Third Annual Meeting of the

Coalition for Global Hearing Health

May 30 - June 1, 2012
Pretoria, South Africa

Making Hearing Health a Global Priority

coalitionforglobalhearinghealth.org

Welcome to Pretoria, South Africa!

The Third Annual Conference of the Coalition for Global Hearing Loss is being held at the Eduplex in Pretoria, South Africa on May 30 – 31, 2012.

Our first conference, held in Washington D.C. in June of 2010 was a great success with over 75 participants representing all aspects of hearing healthcare professionals, deaf educators and patient advocates from 14 countries.

The second conference in Los Angeles, California was equally successful with extended discussions about the highest priority needs in hearing health care around the world. At the 2011 conference we identified the priorities and action items where the coalition can have the most impact. At the upcoming 2012 Coalition for Global Hearing Health Conference we will continue to define our goals on these issues.

The purpose of the Coalition for Global Hearing Health is to:

Advocate for policies pertinent to hearing health care practices in a humanitarian capacity by directing professionals, students and stakeholders to existing policy

Create topical guidelines in various languages (eg: cochlear implant candidacy in developing countries; telehealth in underserved areas; etc)

Encourage dialogue and consensus amongst and between professionals globally to achieve topical policy

Equip hearing healthcare professionals by educating societies and organizations on available resources provide networking opportunities through regularly provided coalition conferences

Empower families, educators, communities and those who have ear/hearing difficulties by addressing holistic/complete needs within the context of the available resources found in the underserved region

Perpetuate Best Practices by engaging recipients of humanitarian services in dialogue about their priorities, needs, resources

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Wednesday — May 30, 2012

Morning Activities

8:00 – 9:00	Registration (Coffee available)
9:00 – 9:45	Welcome and Introduction
9:45 – 11:00	Small Group Topic Discussions
11:00 – 11:30	Break

11:30 – 1:00

Plenary I: Best Practices

15 minute presentations with discussion following

1. **CBM's "Model project" for Ear and Hearing Care (EHC) — Diego Santana-Hernandez** (Bolivia)

   CBM is not looking for a "perfect model" of a project (there is none), but for a project/partner which has key people who are keen to work and develop its EHC work, adhering to CBM guidelines and criteria of success in the long term so that they can serve as a reference point to others in their country or region simply stating by its visible work that "it can be done," therefore it can be replicated.

   A model project can be strong in some of the components and not so strong in others. However, it would try to develop all components within its partner organization, or would create links and alliances with others (ideally within the National Health Service). Specific components, include involvement of the "Model Project" in the following aspects of EHC work, as delineated in the CBM EHC Strategy:

   - Raising awareness and knowledge to be able to change attitudes; International alliances are key.
   - Prevention of Hearing Loss and Ear diseases; This is approached in the wide understanding of prevention used by WHO: Primary, Secondary and Tertiary Prevention.
   - Resources: The partner is sufficiently equipped or in the process of being equipped. Special emphasis to Capacity Building availability: the key persons/professionals are trained or can be trained.
   - Access: CBM is trying to work with WHO and Ministries of Health to include EHC into their already existing Primary Health Care systems.
   - Advisory Work: Most regions lack EHC advisors. Here is where CBM, with the help of Regional Offices, are trying to identify candidates to train as Regional Advisors who would work with the partners to ensure the success of the EHC project.

2. **Best Practices in Primary Ear and Hearing Care — Arun K. Agarwal** (India)

   Best practices for primary ear and hearing care are practices which operate at different levels of health care facilities with profocus on community. They function to raise awareness regarding the problems – its prevention and treatment – while at the same time making appropriate services available and accessible to the community. Such practices have to be adapted to the needs of the people, in line with the ethnic and cultural trends of that community, and sustainable over time.

   The Society for Sound Hearing and the Sound Hearing 2030 program has been involved in the development, field testing, and promotion of such practices. It has developed a

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variety of concepts including the concept of community based infant hearing screening, combining ear care services with eye care services, school based ear and hearing check-ups, healthy ear district, and less noise cities.

Since its inception in 2005, Sound Hearing 2030 has evolved and field tested these concepts in the South East Asia region. It has also worked at the National levels within the eleven countries of this region to promote formation of national committees, national level strategies, and programs for prevention of hearing loss and ear diseases.

3. Public Health Approach to Prevention of Hearing Loss - Recent Info and Actions — Andrew Smith (UK)

Primordial, primary, secondary, and tertiary prevention can prevent hearing loss occurring or arrest or reduce its effects. A strategy for effective prevention makes changes in the population as a whole and not just in the high-risk minority. This occurs through mass public health initiatives or changes in behavior that target key risk factors. Reducing hearing loss by relatively small amounts in the many people in a population with mild, moderate, and moderately severe hearing loss is likely to have a greater effect on the total epidemiological burden than targeting the few with severe or profound loss. The World Health Organisation (WHO) and other organizations such as WWHearing are adopting this approach and setting up large-scale interventions to make a difference in populations (those with severe and profound hearing loss would be targeted by different levels of the health system).

The most effective vehicle for these population-based interventions is Primary Ear and Hearing Care as part of Primary Health Care, which is a key element of the new WHO plan of action. A second key intervention that will make a major reduction in the global burden is the provision of affordable and effective hearing aids and services to all who need them in underserved parts of the world. WWHearing is involved in this activity, in collaboration with WHO.

Large numbers of trained personnel are needed, especially at basic levels, to plan for and carry out these approaches. The WHO Training Resource for Primary Ear and Hearing Care is being used for training in several regions and new courses have recently been developed that are empowering planners and trainers in critical positions within countries to bring these approaches through to fruition. However, available resources to address hearing loss in these ways are still inappropriately small compared to other conditions, despite its huge cost to society and its effects on equity.

4. Early Intervention for Children with Hearing Loss: It Begins at Birth — Selvarani Moodley (S. Africa)

Research has shown that from the moment a baby is born, she needs full and equal access to language and communication in order to develop typically. This right to develop to the fullest, as well as the right of the child to participate fully in family, cultural, and social life are enshrined within the convention on the rights of the child. In the majority of developing countries however, infants with hearing loss are only identified late, impeding on typical development and thus their full rights as children.

This paper presents an overview of the HI HOPES early intervention program, from inception to implementation, focusing on its innovative services and practices as well as quality assurance mechanisms for early intervention programs.

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5. Status of Newborn Hearing Screening in the World — Karl White and Karen Munoz (USA)

There are published reports of newborn hearing screening programs in at least 62 countries. The available information suggests that at least 7 of these countries are screening 90% or more of their newborns, 9 are screening 25-89%, and 46 countries have implemented pilot programs that affected fewer than 25% of their babies.

Having better information about the status of newborn hearing screening programs in countries around the world would be helpful for policy makers, government leaders and health care providers in all countries. This presentation will describe an innovative method for collecting and updating such information using a self=correcting approach similar to wikipedia. A website displaying such information for a few countries will be shown and used as the basis for discussion.

1:00 – 2:30 **Lunch Break**

2:30 – 4:15 **Plenary II: Family/Community Empowerment**
15 minute presentations with discussion following

6. Together We Can Do More: Education, Community, and Medical Services — Sian Tesni (Wales)

CBM is an international Christian development organisation, committed to improving the quality of life of persons with disabilities in the poorest countries of the world. CBM's vision is one of an inclusive world in which all persons with disabilities enjoy their human rights and achieve their full potential.

CBM promotes an 'Inclusive Development' approach to achieving this goal. This presentation aims to present an Inclusive Development approach with respect to Ear and Hearing Care through educational, CBR and medical services.

In Northern countries ear and hearing care programmes are largely based in Health related / Medical services. In Southern countries however, such services are generally provided through schools for the deaf / community based educational / rehabilitation services including:

- Community ear and hearing care awareness programmes
- Ear screening camps
- Provide hearing aid and related services
- Training in ear and hearing care
- Tertiary ear care services are often:
- Centre based, whilst educational and CBR services are generally community based
- At best there are limited tertiary services as the number of ENT and other related professionals are few in number per population

The challenge is getting primary, secondary and tertiary services to collaborate. There are instances of promising practice which highlight the effectiveness of such collaborative approaches in this field of work.

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7. **Diagnose and Treat the Whole Person: Dealing with Multiple Layers of 'Gaps' that Need to Be Filled - From the Service User to Professionals — Sally Harvest** (Ireland)

   Promotion and delivery of sustainable hearing care services is challenging for all developing countries, and even some developed countries! The topic is hardly addressed in the training of hearing care professionals. Ensuring close working relationships between service providers and development of sustainable services is very important and requires innovative approaches to raising awareness and the development of services in different cultural settings.

   How do we deliver these services when so few people are even aware of the impact of hearing loss? There is still a stigma about people with hearing loss or wearing hearing aids that is a barrier to those who need help.

   Where do these people go for support? With so few professionals in the field with appropriate training and very few dedicatedclinics/services available and accessible we have to look at raising awareness of the impact of hearing loss.

   How do we deliver a support program if both those with hearing loss as well as professionals have little understanding of what it feels like to have a hearing loss? The emotional and psychological impact for individuals and their families with hearing loss needs to be considered. Approaches that support the development of skills and behaviours to cope with hearing loss, the empowerment of people to engage with others, and developing confidence for societal interaction are needed.

   One approach has been to encourage socialization amongst people facing similar challenges with a view to experiential learning, sharing of best practice and taking ownership of challenges and solutions. Those with hearing loss (and who accept and manage it as best they can) are a great source of information.

8. **Hear and Say World-Wide: Hear and Say Our Knowledge — Dimity Dornan** (Australia)

   Hear and Say is a program for 520 plus children with hearing loss and their families in Queensland, Australia. Our services supporting listening and spoken language development include Hear and Say Children and Families (hearing technology and education services for children and families), Hear and Say Research and Innovation (neoroscience, innovation in hearing technology and education, and e-learning,) and Hear and Say WorldWide (sharing our message globally). Our university based research shows that Hear and Say childen have the potential to progress at the same rate as children with normal hearing.

   Hear and Say WorldWide specializes in training and development for parents, teachers and hearing professionals, either face to face or e-learning. This presentation outlines Hear and Say WorldWide training courses and resources and presents the rationale and research evidence behind the education of parents simultaneously with children for optimal developmental progress in listening, spoken language, and literacy. We would like to pass on our message that deaf children are able to listen, speak, and receive an education that fits them for employment and for life.

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9. Reducing the Burden of Avoidable Childhood Hearing Loss: Are We Doing Enough? — Bolajoko Olusanya (Nigeria)

Universal infant hearing screening programs now provide improved platform for investigating the etiological/risk factors for early-onset permanent hearing loss compared with the more common studies in school-aged deaf children. Such context-specific data not only serves the need for targeted infant hearing screening programs but also provides valuable insights into the incidence of avoidable hearing loss in resource-limited settings. Even with the best of early detection and intervention services the societal burden of childhood hearing loss over a life course are still substantial while the economic costs are well beyond the reach of most families and their communities. Therefore, early hearing detection programs in resource-limited countries should ideally be complemented with efforts to curtail the burden of hearing loss associated with the most prominent but preventable adverse perinatal conditions.

This presentation will outline novel low-cost and effective efforts in curtailing the burden of avoidable hearing loss associated with severe neonatal jaundice in Nigeria within the framework of two robust pilot hospital and community-based infant hearing screening programs in this country.

10. Empowering Parents and Fostering Parent Groups — Joanne Travers (USA)

Having a child with hearing loss is an intensely personal experience for many parents. They may not know how to seek help, what questions to ask, nor understand the responsibilities that await. Their feelings are often held inside. Because parent experiences and their journey with a deaf or hard of hearing child is personal, parent-to-parent interaction is essential. Parents need to feel connected to a group that enables them to learn, trust, and confide in one another. Having a child with hearing loss can be very isolating, and parent groups embrace parents no matter how difficult the situation.

Oftentimes parents are not comfortable talking about these moments with doctors. It's important for professionals to acknowledge that parent support requires outside partnerships and a strong sense of community. Parent groups foster understanding of hearing health, but also support many other needs relevant to social, emotional, education, and economic challenges. This presentation explores ways to ignite parent support groups within a community.

4:15 – 4:30 **Break**

11. Aural (Re)habilitation: THE Predictor of Hearing Health — Ron Brouillette (Tanzania)

Given an informed choice, most folks would choose a cupped hand and tailor-made auditory-verbal strategies and skills over the cost and maintenance of a state of the art hearing aid delivered with imprecise counseling and scant therapeutic follow-through.

What ever happened to the old art and science of Aural Rehabilitation? What's new and exciting in AR that demonstrates through clinical evidence the efficacy of AR? How can we reintroduce and promote AR practices in a hyper-technological and health insured world, or in places of subsistence? This presentation addresses these challenges that, when met, can lead to the ultimate outcome: restored communication.

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12. Early Hearing Intervention in South Africa: Longitudinal Tracking of EHDI Data
— Selvarani Moodley (S. Africa)

The importance of EHDI in South Africa is being recognized as evidenced by the development of the Early Hearing Detection and Intervention Position Statement. While this is an important step in improving current statistics of late identification and intervention, it is only through evidence based studies that we will be able to determine what is "successful" intervention in the developing world.

The home-based early intervention system in South Africa (HI – HOPES: Home Intervention Hearing and Language Opportunities Parent Education Services) has collected 5 years of data on language development of deaf/ hard of hearing children that are receiving intervention based on family support and empowerment.

Data will be presented on language modality choice, amplification, cause of hearing loss, referral sources for EI services, and demographic information. Case studies will be presented to highlight important point and lessons learned in the intervention process.

5:00 – 6:00

Plenary III: Technology (part 1)
15 minute presentations with discussion following

13. Validity of Diagnostic Audiometry Without a Sound-Treated Environment
— Felicity Maclennan-Smith, De Wet Swanepoel, James W. Hall III, Dirk Koekemoer (S. Africa)

Reliable diagnostic pure tone audiometry typically uses a sound booth, with sufficiently low ambient noise levels to allow accurate threshold assessment to 0 dB HL. The expense, size, and immobility of sound-treated booths makes it difficult to do diagnostic audiometry in lower income countries.

This study investigated the validity of hearing threshold testing in a natural environment using a recently validated computer-operated audiometer (KUDUwave) equipped with insert earphones covered with circum-aural enclosures that include external microphones to monitor environmental noise.

147 elderly adults (average age 76 years) were assessed with air and bone conduction pure tone audiometry with the automated audiometer in a retirement facility. The threshold findings for these subjects were then reassessed in a sound booth to validate the reliability of these measures.

Air conduction thresholds corresponded within 0 to 5 dB in 95% of all comparisons between testing in the natural and sound booth environment. Bone conduction thresholds corresponded within 0 to 5 dB in 86% of comparisons. Average threshold differences (-0.6 to 1.1) were within typical test retest reliability limits. Thresholds in the natural and sound booth environments showed no statistically significant differences except at 8000 Hz in the left ear.

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14. Asynchronous Video-Otoscopy Using a Hearing Health Telemedicine Facilitator
— Leigh Biagio, De Wet Swanepoel, Adebolajo Adeyemo (S. Africa, Nigeria)

The study was designed to determine if video-otoscopic images taken by a trained hearing health telemedicine clinic facilitator are sufficient for an Otolaryngologist to make an accurate asynchronous diagnosis.

Video-otoscopic images recorded by the facilitator and subsequently by an Otolaryngologist were compared to conventional otoscopic examination, as the gold standard, documenting tympanic membrane surface structure, thickness, colour, position, and diagnosis. The resulting 240 video-otoscopic images were stored in an online database and assessed six weeks later by an Otolaryngologist.

Cohen's kappa confirmed moderate diagnostic concordance between images acquired by the otolaryngologist and facilitator. The sensitivity and specificity of video-otoscopic images acquired by the otolaryngologist were comparable at 0.75 and 0.69 compared to facilitator images (sensitivity = 0.76; specificity = 0.70).

A slightly higher odds ratio was calculated for the detection of middle ear pathology using asynchronous evaluation of facilitator images than for otolaryngologist images when compared to conventional otoscopy.

Due to the lack of depth perception afforded by video-otoscopic images and questionable clinical diagnostic value, diagnosis of Eustachian Tube dysfunction was reclassified as normal for statistical comparisons. This resulted in the diagnostic odds ratio increasing considerably, as did specificity. However, diagnosis could not be made from 12 facilitator acquired images compared to only five otolaryngologist images.

15. Cell Phone Based Hearing Screening: Experience with the iPhone
— Kerry Gudlewski, James E. Saunders (USA)

Cellular telephones are relatively complex electronic devices with acoustic output. They are also widely available in the developing world. We explore the possibilities and challenges of performing hearing screening in rural environments with cell phone based technology through our experience with an application for the iPhone.

We report on our experience using this device application to do basic hearing screening in rural Nicaragua schools and homes. We compare these audiometric findings with screening audiometry using a portable audiometer in the field and with standard audiometric findings in a sound proof environment.

The challenges of device calibration, background noise elimination and the variability of the headphone frequency response characteristics will be addressed.

6:00 – 6:45 **Reception and Cocktails**

6:45 – TBA **Traditional South African Braii (Dinner)**
Prioritizing Hearing Health for Africa: Challenges and Opportunities
Keynote Speaker: De Wet Swanepoel

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8:00 – 9:00

Breakfast
Discussion: How to Move the Coalition Forward

9:00 – 10:20

Plenary IV: Advocacy / Other
15 minute presentations with discussion following

16. Screening for Noise Induced Hearing Loss Among Military Personnel in Saudi Arabia — Saud Alsaif, Moh Abdeltawab (Saudi Arabia)

Objective:

- To study the effect of noise exposure on hearing sensitivity of the screened study group
- To analyze specially designed questionnaire for noise exposure
- To compare between hearing impairment in different noise exposure categories.
- To assess the awareness of the screened personnel for noise exposure and the use of hearing protection measures

Materials and methods: As a first part of the screening study, 1,879 subjects were evaluated (860 land force, 358 air force, 378 air defense, 283 from navy).

First noise exposure survey filled by the study group. Then outreach groups screened all the military personnel in the field, screening air conduction pure tone audiogram was done for each participant. Patients who did not pass the screening air conduction pure tone audiogram were referred to the ENT and audiology unit for further evaluation, complete history, otological examination, tympanometry, and OAEs.

Results: The average duration of duty for the study group was 10.26 ± 8.06 years. 33.9% were cigarette smokers. 188 subjects out of 1,879 (10%) did not pass the screening air conduction pure tone audiogram and were referred to audiology clinic.

Discussion and conclusion: 10% of high risk noise exposed subjects had high frequencies hearing loss. This hearing loss could be minimized with the proper use of the hearing protective devices on exposure to intense noise levels, as noise induced hearing loss is preventable by the proper use of the hearing protective devices.

17. Raising Awareness and Involvement of For-Profit Organizations Through Collaboration with Nonprofits and Education of the Law — Christyne J. Vachon (USA)

Cross sector collaborations between non-profit (NPO) and for-profit organizations (FPO) create more opportunities to benefit a philanthropic goal at various levels of engagement. On the one hand, an FPO may simply make a donation to an NPO. On the other hand, an NPO and an FPO may achieve more collective action on a regular basis, integrating businesses.

FPOs and NPOs differ in their focus: profit maximization vs. philanthropic mission. An NPO can benefit from collaborating in, among other things, access to funds, resource and time donations, availability of new ideas, learning and expertise, developing new contacts and business avenues, and broadening the NPO's market.

An FPO may benefit from collaborating by improving good will and respectability of its corporate image by association with the NPO, engendering trust, accessing new

learning, creating new markets, and attracting new employees.

This presentation will discuss how NPOs and other stakeholders can engage FPOs to work towards a philanthropic goal in hearing health through understanding the business interests and legal concerns of the FPO and how to draw interest from the FPO management by affirmatively providing answers to their unasked questions, making it easier for an FPO to say "yes."

18. Early Detection of Infant Hearing Loss in the Private Health Care Sector of South Africa — Miriam Elsa Meyer, De Wet Swanepoel, Talita le Roux, Mike van der Linde (S. Africa)

A national survey of early hearing detection services was undertaken to describe the demographics, protocols, and performance of early hearing detection practices in the private health care sector of South Africa.

All private hospitals with obstetric units (n=166) in South Africa were surveyed telephonically. Self-administered questionnaires were subsequently distributed to all audiology private practices providing hearing screening at those hospitals (n=87). Percentages, frequency distributions, and statistical associations between variables were explored.

Newborn hearing screening was available in 53% of private health care obstetric units of which only 14% provided universal screening. Most (81%) of the healthy baby screening programs used only oto-acoustic emission screening. Auditory brainstem response screening was employed by 24% of neonatal intensive care units with only 16% repeating auditory brainstem response screening during the follow-up screen. Consequently 84% of neonatal intensive care unit hearing screening programs will not identify auditory neuropathy. A referral rate of less than 5% for diagnostic assessments was reported by 88% of programs. Follow-up return rates were reported to exceed 70% by only 28% of programs. Using multiple methods of reminding parents did not significantly increase follow-up return rates. Only 10% of programs using an electronic database for data management.

A shortage of programs and suboptimal screening protocols mean the majority of babies with hearing loss in the South African private health care sector will not be identified early. Newborn hearing screening should be integrated with hospital-based birthing services, centralized data management and quality control.

19. Making a Case for Cochlear Implants in Developing Countries — James E. Saunders, Debra Tucci, David Barrs (USA)

Cochlear implants are an effective treatment for many patients that cannot benefit from hearing aids and has been shown to be cost-effective in industrialized nations due in large part to improved educational outcomes and reduced educational costs especially for early implantation of profoundly hearing-impaired children. The situation in developing countries is less clear due differences in the educational savings and the potential economic benefit. The cost-benefit ratio of cochlear implants would be improved with the development of a less expensive device. However, cost benefit analysis of cochlear implantation in these environments must include the training and infrastructure costs of providing these services. We compare the potential cost-effectiveness of cochlear implantation to an existing residential deaf education program in rural Nicaragua using a decision tree analysis. Using this initial analysis, the estimated cost/benefit of cochlear implantation in terms of DALYs averted meets the WHO criteria for a cost effective intervention.

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20. Insights from Running Primary Ear Care Camps at St. Paul's Musami Mission
— Emmanuel Haruperi, Abel Rarayi, John Matsekete, Sibongile Chikombore, Clemence Chidziva (Zimbabwe)

St. Pauls Musami Mission, one of the rural districts in Zimbabwe, has a high burden of ear disease hence ENT camps with the objective of raising awareness, training interns to identify ear infections, treat, refer, and highlight the challenges faced by the community and ways to reduce the burden of hearing loss were conducted.

Method: Wizear trust carried out workshops to train primary care workers equipping them with both theory and basic skills to identify/treat ear infections and increase awareness of ear hygiene. ENT clinics helped interns practice using the otoscope and pure tone audiometry was used for hearing assessment.

Results : Over a period of eighteen months, five visits were conducted at St. Paul's Musami Mission and a total number of 277 patients were seen (128 males and 149 females). A wide spectrum of ear conditions were seen with the most common being impacted wax, congenital and acquired sensorineural hearing loss, chronic suppurative otitis media and otitis externa. Standard treatment was given.

Conclusion : among the ear diseases seen acquired conditions comprised 33.5% and most of the acquired conditions were easily preventable. Among those with snhl the majority had profound hearing loss and a significant number needed hearing aid assessment. It was also noted that the community had little knowledge on ear care, had shortage of teachers with special education skills and more help was needed to help meet the needs of a deaf child.

21. A Comprehensive Approach to Primary Ear Care in Zimbabwe: The Wizear Concept Expanded
— Emmanuel Haruperi, Abel Rarayi, John Matsekete, Sibongile Chikombore, Clemence Chidziva (Zimbabwe)

WizEar is a network of self-sustaining hearing healthcare resource centres that are reaching the most disadvantaged communities in Zimbabwe and Sub-Saharan Africa. WizEar focuses on education and social integration of the deaf/hard hearing child with emphasis on:

- Primary Hearing Healthcare – our training and development is designed to create awareness and support communities to prevent ear diseases and hearing loss. WizEar primary hearing healthcare programmes involves theaffected communities in ways that they own the process and work towards sustainability in these communities.
- Testing, treating minor problems, and providing hearing devices – we conduct ear-outreach programs where we see deaf/hard of hearing children with ear infections and suspected hearing loss.
- Training and Development – our primary resource is knowledge on how to help and support deaf/hard of hearing individuals. WizEar is workingwith its collaborators to share this knowledge to all those that support deaf/hard of hearing individuals at family level, in schools, hospitals and communities.
- Educating the Deaf/Hard of Hearing Child – we are working with Ministry of Education to ensure that all districts have schools with a "WizEar" type of facility to test hearing loss as well as train teachers to mange deaf/hard of hearing child.
- Social Integration - WizEar helps deaf/hard of hearing individuals move into the mainstream of society so they contribute more to their families and communities.

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Plenary V: Technology (part 2)

15 minute presentations with discussion following

22. Making Hearing Aids Accessible in Brazil: From Academia to Patient's Ear — Silvio Pires Penteado (Brazil)

Brazil provides hearing aids to any Brazilian citizen or legal resident. Seven of 10 hearing aids traded in Brazil are provided according to the public policies. Researchers have designed hearing aids and performed tests with patients to conclude that it is possible to design government-fitted hearing aids based on off-the-shelf components rather than specific application components.

The end products included contemporary features such as tinnitus therapy, datalogger, and adaptive directionality to name a few.

The benefits are enourmous: short time-to-market, better control over production and service variables, inventory, etc.

The end products can be serviced by the end-user when the warranty period is over, rather than discarding the hearing aid and making an appointment to get a new hearing aid.

All products are consistent with WHO Guidelines for Hearing Aids and Services for Develping Countries.

23. The LittlEARS Auditory Questionnaire: A screening tool beyond Newborn Hearing Screening — Katrin Neumann, Frans Coninx, Karolin Schäfer, Yaw N. Offei (Germany)

Neonatal Hearing Screening (NHS) basing on physiological methods (OAE/ABR) is the gold standard for detecting childrenwith hearing loss as early as possible. However, hearing screenings beyond NHS are required because (1) NHS may not be implemented in an area, (2) NHS misses acquired hearing losses, and (3) some babies are not enrolled in NHS or are lost to follow-up.

A hearing screening procedure for children up to to 3 years has been derived from the LittlEARS Auditory Questionnaire® (LEAQ) and validated. The LEAQ is a parent questionnaire for tracking the auditory development of children from age 8-24 months of age. The screening instrument comprises 35 items which can be answeredin 5-7 minutes. It has been translated into a couple of languages and may be used internationally as a screening tool or for monitoring the development of children with hearing loss.

The LEAQ was used by 50 pediatricians in pediatric checkups in Germany which are usually done between 10 to 12 months. A follow-up study 3 years after the initial screening assessed the hearing status and the general developmental status of those children who failed the screening. Of 4998 children screened with the LEAQ, 7 were identified with permanent hearing loss. LittlEARS® seems to be useful for Hearing Screening of children aged 10-12 mos.

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11:00 – 11:15 **Break**

24. Using Inexpensive and Universally Available Software to Share Data for Medical Missions
— David Molter (USA)

Medical missions often require complex planning. Information needs to be shared domestically and in the developing nation. Techniques will be described to share information using the internet, but with the same information stored locally so it can used in settings where the internet is not available. Types of data could include general logistics, medical supplies (local or imported), patient lists, and individual patient data. A remarkable variety of data input techniques are available including typed notes, lists, scanned paper notes, electronically transcribed notes (the magic pen), web pages, e-mails, audio, photographs, and radiographs. Of note, these tools are not HIPAA compliant and should not be used for patients residing in the US.

25. Two-way Video Conferencing for Providing Educational Services to Deaf Children and Their Families
— Karl White and Kristina Blaiser (USA)

After deaf children are identified, they must receive ongoing educational and audiological services if they are to make progress in language, academic and social skills. The relatively small number of deaf children in the general population and shortages of trained providers create substantial challenges to delivering these services, especially in developing countries. This presentation will discuss the potential of using inexpensive two-way video conferencing solutions such as Skype and FaceTime with iPads to deliver such services. Videotapes of actual services being delivered will be used to discuss the potential, the challenges and possible solutions.

26. Experience with comprehensive audiological evaluations in Tanzania
— Maro I, Moshi N, Neke N, Clavier O, Kline-Schoder R, Wilbur J, Chambers R, MacKenzie T Jastrzembski B, Fellows A, Mascari J, Turk, M, Bakari M, Waddell R, vonReyn CF, Buckey J
(USA and Tanzania)

As part of a National Institute for Deafness and Communications Disorders supported study, we have been evaluating hearing problems in a cohort of HIV+ and HIV- adults and children in Dar es Salaam, Tanzania. The study examines the relationship of hearing loss to drugs, infections, and the duration of HIV treatment, and so requires a comprehensive audiological assessment. Study participants complete a battery of auditory tests using a laptop-based, hearing assessment system that includes standard audiometry, distortion product otoacoustic emission testing, a gap detection test, and tympanometry. Auditory brainstem response testing is also used for testing children. To date, 484 individuals (338 HIV+, 146 HIV-, average age 40 years) have been studied. The study includes 162 men, 322 women.

Experience with the testing system shows that: (a) threshold audiometry can be performed reliably without a sound booth using a passive noise-attenuating headset, (b) gap detection testing can be done successfully with proper training, and (c) video-based questionnaire administration provides a consistent method for acquiring subjective information on hearing. This presentation will present the current study data, and review the technology used.

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Afternoon Activities

27. International Hearing Care Technician Certificate Program — Richard Gans, Jackie Clark, James Hall (USA)

Of the estimated 278 million children and adults (almost 5%) of the world's population who have hearing loss, most live in developing countries. When considering that there will continue to be insufficient number of audiologists, otolaryngologist, or other trained hearing health providers to meet this capacity, there is an urgent need to expand and build sustainable hearing health services in developing countries. Capacity building for hearing health services have the promise of enhancing local economies by creating new jobs. With the ease of accessing web-based educational programs, the implementation of a global hearing care technician education which culminates in a certificate is now easily attainable. A fruitful collaboration between The American Institute of Continuing Medical Education and the University of New England College of Osteopathic Medicine has resulted in the creation of the International Hearing Health Technician Certificate Program that will be one way of addressing the need for hearing healthcare professionals in developing countries. This presentation will provide a description of the curricula, faculty and ultimate student registrants.

12:00 – 1:15

Plenary VI: Training / Education

15 minute presentations with discussion following

28. FDB (Fundación Doctor Barajas) Plan for audiological technician training. Project duration : 3 years — Jose Juan Barajas (Spain)

Fundación Doctor Barajas (FDB) is an NGO established by Jose J. Barajas de Prat in Tenerife (Spain) in 1984. The aims of the charity are: a) Diagnostics and treatment of ear diseases b) Research in the auditory system c) Teaching in audiology. FDB seeks to work with other NGOs in Sub-Saharan African Countries to train individuals in the management of ear disease and hearingevaluation.

An international collaborator with experience in the area (e.g., CBM or CGHH) will identify the group of people, as well as the most appropriate place in which training could be done. FDB will provide its teaching professional expertise in the field of audiology and the Ear Care. The training team will include a fully trained ENT in practice and an Audiologist for training in audiometric techniques and also Hearing Aid adaptation.

Financial and Technical Sustainability Funds will be raised in joint collaboration by FDB and its partner NGOs. These initial activities should be monitored and evaluated by: a) Permanent contact through internet and when possible and advisable by Teleconference, and b) Visits (at least once a year) from FDB, and/or partner NGO to the particular country where the services are delivered. FDB will periodically re-evaluate the achievements of each project and maintain a flexible attitude to take advantage of evolving and changing situations.

AGENDA

Thursday — May 31, 2012

Afternoon Activities

29. Early Identification and Intervention of Hearing Loss in Children: A Case for Audiological Training Program in Nigeria — W. O. Owolawi (Nigeria)

The prevalence and incidence of hearing loss have continued to rise, even in developed countries of the world where resources, technology, and professionals abound. Across the globe, more than 278 million people are said to have moderate to profound hearing loss in both ears. Adrian Davis (2011) revealed a staggering figure of >700 million people suffering from hearing loss of more than 25dB by the year 2015 globally.

In Africa, children are the most vulnerable of this impending scourge due to lack of any national early detection, early intervention policy, or mechanism. In Nigeria alone, 14% of all school children are said to have some kind of hearing loss.

Nigeria, with a population of approximately 160 million people unfortunately has no single communication disorders program in any of its Medical/Health Institutions. Well-trained and clinically certified audiologists are few and far between. Wilson J (1985) and Oyiborhoro, John (1988) in their respective studies highlighted the acute shortage of trained personnel in audiology in a developing country as Nigeria.

This paper therefore advocates for a coordinated efforts amongst global professional bodies to institute a regional group that will serve as an advocate of training of professionals in grossly underserved populations where governments and institutions are prone to giving automated response of lack of funds for anything unrelated to mainstream medical/surgical training.

30. Can We Improve the Care of Children with Disabilities? — James D. Smith (USA)

Services for children with disabilities, including audiology, are often a low priority in many countries. Access to diagnosis and special services such as audiology, speech therapy, physical therapy, special education and pediatric neurodevelopment specialists are lacking because of cost and a shortage of trained personnel. In October 2010 Gertrude's Children's Hospital in Nairobi, Kenya and a short term team sponsored by Medical Education International cooperated in sponsoring a one week workshop to provide training for various disciplines working with children who had autism, cerebral palsy or developmental delay. The goal was to transfer skills by updating the attendees on current diagnosis and therapy, as well as giving basic skills for cross training in the various disciplines. After one year the average age of referral to the Developmental Clinic at the hospital dropped from age 8 to age 3. This paper will discuss the goals and format of the workshop as well as future plans to provide the training to a wider audience in East Africa.




AGENDA at-a-glance

Friday — June 1, 2012

Optional Post-Conference Tour

Time - TBA

An Intimate Look at Tele-Audiology Engaged in Social Action

Join us for an afternoon where innovation and social action are making a difference to hearing health for many. Experience Tele-Audiology in a primary care setting in real time. This tour will start with a visit to GeoAxon Tele Health, an innovator of mobile medical devices, designed to address the need for access to health services to under resourced areas. GeoAxon is located in a Pretoria suburb.

See up close how GeoAxon's KUDUwave mobile clinical diagnostic audiometer is manufactured. Sit in while Dr Dirk Koekemoer conducts a hearing test on a patient at a Primary Care Clinic in Witkoppen, a few miles away via Tele-Audiology. Later visit the Witkoppen Clinic to see up close the need, meet the people, see the facilities available and the Tele-Audiology Clinic in action. Find out more about the link between hearing loss and TB in South Africa.

Witkoppen Health and Welfare Clinic, located in greater Johannesburg, was establish 60 years ago by two local doctors in response to a lack of health care facilities in the area. It is an NPO that was registered as a feeding scheme and then a welfare organization. Witkoppen is one of the few clinics in South Africa providing leading technology in rapid point of care TB Diagnostics.

South African refreshments will be served. This is your opportunity to experience a slice of the heart of South Africa.

Tour will be limited to 10 persons.

Cost: TBA

AGENDA at-a-glance

Time	Presentation #	Presenter(s)	Session
WEDNESDAY - MAY 30, 2012			
8:00 AM - 9:00 AM			Registration; Coffee
9:00 AM - 9:45 AM		Saunders & Clark	Welcome and Introductions
9:45 AM - 11:00 AM			Small Group Topic Discussions
11:00 AM - 11:30 AM		***BREAK***	
11:30 AM - 1:00 PM		***Plenary I: Best Practices (15 minutes each with discussion at end of session)***	
	1	Santana-Hernandez	CBM's model project for Ear and Hearing Care (EHC)
	2	Agarwal	Best Practices in Primary Ear and Hearing Care
	3	A. Smith	Public Health Approach to Prevention of Hearing Loss – Recent Information & Actions
	4	Moodley	Early Intervention for Children with Hearing Loss: It Begins at Birth
	5	White & Munoz	Status of Newborn Hearing Screening in the World
1:00 PM - 2:30 PM		***LUNCH***	
2:30 PM - 4:15 PM		***Plenary II: Family/Community Empowerment (15 minutes each with discussion at end of session)***	
	6	Tesni	Together we can do more: Education, Community and Medical Services
	7	Harvest	Diagnose And Treat The Whole Person: Dealing With Multiple Layers Of 'Gaps' That Need To Be Filled - From The Service User To Professionals
	8	Dorman	Hear and Say World-wide – Hear and Say Sharing Our Knowledge
	9	Olusanya	Reducing the burden of avoidable childhood hearing loss: Are we doing enough?
	10	Travers	Empowering Parents and Fostering Parent Groups
4:15 PM 4:30 PM		***BREAK***	
4:30 PM - 5:00 PM	11	Brouillette	Aural Rehabilitation: the tie that binds hearing the hearing health care movement
	12	Moodley	Early hearing intervention in South Africa: longitudinal tracking
5:00 PM - 6:00 PM		***Plenary III: Technology Part 1 (15 minutes each with discussion at end of session)***	
	13	McLelland-Smith, et al.	Validity of Diagnostic Audiometry Without a Sound-Treated Environment
	14	Biogio, et al.	Asynchronous Video-Otoscopy Using A Hearing Health Telemedicine Facilitator
	15	Gudlewski, Saunders	Cell Phone Based Hearing Screening: Experience with the iPhone
6:00 PM 6:45 PM		***Reception - Cocktails***	
6:45 PM		***Traditional South Africa Braii (dinner)***	Keynote Speech: "Prioritizing Hearing Health for Africa – Challenges and Opportunities," by De Wet Swanepoe,
THURSDAY - MAY 31, 2012			
Time	***Presentation #***	***Presenter(s)***	***Session***
8:00 AM - 9:00 AM		***Breakfast – How to Move the Coalition Forward***	
9:00 AM - 10:20 AM		***Plenary IV: Advocacy & Other (15 minutes each with discussion at end of session)***	
	16	Alsaif, Abdeltawab	Screening for NIHL among military
	17	Vachon	Raising awareness and Involvement of For-Profit Organizations with Nonprofits
	18	Meyer, et al	Early Detection Of Infant Hearing Loss In Private Health Care Sector Of S. Africa
	19	Saunders	Making a Case for Cochlear Implants in Developing Countries
	20	Haruperi, et al	Insights From Running Primary Ear Care Camps At St Paul's Musami Mission – Zimbabwe
	21		A Comprehensive Approach To Primary Ear Care In Zimbabwe – The Wizear Concept
10:20 AM - 11:00 AM		***Plenary V: Technology Part 2 (15 minutes each with discussion at end of session)***	
	22	Penteado	Hearing aids to Attend to Public Policy in Brazil: From Academia to Patient's Ear
	23	Neumann	Little Ears Screening Tools
11:00 AM - 11:15 PM		***BREAK***	
11:15 AM - 12:00 PM	24	Molter	Using Inexpensive And Universally Available Software To Share Data For Medical Missions.
	25	White & Blaiser	Two-way video conferencing for providing educational services to Deaf Children
	26	Maro, et al.	Experience with Comprehensive Audiological Evaluations Tanzania
12:00 PM - 1:15 PM		***Plenary VI: Training/Education (15 minutes each with discussion at end of session)***	
	27	Gans, Clark, Hall	International Hearing Care Assistants Training
	28	Barajas	Fundación Doctor Barajas Plan For Audiological Technician Training
	29	Owolawi	Early Identification & Intervention Of Hearing Loss In Children-A Case For Audiological Training Program In Nigeria
	30	J. Smith	Can we improve the care of children with disabilities
1:15 PM - 2:15 PM		***LUNCH***	
2:15 PM - 5:00 PM		***Saunders & Clark***	Instructions for Break Out Groups; Group Work
		GROUPS	Groups Summarize Resolutions and large group discussion
5:00 PM		***Saunders & Clark***	Final Instructions and Good-byes
FRIDAY - JUNE 1, 2012			
Post Conference Tours			
8:00 AM			Tour Plant - GeoAxon
			Tour EduPlex