Making Hearing Health A Global Priority .....

Sixth Annual Meeting of the

Coalition for Global Hearing Health

October 9-10, 2015

Gallaudet University, Washington, D.C.

coalitionforglobalhearinghealth.org

Purpose of the Coalition
To advocate for hearing health services and policies, to equip and empower hearing healthcare professionals, families, educators, communities and the hearing impaired, and to encourage and perpetuate best practices.

Mission Statement
To promote and enhance hearing health services in low-resource communities.

Membership Statement
Join the CGHH movement to support our shared interest in hearing healthcare work and service that reaches low resource communities. As a member, you invest in the CGHH efforts to improve Best Practices, Family/ Community Empowerment, Technology options, Education and Training, and Advocacy in related areas of hearing health.

Coalition for Global Hearing Health

Welcome to Gallaudet and the 6th Annual Conference of the Coalition for Global Hearing Health!

Our inaugural conference, held in June of 2010 at the headquarters of the American Academy of Otolaryngology in Alexandria Virginia was a great success. Representatives from 18 countries including professionals from all aspects of hearing healthcare, deaf educators and patient advocates met and discussed common interests.

During our second conference at the House Ear Institute in Los Angeles we engaged in extended discussions about the highest priority concerns in hearing healthcare around the world and especially in low-resource settings.

In Los Angeles, we identified areas of need where the Coalition can have the most impact. We further refined our goals at our third conference at the EduPlex campus in Pretoria, South Africa. We have divided these goals into five categories: Advocacy and the Media, Training and Education, Technology, Best Practices, and Community / Family Empowerment.

During our fourth conference at Vanderbilt University Medical Center in Nashville, Tennessee we continued to focus on these five goals to further improve on and expand the information that is available to us, and to those around us.

In our fifth year at St. Catherines College Oxford, we continued these traditions with breakout discussion sessions on these topics that will evolve into CGHH Steering Committees with the goal of continuing this work throughout the year.

The purpose of each annual conference is to enable us to come together to share the challenges we have faced and the solutions we have developed, to raise awareness of important issues and to explore new technologies to help us meet our goals.

Thanks to your involvement and to the generous support of Gallaudet University, we continue our work to promote and enhance hearing health services in low resource communities.

Thank you to our hosts!
Gallaudet University

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Pre-Sessions

Thursday — October 8, 2015

9:00-12:00 **Family Support & Empowerment for Children Who are Deaf or Hard of Hearing: Considerations within Humanitarian Efforts**

—Lisa Kovacs, Candace Lindow Davies, Janet DesGeorges, Shelia Moodie (USA) SAC: Flex B

For children who are deaf or hard of hearing (D/HH), the single most important predictor of a newly identified child's success is the meaningful and effective involvement of his or her parents and family. The term, "Family Support" is often used to describe a holistic approach to providing families with resources and supports to assist them with learning how to be meaningfully involved in the care and development of their chi ld who is D/HH. This session will provide both theoretical and practical application of parent - to - parent support in a diversity of settings. The first part of the session provides a conceptual framework of parent - to - parent support for parents with children who are D/HH. The second part will focus on principles of parent - to - parent support and how parent to parent support works within the systems from various countries including the US, Canada, China, Russia, South Africa, and Kenya.

9:00-12:00 **Introduction to Public Health Planning for Hearing Impairment**

—Andrew Smith, Daksha Patel (United Kingdom) SAC 1011

Over 360 million people in the world have disabling hearing loss and 80% live in low and middle income (LMI) countries. Despite this massive problem, hearing loss is generally forgotten and neglected in these countries, and there are few trained personnel and a lack of infrastructure and programs to address it. We believe that the only way to make a difference is to set up population-scale interventions using public health methods. However most health professionals are trained only to evaluate and manage the health needs of the person in front of them, and do not realize the public health approach can be used against hearing loss. The presenters currently run 5-day courses which aim to develop an expanding cadre of people in LMI countries with the skills to set up public-health interventions and programmes for prevention and rehabilitation of hearing loss. So far over 400 people have been trained from 40 countries. This session will act as an introduction to the course by outlining key principles of public health needed to address hearing loss, and key actions needed for planning programmes on a large scale where there are scarce resources.

9:00-12:00 **Operating a Field-Based Earmold Lab**

—David Pither(Australia) SAC: Flex A

One critical component of successful and sustainable community based ear and hearing care services, in a low - and middle - income country, is prompt provision of earmolds for dispensed hearing aids. Though, earmold laboratories can ensure success, the time to train and resources required for production can be very time intensive and cost prohibitive. However, when costs are abated, the earmold lab can become a serendipitous cottage industry opportunity in a region that will benefit from a fiscal boost. This workshop will provide information about materials required as well as the protocol for production. The model created by the charity, Ears, Inc., has been used effectively in many parts of the world, and enhance d local economy with much needed cottage industry skills. The workshop will provide instruction for production materials, and suggest the infra-structure for establishing the earmo ld lab, as well as recommend training procedures for the local program partners.

Pre-Sessions

Thursday — October 8, 2015

9:00-12:00 **Tour of River School, Georgetown University Audiology, and Medstar Georgetown University Hospital**

—Tour Hosts Jamie Angus, H. Jeffrey Kim, Julie Verhoff, (USA) Off-Site

Early identification, audiology, and educational services all play an important role in helping children with hearing loss develop communication skills and language. This tour will begin at the River School. The River School was founded in 1999 as a model for the inclusive education of young children with hearing loss who can access the listening environment using cochlear implants or hearing aids. At the River School, children with hearing loss learn alongside a classroom majority of peers with normal hearing in acoustically modified classrooms. Conference delegates will learn about the River School programs and approach and have the opportunity to observe its early intervention program in action. We will then visit Georgetown University Hospital Department of Audiology Services to explore its diagnostics and hearing aid fitting programs. This will be followed by a lunch presentation about the hospital's EHDI (Early Hearing Detection and Intervention) program for newborns in Washington DC and Maryland. The day will conclude with a group discussion about the services provided by River School and Georgetown University Hospital and how they collaborate to best serve young children with hearing loss across education and hearing healthcare in the region.

13:00- 16:00 **How Emerging Findings In Neuroscience Apply to Early Intervention Practices: Addressing Brain Development and Early Visual Language in Infants, Toddlers and Young Children**

—Melissa Herzig (USA)

SAC: Flex B

The purpose of this session to is share the research findings from Visual Language and Visual Learning, a NSF-funded Science of Learning Center with a goal to better understand the biological, cognitive, linguistic, sociocultural and pedagogical conditions that influence acquisition of language and knowledge through the visual mode. Some of the topics discussed in this workshop will include: advantages of early visual language; language acquisition; visual sign phonology and the importance of fingerspelling for reading; and more. Information about available resources that VL2 produced for early intervention and families will be shared. This includes Parent Information Package, Research Briefs, various ASL Asses sment Tools, and VL2 Storybook Apps.

13:00- 16:00 **Practical Guide to Humanitarian Missions for Improving Hearing Health**

—Debra Fried, James Smith (USA)

SAC: Flex A

This workshop will be presented by an audiologist and a otolaryngologist who have more than 40 years of combined experience in organizing humanitarian outreach trips and non-profit programs in Central America, Africa, and Asia. The workshop will explore how humanitarian outreach has changed in recent years and some ethical issues inherit in doing this type of work. The practical issues related to humanitarian trips in audiology and otolaryngology will be explored including selecting a location for the work, recruiting team members, team and local site preparation, equipment needs, establishing follow up, and sustainability issues. Specific issues and methods of educating both the team members and local providers will be presented and discussed. Teaching methods employed in this pre-conference session will include lectures, presentations by a panel of experts (followed by a a Q & A session) and conclude with suggestions for best practices for humanitarian trips focusing on hearing health care.

- 7:30 - Registration
- 8:00 - Welcome & Introductions
- 8:30 - Plenary: Technology
- 9:45 - Plenary: Technology
- 11:00 - Break
- 11:15 - Plenary:Advocacy
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- 15:00 - Plenary:Empowering Families/Comm.
- 15:30 - Break
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- 18:00 - Poster Presentations
- 19:15 - Keynote Presentation

Agenda **Friday** — October 9, 2015

7:30-8:00 **Registration & Coffee** — Student Activity Center (Multi-Purpose Room)

8:00-8:30 **Welcome and Introduction** — Andrew Foster Auditorium, James Saunders & Jackie Clark

8:30-9:45 **Plenary I: Technology** — Andrew Foster Auditorium, Moderator: Katrin Neumann

Clinical Validity of hearScreen Smartphone Hearing Screening for School Children

—Faheema Mohomed-Asmail, De Wet Swanepoel, Herman Myburgh, Robert Eikelboom, James W Hall, Shouneez Yousuf Hussein (South Africa)

In developing countries, and even in some developed countries, school-entry hearing screening, if available, may be the first point of access for screening (Bamford et al. 2007; Theunissen & Swanepoel 2008). However, effective implementation of school-based hearing screening presents a number of significant challenges (Madriz 2001; McPherson & Olusanya 2008). The cost of hearing screening can be prohibitive due to the expense of audiometric equipment and the requirement for trained personnel to conduct the screening. Furthermore, school-based hearing screening usually takes place in an enclosed, unoccupied, furnished room where ambient noise levels often exceed permissible levels. Using smartphones as screening, with headphones calibrated according to prescribed standards with real-time feedback on ambient noise levels allowing frequencies to be retested, can be a possible solution. Learned objectives: The study aimed to determine the validity of a smartphone hearing screening technology (hearScreen) compared with manual conventional screening audiometry in terms of (1) sensitivity and specificity, (2) referral rate and (3) test time. Design: 1070 school-aged children in grade 1 to 3 (8 ±1.1 average years) were recruited. Children were screened twice, once using conventional audiometry and once with the smartphone hearing screening. Results: No statistically significant difference in performance between techniques was noted, with smartphone screening demonstrating equivalent sensitivity (75.0%) to conventional screening audiometry, with specificity slightly higher (98.5%) than conventional screening audiometry (97.0%). Whilst referral rates were lower with the smartphone screening (3.2 vs. 4.6%), It was not significant (p>0.01). Smartphone screening (hearScreen) was 12.3% faster than conventional screening. Conclusion: Smartphone hearing screening using the hearScreen application is accurate and time-efficient. Utilizing off-the-shelf hardware means it is an inexpensive solution that can be used by lay persons with limited training due to automated test sequences and interpretation.

Enabling Us to Experience Equal Access via Technology

—Karunya Samuel, Michaela Hanley (USA)

It's time for us to gain equal access without barriers: to see, understand, and meet our needs through use of video technology. Specialized software is readily available to include American Sign Language, International Sign, and native sign languages with the capacity to expose general audiences to Deaf Culture and people worldwide. This exposure would peak interest and awareness by the general public as well as governments who seek to achieve equal access to communications. But this important technology is often overlooked. Presentation Track Technology When presented with either an oral communication mode or a signed one, Deaf Communities naturally gravitate towards their native signed languages because of their absolute ease of access. Since American Sign Language is not universal and International Signs are not a full language understood by many, the best means of communicating with Deaf persons is typically through the use of their native signed languages. Global Deaf Aid Foundation seeks to provide this ease of access through use of video technology. We work with interpreters internationally to provide equal access in a mode that is enjoyable and easy to use, all the while exposing users to the diversity of the hundreds of signed languages from around the world. Furthermore, our mission entails improving relations between Deaf persons and their hearing counterparts by use of video technology to instruct interactively in various signed languages in workshops, seminars, webinars, and more.

Recipients will have a better understanding and respect for Deaf people, Deaf Culture, and language. By fully utilizing all of the video technology the modern world has to offer, we can alleviate the barriers to communication in a way that does not inhibit Deaf people and that celebrates our preferred mode of communication.

Mobile Tablet Audiometry- Building a Low Cost School Screening Program

—Matthew Bromwich (Canada)

Newborn hearing screening is an important and effective investigation where available, but it does not detect late onset, acquired, or progressive hearing loss. For every 10 newborns detected, an estimated 5-9 children will present with some form of hearing loss by the age of 9. These cases can often be detected by school screening programs. Access to hearing testing is not only limited by the costs involved, but also by the necessity for consultation with specialized personnel and equipment. Methods: A school screening program conducted by medical students and assistants trained in use of the Shoebox tablet audiometer conducted audiograms on children in Ontario. Screenings were completed using supra-aural headphones at 500, 1000, 2000 and 4000 Hz bilaterally, as well as by otoscopy. Those children identified as possibly having a hearing loss on screening were retested by a certified Audiologist. Potential hearing losses were referred for medical follow-up. Results: Since January 2015, iHEAR members visited 8 schools, screened 251 students, and detected 12 previously undiagnosed children with hearing-related concerns. The follow-up of traditional audiology testing is still ongoing and to date, one child was found to have severe unilateral sensorineural hearing loss. The average test took around 300 seconds to complete. The Shoebox Audiometer was often used by the children themselves to test their own hearing with minimal instruction/supervision. Conclusions: The iPad App "Shoebox Audiometer" presents a valuable, easy-to-perform, inexpensive, and portable medium to perform conditioned play audiometry (CPA). The application is easy to learn and enables many patients to be screened in a short time, creating a more efficient healthcare system. The application allows for identification of hearing loss and referral to Otolaryngology for follow-up in a low resource setting where many of these cases would normally go unidentified.

Smartphone Hearing Screening in mHealth Assisted Community-Based Primary Care

—Shouneez Yousuf Hussein, De Wet Swanepoel, Herman Myburgh, Robert Eikelboom, Jannie Hugo, Leigh Biagio de Jager (South Africa)

Access to ear and hearing health is a challenge in developing countries where the burden of disabling hearing loss is greatest. This study investigated community-based identification of hearing loss using smartphone hearing screening (hearScreen) operated by community health care workers (CHWs) in terms of clinical utility and reported experiences of CHWs. Method: The study comprised two phases. During phase one, 24 CHWs did community-based hearing screening as part of their regular home visits over 12 weeks in an underserved community using automated test protocols employed by the hearScreen smartphone application operating on low-cost smartphones with calibrated headphones. During phase two, CHWs completed a questionnaire regarding their perceptions and experiences of the community-based screening program. Results: Data analysis was conducted on the results of 108 children (ages 2-15 years) and 598 adults (ages 16-85 years). Referral rates for children and adults were 12% and 6.5% respectively. Noise exceeding permissible levels had a significant effect on screen results at 25dB HL at 1kHz ($p<.01$). Age significantly affected adult referral rates ($p<.01$) demonstrating a lower rate (4.3%) in younger as opposed to older adults (13.2%). CHWs spoke positively regarding the hearScreen solution in terms of usability, need for services, value to community members and time efficiency. Conclusion: hearScreen smartphone-based hearing screening allows CHWs to bring hearing health care to underserved communities at a primary care level. Active noise monitoring and data management features allow for quality control and remote monitoring for surveillance and follow-up.

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Agenda **Friday** — October 9, 2015

Social Business as a Vehicle to Democratize Access to Hearing Aids
—Howard Weinstein (Brazil)

The mission of Solar Ear is to make total hearing health possible for people worldwide, with a priority for children in developing countries, by providing affordable and sustainable hearing amplification equipment. A social business considers that it's not just the activity that is important but the outcome and impacts of our program to the person and society. Solar Ear's secret sauce is using not only proven different hearing-health solutions but integrating them into a holistic solution. We also will use new channels of distribution of products and educational materials in a sustainable business model. Solar Ear, with the help of many professionals from Coalition Hearing loss, developed a holistic solution to hearing loss, called DREET (Detection, Research, Education, Equipment and Therapy). Solar Ear took the best proven practices and implemented them in their Sao Paulo operation. Our solution uses a holistic approach to hearing healthcare, with focus on integrating children with hearing loss into the society. Realizing that to scale our program we needed to take the technology to the people, plus make it more affordable (apps starting at $1), we started the development of a mobile DREET program using an Android system. With the new Solar Ear Mobile DREET phone apps, a baby or child can have her hearing tested in real time using a Smartphone that will identify mild-to-moderate hearing loss, meeting WHO standards, as well flagging serious problems. The research data is a free bi-product. There will be a free maternal hearing health Education- Prevention app. The results from the screening, when feasible, will enable us to remotely program the Smartphone to become a hearing aid. Delay in speech and language acquisition is one of the most common neuro-development difficulties in early childhood. Our phone Therapy app will help reduce this difficulty.

9:45-11:00 Plenary II: Technology

Andrew Foster Auditorium
Moderator: Lady Jean Wilson

Applying Public Health Strategies to Reduce the Burden of Hearing Loss
—Daksha Patel, Joanna Anderson, Andrew Smith (United Kingdom)

Over 5% of the world's population have disabling hearing loss, and 80% of these live in low and middle income countries. The number is increasing rapidly, particularly due to aging and population growth. Hearing loss causes an extensive range of problems in language acquisition, school progress, obtaining, holding and performing an occupation, and social life. The resulting effects can lead to isolation, stigmatization, mental health issues, and substantial economic costs to individuals and society. The response required to strengthen ear and hearing health systems is faced with lack of human resources and inadequate infrastructure. National and global response requires building on prevention and early management if hearing impairment and its effects are to be averted. Clinicians are trained to think in terms of a one-to-one approach for provision of hearing health care. Application of public health strategies, which identify and prioritize interventions on a massive scale against whole populations, are required to make a significant difference in the burden of avoidable hearing loss. Additionally, prioritized strategies have to be equitable and affordable within the targeted community. To address the growing challenge of hearing Impairment globally, we focus on practical experiences and challenges, from the public health courses in hearing Impairment, that identify the key changes that need to be addressed within health systems.

Evaluation of uHear iPhone App for Hearing Screening
—Shazia Peer, Johannes Fagan (South Africa)

Developing countries have the world's highest prevalence of hearing loss, and hearing-screening programs are scarce. Mobile devices such as smartphones have the potential for audiometric testing. Objectives: 1) To evaluate the uHear app using an Apple iPhone as a possible hearing screening tool in the developing world, and 2) also determine the

accuracy of certain hearing thresholds that could prove useful in early detection of hearing loss for high-risk populations in resource-poor communities. Methods: Participants were recruited from the Otolaryngology Clinic, Groote Schuur Hospital, Cape Town, South Africa, and completed a uHear test application in three settings – waiting room (WR), quiet room (QR) and soundproof room (SR). Thresholds were compared with formal audiograms. Results: Twenty-five patients were tested (50 ears). The uHear test detected moderate or worse hearing loss (pure-tone average (PTA) >40 dB) accurately with a sensitivity of 100% in all three environments. Specificity was 88% (SR), 73% (QR) and 68% (WR). The test was highly accurate in detecting high-frequency hearing loss (2 000, 4 000, 6 000 Hz) in the QR and SR with 'good' and 'very good' kappa values, showing statistical significance ($p<0.05$). It was moderately accurate in low-frequency hearing loss (250, 500, 1 000 Hz) in the SR, and poor in the QR and WR. Conclusion: Using the iPhone, the uHear test app is a feasible screening test to rule out significant hearing loss (PTA >40 dB). It is highly sensitive for detecting threshold changes at high frequencies, making it reasonably well suited to detect presbycusis and ototoxic hearing loss related to HIV, tuberculosis therapy, and chemotherapy. Portability and ease of use make it appropriate to use in developing world communities that lack screening programs.

Tele-Audiology in Africa: The Story Evolves

—Shannon Kruyt (South Africa)

Audiologists who wish to assist with reducing the burden of hearing loss in Africa no longer need to leave the comfort of their own home, office, or country. Clinicians in developing countries are facing the daily reality of a growing disparity between population growth and a critical shortage of hearing healthcare professionals. In these environments, the viability of tele-audiology assessments and remote hearing aid fittings is being considered and evaluated with urgency as a way to reach populations currently unable to access hearing healthcare services. Although a number of studies and articles have documented the application of telehealth for audiological screening and diagnosis (of which many have reported equivalent results to conventional audiology), the clinical application of audiological intervention remains a relatively uncharted terrain. Sound Seekers continues to seek clinically creative solutions by exploring the use of m-health and tele-health equipment and protocols to ensure that high standards of hearing healthcare are achieved and sustained at under-resourced African project sites. This presentation aims to share the current status of their tele-audiology services in Zambia, including feedback regarding minimum requirements, clinical protocols, potential pitfalls, and potential solutions. Plans regarding the use of international volunteers to provide remote assessments and hearing aid fittings are discussed, as well as the possibility of introducing combined tele-ENT/Audiology sessions.

Understanding and Living with a Cochlear Implant: A Psychotherapeutic Approach

—Magteld Smith (South Africa)

Cochlear implantation has been a widely used and well documented effective treatment for children and adults with profound deafness. Factors that determine an individual's suitability for implantation and help to predict outcomes include duration of deafness, cause of deafness, previous auditory experience, dedication, and motivation. To provide optimal care to recipients, and provide positive measurable outcomes, cochlear implantation requires a multi-disciplinary team approach. The aim of this study was to explore the experiences of adults with congenitally profound or post-lingual deafness in understanding and living with cochlear implants. Determining candidacy for cochlear implantation requires thorough pre- and post-operative assessment by a psychiatrist or psychologist and is of vital importance. Following implantation, ongoing rehabilitation is required, with the most intensive period in the first twelve months following implantation. Therefore, the psychological assessment should be scheduled as soon as the individual appears likely to be a cochlear implant candidate. Three critical aspects are of cardinal importance: first in terms of enthusiasm, motivation and motives for seeking the implant; second is informed consent, which subsumes knowledge and an understanding of "reasonable expectations" and third, candidates need to be informed of the potential risks and benefits of cochlear

implantation and the impacts it may have on their life. Six congenitally and four post-lingually deafened cochlear implant recipients who had received their implants as adults were interviewed, using a semi-structured interview technique. Little has been written from a psychological evaluation and assessment perspective of cochlear implant candidates. For a psychiatrist or psychologist to do an evaluation and assessment without the skills, expertise, and understanding of deafness and cochlear implant will be unethical. This study provides a conceptual framework for the pre and post-operative psychological assessment.

Validation of Smart Phone Apps as an Environmental Noise Monitoring Tool and its Application in Abuja City Noise Mapping

—Titus Ibekew, Enoch Dahilo, David Folorunsho, Ibeneche Gbujie, Nicholas Baamlong, Onyekwere Nwaorgu, Chimdi Chibuike, Suleiman Habibab, Helen Mamven, Agbor Ebuta, Job Amodu, Maxwell Nwegbu, Durogbola Babajide, Liman Idris, Okebaram Chukwudi (Nigeria)

Noise is a global occupational and environmental health hazard with considerable social and physiological impact. There is need for regular measurements to boost monitoring and regulations of noise levels in our communities. Meeting this need necessitates a readily available, inexpensive and functional noise measuring device. Objective/Aim: To assess the validity of the mobile phone as noise monitoring tool and also measure the equivalent noise level (Leq) in Abuja municipality with this simple method. Methods: Phase1––A comparative analysis of a cross-sectional study was done between January 2014 and February 2015. Noise levels were measured simultaneously at different locations within Abuja, Nigeria at day and night hours in real time and uncensored environments. A sound level meter (Extech407730 Digital Soundmeter, Serial no. 2310135, calibration no. 91037) and three smartphones (Samsung Galaxy note3; Nokia S and Techno Phantom Z running on Android "Apps" Androidboy1) were used. Statistical calculations were done with Pearson correlation, T-test and Sensitivity within ANSI acceptable standard errors. Phase 2––This validated phone App (Android boy1) was used to map the noise levels within the Abuja municipality (residential, business, and market areas) via the Abuja Geographic Information System. Results: Phase1––Noise level readings for both daytime and night with the SLM and mobile phone showed equivalent values. The daytime readings were exactly the same in six locations and the maximum difference in values between the two instruments was 3db, noted in two locations. Readings in dBA showed strong correlation (r= 0.9) within acceptable error limits for Type 2 SLM devices and no significant difference in the values (p ? 0.12 & 0.58) for both day and night. Sensitivity of the instrument yielded 92.9 %. Phase2––LeqD ranged 71-92dB(A); 42-79dB(A) and 69-90dB(A) in business/parks, residential, and market places respectively. The Night measurements were similar 18dB(A)-56dB(A), and the day-night Leq(A) =77.2dB(A) and 90.4dB(A) for residential and business zones. Conclusion: The androidboy1 "app" performance in this study showed a good correlation and comparative high sensitivity to the Standard Sound Level Meter (type 2 SLM device). Finally, The night noise levels are satisfactory but the day and day-night levels are above the recommended tolerable values by WHO and, therefore, urgently calls for awareness and legislative regulations in Abuja, Nigeria.

11:00-11:15 **Break**

11:15-12:30 **Plenary III: Advocacy**

Andrew Foster Auditorium
Moderator: Shelly Chadha

- 7:30 - Registration
- 8:00 - Welcome & Introductions
- 8:30 - Plenary: Technology
- 9:45 - Plenary: Technology
- 11:00 - Break
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Agenda **Friday** — October 9, 2015

A Global Perspective at Ensuring Hearing Health Accountability

—Tawny Holmes, Howard Rosenblum (USA)

In many parts of the world, when a child is born, the village prepares. This is true even when the child is found to be deaf or hard of hearing. This presentation illustrates the international ecosystem available for professionals working with deaf or hard-of-hearing children and their families. The system ranges from national organizations to international affiliates of the United Nations. Over the world, technology has become increasingly important in assisting professionals with their work, from testing hearing levels to connecting the children to the literacy rich world to support their language process. Yet, as reported by the World Federation of the Deaf, an international and representative organization of, for, and by Deaf people and composed of 123 member countries around the world, 80% of deaf children do not receive any basic education, especially in developing countries. In addition, national laws and educational policies in many countries do not yet promote the use of the national sign language in the education of deaf and hard-of-hearing students. This situation presents a barrier to ensuring language outcomes, as research has shown that access to sign language and education is key to successful spoken/written language fluency and usage. In 2006, the United Nations agreed and passed an international disability treaty recognizing the human, civil, and linguistic rights of deaf children: the U.N. Convention of the Rights of Persons with Disabilities (CRPD). The presenters, attorneys with global experience and expertise in educational law, will highlight how the CRPD can be and has been translated in best practices and guiding principles in early intervention and education. The presenters will provide examples on how the CRPD can assist hearing-health professionals in ensuring their accountability and success with deaf and hard-of-hearing children.

Assessing and Meeting the Needs of the People in Arima, Trinidad

—Crystal Wiggins (USA)

An estimated 278 million people worldwide have significant hearing loss, with the majority living in low-income areas. Of those living outside of the United States, Trinidad and Tabago, rich with commerce from oil and tourism, has a growing number of persons with hearing loss that cannot reach the urban areas for immediate and effective treatment. Arima, which sits approximately 25.5 km (16miles) from the Port-of-Spain, is a predominately rural area with current hospital facilities unable to sustain the vast quantities of people needing basic medical care, not to mention audiological services. The Arima Diagnostic Center sought out an audiologist in the United States to fulfill the mandate of helping persons in the community receive basic hearing tests, proper referrals to ENT physicians, Primary Care Physicians, and provide quality hearing aids and services. The presenter took on the challenge of going to Trinidad twice in 2014 to establish and provide support to the clinic. She continued work there via tele-audiology, providing virtual fittings. Disease-state marketing and physician referral plans were established using a Cree Medicine model. Arima is a prime area for growth and facilitation of potential newborn hearing screening and support to the Ministry of Health in Trinidad. Technological advancements and willing individuals helped place the Arima Diagnostic Clinic in an area to bridge services to the hearing-impaired individuals throughout the country.

Assessment of Status of Ear & Hearing Care in Southeast Asia Region

—Dr. Suneela Garg, Deeksha Khurana, Dr. Tanu Anand, Dr. Ritesh Singh, Dr. Arun Agarwal (India)

Globally, the millions of people who suffer from disabling hearing loss constitute 5.3% of total population. Hearing loss is unequally distributed with greater prevalence in some regions compared with others. Aims: The assessment was undertaken with a view to gather background information regarding hearing loss and ear diseases, human resources, national policies, and services pertaining to ear care at community, primary, secondary, and tertiary levels of healthcare delivery in the region. The assessment helped to identify gaps for strengthening Ear & Hearing care services with focus on primary ear care. Methods: A questionnaire was developed, pretested, and mailed to country representatives from

Ministry of Health, the WHO, and members of Sound Hearing International across the region. Data were also gathered by desk review through e-search and referral to relevant reports. Results: Prevalence of hearing loss in the region is more than equal to 6.14%, highlighting disproportionately high burden of deafness. Ear diseases prevalent include impacted cerumen, chronic suppurative otitis media, and serous otitis media with impacted cerumen being most common. There are imbalances in ear health workforce across different cadres viz. ENT specialists, audiologists, audiometricians, speech therapists, teachers for the deaf, and sign language interpreters. Most countries have an organized system of health care delivery. However, the private sector provides secondary and tertiary ear-care services in specialty and super specialty hospitals located primarily in major urban areas. These hospitals serve the elite section of the population who can afford high treatment costs associated with ear surgery. But there is shortage of institutes involved in generating paramedical ear-care professionals. Conclusion: Each country region must have a database on prevalence of hearing loss, its causes, available infrastructure, and manpower. These data should be periodically updated and used by National Committees for developing effective strategies for prevention and control of deafness and for strengthen primary ear care.

Hexagenarians Up! Aural Rehabilitation of Elderly Khmers with Disabling Deafness

—Jean Johnson, Glyn Vaughan (USA)

The presentation describes a project for aural rehabilitation of elderly people with disabling deafness in Cambodia––countering the effects of hypoacusis in elderly Khmers by providing a community hearing-aid service and establishing self-help groups and a local domiciliary service for the elderly who are house-bound or hospitalized. The principal goal was to restore hearing in elderly people to counter the negative effects of hearing impairment on family and social integration and psychological well-being. The outcome provided hearing-impaired elderly people greater parity in society and a better quality of life. The innovative project partnered with non-governmental organizations (NGOs) while establishing liaison with local "wats" (Buddhist temples), which function as community centers in Cambodia. The project also aimed to build local educational capacity regarding hearing and deafness through raising awareness and enhancing the knowledge of ear-health care in elderly people and local communities in which they live. All Ears Cambodia provided a comprehensive rehabilitation service, offering hearing tests and hearing aids for older people suffering from presbyacusic loss. Types of hearing aids included analogue, digitally programmable, and fully digital instruments. In follow-up appointments, participants were encouraged to provide candid feedback, from which individual management strategies could be developed. These strategies included re-prescription of hearing aids, use of binaural hearing aids, ear mold modifications, further instruction regarding the management of the hearing instrument, and further counseling. The project also engaged in reduction of preventable ear disease and deafness through a parallel primary ear-health care service. The presentation includes evaluation of the project, with focus on effectiveness of the collaboration, the per-patient cost of services, and attainment of sustainability.

The Global Status of Newborn and Infant Hearing Screening

—Katrin Neumann (Germany)

According to the 2011 estimates of the World Health Organization, 7.5 million children under the age of 5 years suffer from a disabling hearing loss. Already, in the 1995 the World Health Assembly (WHA) resolution, WHO member states were asked to prepare national plans for prevention and control of major causes of avoidable hearing loss and for its early detection in babies, toddlers, and children. One of the predispositions to reach this goal – also in preparation of a new resolution on ear and hearing care that is foreseen for the agenda of the WHA in May 2016––is an assessment of the current status of the systematic early identification of infant hearing loss and of services for its diagnostics and intervention. Method: To assess the current global status of newborn and infant hearing screening, two questionnaires were administered to potential representatives of newborn and infant hearing screening programs of nearly all countries of the world. Results: So far, 144 of 198 countries provided information. More than half of them have implemented

newborn or infant hearing screening programs on a regional or national level. Their effectiveness is higher if there is a national program and the screening is mandated. There is a lack of such programs in low income countries. Region-dependent prevalences of permanent infant hearing loss ranged from >1 to 15 per 1000. Conclusion: Hearing loss is still underrepresented in the evaluation of the Global Burden of Disease estimates of the WHO, which evaluate the disabling impact of specific diseases. Fortunately, many countries have implemented a neonatal or infant hearing screening based on objective methods, which makes sense and is feasible.

12:30-13:45 **Lunch (on your own)**

13:45-15:00 **Plenary IV: Advocacy: (Parallel Sessions with locations in margin)**

Andrew Foster Auditorium Moderator: Susan Emmet SAC Auditorium Moderator: Beth Benedict

Cochlear Implantation and Deaf Education in Sub-Saharan Africa: A Cost Effectiveness Study

—Susan Emmett, Mukara B. Kaitesi, Debara Tucci, Issac M. Macharia, Serah N. Ndegwa, Doreen Nakku, Wakisa Mulwafu, Wenfeng Gong, Howard W. Fancis, James E. Saunders, Titus Ibekwe, Magteld Smith (USA)

Andrew Foster Auditorium

Cochlear implantation and deaf education are cost effective in Sub-Saharan Africa. Background: Cost effectiveness of pediatric cochlear implantation has been well established in developed countries but is unknown in low resource settings, where access to the technology has traditionally been limited. With incidence of severe-to-profound congenital sensorineural hearing loss 5-6 times higher in low and middle-income countries compared with the U.S. and Europe, developing cost effective management strategies in these settings is critical. Methods: Costs were obtained from experts in Nigeria, South Africa, Kenya, Rwanda, Uganda, and Malawi using known costs and published data, with estimation when necessary. A Disability Adjusted Life Years (DALY) model was applied using 3% discounting and 10-year length of analysis. Sensitivity analysis was performed to evaluate the effect of device cost, professional salaries, annual number of implants, and probability of device failure. Cost effectiveness was determined using the WHO standard of cost effectiveness ratio/gross domestic product per capita (CER/GDP) <3. Results: Cochlear implantation was cost effective in South Africa and Nigeria, with CER/GDP of 1.03 and 2.05, respectively. Deaf education was cost effective in all countries investigated, with CER/GDP ranging from 0.55-1.56. The most influential factor in the sensitivity analysis was device cost, with the cost effective threshold reached in all countries employing discounted device costs that varied directly with GDP. Conclusions: Cochlear implantation and deaf education are equally cost effective in lower-middle and upper-middle income economies of Nigeria and South Africa. Device cost may have greater impact in the emerging economies of Kenya, Uganda, Rwanda, and Malawi.

Services for the Hearing Impaired In Peru

—Irene Garcia-Benavides (USA)

Andrew Foster Auditorium

The research addresses the current situation of the hearing impaired population in Peru. Even though the number is huge, no official estimates have been made. The services provided to these impaired individuals are almost nonexistent. Children's hearing loss is first detected by the parents when the children are eight. By then, the children have attended regular school but their low performance is usually associated with low cognitive abilities and the children are labeled as 'dumb'. As vital as a hearing test is in developed countries, hearing tests in Peru are difficult to schedule and get. When the impaired children are diagnosed, precious years have been lost. Even if the diagnosis is made, the possibility of getting a hearing aid is nearly a staggering zero percent. If the parents send the impaired children to school, a newly diagnosed child will encounter in his class different 'deaf' children––those 'diagnosed' by their own parents, those of different ages grouped in the same class, or those who once had a hearing test but never had a hearing aid. Even attending elementary

school is considered luck. The situation is compounded when the schools teach the child to talk without focusing on school content. The children are "treated" during school hours with therapy limiting the establishment of a language as a group and limiting the children's cognitive skills. Interpreters are not a solution because in Peru Peruvian Sign Language is only beginning to be established. Some of the interpreters have certain degree of education but others are just enthusiastic and supportive people. The Association of the Deaf does not play a major role because its members are engaged in petty arguments. The picture is this: limited services that result in isolation of the impaired person as an individual and consequent isolation as a group.

The Societal and Economic Impact of Treated Hearing Loss is — Good!

—Soren Hougaard (Denmark)

Andrew Foster Auditorium

Based on findings from EuroTrak and MT9 surveys from 2015, the presenter offers the view that YES, hearing aids are efficient for treatment of hearing loss, but there is so much MORE to be observed. Up to 96% of those surveyed declare that hearing aids have improved their quality of life. Around 90% find their hearing aids useful on the job, which means people work longer and more efficiently. Users say that hearing aids are good for promotions, for getting the right job and the right salary. Hearing aid users are less depressed than people with similar hearing loss – and also less "forgetful". Hearing aid users are less exhausted at the end of the day, both physically and mentally, resulting in fewer burn-outs, and they have better sleep quality. Hearing aids contribute to better communication, better social life, and better group activities, and they give the users a sense of independence and safety. Finally, and interestingly, 87% of hearing aid owners think people don't make fun of them because of their hearing aids. It is much more likely that somebody makes fun of hearing impaired non-users. Too often, governments and health insurance companies focus on the "cost" of treating hearing loss. Recent reports from the UK (2014) have documented that this is a short-term view and that, in fact, the "cost" of a hearing aid is a great investment for the individual as well as for society. What is truly expensive is the cost of doing nothing.

UN CRPD and the Post-2015 Sustainable Development Goals: A Fifteen-Year Global Action Plan and Advocacy for LMICWs' Hearing Systems Development

—Evelyn Cherow (USA)

Andrew Foster Auditorium

The 8th UN Conference of States Parties (COSP) on the Convention on the Rights of Persons with Disabilities (June 9-11, 2015) focused on the integration of disability in the UN Open Working Group (OWG) Zero Draft that finalizes the post-2015 Sustainable Development Goals (SDGs)—the blueprint for 2015-30 that follows the completion of the Millennium Development Goals (MDGs). The UN applied a consultative mechanism to determine the highest global action and financing priorities to ensure elimination of extreme poverty, including healthcare, education, and employment disparities. Despite the extant UN CRPD treaty, which 154 nations have ratified, unanimous General Assembly 2013 resolution, and the Secretary General's reports that urge infusion of disability rights and programs into the SDG goals and indicators, much concern emanates from coalitions and organizations representing persons with disability (DPOs) and respective advocates. Hearing healthcare and rehabilitation programs and capacity building in developing countries may not receive the funding streams needed because of lack of explicit statements regarding the health-care access needs of those with disability––a COSP position articulated with UN entities. The SDG goals serve as policy drivers that strongly influence donor-financing mechanisms due for articulation at the planned September 2015 meeting in Addis Ababa. Specific indicators in development align with each SDG and will serve to measure target outcomes. Hearing-health care professionals have an advocacy role to play to ensure global policy development and implementation in a number of sectors that currently function in silos to the detriment of persons with disability––education, health, early childhood

development, and ICT accessibility, among others. Increased hearing-care professionals' advocacy participation and awareness will support the efforts of developing countries' DPOs and governments committed to addressing CRPD's human rights tenets 'of, by, and for' persons with disabilities toward societal inclusion.

Utilizing Five Hearing & Communication Centers in East Java Province

—Nyilo Purnami (Indonesia)

Andrew Foster Auditorium

Hearing has an important role for the social life of human being. To provide a good quality of communication with others, has required the ability to hear, listen, and understand speech properly since the early age. The Hearing & Communication Center (HCC) in Dr. Soetomo Hospital - Faculty of Medicine Airlangga University was established. HCC is placed in the Audiology-Neurotology Clinic, ENT Head & Neck Surgery Department, Dr. Soetomo Hospital and Faculty of Medicine Airlangga University. The joint work with regular visits of professionals from Western Australia continues. This work is possible under the program between two cities, Surabaya - Perth as sister cities/sister province. The cooperation includes exchange programs in culture, research, and health services (Telemedicine and Audiology). HCC in Surabaya is already a member of Hearing International organization. One recent project was developed under cooperation with Government and NGO in Perth with the Provincial Government of East Java, through the commitment of regency in Sidoarjo, Gresik, Surabaya. The pilot project of a Resource Center is finally taking place in five centers. These five centers were established in Gresik, Sidoarjo, Surabaya (Unair hospital), Karya Mulia School of the Deaf and Social Rehabilitation Unit for Disabilities of Deaf & Mute in Bangil-Pasuruan. The next program is to support student exchange and research. Collaboration work between Faculty of Medicine Universitas Airlangga and School of Audiology University of Western Australia will support easy access for hearing services, implementing early detection and intervention for Congenital Deafness, developing inclusive school, and a habilitation/rehabilitation program for the Deaf and hearing impaired in East Java province.

Challenges and Considerations for Supporting Deaf Education in Nicaragua

—Mark Falk (USA)

SAC Auditorium

Mayflower Medical Outreach began working in rural Nicaragua in 1999. Our mission statement identifies hearing health care, audiological services, and deaf education as principal areas of interest during 16 years of active development in Nicaragua. The Albergue Mayflower was founded in 2008 as a project to identify deaf children in rural areas of Nicaragua and offer them opportunities for full-time housing and education. Working closely with local NGOs, the Albergue was built to house 30 children. Additional housing was added to the facility to accommodate older teens in the program. Education is provided both by the Ministry of Education in a school for special needs children (mornings) as well as through the Albergue, where six teachers and assistants work with the children in the afternoons. This presentation discusses challenges and considerations that Mayflower Medical Outreach has faced in providing deaf education within the context of political, educational, cultural, and economic conditions in Nicaragua. In particular, we have identified these key areas: • Working within the public education system; • Vocational training and job opportunities; • Age of students when entering school and language acquisition limitations; • Presence and history of native sign language; • Strength of deaf community within the region; • Misconceptions about deafness and capabilities of hearing aids; • Parent trust and involvement; • Meeting developmental needs of students within cultural expectations; • Lack of trained professionals (e.g., interpreters, deaf education teachers); • Identification of students in rural communities; • Establishing advocacy; • Adaptive housing and appropriate staff; • Funding an international residential program––who pays for room and board; • Developing local businesses to create a sustainable program; and •Communication and collaboration among deaf schools within the country.

SAC Auditorium

Do HIV and Highly Active Anti-Retroviral Therapy Affect the Hearing Function: A Prospective Case-Control Study Among HIV Infected and Uninfected Cameroonians

—Jean Valentin Fokouo (Cameroon)

Many studies have shown a higher prevalence of hearing impairment among HIV-infected individuals. Objective: This study was aimed at investigating the effect of HIV and antiretroviral treatment on the hearing function in a Cameroonian population. Design: We conducted a prospective case-control study from March 2012 to January 2013. Participants: We included 90 HIV-positive cases and 90 HIV-negative controls, aged 15 to 49 years without any history or ongoing hearing loss providing disease, or treatment with known ototoxic drug. The case group was further divided into three subgroups: 30 ART-naïve, 30 on 1st line and 30 on 2nd line treatment. Intervention: Hearing function was assessed by pure tone audiometry and classified according to BIAP. A p value < 0.05 was considered statistically significant. Main outcomes and measures: Hearing loss due to HIV and Antiretroviral drugs was the main outcome expected. Results: The HIV-infected persons had more otologic complaints (hearing loss, dizziness, tinnitus, otalgia) than the uninfected persons (41 vs 13, p=0.04). There were 49 cases of hearing loss in the HIV-infected (27.2%) group compared with 10 (5.55%) in the controls (p=0.04). Compared with HIV-uninfected individuals, the odds of hearing loss was higher among HIV-infected ART-naïve patients (OR: 6.7 , 95% CI 4.3-9.7, p =0.004 for the right ear and OR: 6.25 , 95% CI 3.5-8.3, p =0.006 for the left ear), patients on 1st line ART (OR: 5.6, 95% CI 1.9-10.5, p =0.012 for the right ear and OR: 12.5, 95% CI 8.5-15.4, p =0.000 for the left ear), and patients on 2nd line ART (OR: 6.7, 95% CI 3.3-9.6, p =0.004 for the right ear). Conclusion and relevance: HIV-infected patients need a special audiological care. Further studies are needed since controversy remains about the factors leading to ear damage.

SAC Auditorium

Education Starts at Birth: Hearing Health and Inclusion

—Josh Josa, Tawny Holmes (USA)

In the past decade, the rate of inclusion for deaf and hard-of-hearing students on the global scale is at an all-time historic high. For example, in USA, 86.4% of deaf students are mainstreamed, and of this number, 53% of students are alone, often at schools without peers, adult role models, or experienced or trained teachers. This number is higher in many developed countries, particularly in Europe and China––deaf children receive little or no education. We are only now beginning to fully realize the benefits and consequences of this policy push particularly with hearing health professionals working on the front lines more than ever in history. Research shows that inclusion for students unprepared for mainstreaming or without appropriate support often results in lower academic growth particularly in language, cognition, and socioemotional development. At the same time, technological advances have made it possible for deaf and hard-of-hearing students to achieve in inclusive education settings. As an attorney uniquely situated to provide an educational perspective based on global policies (United Nations Educational, Scientific and Cultural Organization and United Nations Convention on the Rights of Persons with Disabilities) and with degrees in education and law and experiencing various modes of inclusion, Ms. Holmes discusses the meaning of inclusion and how inclusion can be successful in both policy and practice. Mr. Josa brings an international perspective of how inclusive education affects global hearing health; he highlights examples of best practices from select countries.

SAC Auditorium

Increasing Access to Hearing Implants to Further Enhance Educational and Professional Opportunities to People in Low-Resource Settings

—Patrick D'Haese (Austria)

The World Health Organization (WHO) estimates that between 0.5 to 5 in every 1000 children worldwide are born with or develop sensorineural deafness in early childhood; this number amounts to some 32-million children worldwide. While

the prevalence rate varies by country, children's development of speech, language, and cognitive skills, educational and career opportunities, and ultimately their quality-of-life, suffer if they are denied the ability to hear. A child with severe-to-profound bilateral hearing impairment, without cochlear implantation, may not be able to perceive environmental noises regardless of their loudness or nearness and he/she will certainly lack the ability to develop an understanding of human speech or develop the ability to produce speech at a level close that of people with normal hearing. After cochlear implantation and six months experience with the device, their mean pure tone average threshold might range from 20 – 44 dB HL. While this constitutes a mild to moderate hearing loss, it is sufficient to hear sounds that normal-hearing people take for granted––everyday conversations, traffic, and sirens. Without a cochlear implant, such sounds would not be perceived or perceived as too soft and unclear to be of benefit. Repeated studies have shown that children who use a cochlear implant have a normal language development and are significantly better at perceiving, understanding, and producing meaningful speech and reading than they would be if they had a hearing aid or received no auditory assistance. These benefits are especially pronounced if cochlear implants are received before their first birthday. The aim of this presentation is to further expand on the outcomes of cochlear implants in children, the need for access to this innovative technology at an early age in all countries across the globe, and a comprehensive multi-stakeholder approach to guarantee sustainability.

Self-Reported Etiologies of Hearing Loss in Patients Turning up to Receive Hearing Aids During an Audio-Otology Camp in Rwanda

—Mukara B Kaitesi, Ntihabose Killy Corneille (Rwanda)

SAC Auditorium

Hearing impairment may be conductive, sensorineural, or mixed. Varying causes are responsible for hearing loss, some causes are preventable or avoidable through simple and cost effective interventions such as immunization for childhood diseases, prevention, early identification, and timely treatment. A study was conducted to find out self- reported etiologies of hearing loss among patients who turn up at audio-otology camps with confirmed or perceived hearing loss to receive hearing aids. Methods: Cross sectional data were collected among subjects who presented to a free medical camp for treatment for ear diseases or to receive hearing aids and who gave consent to participate in the study. Results: The study enrolled 129 patients of whom 57.4% were males aged 6 to 80 years with a mean of 30.55 years. Of these, 45% reported onset of hearing loss within the age range of 5 to 15 years. Infections were the most common cause of hearing loss reported in 64.3% of patients, while 13.2 % could not identify a cause for their hearing loss. Only 20.1% of patients sought medical care within six months of onset of hearing loss. Lack of awareness on hearing loss accounted for 48.0% of the reasons given for delayed presentation. Conclusion: Infections remain the most common cause of hearing loss. Nevertheless, those affected tend to seek treatment at a delayed stage due to lack of awareness. More effort is required to increase awareness about causes of hearing loss, which may modify health-seeking behavior and eventually curb preventable causes hearing loss.

15:00-16:15

Plenary V: Empowering Families/Communities

Andrew Foster Auditorium Moderator: Jean Johnson SAC Auditorium Moderator: Christie Yoshinaga-Itano

Gallaudet Panel Discussion: Lessons Learned from International Deaf College Students

—Beth Benedict (USA)

Andrew Foster Auditorium

The world of the child is best understood through an exploration of the people and systems that shape child lives. Bronfenbrenner (2003) proposed the ecological systems theory to explain how the child's environment affects growth and development. For the young child, the family is the most significant influence on development and provides a foundation for social-emotional, cognitive, and linguistic development. The child's perspective is often missing from the discussion of how best to raise a deaf or hard-of-hearing child. This presentation includes six international deaf and

hard-of-hearing university students who recognize the importance of the early years and appreciate the support of their families in their own developmental journeys. These students share their experiences growing up; some in deaf families and others in hearing families. Students share thoughts on their upbringing and the environmental factors and systems that influenced and shaped who they are today. The students also share reflections of their families, including support and advice their families received from professionals when they were first identified as deaf or hard of hearing, or the lack thereof. The moderator of the panel will ask the students questions that cover their earliest memories, early education experiences, family communication, friendships, and the recommendations they and their families have for other families with deaf children and the professionals who guide them. Opportunity is provided for the audience to ask questions.

Counteracting Stigma: Social Identity, Culture, and Hearing Health

—Susan Shepherd, Pauline Njogu-Marinus (USA)

Andrew Foster Auditorium

This presentation discusses sociocultural elements of an interdisciplinary project implementing universal newborn hearing screening in Kenya. We seek to improve opportunities for those diagnosed with hearing loss through community-based outreach and follow-up services that combine clinic visits, home visits, and mobile phone technology. Our primary goal is to develop a system that will be sustainable throughout Kenya, and applicable in other countries. Our design addresses stigmatization of those with hearing loss, leading to marginalization and denial of basic human rights such as access to healthcare, education, and full participation in society. Ethnographic interviews conducted with 70 healthcare workers, adults with hearing loss, parents of children with hearing loss, social workers, and volunteer interpreters indicate the following: • Diagnoses of hearing loss are often received late – when the child is of school age or even later; • Traditional beliefs and lack of support services have led to the isolation of those with hearing loss; • Stigma leads some parents to remove visible markers of difference such as hearing aids; • Stigma results in some children being "hidden" by their families, both to "protect" the child and to avoid shunning of the family; and, • Stigma, in combination with economic factors, may keep families from sending children with hearing loss to school. We are integrating medical and sociocultural approaches in outreach and follow-up teams (consisting of adults who deal with hearing loss in a variety of ways, parents of children with hearing loss, and hearing health professionals) to reduce stigma, provide positive role models for affected children and their parents, and lead to more effective provision and use of services. By ensuring early diagnosis and care, this program will gradually and profoundly change the way deaf and hard-of-hearing persons in Kenya perceive themselves and how they are seen, heard, and incorporated into society.

Empowering Families Through Culturally Sensitive, Parent-Centered Education

—Kelleigh Bland, Lohanna Lynch (USA)

Andrew Foster Auditorium

When an infant is diagnosed with deafness, parents are often paralyzed. Nine of ten deaf children are born to hearing parents, and most adults have no experience with deafness and don't know where to turn to get it. Medical questions get answered when a child is diagnosed in a hospital, but when the family gets home, reality––and panic––sink in. Can my child lead a happy and productive life? How will the family adjust? What must happen next, and what are the consequences of each decision? What questions don't I know enough to ask? In North Carolina, a team of parent educators has demonstrated that getting the right answers to parents at the right time is possible. And it can be done in the parents' native languages, in their communities, and in their homes. Trained parent-educators based within a community can guide parents through the understanding of hearing loss and the journey that lies ahead.

Andrew Foster Auditorium

Essential Programs to Coach and Empower Parents of Deaf and Hard of Hearing Children

—Joanne Travers (USA)

This presentation describes a unique parent-education approach developed by Partners for A Greater Voice; the approach addresses ways to effectively coach and empower parents. The program prioritizes parents' well-being to maximize their capacity to lead their child's development, not only in areas of hearing and language, but also social-emotional growth. Attention to educating the parent is a priority throughout the world, yet effectively coaching parents is challenging in many countries because of limited parent-education programs and professional training that address parent empowerment. With specific regard to children with hearing loss, training for parents has limitations in many parts of the world, especially in low-resource communities. The complexity of the global hearing health and habilitation industry and the predicament of most parents seeking refuge and support to raise children with hearing loss imply that a traditional approach to parent education must change. Partners for A Greater Voice has developed a unique curriculum for caregivers that is based on 18 years of qualitative experience and quantitative analysis from recent parent surveys. The program presents content in hearing health and habilitation while addressing specific needs parents have to be emotionally healthy and prepared in their journey to raise children with hearing loss. Data collected from three parent surveys administered by PGV in 2014 support the conclusion that there is a specific need for targeted parent education. The Partners for A Greater Voice parent program addresses that need by weaving together content in hearing health and positive psychology to more effectively foster parent participation and promote sustainable outcomes regardless of income and economic status. Implementing this new approach to parent education includes effective parent intervention and essential topics most relevant to parent needs. This interactive workshop series coaches parents, with the additional goal of promoting sustainable outcomes for aural deaf and hard-of-hearing children.

Andrew Foster Auditorium

The Månha Project: Resilient Enabling Community-Based Initiatives

—Heather Zimmerman (USA)

Developing countries and low-resource communities face many systemic challenges. The task of overcoming issues within a community can be overwhelming, yet families and advocates are at the forefront of coping with and circumventing adversities. On the platform of resilience theory and empirical work, this presentation discusses the Månha Project, a case study on a culturally responsive resiliency community-based initiative in a Pacific Island territory. On a shoestring budget, the project works with deaf and hard-of-hearing children and youth, deaf and hard-of-hearing adults, and hearing family members and friends to enhance the community's health and wellbeing. With the Månha Project as a backdrop, the presentation includes collaborative discussion on how participants can foster indigenous projects to promote health and wellbeing in their communities.

SAC Auditorium

A Community-Based Hearing Intervention for Korean American Older Adults with Hearing Impairment: A Pilot Study

—Janet Choi, Frank Lin (USA)

Objective: Hearing impairment in older adults is independently associated with poorer social, cognitive, and physical function. However, hearing healthcare remains confusing and inaccessible to most ethnic minorities including older Korean Americans who are predominantly first-generation immigrants. This study aims to adapt and test the feasibility of a community-based intervention to provide hearing counseling and affordable amplification devices to older Korean Americans with hearing impairment and their communication partners. Methods: A community-based intervention, originally developed to promote hearing health among English speaking seniors in low-income housing, was adapted to apply it to Korean Americans. We undertook the following five steps following Barrera & Castro's cultural adaptation framework: (1) information gathering from literature and focus group interviews with older Korean Americans with hearing

impairment and their families, (2) preliminary adaptation design with translation of intervention materials, (3) preliminary adaptation test with key community informants, (4) adaptation refinement, and (5) cultural adaptation pilot trial to older Korean Americans (n=15) and their communication partners (n=15). Results: Many older Korean Americans do not seek help for hearing or adopt listening devices because of language and financial barriers along with sociocultural stigma towards aging and disability. We have developed a program consisting of a one-hour session that teaches Korean Americans how to use a listening device, provides aural rehabilitative strategies, followed by a group practice session. Preliminary implementation has demonstrated strongly positive responses from the participants, suggesting feasibility of the culturally adapted hearing-health intervention in older Korean Americans. Conclusions: This study is the first to report the cultural adaptation process of a hearing healthcare model using a community outreach program in an underserved population of racial/ethnic minorities. The adapted community-based hearing-health intervention has clear potential to address poor access to hearing healthcare among ethnic minorities.

Bilingual Cancer Genetics Materials: Education, Advocacy, and Accessibility

—Patrick Boudreault (USA)

SAC Auditorium

Current advanced understanding of genetics and increasing availability of personalized medicine such as genetic counseling and testing could help prevent or treat cancer. Although much health information is available online, Deaf individuals whose primary language is sign language are at a disadvantage since much of the information is in print of a spoken language. The issues of human and linguistic rights regarding access to preventive and personalized medicine are often not taken into careful consideration regarding users of sign language. The need for developing health information in sign language is warranted to provide an equitable access to their health, and as result, saving their lives. Our research team addresses this issue by developing educational materials in both ASL and English about the importance of learning about family health history, specifically cancer genetics. Through an online bilingual format where ASL video clips with English subtitle options are provided, Deaf individuals located in any geographical area can benefit from learning in their primary language and accessing specific medical terminology in written English. The goal of this study is to test the effectiveness of the developed bilingual materials. We developed pre- and post-test surveys to compare effectiveness of the educational materials in bilingual format with a monolingual (written English) format. Development of signed materials was designed specifically toward a wider range of users from individuals who may have minimal education to college-educated individuals. The use of graphic aids, deaf-centric videography, and generic and clear concepts in ASL, with emphasis on visual concepts, is based on a cognitive linguistic approach. In this presentation, the final product of the project's education modules (video, website, and booklet) are shown to provide a glimpse of the developed bilingual materials. www.aslcangergenetics.org

Early Childhood Education at the Clerc Center: Sharing Our Practices

—Debra Trapani, Debra Cushner (USA)

SAC Auditorium

The Laurent Clerc National Deaf Education Center (Clerc Center), located on the campus of Gallaudet University, is a federally funded program established to guide effective practices in the education of deaf and hard-of-hearing children in the United States. The Kendall School Early Childhood Education Program at the Clerc Center is a national demonstration program designed to implement and share effective, evidence-based practices. The core of the program centers on designing and implementing supports and services to accomplish the following objectives: a) facilitate strong early language foundations, and b) promote cognitive, literacy, and social emotional development of children who are deaf and hard of hearing with diverse background characteristics (i.e. hearing levels, additional disabilities, home language of the family, benefit from listening technologies). This presentation shares information about the Kendall School Early Childhood Education Program and discusses considerations for replicating similar supports and services in other settings. Included are topics essential to designing a multi-sensory environment to support development of young children who

are deaf or hard of hearing. Also addressed are considerations related to establishing partnerships between professionals and families to support family competence and confidence in developing the skills to provide their child with accessible language (language provided in a manner in which a child has the likelihood of being able to learn and interact with it) from the earliest age possible. Video examples of resources and supports used in the Kendall School Early Childhood Education Program are shown.

It Is Our Technology: How Deaf and Hard of Hearing Communities Can Take Control

—Christian Vogler, Linda Kozma-Spytek (USA)

SAC Auditorium

Technology has been progressing at a rapid pace, and its potential for improving function, employment, and community participation for people who are deaf or hard of hearing is greater than ever. However, stakeholder involvement in development of new technologies is still lacking. This lack has led to frequent mismatches between the needs of people who are deaf or hard of hearing and the available technology offerings in addressing these needs. All too often, product decisions are made without sufficient participation by the stakeholder community. In a similar vein, people still have to rely on telling health care providers and clinical practitioners to adjust their devices by trial and error rather than being able to take matters in their own hands. To realize the full potential of what technology has to offer to people who are deaf or hard of hearing, it is critical that stakeholders directly work on product research and development, and that they become more autonomous in their use of technology. We cover several projects currently underway at Gallaudet University and collaborating institutions that embody these principles. We discuss concrete examples of how these projects allow the community to take control and to meet its needs. First, the Video Access Technology Platform Reference Platform is all about giving the community control over their telecommunications––video, voice, or text––and to let the community have the final say in how features are implemented. Second, the Rehabilitation Engineering Research Center on Technology for the Deaf and Hard of Hearing spans a range of projects that are all about giving the community control over their hearing technologies, take technology training into their own hands, increase autonomy, and realize the full potential of the next generation of consumer electronics in conjunction with hearing and assistive technology.

U.S./Russian Partnership: Supporting Families with Deaf and Hard of Hearing Children

—Janet DesGeorges (USA)

SAC Auditorium

In July 2014, The United States-Russia Peer to Peer Program awarded a grant to Hands & Voices, administered through the U.S. Embassy. This grant, written in partnership with the St. Petersburg Early Intervention Institute, was one of 26 selected out of 240 applicants. The power of the parent-to-parent connection even across languages and cultures is truly amazing. This presentation highlights outcomes of the project which include providing strategies to the parents of children who are deaf and hard of hearing as well as the professionals who support them; the sharing and understanding of cultural perspectives; and the distribution of recommended practices in early intervention and parent-to-parent support, with the aim of improving services and child outcomes. Information is shared about a study visit to the U.S. by the four parents and four professionals from Russia including an opportunity to attend the Hands & Voices Leadership Conference in Savannah, Georgia in September 2014. Five participants from the U.S. then traveled to St. Petersburg, Russia to attend and present at the Communication, Sound, and Light conference in October of 2014 at the Pavlov Institute of Physiology, Russian Academy of Sciences. A parent workshop was held in St. Petersburg with over 35 parents attending. Information about utilizing current web-based technology and the successes and challenges of this application for parent-to-parent support across the world is addressed. Lessons learned, along with practical applications that other countries/projects may consider utilizing are shared.

- 7:30 - Registration
- 8:00 - Welcome & Introductions
- 8:30 - Plenary: Technology
- 9:45 - Plenary: Technology
- 11:00 - Break
- 11:15 - Plenary:Advocacy
- 12:30 - Lunch
- 13:45 - Plenary:Advocacy
- 15:00 - Plenary:Empowering Families/Comm.
- 15:30 - Break
- 16:15 - Plenary:Empowering Families/Comm.
- 18:00 - Poster Presentations
- 19:15 - Keynote Presentation

Agenda **Friday** — October 9, 2015

SAC Auditorium

Using Technology to Support Bilingual and Spoken Language Development
—Melissa Herzig, Melissa Malzkuhn (USA)

The VL2 Storybook App is a bilingual, interactive storybook app for the iPad. Created by the creative team at the Center on Visual Language and Visual Learning (VL2) at Gallaudet University, VL2 describes how this app was created and how it connects research to education. We also discuss how to support the children's literacy development and visual attention.

15:30-15:45 **Break**

16:15-17:30 **Plenary VI: Empowering Families/Communities**

Andrew Foster Auditorium
Moderator: Joanne Travers

Empowering Parent Leaders in Yinchuan, China
—Candace Lindow-Davies, Christine Yoshinaga-Itano (USA)

Dr. Christine Yoshinaga-Itano, in partnership with HuaQiao and Soaring Hope Foundations, has been leading teams of U.S. audiologists and early interventionists since 2007 to share U.S. best practices with hearing health professionals in various regions of the country. In May 2015, the mission team consisted of 3 audiologists, 3 AuD 4th year students, 2 speech language pathologists (from Taiwan), and translators. A total of 160 children were directly served while local teachers and audiologists were trained in audiology procedures and speech-language therapies. Through a grant funded by Hear the World Foundation, this year a Hands & Voices HQ parent leader was able to join the mission for the first time. The goal was to provide local parents an opportunity to understand the critical role parent involvement, networking, empowerment, and education has on the success of the child who is deaf or hard of hearing. The Joint Committee on Infant Hearing recommends involvement of parent leaders at all phases of the early-hearing detection and the intervention process. Presenters discuss the impact of the audiology and speech language team as well as the preparation by the U.S. parent leader, implementation of group parent sessions, a parent/professional workshop, and the follow-up with potential Chinese parent leaders. These activities can provide a model to other similar missions by professionals and parent leaders to other countries.

New Resources in Deaf Education-Setting Language in Motion: Family Supports and Early Intervention for Babies who are Deaf and Hard of Hearing and Students with Cochlear Implants: Guidelines for Educational Program Planning
—Debra Nussbaum, Mary Ann Kinsella-Meier (USA)

Stakeholders and policy makers continue to identify the strong need for quality, accessible resources to support professionals working with children who are deaf or hard of hearing and their families. These two free resources––"Setting Language in Motion: Family Supports and Early Intervention for Babies who are Deaf and Hard of Hearing"; and "Students with Cochlear Implants: Guidelines for Educational Program Planning"––were developed collaboratively between the Deaf and Hard-of-Hearing Program at the Boston Children's Hospital and the Laurent Clerc National Deaf Education Center. "Setting Language in Motion" is a web-based resource designed for providers of early intervention, educators of deaf children, specialists in early childhood, allied professionals, parents, and other caregivers. Seven modules, developed in American Sign Language, spoken English, and Spanish, each with closed captions, are provided to share information critical to promoting early language acquisition for young children who are deaf or hard of hearing." Students with Cochlear Implants: Guidelines for Educational Program Planning" is a resource to facilitate a systematic process for

planning appropriate educational supports and services essential for a student using cochlear implant technology. These Guidelines, are available in print and online. The goal of these Guidelines is to provide a framework for the educational planning team to consider, not only a student's language and communication competencies, but also a range of other considerations, including development of self-advocacy skills and development of social-emotional health. The Guidelines are divided into three main sections: "Student Background Summary," "School-Based Language Competency Checklists (receptive, expressive and pragmatic language skills)", and a "Team Discussion Tool and Team Summary Sheet." Also included are varied appendices to be used as part of the planning process or independently as handouts for professionals and families.

Parents as Partners

—Lisa Kovacs (USA)

Best practice in the U.S. over the last decade has been to include parents as partners in systems that serve children who are deaf or hard of hearing. These systems include Early Hearing Detection and Intervention (EHDI), Educational and Health systems, Audiology, and Medical Home. The Joint Commission on Infant Hearing recognizes the need for including parents and includes "Goal 8: Families Will Be Active Participants in the Development and Implementation of EHDI Systems at the State/Territory and Local Levels." The rationale for including parents is the importance of equitable partnerships between families and EI programs and systems that including parents is critical to the success of EHDI programs and the achievement of optimal outcomes for children. Family leadership and involvement are critical when developing policies and programs to ensure that the systems of care support a genuine reflection of the day-to-day challenges and opportunities facing families. Hands & Voices has been on the forefront of training and preparing families to get involved in the systems and supports that serve children who are deaf or hard of hearing. This presentation provides an overview of key qualities of potential family leaders, essential training components to prepare family leaders, and outcomes of empowering and including parents as partners.

The Age at Presentation of Deafness and the Need for a National Program on Hearing Screening

—Akeem Lasisi (Nigeria)

Objectives: To determine the age at detection of deafness, its relation to educational status of parents and the severity of hearing loss among the deaf. Method: This study took place among deaf subjects across six states spread over the geopolitical zones of Nigeria, a sub-Saharan African country. To obtain individuals from diverse groups, the samples of study participants were selected from various vocational and professional groups, schools, and religious groups. Potential participants were contacted through the head teachers in the schools and the leaders of the professional groups. Following a written consent, all the participants had questionnaire administered by American Sign Language and pure tone audiometry. Data were analysed using Pearson's Chi square test. This study had ethical approval from the Joint UI/ University College Hospital Ibadan Ethics Committee. Result: The study recruited about 1075 deaf subjects between the age of 5 and 31 years (Mean±SD= 15±2.6). The aetiology was presumed acquired in 66.0%, genetic in 22.0% and unknown in 12.0%. The mean age at presentation of deafness to the hospital was 2.37±2.035years (0-8years). For those born before 2000, n=303. mean±SD = 3.16±1.8years (0-6). For those born after 2000, n=485, mean 2.5±2.04years (0-8) (p=0.12). In addition, the age at presentation was not different between the different levels of education of the parent (p=0.08). There was no previous clinical diagnosis of the deafness in 763(71.0%) deaf subjects. The mean PTA of the deaf subjects was 65±15dB; however, there were about 27(2.5%) whose mean PTA was below 55dB but were trained in deaf schools because the parents could not afford a hearing aid. Conclusion: The findings of high mean age at detection of deafness, lack of previous clinical assessment of deafness, and the 2.5% who could have benefitted from hearing aid, suggest the need for a comprehensive hearing programme in Nigeria.

Hearing Loss Prevention in DR Congo
—A.N. Kalombo (Canada)

To prevent conductive and sensorineural hearing loss caused by recurrent suppurative otitis media, St. Joseph Hospital in Kinshasa, Congo initiated a program of prevention of hearing loss with the help of the local Catholic Church. Kinshasa has 10 million inhabitants, with 70% unemployed. Poverty is prominent; hence chronic or recurrent otitis media with hearing loss as a consequence. I have been going to Kinshasa as a volunteer to perform tympanoplasties and mastoidectomies in that program of prevention of hearing loss. I am also training local ENT doctors.

18:00-19:15 **Poster Presentations and Reception** Kellogg Conference Hall

American Speech-Language-Hearing Association (ASHA)/ Pan American Health Organization (PAHO) Collaboration: Addressing Country Priorities in Capacity Building in Central and South America
—Silvia Martinez, Linda Rosa-Lugo, Gloria Weddington, Lily Waterston (USA)

The 67th World Health Assembly endorsed the World Health Organization (WHO) Global Disability Action Plan 2014–2021: "Better Health for All People with Disability." The 53rd PAHO Directing Council endorsed the Regional Disability and Rehabilitation Action Plan. Both align mutually and provide a roadmap for WHO member countries and international partners to work together to improve the health and human rights of people with long-term and functional disabilities. The ASHA Board of Directors instituted its "Strategic Pathway to Excellence" with an objective to "Strengthen Strategic Relationships" by engaging with organizations to support ASHA's mission and expand ASHA's outreach worldwide. Among the priorities were to identify opportunities to collaborate with the WHO. Thus, the ASHA International Issues Board, ASHA, and the PAHO Regional Office for the Americas of the World Health Organization started collaborating with ASHA providing technical assistance on our professions in the Americas region. In 2013 ASHA and PAHO selected three of PAHO's priority countries (Honduras, El Salvador and Guyana) wanting to address communication disorders. The ASHA-PAHO assessment teams identified the needs and recommended offering educational and service delivery technical assistance in communication disorders. Subsequently, ASHA established three ad hoc committees composed of ASHA volunteers. The general goal of this collaboration is to strengthen knowledge and capacity building of professionals and organizations that address communication disorders including hearing. In El Salvador, ASHA is providing technical assistance to the Instituto Salvadoreño de Rehabilitación Integral to train personnel in phonoaudiology. In Guyana, ASHA is providing technical assistance to the Ministry of Health to strengthen its national strategic plan in intervention and prevention, and for the development of a speech and language therapy and audiology program. In Honduras, ASHA is providing technical assistance to establish a phonoaudiology program at the Universidad Nacional Autónoma de Honduras.

Counseling Adults With Hearing Aids: Practice and Perceptions of Audiologists in South Africa
—Husmita Ratanjee, Dr. Neethie (Lavanithum) Joseph (South Africa)

While hearing aids offer improved hearing and communication to adults with acquired hearing loss, acceptance and use of hearing aids is frequently not optimal. The importance of counseling cannot be underestimated, especially in contexts of limited access to services. An electronic survey was used to investigate counseling practice and skills of audiologists in South Africa. A total of 152 Audiologists registered with either of the two professional associations--the South African

Association of Audiologists and the South African Speech Language and Hearing Association––that participated in the study. The majority (60%) of the audiologists were employed in the private sector. Results revealed that the majority of the Audiologists spent up to only 15 minutes per session on counseling, and tended to offer counseling mostly immediately after audiological evaluation and during hearing-aid fitting and evaluation. The majority (98%) gained information on impact of hearing loss using case history interviews, instead of formal assessment tools. Participants rated their skills highest on informational counseling and least on rational acceptance counseling. A statistically significant effect was observed with the number of years of clinical experience and rating of confidence in rational acceptance and adjustment counseling. Fewer years of experience was needed in informational counseling to reach a higher level of skill rating. Challenges included language barriers, unrealistic client expectations, and time constraints. The majority (82%) of the participants indicated the need to improve their counseling skills to better serve adult clients who need hearing aids. The results have valuable clinical implications for the rendering of adult rehabilitative audiological services in South Africa. Recommendations include increased focus on counseling within the Audiology clinical training curriculum, and offering of courses to qualified professionals to increase knowledge and skills in counselling with regard to informational, rational acceptance and adjustment counseling.

Evaluation of Over-The-Counter Hearing Devices

—Sara Mamo, Nicholas Reed, Fank Lin (USA)

Over-the-counter (OTC) hearing devices and personal sound amplifier products (PSAPs) are affordable and easily accessible amplification options available to the public. Recent advances in technology have improved the quality of OTC and PSAP products. However, there is a dearth of research on the technical aspects of these devices and their potential application. This study investigated a sample of 12 'high-end' OTC/PSAP devices available for online purchase. Products were tested for standard electroacoustic analyses as well as simulated real-ear measures. Using typical age-related hearing loss audiometric configurations and a 2-cc coupler, devices were adjusted in an attempt to match NAL-NL2 targets. Results were considered by assessing the 'distance-to-target' at each test frequency. Most of the devices provided reasonable technical quality and amplification. The ability of devices to hit targets was limited by the ability to adjust gain in different frequency bands. However, products that allowed for 'treble' and 'bass' volume adjustments were most capable of hitting prescriptive targets. Products that integrate with smartphone technology, either at time of 'fitting' or time of use, provided the most flexibility in matching prescriptive targets. The growing field of consumer electronics may improve the quality of affordable options for adults with hearing loss in low-resource environments.

Hearing Screening in Neurodevelopmental Research: Botswana

—Betsy Kammerer, Charlote Mullen, Gloria Mayondi, Jean Leidner, Modiegi Diseko, Juliana Manganella, Gbolahan Ajibola, Derek Stiles, Shahin Lockman (USA)

Over-the-counter (OTC) hearing devices and personal sound amplifier products (PSAPs) are affordable and easily accessible amplification options available to the public. Recent advances in technology have improved the quality of OTC and PSAP products. However, there is a dearth of research on the technical aspects of these devices and their potential application. This study investigated a sample of twelve 'high-end' OTC/PSAP devices available for online purchase. Products were tested for standard electroacoustic analyses as well as simulated real-ear measures (SREM). Using typical age-related hearing loss audiometric configurations and a 2-cc coupler, devices were adjusted in an attempt to match NAL-NL2 targets. Results were considered by assessing the 'distance-to-target' at each test frequency. Most of the devices provided reasonable technical quality and amplification. The ability of devices to hit targets was limited

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Impact of Cost-Effectiveness Analysis of Bilateral Cochlear Implantation on Health Policies

—Francisco Javier Diez (Spain)

Decisions about coverage and reimbursement of health interventions are based, more or less explicitly, on cost-effectiveness criteria. Unilateral cochlear implantation (UCI) is clearly cost-effective because it allows deaf people to hear and integrate into society. Bilateral cochlear implantation (BCI) offers additional benefits, such as improved speech understanding (mainly in noisy environments), the ability to localize the origin of sound, and the possibility of continuing hearing when one implant fails. For these reasons, experts in otology and audiology have unanimously recommended pediatric BCI for more than a decade. However, the first cost-effectiveness analyses concluded that BCI was not cost-effective, even in children. As a consequence, ten years ago BCI was covered in only a few countries. In 2007 the PENTAG study, commissioned in England by the National Institute for Clinical Excellence, concluded that BCI is cost-effective for children, even though with a high degree of uncertainty. Since 2009 all the children suffering from severe to profound neurosensorial hearing loss in England and Wales now receive two cochlear implants. Further evidence accumulated in recent years has slowly spread the coverage of pediatric BCI to other countries—France, Ireland, New Zealand, the Netherlands, Brazil, etc.—but there are other countries, in which the coverage of BCI is very irregular, depending on the insurance policy hired (in the United States) or on the so-called "zip code lottery" (for example, in Spain). In many middle-income countries, UCI is still the standard treatment. We argue that most cost-effectiveness analyses performed so far have underestimated the incremental effectiveness of BCI and overestimated its cost (mainly by disregarding the societal savings). We conclude with a call to action: Developing rigorous country-specific analyses is necessary to prove, beyond all reasonable doubt, that BCI is cost-effective not only in children but also in many adults.

Technology In Low Resource Countries

—Silvio Penteado (Brazil)

Tele-medicine left tinnitus-sufferers with few choices but Cognitive Behavior Therapy (CBT) and Acceptance and Commitment Therapy (ACT). While the former relies virtually exclusively on text-based material, the latter makes use of more experimental (mindfulness) exercises. We introduced a novel tinnitus therapy through Tele-medicine based on sound therapy with or without sound amplification delivered through aids. Researchers then designed aids with sound therapy built in to deliver amplification (hearing rehab), sound therapy (tinnitus), or both combined. Through the Internet, one can support tinnitus-sufferer with online audio and video streaming counseling. We are also able to adjust aids to promote relief and comfort synchronously. The novelty relies on adjusting sound generators through the Internet when tinnitus-sufferers are in need. Lab tests proved this system reliable, affordable, and at all-times available, with promising results. Clinical tests must be done to verify the proposed feasibility. Aids with sound generator built in adjusted through the Internet promises to deliver a new therapy no matter where the tinnitus-sufferers dwell or when they demand for help and services.

Learning to Look and Looking to Learn

—Heather Zimmerman, Julie Tibbitt, Ju-Lee Wolsey, Cara Keith, Mary Diane Clark (USA)

Eye-gaze is fundamental to support optimal development of deaf and hard-of-hearing children. Just seven hours after birth, an infant takes a remarkable interest in the mother's face and can imitate caregivers' facial expressions. This early period, and the development of synchronous eye-gaze with a caregiver, has been shown to be important for attachment, as well as providing infants with the ability to regulate stimulation and join in turn-taking. By four to five months of age, the infant develops an interest in objects, and this early ability to coordinate eye-gaze with adults, leads to joint communication between a caregiver, the infant, and an object. Ability to obtain and regulate eye contact, or eye-gaze, is crucial for numerous developmental milestones in communication and language. This presentation focuses on looking to learn and learning to look, which we are framing as the critical skill of eye-gaze. It is important to provide support and strategies to families, caregivers, and support specialists working in developed and developing countries on how to develop visual attention with infants. We discuss the importance of eye-gaze and how caregivers can support developmental scaffolding of joint attention, language development, and transmission of cultural knowledge.

Massachusetts Family Sign Language Program: A Model for Effective Family-Centered Sign Language Instruction

—Kathleen Vesey (USA)

Language acquisition at a very early age is critical and leads to development of literacy skills needed throughout every child's life. The primary goal of the Massachusetts Family Sign Language Program (FSLP) is to introduce family members who have a child with a hearing loss to Sign Language, enabling them to communicate with and begin their child's language acquisition at the earliest age possible. Working closely with Early Intervention Centers across the state, this innovative program provides 20 weeks of Sign Language Instruction free of charge in the home for eligible families of children with a hearing loss 0-3 years of age. Extended family members and caregivers are encouraged to participate. The Gallaudet University Regional Center operates the program through a contract with the MA Department of Public Health and employs trained adults from the deaf community as instructors who serve as cultural and linguistic role models for families. In addition to the learning of age-appropriate sign vocabulary, families learn to apply the signs learned to everyday family life. FSLP instructors also share their knowledge of Deaf culture and teach the family to make their communications more visual and accessible for their child. Instructors also use familiar objects and surroundings of the home as tools for teaching communication skills and take advantage of incidental learning opportunities. The information shared in this presentation will assist professionals in the field of Early Intervention interested in providing families with culturally sensitive support in developing skills to communicate with their child with a hearing loss. Working with families from a variety of international communities are also addressed. Also described are the Shared Reading Programs for families.

Our Experience of the Management of Patients with Enlarged Vestibular Aqueduct. A Case Series with Literature Review

—Jean Valentin Fokouo (Cameroon)

Objectives: To report our institutional experience of management of patients with enlarged vestibular aqueduct and compare it with the literature. Methods: We carried out a retrospective review of patient records from 1993 to 2015. The age, sex, associated malformations, relevant past medical history, genetic screening results, possible surgical incident, implant model, and duration of follow-up were recorded. The outcome was assessed by the Categories of Auditory

Performance Scores (CAP) and the ability to attend mainstream school. Results: We had 11 patients (6 boys and 5 girls) with enlarged vestibular aqueduct (EVA) who underwent cochlear implant surgery in our center during the 22-year study period, of a total of 827 implanted (1.3%). Mean age at surgery was 8.9 years, ranging from 0.6 to 35 years. EVA was bilateral in 10 cases, isolated in 7 cases and associated to other malformations in 4. The mean follow-up duration was 48.3 months (range 3-120). No postoperative complication was observed and, in the majority of cases, the patients could regain a serviceable hearing with normal CAP scores, attending normal school and working normally. Conclusion: Enlarged vestibular aqueduct is frequently observed in the deaf population without identifiable cause. The hearing loss is usually progressive and may result in cochlear implantation, which has proven its efficiency in rehabilitating EVA patients.

Pathways to Resilience: Perspectives from the Guamanian Sign Language Community

—Heather Zimmerman (USA)

Low-resource communities in developed and developing countries are fraught with risks and adversity. Regardless, an emerging body of theoretical and empirical work suggests deaf and hard-of-hearing people not only survive the circumstance but thrive in their environment. The presentation addresses the following objectives: 1) provide an overview of resilience theory; 2) provide examples of resiliency in deaf and hard-of-hearing people ; and 3) present original research conducted with a low-resource community in a Pacific Island territory. This presentation builds upon our current understanding of resilience as a bi-directional individual and cultural-contextual process that leads to health and wellbeing. Lastly, discussion focuses on best practices in promoting systemic ecological resilience in seemingly low-resource communities within different contexts (e.g. family, education, government). Heather Zimmerman, MA, CSEDL PhD Candidate, heather.zimmerman@gallaudet.edu

Prevalence of External and Middle Ear Pathologies Among Students with Hearing Impairment in School Settings

—Chinthika Perera, Asela Chandrasekara, Bandini Jayasena (Sri Lanka)

Hearing impairment in children is a major health problem in developing countries. Studies revealed that the incidence of middle ear diseases is greater for children with severe to profound hearing impairment than for those with normal hearing. Objective: The study was to determine the prevalence of external and middle ear pathologies among the students with hearing impairment and find out the prevalence in age and gender. A descriptive cross-sectional study was carried out in two schools for children with hearing impaired 6 to 16 years of age. A total number of 195 children were selected using the two-stage stratified sampling method. Otoscopy and Tympanometry were used to examine the external and middle ear pathologies. Results: On otoscopic examination, non-occluded ear cerumen in 49 ears (12.6%) and occluded ear cerumen in 14 ears (3.6%) were the most prevalent ear pathologies in all age groups, but was high in age group of 10-13 years. In same age group non-occluded cerumen was more prevalent in males (55.1%), whereas occluded ear cerumen was more prevalent in females (50%). Tympanometry was performed in 383 ears. Type "As" and "Ad" tympanograms were the most common pathological tympanograms observed in 19 ears (4.96%) and 16 ears (4.17%), respectively in age category of 14-16 years. Both Type "As" and "Ad" tympanograms were most commonly observed among males in 27 ears (57.44%) and 15 ears (65.21%), respectively. Conclusion: The study showed that preventable ear diseases are a common health problem among children with hearing impairment due to lack of regular ear examination of hearing-impaired children, poor public awareness, lack of audiological and otological facilities. Essential are starting preschool screening programs, provision and expansion of diagnosis facilities, and raising awareness of parents and teachers on hearing hygiene.

Prevalence of Hearing Loss Among Primary School Children in Mbarara, Uganda

—Irving Basanez, Susan Stangl (USA)

Introduction: Hearing loss in children is a common entity worldwide. We examined the prevalence and etiology of hearing loss among primary school children in a large urban center in southwestern Uganda. Methods: Cross-sectional study in primary school children aged 5-14 with hearing loss was performed. Several hundred Ugandan primary school children were screened for hearing impairment (threshold >30 dB), and confirmatory audiometry was performed on those who failed the screening. Results: There were 639 children screened. Thirty-five, or 5.5% (95% CI 3.7%, 7.2%) of children screened failed and were referred for further testing. Two children were lost to follow-up. The percentage of children with true hearing loss was 3.3% (95% CI 1.9%, 4.7%). Conclusions: The incidence of failed hearing screening in this remote African population is similar to other populations. Hearing screening is recommended for all children, but especially for those performing poorly in school or with suspicion of hearing loss. Southwestern Uganda remains in need of a trained audiologist and comprehensive otolaryngologic care.

The International Humanitarian Hearing Aid Purchasing Program (IHHAPP)

—Ronald Brouillette, Debra Fried, Anita Stein-Meyers (USA)

The International Humanitarian Hearing Aid Purchasing Program was born of the need to address the barrier to hearing aid fittings in low-resource countries. The Program is able to provide low cost, new, digital behind-the-ear hearing aids to qualified members, providing humanitarian care. These hearing aids do not require computerized equipment for programming adjustments. The concepts embodied in the Program have a long history and have existed in many forms over the past 20 years. Beginning in 1995 through the efforts of Ron Brouillette, such a project began by providing assembled hearing-aid kits for worldwide distribution. During the ensuing years, various organizations have addressed the issue of affordable hearing care. In 2012, the International Humanitarian Hearing Aid Purchasing Program was formed and is under the administration of Mayflower Medical Outreach, with the support of the Coalition for Global Hearing Health. To date, the Program has had a wide reach, with recipients in North and South America and Africa benefiting from this program. The poster presentation addresses the various aspects of the Program, including history, philosophy, membership requirements, types of hearing aids offered, and procedures for placing orders. Various hearing aid fitting algorithms are presented.

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- 18:00 - Poster Presentations
- 19:15 - Keynote Presentation

Agenda **Friday** — October 9, 2015

19:15-21:00

A Global Connection Gala: Making Hearing Health A Priority

The Global Connection Gala brings together people who are living and working in almost 50 countries around the world to making hearing health a global priority. The messages from the keynote speakers will remind attendees not only of how far we have come, but what remains to be done. It will be a wonderful evening filled with personal stories, camaraderie, entertainment, and calls for collective action.

Keynote Speakers

Kellogg Conference Hall

Shelly Chadha — World Health Organization (India)
Promoting Ear and Hearing Care in Countries: WHO Principles and Strategies

Over 360 million persons in the world live with disabling hearing loss. Many of these can be prevented and those with unavoidable hearing loss can benefit through effective interventions. The WHO programme for prevention of deafness and hearing loss works with the vision of a world in which no person experiences hearing loss due to preventable causes and those with unavoidable hearing loss can achieve their full potential through rehabilitation, education and empowerment. WHO's role is to effectively advocate for and support the development of suitable strategies to address the needs of hearing health at the global, regional and national levels. The World Hearing Day is one such advocacy initiative. It attempts to draw attention towards hearing loss and is being increasingly observed by countries and partner organizations. WHO aims to establish community-based, sustainable and inclusive strategies for prevention and management of hearing loss, which are integrated within the primary health care systems of WHO's Member States. For this purpose, WHO works to develop evidence-based tools, guidance and training materials. The priorities, principles, challenges faced and possible opportunities in the programme are discussed in the presentation. The roles which various stakeholders can play in this endeavour are outlined.

François Goudenove (France)
Making Hearing Health a Priority

Contrary to many other parts of the world, deaf people are highly excluded from French society and are often considered a burden. François Goudenove is changing this mindset. François is pioneering a society in which deaf people are full citizens, prejudices among the hearing towards the deaf have disappeared, and what was once considered a disability is an asset. François' innovative tools around sign language revolutionize daily lives of deaf people, restore their self-confidence, and empower them to play a fuller role in society. François has developed a comprehensive set of tools that enable deaf people to broadly communicate using sign language. He empowers them to promote their identity. Examples of his innovations include new ways to make video phone calls, using live sign language interpreters, as well as a live news website in sign language. By facilitating communication and accessibility of sign language, François has restored autonomy and self-confidence of thousands of deaf people.

Entertainment by Gallaudet Dance Company

The Gallaudet Dance Company is a performing group of undergraduate or graduate students at Gallaudet University. Each dancer's background is different in terms of hearing level, preferred communication mode, and current major field of study. But all the dancers are excellent communicators. They rely on their vision as their primary mode of communication and communicate through their dancing in a range of styles, including dance that uses American Sign Language as its foundation. The Gallaudet Dance Company has entertained audiences around the world for more than 55 years. It is considered to be one of the most exciting troupes presenting dance with ASL.

- 8:30 - Plenary: Training & Education
- 9:45 - Plenary: Training & Education
- 11:00 - Break
- 11:15 - Plenary: Training & Education
- 12:15 - Plenary: Global Std Practice
- 13:15 - Lunch
- 14:15 - Plenary: Global Std Practice
- 15:00 - Break
- 15:15 - Plenary: Global Std Practice
- 16:15 - Last Words - Way Forward

Agenda Saturday — October 10, 2015

8:30-9:45 **Plenary VII: Training and Education**

Andrew Foster Auditorium
Moderator: Suneela Garg

A Program to Educate and Train Audiometry Technicians in Nicaragua and the Development of a Sustainable Audiology Humanitarian Program

—Mark Sanders, Debra Fried (USA)

Mayflower Medical Outreach (MMO) is a U.S.-based 501(c)(3) non-governmental organization whose mission is to strengthen hearing health and deaf education in Nicaragua. MMO currently operates an audiology clinic, ENT clinic, and deaf boarding school in the rural mountain town of Jinotega, Nicaragua. A successful humanitarian program has been in operation there since 1999. Using the success of the Jinotega clinic as a foundation, MMO and the Nicaraguan Ministry of Health are working together to establish 2 additional clinics in different regions of the country. Key to the success of these clinics are personnel who can provide accurate audiometric evaluations; however, the country has only one university trained audiologist and lacks a university training program. In an effort to educate and train qualified personnel to operate future clinics and create a sustainable audiology program, MMO has created an audiometric technician training program. An overview of key factors that have contributed to the success and sustainability of MMO's programs will be presented. The goals of the MMO audiometric technician training program and means of accomplishment will be described. Finally, challenges encountered in the implementation of the training program and possible future directions will be discussed.

A Sustainable Model to Increase Capacity in Vietnam to Serve Young Children with Hearing Loss

—Paige Stringer (USA)

Sustainability is an important goal for any humanitarian program to ensure that the people served derive benefit from the effort long after the program is completed. Sustainability targets can also help with fundraising as grantors and donors look for evidence that their contributions will lend to lasting change. But what programming elements lead to sustainability? How do cultural and language differences factor into this goal? What considerations can help ensure the parties involved are working together to achieve sustainability? The Global Foundation for Children With Hearing Loss has been addressing these questions with a holistic model in Vietnam that emphasizes training and education in audiology, early intervention, and auditory-verbal practice while also providing equipment, resources, and other support to address the needs of children under 6 years of age with hearing loss in the country. Through the Global Foundation Vietnam Program, not only are the Vietnamese prepared to provide expert care to the children themselves, but they are empowered to share their knowledge with other professionals and families. The Program promotes collaboration between Vietnamese professionals across hearing health and education. Five years since Program inception, the Vietnamese are taking ownership of what they have learned to implement, improve, and otherwise fill gaps in their system of support for their young children with hearing loss. The presenter will outline how the Global Foundation for Children with Hearing Loss created and implemented an educational model that has inspired a sustainable effort by the Vietnamese to address the needs of young children who are deaf or hard of hearing. Insights and learnings will also be shared to help other humanitarians who have placed priority on sustainability factors in their own programs.

Community-Based Education Model for Promoting Early Childhood Hearing Outreach

—Lindsay Bondurant, Antony Joseph (USA)

Since the advent of Universal Newborn Hearing Screening in the United States, over 95% of children receive a newborn hearing screening within the first month of life. However, many states struggle with loss-to-follow-up rates exceeding

50-75%, leading to delayed identification of hearing loss in children, particularly those living in under-resourced areas. These difficulties mirror the challenges seen worldwide with regard to identifying hearing loss in children; there is a lack of trained personnel, a lack of equipment, and poor understanding about the ramifications of hearing loss in childhood. An avenue for identifying these children is by providing otoacoustic emission (OAE) screenings in home- and center-based settings, using staff and volunteers who are already familiar with the children and families. Since 2012, the Illinois ECHO program has been training nurses, parents, and health-department officials to provide OAE screenings and to monitor follow-up for low-income and under-resourced families. In 2014, the responsibility for the training program was transferred to Illinois State University via a subcontract with the University of Illinois-Chicago Division of Specialized Care for Children. Since this transfer, the program has linked with local health departments across the state of Illinois to ensure geographic coverage that would include rural, urban, and underserved communities. The goal of the proposed presentation is to inform CGHH Conference attendees about an early-childhood hearing outreach (ECHO) training program for novice screeners, developed in Illinois (USA) to promote the engagement of community-health professionals in the early identification of hearing loss in children.

HEARS: A Community-Delivered, Affordable, Accessible Hearing Care Intervention for Older Adults

—Carrie Nieman, Sara Mamo, Nicole Marrone, Sarah Szanton, Elizabeth Tanner, Frank Lin (USA)

Age-related hearing impairment is highly prevalent, but few older adults use hearing aids. The current care model demands resources beyond the means of many, especially low-income and minority older adults. The HEARS intervention is a theory-driven, evidence-based approach developed through a phased, pilot study. The program integrates constructs from Bandura's Social Cognitive Theory along with principles from a human factors approach to design. Preliminary efficacy was assessed through a randomized, three-month waitlist control and primary outcomes included communication, social engagement, loneliness, depression, and quality of life. Older adults with hearing loss and their communication partners were recruited with a community organization that provides subsidized independent housing for low-income older adults in Baltimore City. We developed a two-hour training session delivered in the community that incorporates low-cost amplification devices and communication strategies. A total of 30 older adults completed the training and results document acceptability and feasibility. This study is the first to report a community-delivered intervention to provide affordable, accessible hearing care for older adults, designed to be delivered by community health workers, which may provide an important adjunct to expand the delivery of hearing care to underserved older adults locally and internationally.

9:45-11:00 Plenary VIII: Training and Education

Andrew Foster Auditorium
Moderator: Lindsay Bondurant

Introduction of Cued Amharic to Ethiopian Deaf Education

—Miriam Redleaf, Abera Nega (USA)

Purpose: To describe the adaptation of cued speech to the Amharic language and its introduction to deaf education in Addis Ababa, Ethiopia. Introduction: Cued speech was first introduced to Gallaudet University by Dr. Orin Cornett in 1967. Eight handshapes and four hand positions, in tandem with lip motions, clarify all the phonemes of spoken English. Because of the simplicity of these gestures, they can be learned quickly and can be presented in real time. Amharic, the national language of Ethiopia, is written in symbols, each of which is a consonant-vowel phoneme. Because its orthography is deeply ingrained into the culture, this language appeared to be ideally suited to cued speech adaption. Description of Project: Adaptation of the Amharic syllabary (known as the fidel) to cued speech was created by an experienced cuer, with help from two native speakers. Cued Amharic was introduced at one of the deaf elementary

schools in Addis Ababa during a weeklong workshop. Attendees were 30 deaf students, 8 teachers (both deaf and hearing), and 4 parents, for a total of 42 attendees. Findings: At each of the three deaf schools approached, the administration and teachers expressed very positive interest in learning the cued Amharic system. Most of the participants were able to learn the cued Amharic system within three days of the workshop. The hearing-impaired students and teachers quickly understood the purpose of cueing--to make visible all the sounds that the "listener" cannot see on the lips, while the hearing participants were less likely to grasp this point. The entire cost of developing the workbook and implementing the workshop was less than $12,000. Future Plans: Workshops for the same type of clientele are planned (as well as follow-up sessions for previous attendees), and for classroom teaching strategies.

NIH Funding for Global Health Research

—Lana Shekim (USA)

This presentation will introduce the audience to the National Institutes of Health (NIH) with special emphasis on the National Institute on Deafness and Other Communication Disorders (NIDCD) and the Fogarty International Center (FIC). The presentation will touch on the breadth of research currently funded by NIDCD and highlight exemplars of NIDCD supported global health research. The various funding mechanisms that are offered at the NIH, both in research as well as in research training and career development will be explained. Funding opportunity announcements initiated by NIDCD or FIC will be introduced. The session will also explain the process of applying for an NIH grant from the first application submission, through the scientific peer review process, possible application amendment and resubmission, when needed, to the final phase of awaiting funding decisions. The presentation will introduce the audience to the standard NIH review categories (e.g., significance, approach, innovation, investigators, environmnt, human subjects, animal welfare), as well as the use of the numerical rating system (from 1-9) and undiscussed applications. The presenter will discuss common criticisms and how to avoid them in the initial submission. Review of applications from foreign institutions versus review of domestic applications with foreign components will be contrasted. There will be time devoted to answering questions from the audience.

On Pursuit of a Sustainable International Service Project in Otology- Is "Teach a Man How to Fish" Paradigm Sufficient?

—Ashkan Monfared (USA)

This presentation introduces the National Institutes of Health, with special emphasis on the National Institute on Deafness and Other Communication Disorders (NIDCD) and the Fogarty International Center. The presentation touches on the breadth of research currently funded by NIDCD and highlights exemplars of NIDCD supported global-health research. The funding mechanisms offered at the National Institutes of Health, in research as well as in research training and career development, are explained. Funding opportunity announcements initiated by NIDCD or Fogarty International Center are introduced. The session also explains the process of applying for a National Institutes of Health grant from the first application submission through the scientific peer-review process, possible application amendment and resubmission, when needed, to the final phase of awaiting funding decisions. The presentation introduces the audience to the standard National Institutes of Health review categories (e.g., significance, approach, innovation, investigators, environment, human subjects, animal welfare), as well as the use of the numerical rating system (from 1-9) and undiscussed applications. The presenter discusses common criticisms and how to avoid them in the initial submission. Review of applications from foreign institutions compared with review of domestic applications with foreign components are contrasted. Time is provided for answering questions from the audience.

Otologic Surgery Training in a Rural Ethiopian Community
—Miriam Redleaf (USA)

Introduction: Although many people on the African continent need ear surgery, there is little otologic activity there. Therefore, opportunities for otologic surgery training are sparse. We present a model for ear surgery in Ethiopia that fosters local surgeons through monitored operating sessions. Hypotheses: 1. Responsible and effective otologic surgery, performed by local surgeons, is attainable in a rural setting; and 2. Concentrated otologic surgical camps provide otologic training for local health care professionals. Results: 1. A total of 137 otologic surgeries were performed during four weeklong surgical camps at a rural hospital in Butajira, Ethiopia. Two surgeries used microscopes and ear instruments, and two used new ear drills that had been donated. Most patients had large, central perforations. Ninety percent of the operations were under local anesthesia. Twenty-six patients returned for follow-up testing. There were no complications of surgery. Eighty-three percent of perforations closed completely. Sixty-nine percent had improved hearing levels. Five of six ossiculoplasties had improved hearing (83%). 2. A total of nine Ethiopian ENT surgeons performed these operations supervised by a visiting U.S. otologist. The three senior-most doctors had completed accredited residencies abroad but had lacked hands-on otologic surgical training. The remaining six were ENT residents or recent graduates who had never operated. Surgical experience and proficiency was evaluated and graded at the end of the week. All three senior Ethiopian doctors and one of the six recent residents returned to their local sites and now perform otologic surgery there. Conclusion: Otologic surgery can be performed safely and effectively in a rural setting. This development helps the patients and increases the confidence and effectiveness of the local surgeons. In addition, these operations provide operative experience for surgical training.

Understanding Variability in Literacy Growth for Deaf Children with Different Characteristics Different Language Experiences
—Thomas Allen (USA)

Using data from a three-year longitudinal study of deaf children who were ages 3-5 in the first wave of data collection, and who were assessed for language, cognitive, and literacy skills in each of three successive years, the presenter analyzes factors that contribute to the level of literacy (using a letter-word identification test) and the rate of achievement gain over the three-year period. Data come from the Early Education Longitudinal Study conducted by the NSF Science of Learning Center on Visual Language and Visual Learning (VL2) at Gallaudet University. Results evaluate variability of indicators for subgroups of children with specific characteristics, such as children with and without cochlear implants and children with and without deaf parents. Findings reveal that being in a participant subgroup does little to change performance or reduce variability. However, early acquisition of language skills (signed or spoken and independent of subgroup), strongly predicts the rate of reading growth over a three-year period. The results emphasize the importance of early language exposure and development, independent of modality. The presentation includes a discussion of home and individual characteristics that contribute to effective development of early language.

11:00-11:15 **Break:**

11:15-12:15 **Plenary IX: Training and Education**
Andrew Foster Auditorium
Moderator: Dave Fabry

Satisfied? Sustaining Community-Based Hearing Health Care
—Ronald Brouillette (Tanzania)

Global efforts to close the gap in hearing aid uptake in developing countries solves immediate problems while creating others. This presentation addresses these laudable hearing health attempts at solving the inequities, and presents long-term sustainable solutions to ensure a realistic standard for local service providers who remediate audiological and communication disorders over the longer term. The alternative and evolving delivery systems and training curricula models that are presented reflect decades of work in hearing health and speech and language therapy in least developed nations, work with humanitarian North-South efforts, and present work in developing university masters level courses in East Africa.

Global Standard Practice

Andrew Foster Auditorium
Moderator: Dave Fabry

The Hear the World Foundation, External Donors and Audiology Service Development: Lessons from Malawi
—John Bamford, Elena Torresani (Switzerland)

The aim of the Hear the World Foundation (HTWF) is to enable people all over the world to enjoy better hearing. Every year we receive a large number of applications for support. An essential criterion for selecting and implementing projects is sustainability. The quality of audiological care provided is a crucial element of sustainability, and attention is paid to the potential for: • High quality evidence-based practice • Longterm capacity-building • Outcome-monitoring HTWF funds some services directly, but most often works through existing NGOs. In Malawi, since 2010, HTWF has provided support for the building and equipping of the ABC Hearing Clinic and Training Center (ABC HCTC) in Lilongwe, the first purpose-built audiology facility in the country. The facility is led by Peter and Rebecca Bartlett, supported by EARS Inc, an Australian NGO. Its longterm sustainability depends upon training Malawian audiologists. ABC has trained six graduates as audiology assistants, and to provide longterm leadership HTWF is providing further funding for two graduates to undertake an Audiology MSc in the UK. In many developing countries there are multiple donors: another aspect of sustainability concerns how well these NGOs work together, and how well they work with internal bodies. In Malawi, Sound Seekers from the UK is developing a second audiology facility, in Blantyre. Also with a significant presence are CBM, SHF, and others. This raises issues of cooperation and efficient linkage between NGOs, and also with the key internal stakeholders. It is crucial that NGOs find ways to cooperate on the ground and to link effectively with internal policy-makers and practitioners. Perhaps there is a role for the Global Coalition to develop general guidelines where there are multiple NGOs in a country, all working to the same end?

Relations of Hard of Hearing Persons and Hearing Health Professionals in Light of the New Hearing Technologies
—Avi Blau (Israel)

Some hard-of-hearing persons like to control features and abilities of their hearing aids. Some just want the aids to work without touching them. Hearing health professionals should maintain good relations with both groups. This presentation articulates the needs of the first group and the options of the hearing-aid professionals, e.g., multiple dedicated programs in the hearing aid, activated telecoil, Bluetooth connectivity with the smartphone, Assistive Listening Devices, etc. The session discusses the new wave of wireless communication between the smartphone and the hearing aid, which gives the hearing aid user more options to hear more sources of sound with, hopefully, better hearing and

better understanding. The session also discusses how much hard-of-hearing persons should be allowed to control the hearing aid, especially in light of the new wave of digital wireless communication, which enables connectivity with the smartphone, low-cost quality remote microphones, and other interesting applications of digital communications. A question to discuss is who will draw the line between professional-fitting and user-setting of the hearing aids. Finally, the session closes with a discussion about the implications of the connection of hearing aids to smartphones in developing countries. The view offered is that easy control of the hearing aids through the smartphone and the low cost ALS enabled by the smartphone will have an impact on the role of the hearing-health professional, especially in these countries.

The UN CRPD and Deaf People

—Joseph Murray (USA)

The United Nations Convention on the Rights of Persons with Disabilities (CRPD) is a landmark human rights treaty now ratified by 155 nations. The treaty has a number of specific provisions related to deaf people in education, access to public services, and access to larger society. The post-2015 UN Sustainable Development Goals will determine the bulk of the development aid agenda for the next decade. The Post-2015 Sustainable Development Goals will likely have a concentrated focus on reaching persons with disabilities who are among the poorest of the poor. There have been a number of projects working with deaf people in underserved regions around the world to date, and the CRPD and Post-2015 Sustainable Development Goals promise to revolutionize development aid work with deaf people in least-developed countries. The World Federation of the Deaf has developed guidelines for such work. This presentation discusses best practices in accord with guidelines developed by deaf people for work with deaf people in developing countries. An important consideration is the international disability movement credo, "nothing about us without us". Practices for working with deaf organizations in realizing human rights objectives of the CRPD are discussed, including best practices to date.

12:15-13:15 Plenary X: Global Standard Practice

Andrew Foster Auditorium
Moderator: Diego Santana-Hernandez

All Deaf Children Should be Taught a Sign Language

—Gaurav Mathur, Tom Humphries, Poorna Kushalnagar, Donna Napoli, Scott Smith, Carol Padden, Christian Rathmann (USA)

Language is a biological cognitive faculty that needs appropriate nourishment within the window of opportunity in order to develop properly. That window is determined by changing brain plasticity. Where we once believed that the window of opportunity was age five, more recent research places it closer to three. Hearing children are not at risk for linguistic deprivation because their ambient language is accessible to them (under ordinary circumstances). Deaf children, to the contrary, are at risk because, typically, their ambient language is spoken and inaccessible to them. Over 80% of deaf children in developed countries receive cochlear implants, often before one year of age. Most of those children do not access the ambient spoken language well enough to communicate with strangers. Many do not access it well enough to develop language, although they may glean nonlinguistic audiological benefits – such as being able to distinguish a fire alarm or the rumble of a truck from background noises. Success with a cochlear implant is variable and unpredictable. All deaf children should, therefore, be given a sign language from the moment their audiological status is determined. A sign language not only ensures the child's proper language development, but allows the basis for a range other cognitive abilities that rely on a solid language faculty, and allows the child intellectually and emotionally appropriate communication that will support a healthy identity and a happy life. Regardless of whether a child is implanted, a sign language supports the child's literacy and can support development of speech, promoting bilingualism, a beneficial

situation in any case. The recommendation of a sign language means families need to learn to sign. But even poor signing at home can be enormously beneficial to the child, so long as the child has frequent and regular contact with good signing models outside the home.

Doing What Works - The Evolution of Project EAR in the Dominican Republic

—Edward Dodson (USA)

Much has been written about the problems inherent in providing hearing healthcare services in developing countries. These problems include these: 1) Low public awareness, 2) Lack of access to care due to cost, lack of training and equipment, 3) Lack of adequate follow-up care, 4) Governmental disinterest in hearing healthcare, and 5) Failure of groups providing specialty services (medical/surgical, audiology, speech therapy, deaf education, etc.) to work together to achieve common goals. Given these challenges, the members of Project EAR embarked on our first medical mission in 1995 with a strong desire to help those in need, but with little knowledge regarding best practices. Since 1995, Project EAR has conducted 40 one-week medical missions, performing otologic surgery, screening and diagnostic audiology, hearing aid fitting, and education of otolaryngologists and otolaryngology residents in the Dominican Republic. This presentation reviews our experiences in the Dominican Republic and focuses on challenges we have faced and strategies that have enabled us to be successful. Furthermore, we review our proposed plan for the future and discuss the ways in which this plan will allow us to maximize patient care and education.

Instant Earmolds Options - A Review of the Old and New

—King Chung, Danica Billingsly (USA)

According to the World Health Organization, hundreds of millions people in the world have hearing loss greater than 40 dB HL in the better hearing ear and most of them live in developing countries. With the high prices of hearing aids, many individuals with hearing loss cannot afford to buy hearing aids. They either do not use any form of amplification devices or rely on donated devices to meet their amplification needs, resulting in the extremely low hearing-aid adoption rate of <2.5% in these countries. The service model of hearing-aid provision in developing countries may not mirror that of more developed countries. Access to hearing services often requires long distance travel. As most donated hearing aids are traditional behind-the-ear hearing aids for their physical versatility and wide fitting range, the demand for properly fitted instant earmolds is great in developing countries. The purposes of this presentation are these: 1) to review several kinds of currently commercially-available instant-fit earmolds, and 2) to introduce an alternative low-cost instant-earmold system that clinicians can make themselves, using supplies available in audiology clinics. The alternative instant-earmold consists of a single/double bent tubing, a brass lock, a plastic lock, and an ear tip. The instant-earmold is quick and easy-to-make, inexpensive, durable, easy to clean, able to accommodate different ear canal sizes, easily modifiable to suit changing ear canal sizes for children, venting-ready, and crafted with minimum additional tools needed (e.g., a flush cutter and tubing glue). The goals of this presentation are to summarize available instant-earmold options, to engage fellow humanitarians to share their experiences with different instant-earmolds, and to discuss how to make the alternative instant-earmolds to meet the unique patient needs of regional clinics in developing countries.

Considerations in Facilitating Development of Signed and Spoken Language With Young Children Who Are Deaf or Hard of Hearing

—Christi Batamula, Bobbie Jo Kite, Julie Mitchiner, Debra Nussbaum (USA)

This presentation will discuss the issues in addressing the multifaceted challenges of educating and advocating for children who are deaf and hard of hearing children Some of the issues addressed will include: a) risks of withholding sign

language leading to possible language deprivation and delays, b) the advantages of a bimodal bilingualism in signed and spoken languages to a child's linguistic, communicative, cognitive, academic, literacy, and psychosocial development, c) evidence in neuroscience confirming the brain's ability to learn both visual and spoken language without harm to the development of either language, d) how the development of early competence in a sign language can effectively facilitate a child's spoken language development, e) families' language practices, language beliefs and attitudes, and language management with their young deaf/hard of hearing children and the associated implications on language outcomes, and f) how a bimodal bilingual language and communication approach, which addresses acquisition and use of both a visual and a spoken language, has the potential to foster early language through the child's vision while also stimulating the child's audition through a cochlear implant or hearing aids. Discussed will be considerations for individualized education and language planning for young children and their families. Also addressed will be issues related to the social and linguistics benefits of interaction with the Deaf Community for deaf/hoh children.

Why is More Evidence Needed Globally on the Burden of Hearing Loss and How Can We Get It?
—Andrew Smith, Daksha Patel, Joanna Anderson (United Kingdom)

The WHO global estimate of people with disabling hearing loss has tripled from 120 million in 1995 to over 360 million today. This number would be 554 million if the threshold reduction for disabling hearing loss proposed by the 2010 Global Burden of Disease (GBD) Hearing Group were accepted by the WHO. The WHO GBD 2004 update ranked adult onset hearing loss 3rd amongst all health conditions making up total Years Lived with Disability (YLD), and 13th for Disability Adjusted Life Years (DALYs), of which YLD are a component. However the 2010 GBD project downgraded hearing loss YLD ranking to 13th because of a change in the methodology of assessing disability weights. With the former ranking, interventions against chronic otitis media and hearing loss were extremely cost effective; with the new rankings they would be much less so. Estimates like these depend on accurate source data, yet the most recent WHO figures for hearing loss were based on less than 50 population-based surveys, since the almost 3000 others assessed were methodologically unsatisfactory. Figures for other conditions of this magnitude are based on far more surveys. Accurate data are essential to the WHO and governments for estimating global, regional and national prevalences, calculating YLD, DALYs, and cost-effectiveness, for planning programmes and prioritising interventions, and for resource allocation. This presentation looks at these issues in more detail. Why are the data on hearing loss so scarce? Key challenges include limited population-based surveys and lack of funds. Survey tools and methodologies are essential for faster, cheaper, and more accurate estimates. Better data would be central to strengthening the approach in service provision and advocacy for long-term impact in preventing and managing hearing impairment.

13:15-14:15 **Lunch (on your own)**

14:15-15:00 **Plenary XI: Global Standard Practice**
Andrew Foster Auditorium
Moderator: King Chung

Cargo Culture & Audiology in the 21st Century
—David Pither (Australia)

Amongst the diverse Melanesian practices that have resulted as a consequence of commercial explorations and political colonization, the Cargo Cult is one that seems to be overlooked or underestimated. "Cargo Cults" arise from the belief that various ritualistic acts/worship will lead to an abundant receipt of material wealth. As such, the emergence of "Cargo Cults" in the Pacific Islands in the 1800s had a deep impact not only on islander culture but on the way in which

International Aid programs were created and implemented. This thought-provoking presentation looks briefly at the lasting effects of "Cargo Culture" on indigenous communities and, for donor agencies, asks the question: "Are we part of the solution or part of the problem?"

Challenges to Identifying Newborn Hearing Loss on Remote and Rural Islands
—Agnes Flood-Tse, Jean Johnson (Marshall Islands)

The presentation describes how implementing a newborn hearing-screening program in rural and remote communities with limited resources requires a passionate commitment to identifying permanent hearing loss as early in life as possible. That passion must translate into securing support of the local community and qualified professionals, acquiring equipment, providing training, implementing a data-management system, and utilizing quality control to continually improve the identification process. Moreover, providing outreach into more remote areas requires establishing a base on islands with larger populations, greater facilities, and trained local persons willing to carry services across the waters to islands with small populations and few facilities appropriate for hearing screening. Further, implementing the screening process is only the beginning, and easiest, part! Once babies are referred from the screening process, huge challenges remain! "Limited resources" means that remote areas have no audiologists, no ENT specialists, no speech-language pathologists, no teachers for the deaf, and no providers of early intervention. Also lacking are groups for parent support and any support services for children with other special needs. The presentation shows, however, how talented local personnel, working with itinerant professionals, can create diagnostic programs, medical and surgical treatment, and comprehensive early intervention services and can provide outreach to children and families on remote islands. The presentation focuses on successes in overcoming challenges in meeting the needs of children with permanent hearing loss and other special needs in an environment with few local resources.

Closing the Gap when Working with Spanish Speaking Families
—Lucia Quinonez Sumner, Roxanne Dearman (USA)

This presentation is geared toward professionals who work with Spanish-speaking populations that are Deaf or Hard of Hearing. Becoming a culturally- competent service provider is essential in today's society due to the growing number of immigrants to this country, who bring with them their own cultural and language backgrounds. The fact is that "Hispanics/ Latinos are the fastest-growing youth population in the United States".(The National Council of la Raza, 2010) and they "demonstrate a higher prevalence of hearing impairment than other children in America." (Mehra, Eavey & Keamy, 2009 and Science Daily 2009). This presentation provides professionals with tools needed to improve service delivery to Latino individuals with hearing loss and their families. Cultural factors that may thwart rapport building when not appropriately understood and strategies to build strong relationships with families are discussed as well as the impact that cultural views on child rearing, disability, disease and treatment have on quality of care. Participants learn how to administer cultural assessments to identify differences in health beliefs in order to close the cultural gap between patient and provider. Differences between a translator, interpreter, and cultural broker are also explored in order to help professionals maximize outcomes.

A Model for Training Audiology-Proficiency Personnel
—Giri Sundar, Victor Bray (USA)

Nowhere is a critical shortage of audiology service providers greater than in the developing world, where been reported that the ratio of audiologists to the general population ranges from 1 for every 6.25 million persons to 1 for every half a million persons. Lack of access to hearing health care is an addition to the global burden of hearing loss that can

be overcome by accessing modern technology and unique training models. Audiology as a discipline is composed of many critical aspects of basic and clinical sciences. As a profession, audiology is young and dynamic. In North America and many other developed regions of the world, the profession is distinct as is the training. Training ancillary hearing care personnel in the knowledge and skills required to provide basic diagnostic and intervention techniques is one way to meet this challenge. However, ensuring that the standards of care provided to the hearing impaired persons are consistent with the best possible care that can be afforded is critical within the infrastructure of the region. Therefore appropriate education and training of the hearing-health personnel is pivotal in transferring the standards of care effectively. The key elements to delivering appropriate standard of care include efficient, effective, and consistent practices. This presentation reflects upon the training in core competencies that can advance the process of this training. Central to improving access and quality is the recruitment and retention of the hearing-care providers. This presentation offers recommendations for a basic curriculum for training of ancillary personnel to provide hearing services as well as a tiered model of Learn-while-you-work, so that clinical competencies and sustainability can be achieved even at the non-traditional levels of training hearing-care providers.

Intellectual Disabilities and Hearing Loss: The Forgotten Many Identified by a Public Health Model of Hearing Health Services

—Gilbert Herer (USA)

Undetected/untreated hearing loss imposes significant limitations upon adults with intellectual disabilities. The hearing of 9,961 adults with intellectual disabilities was evaluated at Special Olympics sports events over the past decade using a public health model for delivering hearing-health services. Most of those discovered with hearing loss were previously undetected. This session describes the ingredients of the public health model for hearing services, and provides detailed outcomes including a 24% hearing loss prevalence rate for adults with intellectual disabilities (18 to 55 years): 1.4 times greater than worldwide general population studies that are cited during this presentation. Additional analyses of hearing loss for age decades (18-55 years) for 5713 of the 9961 individuals with intellectual disabilities are presented. Graphs will illustrate the significant amounts of hearing loss starting in early age decades. These illustrations show the trend for increased prevalence of hearing loss with each advanced age decade. Especially notable are the prevalences of hearing loss for the three decades from 20 through 49 years, ranging from 16.8% to 36.1%. A comparison with the general non-intellectual disabilities population data for these age decades (Great Britain-1989 and Italy-1996) are presented, revealing stark differences. People with intellectual disabilities showed losses 3 to 9 times greater depending upon age decade. The hearing status of this very large sample of people with intellectual disabilities provides informative perspectives of hearing-care needs of individuals with intellectual disabilities living within their general communities. This information highlights the need for any hearing-health initiatives in low-resource countries to include the identification of persons with intellectual disabilities within its efforts, and to use the efficiency and adaptability of the public health service delivery model of hearing care to do so.

15:00-15:15 **Break**

15:15-16:00 **Plenary XII: Global Standard Practice**

Andrew Foster Auditorium
Moderator: Andrew Smith

Designing a Model Program to Maximize Impact for Global Hearing Health

—Dave Fabry (USA)

Everyone at this conference is well aware of the statistics: globally, nearly one in ten have measurable hearing loss, and 360 million individuals have a "disabling" degree of impairment. Most developed and developing countries have

shortages of audiologists, ENT physicians, speech therapists, and other personnel capable of providing hearing healthcare. Our collective passion for raising awareness for the importance of hearing as a universal health issue is not in question. There is, however, considerable debate over how to develop scalable, sustainable methods for hearing-aid selection, fitting, and follow-up. At issue is the ethics of developing community-based approaches that sacrifice "best practice" methods employed in developed countries versus clinical-based approaches that forgo scalability to achieve precision. This session addresses the Starkey Hearing Foundation multi-phase approach to providing a scalable, sustainable, model of global hearing healthcare. Discussion includes development of community-based volunteer training programs, university/clinical partnerships, and a focus on comparison of prescriptive versus comparative fitting models on initial and long-term patient satisfaction. Audience participation is likely.

The Ask and the Task of Hearing Parents of Children Who Are Deaf Learning Sign Language

—Neethie (Lavanithum) Joseph (South Africa)

Sign language enjoyed international revival and widespread acceptance in the late 20th century. The 1990s saw the introduction of the bilingual-bicultural approach in education of deaf children. Professionals were alerted to the benefit of communicating through sign language with individuals who do not have access to sound. This movement included interventionists such as Speech Language Therapists and Audiologists whose training underwent a change to include the shift. This presentation examines the issues around hearing individuals' use of sign language by tracing policy on South African Sign Language (SASL) in the education and health sectors, the preparation of professionals to use and teach SASL, and the access and use of SASL by children and their families. Studies done in South Africa are presented to highlight and discuss the challenges that parents and families face in accessing SASL, as well as accepting and using it. The acquisition of a visual-gestural language is often underestimated. This is especially important against the backdrop of late diagnosis of hearing loss in children and decision making around educational methodology. While old debates, prejudice, and misconceptions about sign language continue to prevent optimal benefit from its use, a full understanding of signing within the context of hearing-deaf dialogue in families requires further exploration and understanding. Use of sign language has vast benefits, but mere acceptance of this fact is not enough to bridge the communication barrier observed between deaf children and their families. A structured approach to learning to sign that is contextual, communication centered, and relevant in the early years, fully cognizant of the unique characteristics of a visual language and its place when the auditory system is inadequate, would ensure that as deaf children grow, they do not outstrip their parents with an ever widening communication gap between the child and family.

Thinking Locally and Globally, Fresh Perspectives on Applying Three Decades of Research into Epidemiology into Permanent Childhood Hearing Loss

—Adrian Davis, Katrina Davis (United Kingdom)

Epidemiology is the study of patterns of disease, but it is also a means of deciding priorities and identifying possible solutions. Starting with the Trent Study in the 1980s, right up to the reports from the global burden of disease 2010, we have generalized from the epidemiology of PCHI found in discrete studies in small geographical areas to make estimates of need and policy recommendations nationally and internationally. While this has had its successes, there are clear indicators that this is overly simplistic. Through analysis of newborn hearing screening results and other studies, we show where there is evidence of variations between countries and communities, the gaps in our knowledge, and how the next generation of epidemiologists should take up the legacy of current knowledge.

- 8:30 - Plenary: Training & Education
- 9:45 - Plenary: Training & Education
- 11:00 - Break
- 11:15 - Plenary: Training & Education
- 12:15 - Plenary: Global Std Practice
- 13:15 - Lunch
- 14:15 - Plenary: Global Std Practice
- 15:00 - Break
- 15:15 - Plenary: Global Std Practice
- 16:15 - Last Words - Way Forward

Agenda **Saturday** — October 10, 2015

Working Towards a Global Outreach in Ear and Hearing Care
—Diego Santana-Hernandez (Spain)

Several organizations and alliances are currently trying to provide an appropriate framework to enable different stakeholders to develop its work in the area of Ear and Hearing Care. From the global public-health approach promoted by the World Health Organization, to the more geographically limited efforts made by Non-Governmental Organizations and civil society, there is a vast array of initiatives, implemented with more or less success, depending on many factors and circumstances. These initiatives pass by the middle of the spectrum perspectives found in WHO Member States to establish institutional national plans and regional frameworks for ear and hearing care, based in their health systems and services. This presentation aims to share the experience of CBM, an international NGO for development, aiming to improve the quality of life of persons living with, or at risk of, disability. From the CBM international perspective, we share our knowledge and understanding of current global efforts in ear and hearing care. From the point of view of an organization working in partnership with front-line workers and grassroots programs, we aim to help in the identification of existing gaps for a global outreach, so that our joint efforts result in successful stories of sustainable development in ear and hearing care.

Make Listening Safe: A Global Initiative for All
—Shelly Chadha (Switzerland)

Concern is growing about the rising exposure to loud sounds in recreational settings. With the popularization of technology, devices such as music players are often listened to at unsafe volumes and for prolonged periods of time. It is estimated that over 1 billion young people worldwide could be at risk of hearing loss due to unsafe listening practices. Taking cognizance of this, WHO launched the Make Listening Safe initiative in March this year. Promoted as the theme of the World Hearing Day on 3 March 2015, this initiative has drawn global attention towards noise-induced hearing loss due to recreational exposure. Young individuals exposed to loud sounds can benefit through safe listening habits such as keeping the volume down; limiting time spent in noisy activities; monitoring safe listening levels; heeding the warning signs of hearing loss and getting regular hearing check-ups. Parents, teachers, physicians, managers of entertainment venues, manufacturers of personal audio devices and governments; all have a role to play in this endeavour. WHO is making efforts to engage with all stakeholders to reduce the risk of hearing loss through promotion of safe listening practices and safe listening devices. A standardized research protocol is being developed to facilitate research in this field. It is imperative that professionals, commercial and civic agencies unite to face this rising threat to hearing health.

16:15-17:15 **Last Words - Way Forward** Andrew Foster Auditorium

16:15— **Meeting Adjourns**

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Booths open at:
Friday, October 9th, 7:30am- 17:00pm
Saturday, October 10th, 7:30 am - 15:15 pm

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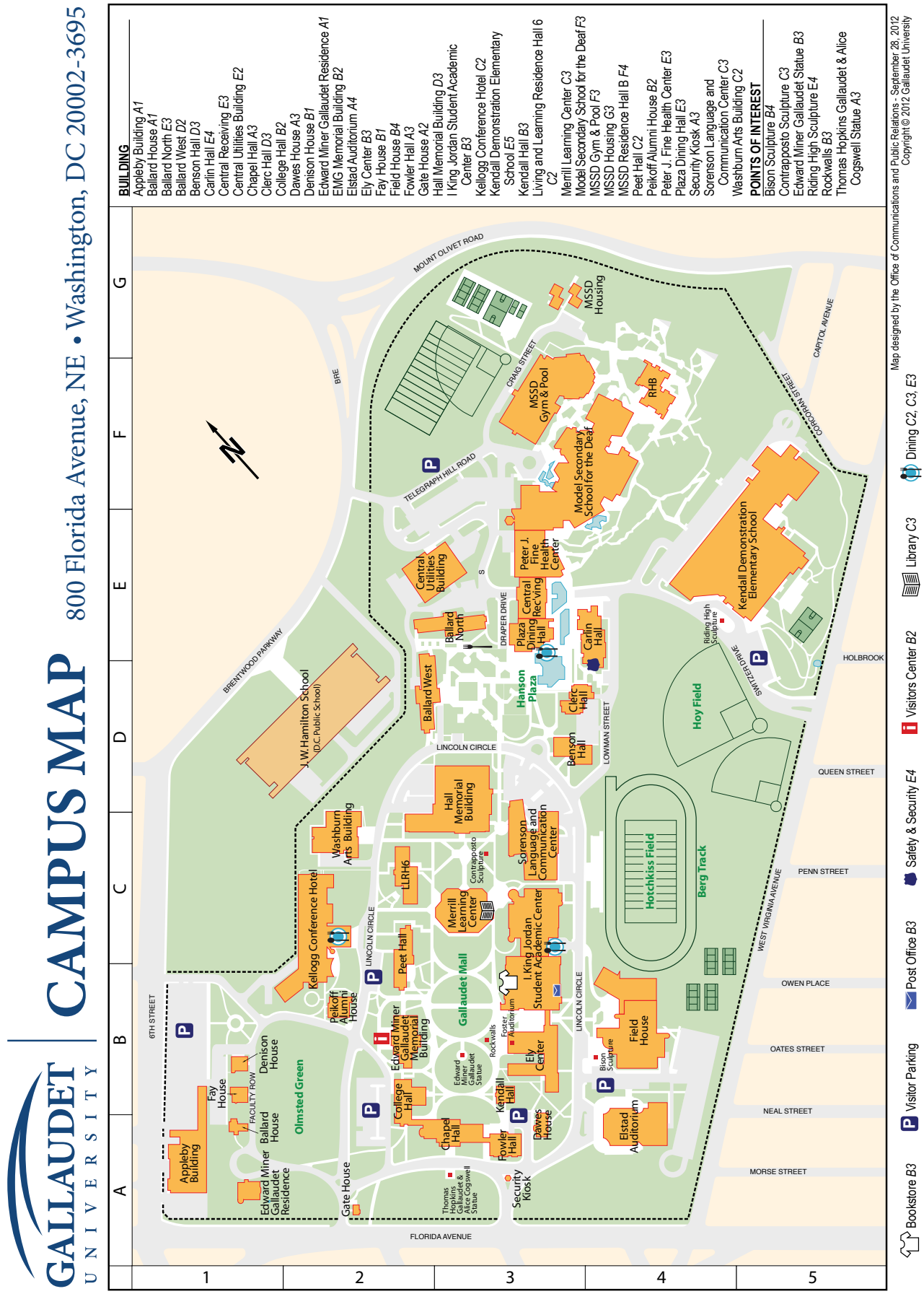
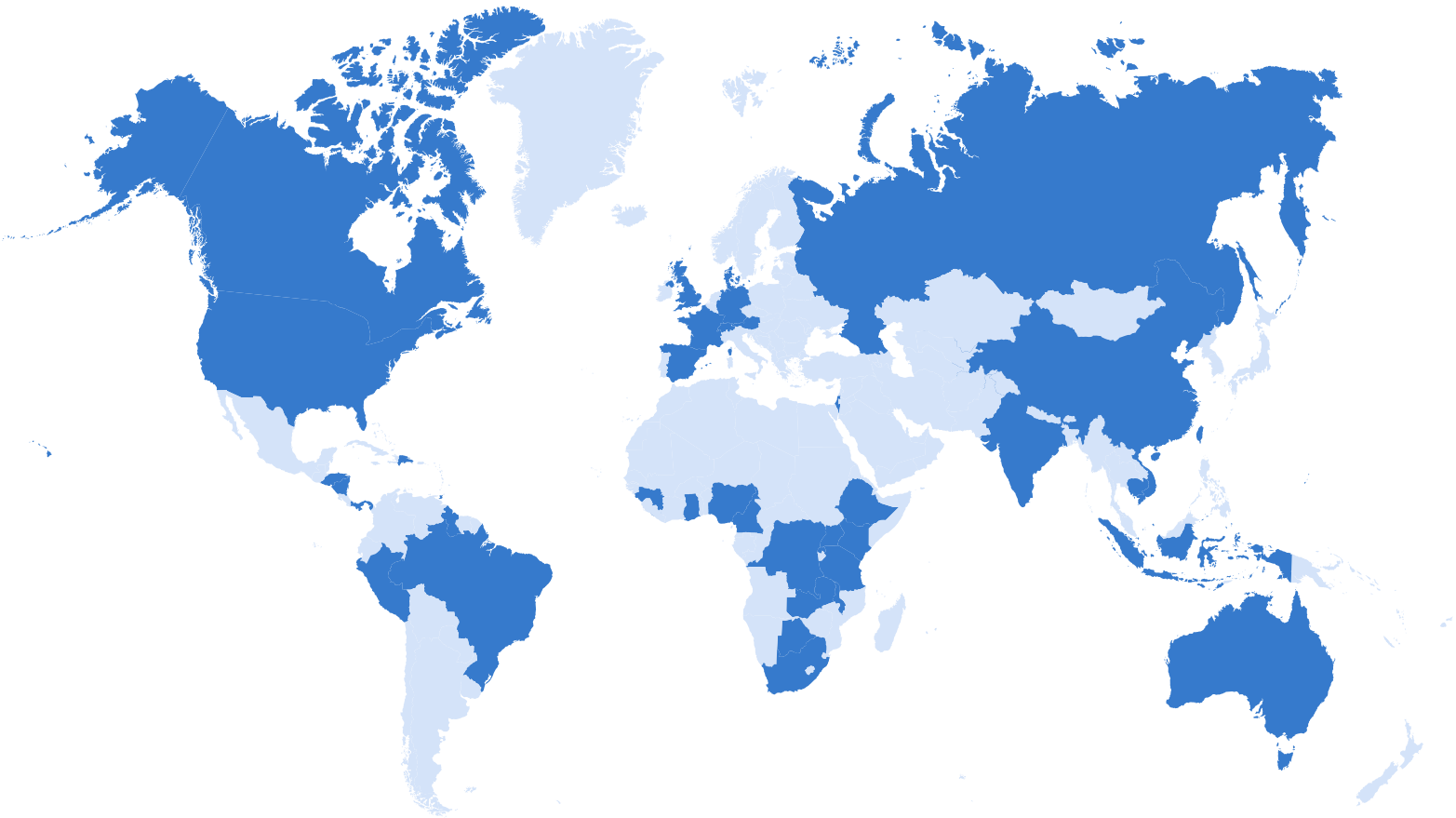


Which Countries Are Represented at the Conference?



Almost 200 Participants Will be Reporting on Activities in 43 Countries Around the Globe

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Agenda At-A-Glance — Friday October 9, 2015

Time	Session			Presenters
7:30	Registration & Coffee			
8:00	Welcome (Andrew Foster Auditorium)			James Saunders & Jackie Clark
8:30	Technology (Andrew Foster Auditorium)			Mod: Katrin Neumann
	Clinical Validity of hearScreen? Smartphone Hearing Screening for School Children			Faheema Mohomed-Asmail, et al
	Enabling Us to Experience Equal Access via Technology			Karunya Samuel, et al
	Mobile Tablet Audiometry- Building a Low Cost School Screening Program			Matthew Bromwich
	Social Business as Vehicle to Democratize Access to Hearing Aids			Howard Weinstein
	Discussion			
9:45	Technology (Andrew Foster Auditorium)			Mod: Lady Jean Wilson
	Understanding and Living with a Cochlear Implant: A Psychotherapeutic Approach			Magteld Smith
	Validation of Smart Phone Apps as an Environmental Noise Monitoring Tool and its Application...			Titus Ibekwe, et al
	Evaluation of uHear iPhone App for Hearing Screening			Shazia Peer, et al
	Tele-Audiology in Africa: The Story Evolves			Shannon Kruyt
	Applying Public Health Strategies to Reduce the Burden of Hearing Loss			Daksha Patel, et al
	Discussion			
11:00	Break (15 Minutes)			
11:15	Advocacy (Andrew Foster Auditorium)			Mod: Shelly Chadha
	A Global Perspective at Ensuring Hearing Health Accountability			Tawny Holmes, et al
	Assessment of Status of Ear & Hearing Care in South East Asia Region			Dr Suneela Garg, et al
	Assessing and Meeting the Needs of the People in Arima, Trinidad			Crystal Wiggins
	The Global Status of Newborn and Infant Hearing Screening			Katrin Neumann
	Hexagenarians Up! Aural Rehabilitation of Elderly Khmers with Disabling Deafness			Jean Johnson, et al
	Discussion			
12:30	Lunch (on your own)			
13:45	Advocacy (Parallel Sessions)	Mod: Beth Benedict		Mod: Susan Emmet
Andrew Foster Auditorium		Presenters	SAC Auditorium	Presenters
Services For The Hearing Impaired in Peru		Irene Garcia-Benavides	Challenges and Considerations for Supporting ...	Mark Falk
The Societal and Economic Impact of Treated Hearing ...		Soren Hougaard	Do HIV and Highly Active Anti-Retroviral Therapy ...	Jean Valentin Fokouo
UN CRPD and the Post-2015 Sustainable Development ...		Evelyn Cherow	Self-Reported Etiologies of Hearing Loss in Patients ...	Kaitesi Mukara
Utilizing 5 Hearing & Communication Centers in ...		Nyilo Purnami	Increasing Access to Hearing Implants to Further...	Patrick D'Haese
Cochlear Implantation and Deaf Education ...		Susan Emmett	Education Starts at Birth: Hearing Health and ...	Josh Josa, et al
Discussion			Discussion	
15:00	Emp. Families/ Comm (Parallel Sessions)	Mod: Jean Johnson		Mod: Christie Yoshinaga Itano
Andrew Foster Auditorium		Presenters	SAC Auditorium	Presenters
Gallaudet Panel Discussion: Lessons Learned ...		Beth Benedict	A Community-Based Hearing Intervention for Korean ...	Janet Choi, et al
			US/Russian Partnership: Supporting Families with ...	Janet DesGeorges
Counteracting Stigma: Social Identity, Culture ...		Susan Shepherd, et al	Bilingual Cancer Genetics Materials: Education ...	Patrick Boudreault
15:30	Break (15 Minutes)			
Empowering Families through Culturally Sensistive ...		Kelleigh Bland, et al	Using Technology to Support Bilingual and Spoken ...	Melissa Herzig, et al
Essential Program to Coach and Educate Parents of ...		Joanne Travers	It Is Our Technology: How Deaf and Hard of Hearing ...	Christian Volger, et al
The Mânha Project: Resilient Enabling Community ...		Heather Zimmerman	Early Childhood Education at the Clerc Center ...	Debra Trapani, et al
Discussion			Discussion	
16:15	Empowering Families/ Communities (Andrew Foster Auditorium)			Mod: Joanne Travers
	Empowering Parent Leaders in Yinchuan, China			Candace Lindow-Davies, et al
	Parents as Partners			Lisa Kovacs
	New Resources in Deaf Education-Setting Language in Motion: Family Suports and Early Intervention for Babies who are ...			Debra Nussbaum, et al
	Hearing Loss Prevention Program in DR Congo			A.N. Kalombo
	Discussion			
18:00	Posters & Reception (Kellogg Conference Hall)			
19:15	A Global Connection Gala: Making Hearing Health a Priority			

Agenda At-A-Glance Saturday October 10, 2015

Time	Session	Presenters
7:00	Committee Meetings	
8:30	Training & Education (Andrew Foster Auditorium)	Mod: Suneela Garg
	HEARS: A Community-Delivered, Affordable, Accessible Hearing Care Intervention for Older Adults	Carrie Nieman, et al
	A Program to Educate and Train Audiometry Technicians in Nicaragua; Developing A Sustainable Audiology ...	Mark Sanders, et al
	A Sustainable Model to Increase Capacity in Vietnam to Serve Young Children With Hearing Loss	Paige Stringer
	Community-Based Education Model for Promoting Early Childhood Hearing Outreach	Lindsay Boudurant, et al
	Discussion	
9:45	Training & Education (Andrew Foster Auditorium)	Mod: Lindsay Bondurant
	Introduction of Cued Amharic to Ethiopian Deaf Education	Miriam Redleaf
	NIH Funding for Global Health Research	Lana Shekim
	On Pursuit of a Sustainable International Service Project in Otology—Is 'Teach A Man To Fish' Paradigm Sufficient?	Ashkan Monfared
	Otologic Surgery Training in a Rural Ethiopian Community	Miriam Redleaf
	Understanding Variability in Literacy Growth for Deaf Children with Different Characteristics Different Language Experiences	Thomas Allen
	Discussion	
11:00	Break	
11:15	Training & Education (Andrew Foster Auditorium)	Mod: Dave Fabry
	Satisfied? Sustaining Community-Based Hearing Health Care	Ronald Brouillette
	Global Standard Practice (Andrew Foster Auditorium)	Mod: Dave Fabry
	The Hear the World Foundatino, External Donors and Audiology Service Development: Lessons From Malawi	John Bamford, et al
	Relations of Hard of Hearing Persons and Hearing Health Professionals in Light of the New Hearing Technologies	Avi Blau
	The UN CRPD and Deaf People	Joseph Murray
	Discussion	
12:15	Global Standard Practice (Andrew Foster Auditorium)	Mod: Diego Santana-Hernandez
	Doing What Works - The Evolution of Project EAR in the Dominican Republic	Edward Dodson
	Instant Earmolds Options - A Review of the Old and New	King Chung, et al
	Considerations in Facilitating Development of Signed and Spoken Language With Young Children Who Are Deaf or Hard of Hearing	Christi Batamula, et al
	Why is More Evidence Needed Globally on the Burden of Hearing Loss and How Can We Get It?	Joanna Anderson, et al
	All Deaf Children Should be Taught A Sign Language	Donna Napoli, et al
	Discussion	
13:15	Lunch (on your own)	
	Global Standard Practice (Andrew Foster Auditorium)	Mod: King Chung
	Cargo Culture & Audiology in the 21st Century	David Pither
	Challenges to Identifying Newborn Hearing Loss on Remote and Rural Islands	Jean Johnson, et al
	Closing the Gap When Working With Spanish Speaking Families	Lucia Quinonez, et al
	A Model for Training Audiology-Proficiency Personnel	Giri Sundar, et al
	Intellectual Disabilities and Hearing Loss: The Forgotten Many Identified by a Public Health Model of Hearing Health Services	Gilbert Herer
15:00	Break	
15:15	Global Standard Practice	Mod: Andrew Smith
	Thinking Locally and Globally. Fresh Perspectives on Applying Three Decades of Research into Epidemiology into ...	Adrian Davis, et al
	Designing a Model Program to Maximize Impact for Global Hearing Health	Dave Fabry
	The Ask and the Task of Hearing Parents of Children Who are Deaf Learning Sign Language	Neethie (Lavanithum) Joseph
	Make Listening Safe: A Global Initiative for All	Shelly Chadha
	Working Towards a Global Outreach in Ear and Hearing Care	Diego Santana-Hernandez
	Discussion	
16:15	Last Words- Way Forward (Andrew Foster Auditorium)	