

Presentation for
New Mexico Disabilities Concerns
Subcommittee

**Department of Special Education and
Communication Disorders**
Edgar R Garrett Speech and Hearing Center
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Cleft Lip and Palate in New Mexico

- 2.4-2.6 per 1000 births per year
- Approximately 50 cases per year
- 1,000-2,000 affected





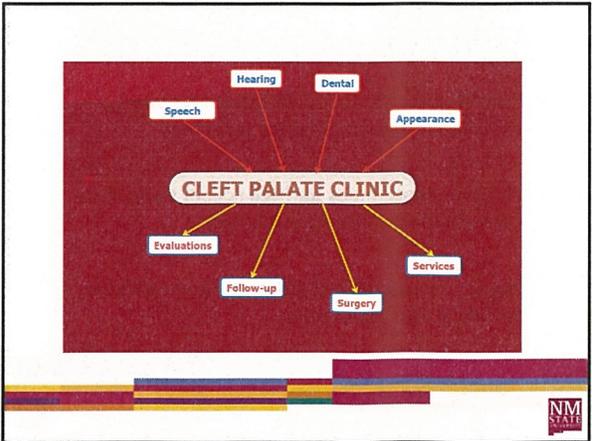

NMSU Cleft Lip and Palate Center

**Meet 2 Days Yearly – March and
November –30 patients each day**

- Plastic Surgeon
- Oral Surgeon
- Orthodontist
- Dentist
- Speech-Language Pathologist
- Audiologist
- Pediatrician
- Nurse
- Social Worker

**Services at Edgar R Garrett
Speech & Hearing Center**

- Speech-Language therapy
- Hearing Testing
- Summer Cleft Palate Camp
- Research on new treatment
strategies for children with cleft
- Training of Graduate students
in the area of cleft
- International Cleft Palate
Experiences for graduate
students in Lima, Peru



**Arrowhead Medical Academy/LCPS
College of Education Clinics**

- Satellite facility for Edgar R Garrett Speech and Hearing Center – New Audiology Center
- Provide hearing aid services to community for first time
- Opening ceremony in October 2014
- New corporate partnership with hearing aid company ReSound who will provide \$100,000.00 start-up grant
- \$100,000.00 of legislative funding for new equipment



Student Training and Research

- Provide clinical training for graduate student clinicians in speech-language pathology
- Provide opportunities for high school students to learn about allied health profession
- Engage in research and grant writing to advance hearing science and service



Future Services for Audiology

- Doctorate of Audiology being considered
- Expanded Audiology services to community
- Reinstigate Masters program to train teachers and speech-language pathologists to work with children who are deaf and hard-of-hearing
- **Provide comprehensive training for teaching speech to young deaf children who wear cochlear implants and academics and language for children who use sign language.**



Autism



Sathiyaprakash Ramdoss, Ph.D.
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Prevalence





- Based on Senate Memorial 20, and House Memorial 44 report (2012), approximately 5,000 children in New Mexico have some form of autism
- Approximately 200 children diagnosed with autism in Las Cruces Public Schools

- Autism a national public health crisis- (CDC)
- U. S. estimated 1 in 68 births
- more than 3.5 million Americans within the autism spectrum (CDC, 2014; Beuscher et al., 2014)
- Autism services cost \$236-262 billion
- Adult services = \$175-196 billion and
- Children = \$61-66 billion annually (Beuscher et al., 2014)
- In the next 10 years the projected annual cost will be \$200-400 billion



RESEARCH AND SERVICES

SERVICES

- ERG Speech and Hearing Center, speech and language therapy
- Camp P.A.L.S – social groups
- Lab, Promoting Independence & Communication through Assistive Technology (PICAT) is equipped to provide classroom and clinical instruction to individuals with autism
- MOA with LCPS to train 20 teachers and prepare them to secure a graduate certificate in autism (12 credit program)

RESEARCH

- Examining the effectiveness of technology-assisted instruction on communication outcomes of children diagnosed with autism




Local & State Needs

- **IMPROVE** infrastructure to support developmental screening and early diagnosis
- **CREATE** statewide clearinghouses and conferences to disseminate information or findings of evidence-based practices to support children with autism
schools, parents, caregivers, and other interested parties
- **INTEGRATE** assistive technology in inclusive classrooms/ NMSU Center for Excellence in Assistive Technology
- **ESTABLISH** educational & training programs that would prepare teachers & professionals in :
 - Early identification and diagnosis
 - Applied Behavior Analysis and Positive Behavior Support
 - Best practices in classroom instruction



AT/AAC

- An area of research, clinical, and educational practice that when necessary allows low and high tech compensations for temporary or permanent impairments that limit one's access to life activities and participation.
 - Low-tech examples: pencil grips, highlighters, paper stabilizers.
 - High-tech examples: computers, voice synthesizers, Braille readers.
- Based on available information (Quinn, Behrmann, Mastropieri, & Chung, 2009), Frequency of Assistive Technology Use by PreK-12 students receiving Special Education and Related services ranged from 29-66%.
- Potential benefits across the lifespan for LOW (1% Prevalence) (Smith & Taylor, 2010) and HIGH (5-20%, ibid) Incidence exceptionalities impacting:
 - Communication
 - Social
 - Cognition
 - Motor
 - Sensory (Hearing)
 - Perceptual (Vision)



NMSU PICAT LAB

"Promoting Independence and Communication through Assistive Technologies"

- Continue a tradition of cutting-edge services as have been available 50+ years at the Edgar R Garrett Speech and Hearing Center
- Create a local center and online resource for AT/AAC excellence in education, research, and outreach
- Engage in cross-campus collaborations (e.g. Kinesiology, Engineering, Computer Science)
- Train pre-service and in-service community educators, clinicians and the families they work with for best service delivery
- Maintain cutting-edge resources and knowledge through ongoing professional development and training
- Offer community outreach and a lending library for training and trial/demo



Example Cases, Real and Teachable

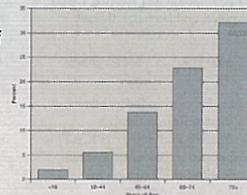
- 3-year old preschooler cerebral palsy, intact cognition and wheelchair  ***Accent 1000, \$8,968**
- 10-year old boy with learning disabilities  **Kurzweil 3000, \$1,250**
- 30-year old male with visual impairment, in wheelchair with normal cognition and language.  ***Braille Note, \$5,495**
- 60-year old female with ALS, ventilator, wheelchair and minimal gross motor. Cognition and language intact  ***Essence Pro, \$7,194**

*NMSU I&G Equipment Funding AY 2014-15 of ~\$47,000



Hearing Loss in Adults

- > 32 million Americans have hearing loss
- 2 million are classified as deaf
- 3rd most common chronic health condition in elderly
- 27% of people aged 65 to 84 years have tinnitus
- 33% of adults over 65 have disabling hearing loss *



National Council on the Aging, 1999 * World Health Organization 2012



Hearing Loss in Children

- 3/1000 babies born with hearing loss
- Additional 3/1000 by the time they begin school
- At least 1 in 50 NICU babies show significant hearing loss
- 3-13/1000 have hearing loss in one ear

Hearing Loss in New Mexico

- 3/1000 newborns have hearing loss
- 1/10 experience hearing loss during their life
- 1/3 senior citizens have hearing loss
- >250,000 New Mexicans have hearing loss

Northern and Downs, 2002:
NM: New Mexico Commission for Deaf & Hard of Hearing



Effects of hearing loss, Services and Needs

- **Lost Income** (30% less salary re; normal hearing): \$500,000-1,000,000
- **Services:** NMSU to provide full-fledged clinical services for adults and children with hearing loss
- **Local and state needs:** Over 50% of infants who fail screening get 'lost' in follow up
- **Enhanced** state-of-the art services, e.g., well-fit hearing aids, cochlear implant
- **Research:** Novel techniques to assess listening problems in children and adults. Externally funded by the Hearing Health Foundation



Northern and Downs, 2002



Parkinson's Disease

- What is it?
 - A progressive neurodegenerative disorder
 - Characterized by Tremor, Rigidity, Akinesia, and Postural Instability (TRAP) due to loss of dopamine producing cells in the brain (substantia nigra)
 - Onset: usually after 64, but cases of early onset Parkinson's Disease exist
 - Impacts speech negatively



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Parkinson's Disease

- **Incidence:** 50, 000 to 60, 000 new cases per year in the US (National Parkinson's Foundation)
- **Prevalence:** approximately 630, 000 in 2010 in US (expected to double by 2040) (Kowal et al., 2013)
- **Incidence and Prevalence data for New Mexico unknown**
- **Cost in 2010 (Kowal et al., 2013):**
 - **Medical cost:** approximately \$14 billion
 - **Indirect cost (i.e. reduced employment):** \$6.3 billion (approximately \$10,000 per person with PD)

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Parkinson's Disease

- **The Edgar R. Garret Speech and Hearing Center at NMSU offers the Lee Silverman Voice Treatment (LSVT®)**
- **LSVT®: Evidence-based voice treatment for individuals with PD that targets the voice (Countryman & Ramig, 1993)**
- **Treatment Effects have been shown to last for up to at least 2 years post treatment (Ramig et al., 2001)**



References

Kowal, S. L., Dall, T.M., Chakrabarti, R., & Jain, A. (2013). The current and projected economic burden of Parkinson's Disease in the United States. *Movement Disorders*. 28(3), 311-318.

National Parkinson Foundation: <http://www.parkinson.org>



Need for Bilingual SLPs

Nationally: 2009-2010 school year, 4.6 million children received services for English language learning

New Mexico: 16% of all NM school children received services for ELL support

New Mexico: 37% of households speak a language other than English at home



Bilingual SLP graduates and NMSU sites

Bilingual Graduates: 6-12 since 2010 from NMSU; 2015 UNM will have 6. Future: 20-24 bilingual graduates each year with both universities

NMSU Clinic: 1-5 bilingual clients

Hybrid school position: four bilingual clinicians each semester; up to three more bilingual SLPs in a given semester (LCPS)

NMSU Externships Current: Sierra- (1);Aprendamos (1),Rio Grande Speech (1),GISD (2)

Next semester: Action Care (2), El Paso Children's (1), Albuquerque Bilingual and Multicultural Services (1)



Thank you!

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