vision loss among premature infants. ROP programs have traditionally prioritized screening and treatment efforts while neglecting to make critical investments needed to build the capacity of neonatal intensive care units (NICU) and their staff. To fill this gap, HKI's project examines whether a fully integrated system of care focusing on the prevention of ROP, using telemedicine along with early identification and treatment, can significantly reduce the incidence of vision loss due to ROP and serve as a scalable cost-effective model for Nepal. It places emphasis on assessing current NICU practices and capacity, identifying gaps, and improving the level of care through the development and adoption of national NICU standards; providing training and ongoing support and supervision for clinicians; and examining the barriers to the adoption of best practices by clinical staff. HKI also focuses attention on risk factors that may result in the development of ROP, such as improper use/regulation of oxygen in NICU care.

The Impact

Through the project, HKI achieved the following:

- Conducted baseline and end line neonatal intensive care unit (NICU) assessment surveys in three pediatric hospitals to evaluate NICU practices and identify gaps.
- Trained medical staff on ROP screening and the prevention and management of ROP.
- Counseled 1,008 parents on ROP, which increased awareness of ROP among parents from 21% to 93%.
- Collaborated with the Nepal government to develop the national strategy and guidelines for ROP, which was endorsed by the Ministry of Health and Child Health Division.

Helen Keller International-Nepal 2 (HKI)

In May 2017, Helen Keller International (HKI) received an award to examine whether a fully integrated system of care, focusing on prevention of Retinopathy of Prematurity (ROP) along with its early identification and treatment using telemedicine, would reduce the incidence of vision loss due to ROP and serve as a scalable cost-effective model for Nepal. Key requirements of ROP prevention include: improvement of the level of care through the development and adoption of national NICU standards, the provision of training and ongoing support and supervision for clinicians, and the removal of barriers to the adoption of best practices by clinical staff. While emphasis is on mitigating risk factors that may result in the development of ROP, some gaps in the ability to provide the quality of care required in the NICUs in the selected hospitals were identified, particularly in three areas—availability of equipment in NICUs, adequate site set-up, and availability and capacity of clinical staff to provide optimum care. Replication of an ROP prevention process is a priority; however, it is vital that the innovative approach be fully assessed before moving to new sites. Therefore, HKI's project focused on ensuring the necessary equipment is available and that the hospitals are ready with trained clinical staff who are fully educated and informed and possess skills needed to provide the level of care required to identify babies in need of ROP screening.

The Impact

Through the project, HKI achieved the following:

- Trained nurses directly involved with premature babies on optimal newborn care practices.
- Developed and distributed an informational brochure to 3,506 mothers to increase parental and family awareness about newborn eye care and emphasize the importance of screening for ROP among premature babies.
- Provided equipment to support neonatal intensive care units (NICUs) at the Patan Academy of Health Sciences and Paropakar Maternity and Women's Hospital.
- Established a ROP screening room at Paropakar Maternity and Women's Hospital.

Helen Keller International Vietnam (HKI)

HKI's project strengthened pediatric eye health capacity at Son Tay Hospital in Vietnam by developing an integrated, sustainable system for identification, treatment, and referral of children with refractive errors and more complex eye disorders. The project specifically expanded HKI's previously tested and successful ChildSight® program. It trained teachers and community health workers to screen children's vision and identify and refer those in need of further assessment and treatment. HKI also educated families about the importance of healthy vision and services available within their community to effectively address their children's eye health needs. To ensure that every child needing vision correction would receive glasses and treatment, HKI linked schools within the district to eye health professionals and optic shops. It also trained local clinicians to provide on-site school-based refraction for students who failed the visual tests conducted by teachers. Students with

uncorrected refractive error received quality eyeglasses produced by local optic shops, and students with more serious eye problems were sent to ophthalmologists at Hanoi Eye Hospital or to the

The Impact

Through the project, HKI achieved the following:

- Trained health workers and optical technicians in vision screening, refraction, and eyeglasses dispensing.
- Screened 7,542 children for eye diseases, refractive error, and other eye conditions.
- Distributed eyeglasses to students and teachers.
- Completed a training guide on vision screening and distributed the guides and screening tools to schools.

Vietnam National Institute of Ophthalmology for assessment and treatment.

Helen Keller International Vietnam 2 (HKI)

HKI Vietnam, in partnership with the Hanoi Departments of Health and Education, expanded the ChildSight® program, previously funded by CBP as well, to additional students and teachers in primary and secondary schools in three districts of Western Hanoi. Specifically, ChildSight® provides free in-school vision screenings and new prescription eyeglasses to children in high-poverty communities by going directly into schools to screen students for vision disorders. For this project, HKI Vietnam worked closely with school administrators and nurses to ensure high-quality services. A licensed optometrist determined the proper eyeglass prescription for each child in need of vision correction. HKI Vietnam increased the skills and capacity of ophthalmic clinicians at Son Tay hospital and increased eye health and refractive errors awareness through behavior change communication activities among students, parents, teachers, and the community. Overall, the project activities enhanced the linkages between the education and health sectors in Hanoi and laid the groundwork for future sustainable, quality vision screening in their school health system.



The Impact

Through the project, HKI Vietnam:

- Screened 16,741 students for eye diseases, refractive error and other eye conditions.
- Provided free or subsidized eyeglasses to 1,355 students and teachers.
- Distributed screening tools and training guides to schools and district health centers.
- Trained health personnel and school health workers on vision screening and treatment.

Helen Keller International Vietnam 4 (HKI)

First established in Kon Tum Province in 2011, the Childsight® Vietnam school based vision care program has been consistently assessed, improved and expanded into the Central, North and Mekong Delta regions. However, there have been issues related to the up-take of referrals for children diagnosed with refractive error, the purchasing of eyeglasses after diagnosis, as well as consistent use of eyeglasses by students. To shed light into these issues, the project investigated the factors that have prevented lasting change in eye health seeking behavior and the consistent use of eyeglasses among school age children. In collaboration with the Vietnam National Institute of Ophthalmology (VNIO) and the Childsight® programs in three provinces, HKI conducted a barrier analyses including students, parents, school teachers, and administrators to determine what factors have prevented full adoption of the model, ultimately, to help create solutions for these problems. The research also examined factors that affected the sustainability of the model after the project support has ended. Research findings will guide further program refinements and result in improved outcomes and provide a more compelling rationale to government for further expansion and ultimately scaling up the program across Vietnam.

The Impact

Through the project, HKI achieved the following:

- Completed the barrier analysis study using data collected from students, parents, teachers, and administrators.
- Produced a barrier analysis report on the factors that prevent eye health seeking behavior and consistent use of eyeglasses among children.
- Developed recommendations for future behavior change strategies, which will be used to improve HKI's ChildSight® model.

HelpMeSee, Inc.

HelpMeSee, Inc. and Instituto Damos Vision (IDV) partnered to implement a project to eliminate the backlog of pediatric cataract blindness in Peru by 2020. They accomplished this goal by increasing the number of pediatric cataract surgeries performed nationally each year by training existing medical professionals in identification and treatment of cataracts. Through this project, the Republic of Peru achieved the local capacity to eliminate the cataract blindness backlog among their child population and established a sustainable system of referral protocols to identify and treat new cases within the first 12 weeks after birth.

The Impact

Through the project, HelpMeSee achieved the following:

- Trained a surgical team to perform cataract surgeries.
- Performed cataract surgeries for children identified by nurses using the Reach application (an Android-based mobile Geographic Position and Patient Information System).
- Trained medical staff, including doctors, nurses, pediatricians, and technicians, on the identification and treatment of red reflex, cataract, and retinopathy of prematurity.

HelpMeSee, Inc.-PCOM

Based on reporting data from three of Peru's major public hospitals, in 2014, approximately 170 cases of congenital pediatric cataracts blindness were treated. Estimates of untreated and unidentified cases range from 350 to more than 500. To help establish a system that could help reach these children, HelpMeSee (HMS) launched the Pediatric Cataracts Outreach and Mapping (PCOM) pilot project. The project aimed to demonstrate the efficacy of community mobilization combined with a new mobile Geographic Positioning and Patient Information System (GPPIS). The combination of a proven public health surveillance method (community mobilization) and phone technology helped community workers pinpoint patient location, capture basic patient data, conduct an initial needs assessment, and refer patients to the nearest medical provider. The data was shared via HMS's patient information system and made available immediately to the partner surgeons via a cloud-based server. The collected data allowed the team of medical professionals and community workers to collectively ensure that every child in need received timely attention and proper follow-up care.

The Impact

Through the project, HelpMeSee achieved the following:

- Recruited and trained nurses to screen children and use the Reach application (an Android-based mobile GPPIS) to track and transmit information about children with operable cataract and other severe eye disorders.
- Supplied nurses with ophthalmoscopes, eye charts, Android phones equipped with the Reach application, and internet service plans to use for community-based vision screening.
- Referred children to Instituto Damos Vision for surgical treatment.

Himalayan Cataract Project (HCP)

Menelik II Hospital in Ethiopia is the only pediatric tertiary eye care facility in Addis Ababa, a city of over 4 million people, as well as the closest to Oromiza Zone, a catchment area of nearly 27 million people. Despite being the largest and best-equipped facility, the pediatric department remains disadvantaged with only one fully trained ophthalmologist in pediatric care. To boost their capacity and help increase the number of children with eye conditions treated, the Himalayan Cataract Project (HCP) expanded pediatric eye health training to ophthalmologists, anesthetists, orthoptists, and nurses. Further, they procured teaching microscopes to ensure that pediatric services have the highest quality optics for



surgical care. They also provided financial support for pediatric cataract patients.

Building the capacity of Menelik II Hospital's pediatric ophthalmology staff ensures both the provision of high quality care as well as essential personnel capable of training the next generation of pediatric ophthalmologists in Ethiopia. Ultimately, this project helped increase the number of children provided with quality eye care services and the global knowledge of pediatric eye care through innovation and the implementation of best practices.

The Impact

Through the project, HCP achieved the following:

- Provided training to ophthalmic professionals at the Menelik II Hospital, thereby improving the tertiary eye care center's ability to offer high quality pediatric eye care services.
- Upgraded Menelik II Hospital's pediatric clinic with a new teaching microscope.
- Screened 21,398 children for eye diseases, refractive error and other eye conditions.
- Provided surgical treatment, including cataract surgeries, to 1,157 children.

International Center for Eye Health (ICEH)

ICEH's cluster randomized trial evaluates whether a health education package designed for teachers, parents, and children delivered using innovative mobile phone technology increases eyeglass wear and referral uptake. The education package includes the Portable Eye Examination Kit (PEEK) Acuity app, a user-friendly smartphone-screening test that helps measure visual acuity and the SightSim app, which generates a picture showing the blur a child with uncorrected refractive error is experiencing. Text messages were sent through Peek software to: inform head teachers and optometrists which children failed visual screenings and required additional tests to assess their need for eyeglasses, inform eye care providers which children have been referred for additional screening so they can monitor attendance, remind parents of children that were given spectacles of the benefits of wearing them, and remind parents of children with other conditions to go to a follow-up appointment within a specified timeframe.

The Impact

Through the project, ICEH achieved the following:

- Trained field workers to conduct study activities, including the use of the Peek Acuity app to screen children.
- Screened 8,100 children for eye diseases, refractive error, and other eye conditions.
- Distributed eyeglasses to 700 children.
- Completed a manuscript on the research findings, including recommendations for delivering health education messages to parents.

Kilimanjaro Centre for Community Ophthalmology (KCCO)

To ensure that children with low vision in schools of northern Tanzania receive appropriate support and access to educational opportunity, KCCO's grant focused on enabling and training teachers and education officers in public schools to identify school children with eye problems and to appropriately refer them to regional hospitals. The project followed a train-the-trainer approach. First, special needs education officers (DSNEOs) received enhanced training in low vision services and training, to subsequently train school teachers in participating school districts. Trained teachers then were able to screen and identify children with vision problems throughout their schools. Children identified by teachers underwent a second vision assessment by optometrists, and children in need of further treatment, such as surgeries, were referred to regional hospitals in Northern Tanzania.

The Impact

Through the project, KCCO Tanzania achieved the following:

- Trained district special needs education officers (DSNEOs) to train teachers in identifying children with low vision.
- Screened 4,028 children for eye diseases, refractive error and other eye conditions.
- Provided eyeglasses, non-surgical treatment, surgical treatment, and low vision devices to children.
- Trained teachers on the use of low vision devices and linked children to teachers for assistance with the use of low vision devices.

Kilimanjaro Centre for Community Ophthalmology-South Africa (KCCO)

To fill the research gap of best practice guidelines for how visual impairment programs must address the entire continuum of care, KCCO's project sought to develop best practice guidelines for how programs can achieve this goal. Recognizing that a thorough review of the evidence was not sufficient to draft best practices, the organization captured experiences from the field through a case study approach to illustrate one or more of the key characteristics that define "preferred practices," namely, effectiveness, efficiency, and relevance.



KCCO organized the practice guidelines into the following main topics:

- Use of key informants (or other groups) in the identification and referral of children with severe vision loss or blindness.
- Methods of screening school aged children and adolescents for reduced vision.
- Application of different strategies to achieve good follow up (after surgical intervention) for all forms of post-operative care (including clinical, optical, rehabilitation, and educational services).
- Use of mobile technologies in all aspects of the continuum of care (diagnosis, referral, reporting, follow up, education).

The Impact

Through the project, KCCO achieved the following:

- Completed three manuscripts on the continuum of care, including key informants, school screenings, and follow-up strategies

LV Prasad Eye Institute (LV Prasad)

LV Prasad's project seeks to develop and evaluate a community-based screening program to help identify children at risk of or with vision loss. The approach involves screening in schools and anganwadis (pre-school centers), special schools (including schools for the blind), door-to-door visits, and during immunization days. School teachers, community health workers (CHW), vision technicians (VTs), key informants (KI), accredited social health activists (ASHA) workers, and volunteers will conduct the screenings. Premature babies will be screened for Retinopathy of Prematurity (ROP) in neonatal care units. Wherever required, optometry and ophthalmology services also will be provided. All children identified with eye problems or visual impairment will be counseled and referred to a visual clinic for refractive error services and to the tertiary clinic for more complex services. Children who are blind or have low vision will be provided low vision and rehabilitation services.

The Impact

Through the project, LV Prasad achieved the following:

- Trained 2,615 service providers, including medical staff, community health workers, and teachers, in pediatric eye care and vision screening.
- Screened 276,005 children for eye diseases, refractive error and other eye conditions.
- Distributed eyeglasses to 4,802 children and provided surgical and non-surgical treatment to children.
- Conducted community-based campaigns to improve awareness of pediatric eye care and improve the uptake of pediatric eye services.

Orbis International

In collaboration with the Bangladesh Diabetic Samity (BADAS) and Life for a Child (LFAC), Orbis created a sustainable, scalable model for the delivery of comprehensive eye care for children with diabetes in Dhaka and Bogra. Orbis increased the capacity of two health centers to provide comprehensive eye-services, including consultations; diabetes education; relevant testing, such as blood glucose, cholesterol, and blood pressure exams; and outreach activities. Orbis equipped the centers with cameras for retinal imaging, trained photographers for screening, and trained nurse coordinators to help arrange laser treatment and coordinate follow-up care with families. The centers now are better able to provide low-cost retinal imaging for adults. The revenue covers the salaries of the photographers and nurse coordinators, and the model generates funding to provide eye treatments to low-income children at no cost. Ultimately, Orbis assessed the potential to scale up the model nationally through their existing national pediatric eye care network and close affiliation with BADAS' national diabetic network.

The Impact

Through the project, Orbis achieved the following:

- Built the capacity of the Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders (BIRDEM) and the Bogra-Bangladesh Diabetic Samity (BADAS) to provide eye care services to children with Type 1 or Type 2 diabetes.
- Screened 3,018 children for eye diseases, refractive error and other eye conditions.
- Provided eyeglasses and non-surgical and surgical treatment to children.

Orbis International Inc. Ethiopia (Orbis)

Orbis in collaboration with the Gondar University Referral Hospital (GURH) delivered and expanded a previously successful project of pediatric eye health services in critically underserved areas of northwest Ethiopia. It provided training, equipment, and consumables in a five-phase approach and conducted an outreach campaign. The first phase of the project included training and educating teachers, parents, and volunteers to improve identification of children with low vision. The second and third phases consisted of strengthening the referral network to increase the number of children receiving treatment and make it more likely that they would receive the follow-up treatment required. The fourth phrase involved training medical professionals to improve the supply and quality of eye health services available to children. To address the fifth phase (rehabilitation), Orbis referred children who still experienced visual impairment post-treatment or who could not be treated to local schools for blind children. Additionally, Orbis designed a comprehensive and strategic multi-media education campaign to reach thousands of parents, teachers, and community member with eye care messages of education and awareness.



The Impact

Through the project, Orbis achieved the following:

- Screened 24,267 children for eye diseases, refractive error and other eye conditions.
- Provided treatments as necessary, including non-surgical treatment to 8,816 children.
- Trained medical staff, community health workers, and school teachers on the prevention of childhood blindness, primary eye care, pediatric eye care, and referral systems.
- Promoted awareness of child eye health issues through radio programs.

Orbis International Inc. Mongolia 1 (Orbis)

In collaboration with the Brien Holden Vision Institute (BHVI) and the National Center for Maternal and Child Health (NCMCH) in Ulaanbaatar, Mongolia, Orbis International implemented a project designed to establish a network of school-based vision screening, refraction testing, optical dispensing and the sale of high-quality, low-cost glasses that could be adopted by the Mongolian government. Orbis trained local master trainers and refractive outreach coordinators (ROCs) who were responsible for training school physicians and soum (county) nurses in vision screening and delivering educational messages about children's eye health. The ROCs also were responsible for conducting school-based vision screenings and coordinating referral pathways for refractive services at the NCMCH and provincial hospitals. School physicians conducted vision screenings and provided eye health education. In schools that didn't have physicians, trained nurses performed vision screenings and help identify children with vision problems who they referred to ophthalmologists/refractionists and spectacle technicians from the Aimag/providence hospitals. In addition, a fully equipped optical shop was established at NCMCH that served as an outpatient clinic and that provided spectacles for children identified with a refractive error during outreach screening. Profits from sales of spectacles were used to maintain the optical shop and provide incentives to those involved in school screenings.

The Impact

Through the project, Orbis Mongolia achieved the following:

- Provided training to ophthalmologists on refraction and training to school and clinic physicians on child eye health and vision screening.
- Screened 30,858 children for eye diseases, refractive error and other eye conditions through school-based screenings.
- Distributed eyeglasses to children identified with refractive error through school-based vision screenings.
- Built the NCMCH's capacity to dispense eyeglasses and manage its optical shop.

Orbis International Inc. Mongolia 2 (Orbis)

At the beginning of this project, there were no fellowship-trained ophthalmologists in Mongolia capable of providing pediatric eye care at an international standard, and there was only one facility providing services of any kind – the National Maternity and Child Health Hospital (NCMCH), located in the capital of Ulaanbaatar. Orbis International, NCMCH, and five aimag (provincial) hospitals embarked on the second phase of their previously established project “Phase I: Memo” designed to build refractive services in Mongolia. Phase II of the project built upon their existing organizational relationships, as well as the children’s vision screening network created in Phase I, to create a comprehensive model of pediatric eye care, which will help save the lives and vision of thousands of Mongolian children. The network will provide medical and surgical services to children in the capital and five surrounding provinces, curing children vision impairments, such as strabismus, amblyopia, ocular trauma, pediatric cataract, and retinopathy of prematurity (ROP). In addition, low vision care will be provided for the first time in Mongolia at NCMCH.

The Impact

Through the project, Orbis achieved the following:

- Screened 50,397 children for eye diseases, refractive error and other eye conditions through school-based and community-based screenings.
- Provided non-surgical treatment to 15,303 children and surgical treatment to 1,306 children.
- Provided training in pediatric primary eye care to medical staff in hospitals and health clinics, including those in remote areas.
- Enhanced the capacity of the NCMCH to provide pediatric eye care services and manage ROP through specialized trainings.

Resources for the Blind International, Inc. (RBI)

By creating linkages between schools, ophthalmologists, optometrists and therapists, RBI’s project aims to bridge the continuum of care for 2,500 children with visual impairment enrolled in 650 inclusive education programs nationwide. The project focuses on the missing linkages between schools and eye care professionals. It will deploy field workers to 650 schools in almost 650 communities nationwide to serve 2,500 children with visual impairment. The field workers will meet with families, school officials, and local government units to map out strategies to provide eye care services for children identified with eye conditions. Additionally, the project will provide training and internship opportunities for undergraduate optometry students to strengthen their ability to identify young children with visual impairment, and to assess children with visual impairment who have additional complicating disabilities, such as cerebral palsy, hearing impairment, or autism. Further, the project will expand a practicum program to include opportunities for graduating optometry intern students to work with multi-handicapped children with visual impairment.

The Impact

Through the project, RBI achieved the following:

- Created linkages between schools, ophthalmologists, optometrists, and therapists to improve referral systems and access to care.
- Screened 9,327 children for eye diseases, refractive error and other eye conditions.
- Provided necessary treatments to children, including non-surgical and surgical treatment, and distributed eyeglasses to 1,482 children.
- Provided training to medical staff on the provision of low vision services.

Sadguru Netra Chikitsalaya, Shri Sadguru Seva Sangh Trust (Sadguru)

Sadguru's initiative aimed to create a sustainable mechanism whereby the pediatric population of India could receive quality eye care on a continual basis. Sadguru Netra Chikitsalaya is a tertiary eye care hospital with 10 vision/primary eye care centers situated in the underserved areas of Uttar Pradesh. To increase capacity and expand delivery of services, Sadguru trained eye health workers appointed to vision centers for project facilitation. Anganwadi workers (authorized care takers of children) and schoolteachers were trained on preliminary eye screening and helped refer children to vision centers for additional screening by technicians or tele-consultation from the base hospital.

From there, patients in need of additional services were transferred to the hospital to receive surgical intervention free of cost or spectacles to correct vision problems. Additionally, to expand eye health access to non-schooling children and increase community involvement, Sadguru undertook mass-level awareness activities at each of the vision centers.



The Impact

Through the project, Sadguru achieved the following:

- Trained 4,430 health workers, teachers, and Anganwadi workers on visual health and eye screening.
- Screened 163,009 children for eye diseases, refractive error and other eye conditions.
- Provided necessary treatment to children, including corrective surgeries and non-surgical treatment.
- Distributed eyeglasses to 4,432 children.

Sampan'asa Loterana Momba NY Fahasalamana (SALFA)

Madagascar lacks eye care facilities offering a full continuum of care for children with eye diseases. To help address the lack of facilities in the country, SALFA's project will establish a child eye health system linking primary, secondary, and tertiary eye care services with five hospitals across four regions. The key elements of its intervention include: identifying and referring children with visual impairment or blindness; providing surgical, medical, and optical services at the appropriate secondary or tertiary level; effectively and efficiently following up with children who received surgical services; and providing proper rehabilitation services after surgery. The eye-health team will undertake three methods of identification: 1) key informant method – train community agents to identify children with eye problems in hospitals and funneling them to outreach sites organized every two months by the eye-care team; 2) Child Eye Health Day – once per year, host a day dedicated for children consults at the five participating hospitals (children detected with eye problems will be treated with medicine, eye-glasses, surgery, and low vision care at no cost); and 3) integrated identification and referral services in the National Child and Maternal Week (SSME) – SALFA will partner with SSME to detect and refer children in need of eye care services.

The Impact

Through the project, SALFA achieved the following:

- Screened 18,089 children for eye diseases, refractive error, and other eye conditions through outreach visits with partner hospitals.
- Trained key informants to detect and refer children with eye conditions and to raise awareness of child eye health.
- Provided eyeglasses to 1,742 children and non-surgical treatment to 13,934 children.
- Promoted public awareness of child eye health and visual problems in children throughout Madagascar using radio, television, and printed brochures.

Seva Canada

Seva Canada engaged in a project to study and gather evidence from tertiary health facilities in five countries (Cambodia, India, Malawi, Nepal and Uganda) to critically assess their gender specific interventions. The study aimed to:

- Determine the adequacy of current sex-specific data gathering and analysis to assess intervention strategies.
- Gather additional evidence regarding the efficacy of gender specific outreach and utilization strategies.
- Identify priority areas for additional operational research.
- Develop evidence-based strategies for program improvement.

The focus was to find, document, and disseminate interventions that have been shown to improve, or not improve, gender equity in pediatric surgical care. The study consisted of assessing five facilities, which have extensive administrative data infrastructure, experience in operational research, as well as active clinical and outreach strategies that are designed to provide equitable care, including

gender equity. The gender-based recommendations from this project contributed to a broader process to develop preferred practices across the spectrum of pediatric care, led by the Kilimanjaro Centre.

The Impact

The CBP grant enabled Seva Canada:

- To conduct site visits to five Child Eye Health Tertiary Facilities in Cambodia, India, Malawi, Nepal and Uganda
- To assess gender-specific interventions relating to pediatric eye care.
- To use findings to develop and disseminate preferred practices for community-based case finding, school screening, surgical follow-up, and gender equity.

Seva Foundation-Nepal

Seva's Pediatric Eye Care Program expanded and improved the delivery of sustainable pediatric eye care services through partnerships with three eye hospitals and eight primary eye care centers. Seva's program helped reduce avoidable blindness in children by: 1) improving training of eye care and health practitioners; coordinating among health facilities to optimize use of ophthalmologists through telemedicine and scheduled site visits; expanding community education and outreach programs both, for early detection and follow-up care; and by increasing access to services for children by reducing geographic and socio-economic barriers. Services delivered included eye exams, eyeglasses, and sight-restoring eye surgeries for children who would otherwise have remained visually impaired or blind. The program emphasizes treatment for poor, and rural children, especially female children.



The Impact

Through the project, Seva achieved the following:

- Screened 269,589 children for eye diseases, refractive error and other eye conditions.
- Distributed eyeglasses to 9,318 children.
- Provided non-surgical treatment to 96,682 children.
- Provided low vision services and surgeries to children.
- Trained service providers, including school teachers, mother's group leaders, female community health volunteers, and health workers, in pediatric eye health.

Sightsavers Bangladesh

Sightsaver's project aims to provide a systemic solution to the problem of childhood blindness in Bangladesh. It will strive to increase the availability of quality pediatric eye care in six rural districts in south-western Bangladesh. Sightsavers will conduct mass-scale trainings for teachers and community health workers from the government's Expanded Program on Immunization (EPI) to help identify and refer children with eye problems. Bangladesh EPI is widely recognized for previously having achieved significant gains—taking advantage of their success, the proposed project will piggyback on the work force and successes of EPI. The project also will strengthen health facilities at a district level to enable them to handle basic pediatric eye care and will train a range of senior medical personnel. Children will benefit from cataract and other surgeries for glaucoma, squint, ptosis, and other serious eye conditions. The National Institute of Ophthalmology and Hospital (NIOH), a tertiary level facility in the public sector, will perform the surgeries. Further, Sightsavers's project will equipped children with spectacles and low vision devices at no cost.

The Impact

Through the project, Sightsavers achieved the following:

- Trained 2,327 individuals, including health workers, teachers, and community volunteers, on the identification and referral of children with eye conditions.
- Trained physicians on the early detection of ophthalmic problems and referral to appropriate secondary and tertiary facilities with pediatric ophthalmic capacity.
- Screened 170,216 children for eye diseases, refractive error, and other eye conditions.
- Provided eyeglasses to 3,715 children.

Sightsavers Pakistan

Sightsavers' project seeks to address three main problems leading to childhood blindness in the Baluchistan province of Pakistan: 1) low awareness of child eye health issues among the population, 2) insufficient facilities coupled with low government support of eye health, and 3) a backlog of untreated pediatric eye problems. Sightsavers' project will upgrade pediatric eye health facilities at two hospitals, increasing the capacity of the hospitals to screen for refraction; provide rehabilitation services; and perform surgeries for children with various degrees of eye problems. Sightsavers also will screen children in schools and communities to identify, treat, and refer cases of childhood blindness, visual impairment, and refractive error to appropriate care. It will increase awareness in schools and communities about child eye health problems by training teachers from the education department and Lady Health Workers (LHW). LHWs act as liaisons between the formal health system and the community and disseminate health education messages, and will be key to identify children under five years old with refractive error, a condition which, if left untreated, could otherwise lead to permanent vision damage.

The Impact

Through the project, Sightsavers achieved the following:

- Provided training to 3,406 individuals, including medical staff, teachers, and Lady Health Workers, on visual acuity testing and primary eye care.
- Screened 129,944 children, including those in tribal areas, for eye diseases, refractive error, and other eye conditions.
- Distributed eyeglasses to 5,590 children.
- Enhanced the capacity of the Layton Rahmatulla Benevolent Trust hospital through the establishment of an optical lab and shop and upgrades to the operation theater.

St. John Eye Hospital Group (SJEHG)

SJEHG's project increased the number of children provided with quality eye care in West Bank and Gaza by operating a mobile outreach program. Their medical team traveled across vulnerable areas of the West Bank providing primary ophthalmic services to underserved populations who otherwise wouldn't have had access to them. The project expanded the impact of their services by helping the mobile outreach clinic coordinate visits to schools and kindergartens to increase early detection of children



with eye conditions and refer children to the main hospital for advanced diagnostic procedures. For those in need, clinical and/or surgical treatment was provided. Further, orthoptic care, which includes unique ophthalmic diagnostics and rehabilitation techniques, was available within the outreach static clinics and the main hospital in Jerusalem. The project also increased the hospital's capacity by investing in specialized medical equipment that will serve thousands of children throughout the project and will ultimately sustain services for children patients for many years to come.

The Impact

Through the project, SJEHG achieved the following:

- Screened 45,967 children for eye diseases, refractive error, and other eye conditions.
- Provided non-surgical treatment to 13,251 children.
- Provided surgical treatment to 1,716 children.
- Distributed eyeglasses to children.

Tilganga Institute of Ophthalmology (TIO)

TIO, in close collaboration with Helen Keller International (HKI) and three selected hospitals in Nepal, established a system to identify and treat babies at risk of Retinopathy of Prematurity (ROP) and ensure the ongoing provision of care for children who, despite these efforts, still suffer some form of vision loss. All nursing staff engaged in providing NICU services, obstetricians, pediatricians, anesthetists, and ophthalmologists in the hospitals selected for the introduction of the ROP prevention, screening and treatment were trained on the ROP management modules and were involved in the establishment of the systems and ensuring that procedures are closely followed to achieve the primary goal of reducing the incidence of blinding ROP. Tilganga piloted a process using telemedicine for early identification of infants who are at high risk of developing ROP and worked closely with the eye care professionals engaged with the hospitals to build their capacity for managing critical steps and procedures.

The Impact

Through the project, the Tilganga Institute of Ophthalmology achieved the following:

- Provided training on ROP prevention, screening, and treatment to health staff, including nurses, obstetricians, pediatricians, anesthetists, and ophthalmologists.
- Established systems for ROP screening at the Paropakar Maternity and Women's Hospital, Patan Hospital, and Kanti Children's Hospital.
- Screened preterm babies for ROP and provided treatment as necessary.

World Gospel Mission

WGM's support has allowed Tenwek Hospital, a primary care facility and a tertiary referral center, to extensively grow its capacity for eye treatment. Previously, with support from USAID's Office of



American Schools and Hospitals Abroad (ASHA), WGM and Tenwek Hospital constructed an Eye-Dental building, which has grown its treatment capacity to 30,000 eye patients per year, including an estimated 7,400 children. This number, however, only represents 16 percent of people visually impaired in the region. The other 84 percent remain in need of eye care for often treatable eye disorders. Following its completion, the new facility needed additional ophthalmology

equipment to support the vastly expanded coverage of quality eye care services. Through the CBP project, WGM has significantly enhanced pediatric eye care by providing essential exam room equipment, including durable exam chairs, instrument stands, slit lamps, tonometers, and indirect ophthalmoscopes.

The Impact

Through the project, the World Gospel Mission achieved the following:

- Distributed essential equipment to the Tenwek hospital to outfit four ophthalmic exam lanes including indirect ophthalmoscopes, exam chairs, floor units, slit lamps, and tonometers
- Increased the hospital's capacity to provide western-standard quality eye care and eye surgery for children in southwest Kenya.