

The Community-Engaged Audiologist: Expanding Our Reach



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- 
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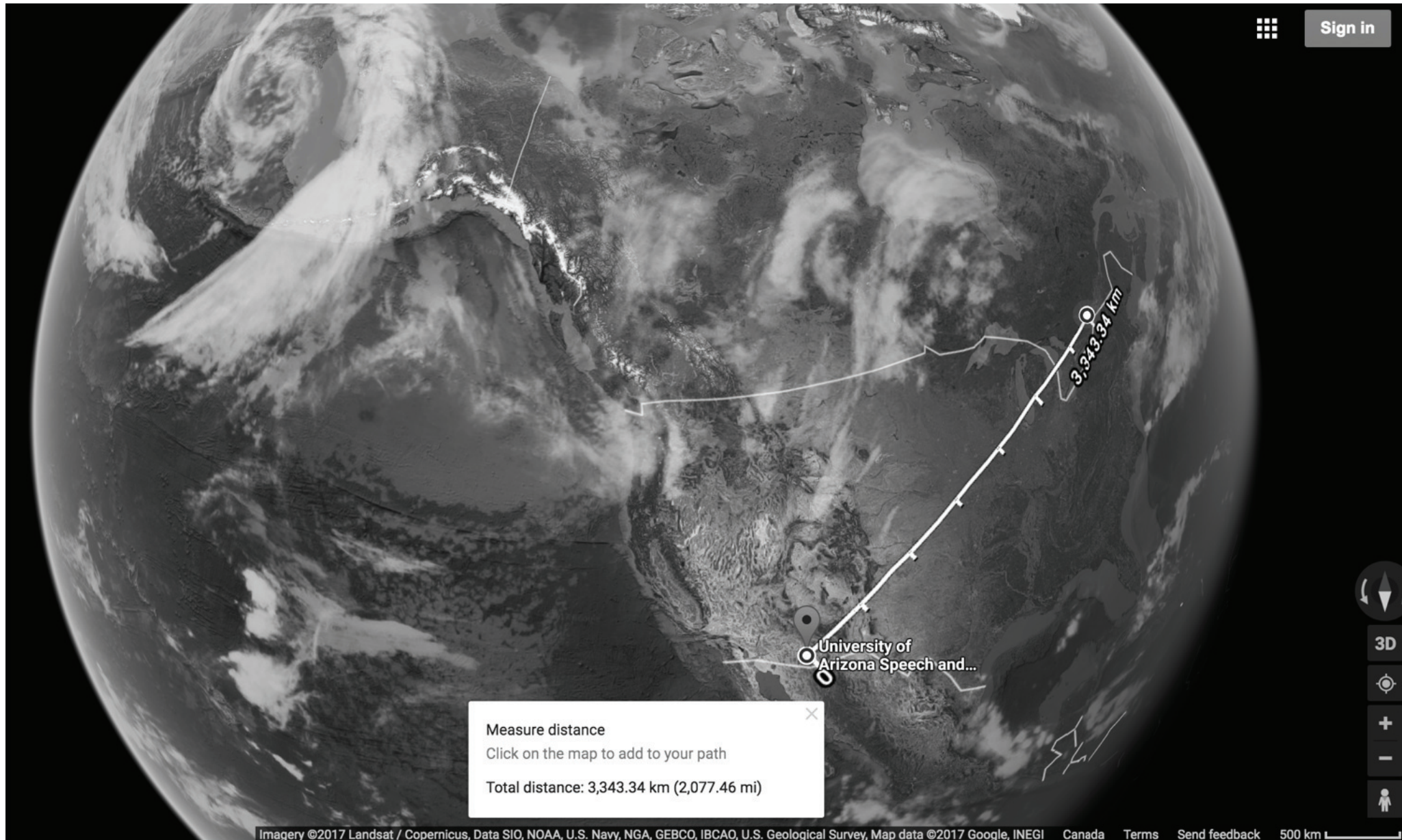
James S. and Dyan Pignatelli/Unisource Clinical
Program in Audiologic Rehabilitation for Adults

Interdisciplinary Partnerships:

- Mariposa Community Health Center
- UA Department of Speech, Language, and Hearing Sciences
- UA Mel and Enid Zuckerman College of Public Health
- UA Department of Spanish and Portuguese
- Arizona Prevention Research Center



3,343 km / 2,077 miles



Overview

1. Apply a public health perspective to hearing loss.
2. Understand social determinants of health which impact access to hearing health care.
3. Learn how partnership with community health workers can raise community awareness of hearing loss and connect older adults with access to hearing health care.



Public health perspectives on hearing loss



- Magnitude and trajectory of global health need



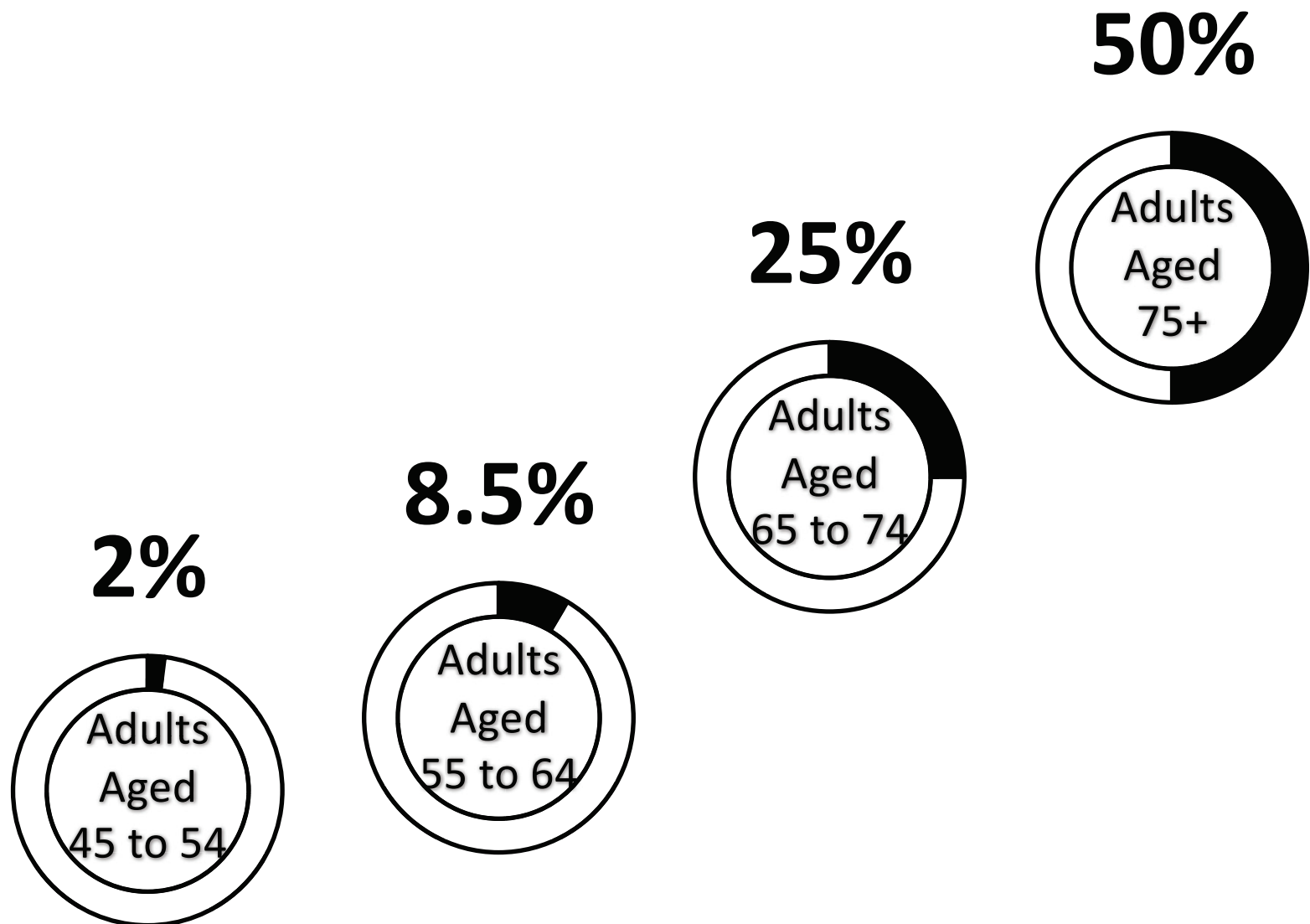
Estimates from the World Health Organization

- More than 5% of the total global population has “disabling” hearing loss
- Estimated that 1/3 of adults age 65 years and older have disabling hearing loss

Source: (WHO, 2017) <http://www.who.int/mediacentre/factsheets/fs300/en/>

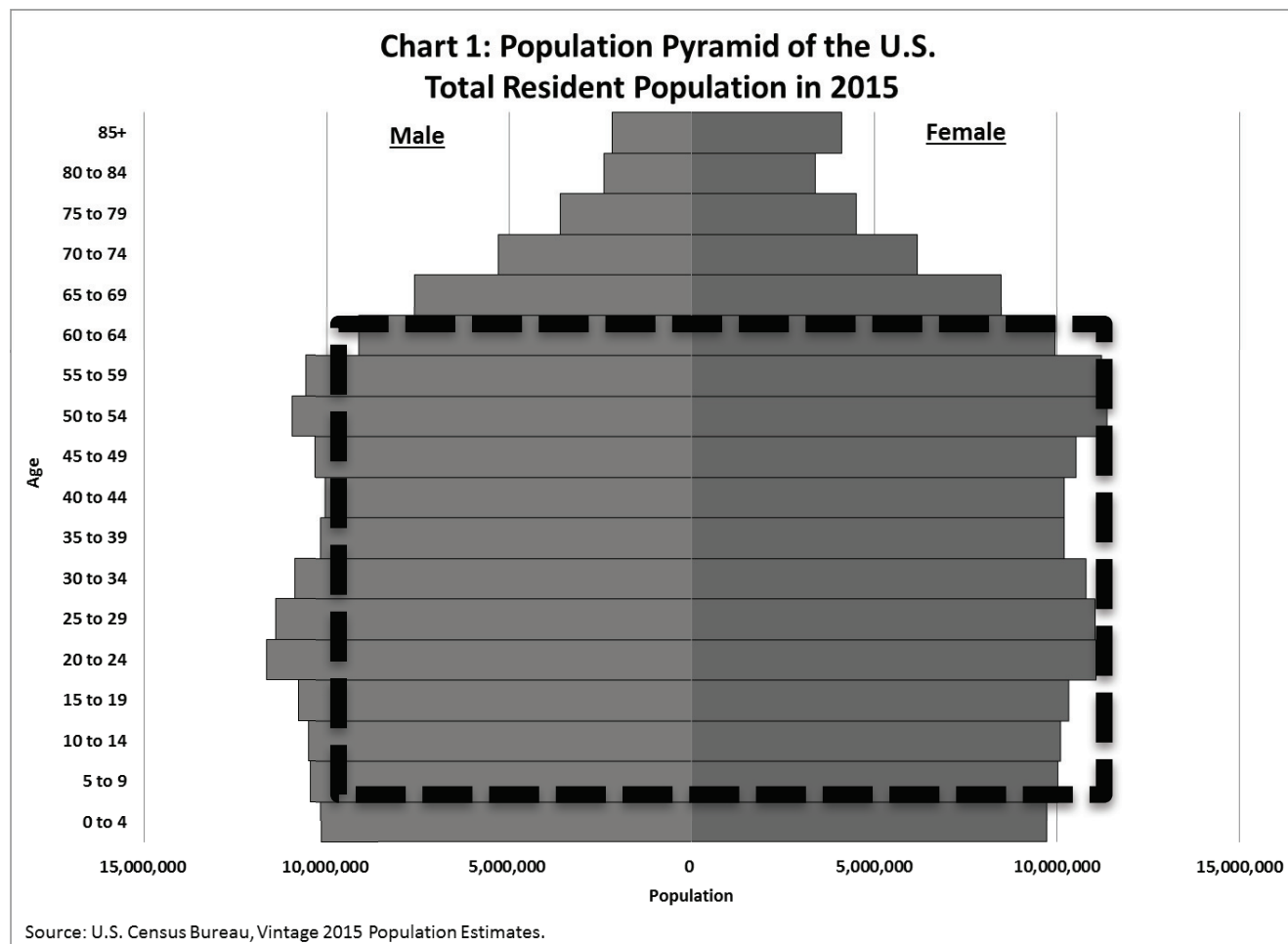


Percentage of adults with hearing loss increases as a function of age



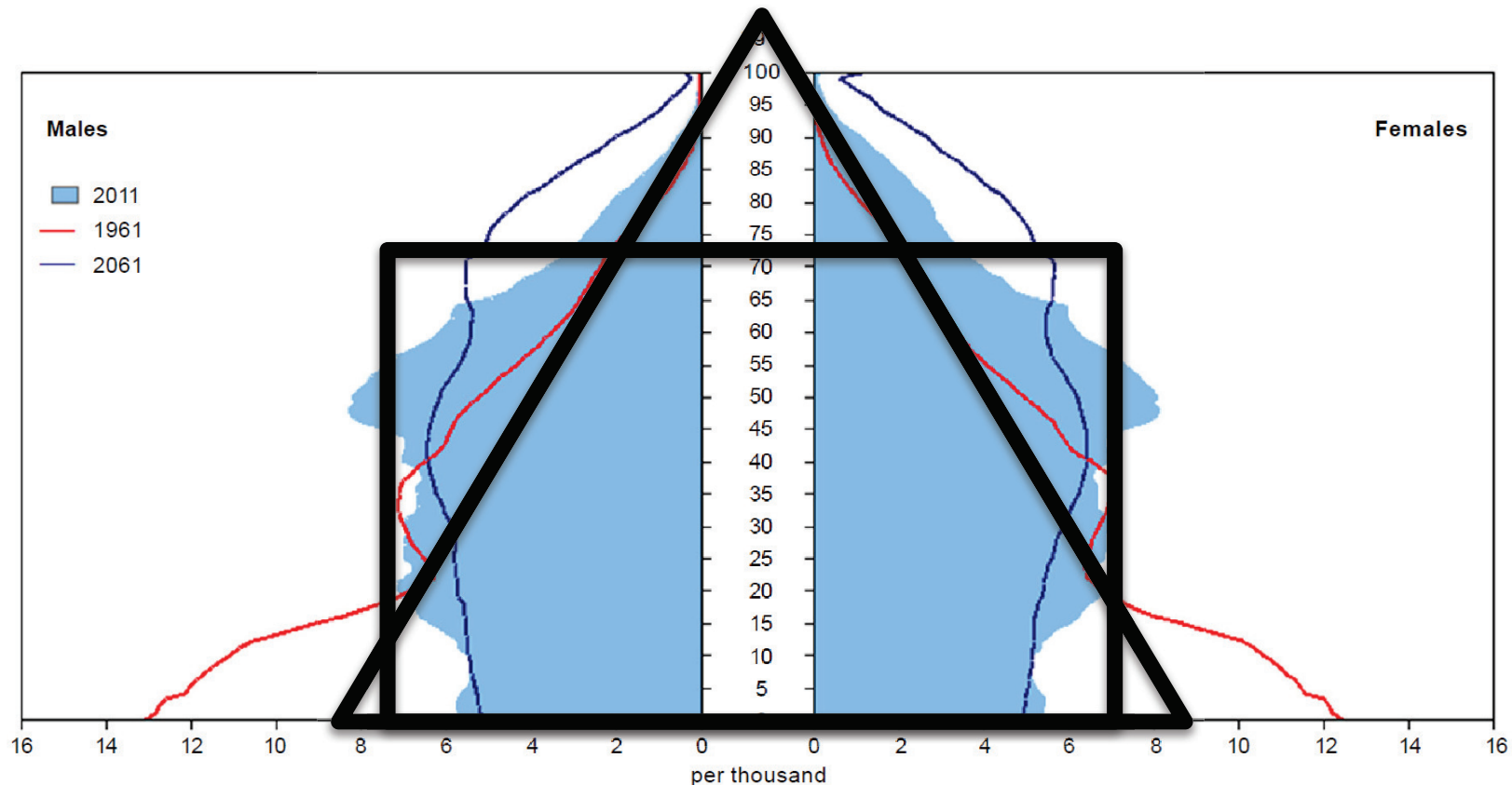
2015 U.S. Population Pyramid

Percentage of people affected increases with age and we have an increase in the number of older adults.



Canada shows a similar trend: An increasing aging population

Figure 5
Age pyramids of the population, Canada, 1961, 2011 and 2061



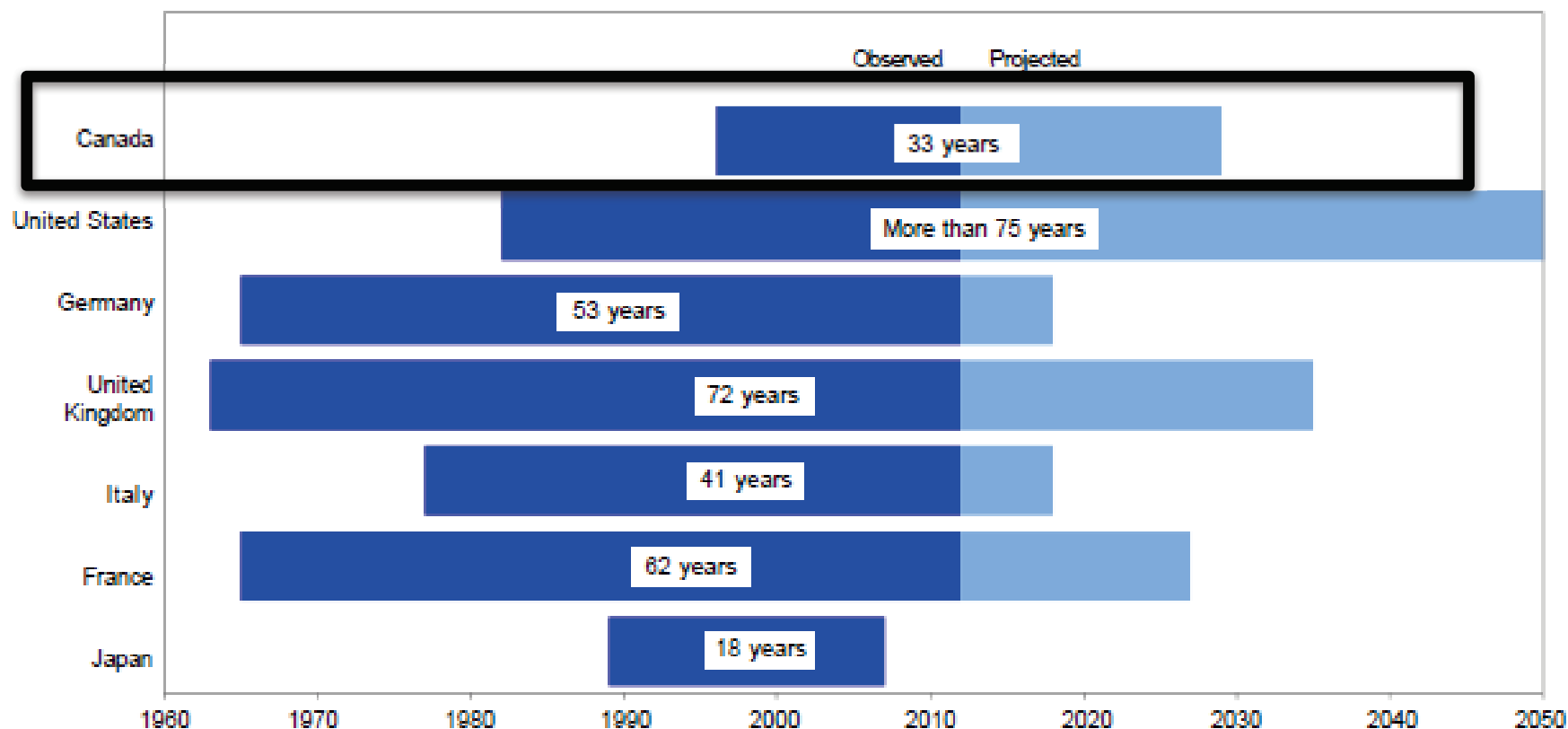
Sources: Statistics Canada. 2010. *Population Projections for Canada, Provinces and Territories, 2009 to 2036*, catalogue no. 91-520, medium-growth scenario (M1) and Demography Division, Population Estimates Program.

Source: Statistics Canada, *Canadian Demographics at a Glance*, February 19, 2016. Reproduced and distributed on an "as is" basis with the permission of Statistics Canada.

Canada has a rapidly increasing aging population

Figure 8

Number of years required for the proportion of the population aged 65 or over to go from 12% to 22%, G8 countries



Source: Statistics Canada, *Canadian Demographics at a Glance*, February 19, 2016. Reproduced and distributed on an "as is" basis with the permission of Statistics Canada.

Canadians will be older for longer

Table 2

Life expectancy at birth by sex, G8 countries and selected other countries

Country	Males	Females
	in years	
Australia	80	84
Canada	79	83
Denmark	78	82
Finland	78	83
France (metropolitan)	79	85
Germany	78	83
Italy	79	85
Japan	79	86
Norway	79	83
Russia	64	76
Spain	79	85
Sweden	80	84
Switzerland	80	85
United Kingdom	80	84
United States	76	81

Source: INED. 2013. « Tous les pays du monde (2013) », *Population et Sociétés*, no. 503, September 2013.

Source: Statistics Canada, *Canadian Demographics at a Glance*, February 19, 2016. Reproduced and distributed on an "as is" basis with the permission of Statistics Canada.



Canada In Review...

- Canada has an **increasing** aging population.
- Canada's aging population is increasing at a **rapid** rate.
- Canadians will be **older for longer.**

*Population Impact Summary:
More people, faster, and longer*



How can we address such wide gaps in care?

- (Grand Canyon photo)

The Grand Canyon, Photo credit: David Edwards, National Geographic



The Lens: Models of Healthcare

Our view of the problem affects:

1. How we describe it
2. What questions we ask
3. What we see as possible solutions

(Carson & Pichora-Fuller, 1997; Davis et al., 2016; Reavis, Tremblay, & Saunders, 2016)



Frameworks

Medical

- Focus on the individual
- Disease diagnosis and individualized treatment plan

Public Health

- Focus on population and community
- Health Promotion
- Disease prevention

(Reavis, Tremblay, & Saunders, 2016)



Questions Asked

Medical

- How do I tailor my evaluation and treatment for this patient?
- How can our audiologists see more patients?
- How can we improve treatment outcomes for the individual?

Public Health

- What is the impact not only on the individual, but also the family and community?
- What preventative services are available in the community?
- What is the economic burden to society from the disease?
- Are there existing systems that we can collaborate with?



Possible Solutions

Medical

- Audiologists treat more people in less time
- Audiology technicians are integrated in individualized care to increase efficiency.

Public Health

- Large scale treatment approaches
- Screenings in primary care offices
- Hearing loss prevention programs



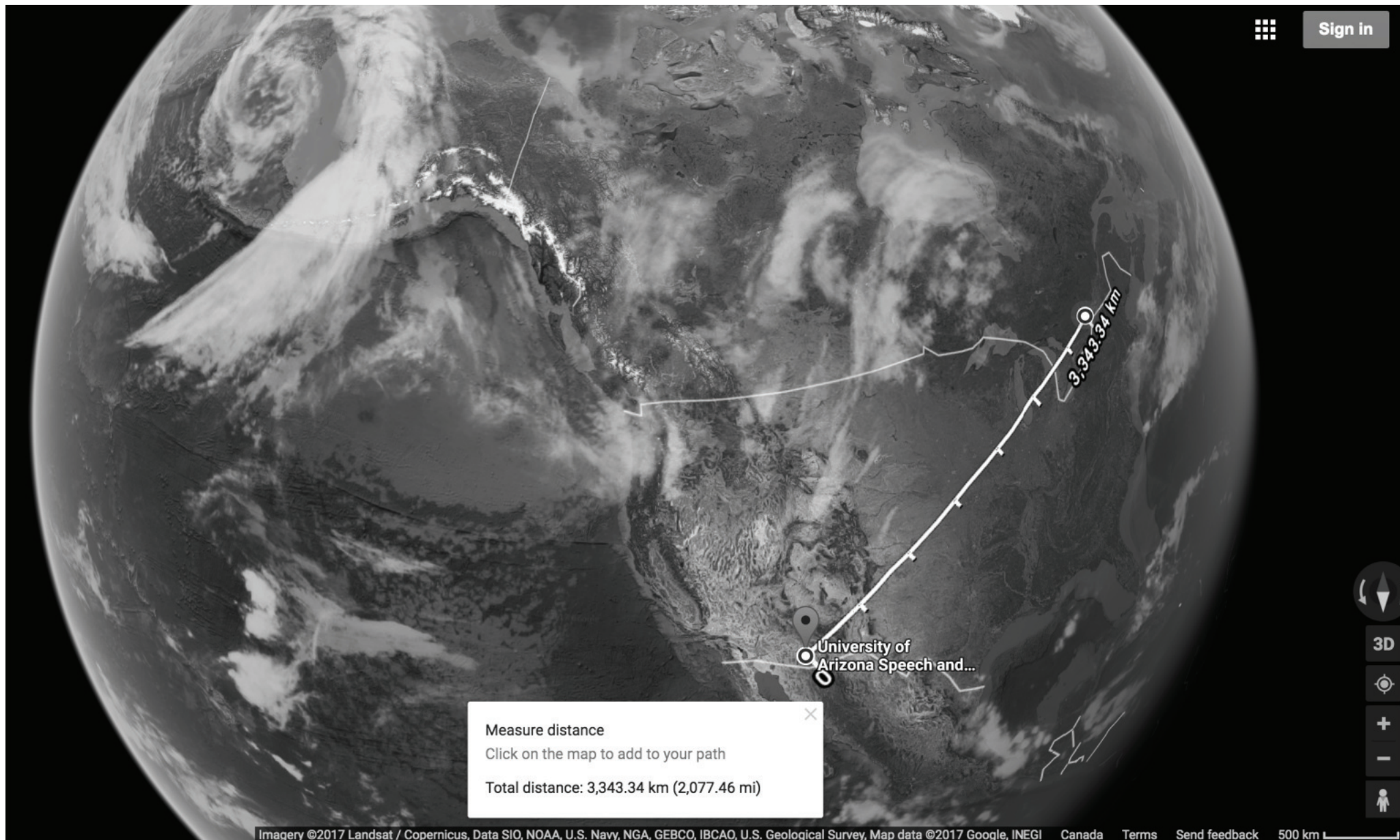
Social Determinants of Health

- “Social determinants of health are the **conditions in which people are born, live, work, and age** that affect their health.”
- Examples:
 - Income
 - Language/literacy
 - Transportation options

(Office of Disease Prevention and Health Promotion, Healthy People 2020)



3,343 km / 2,077 miles



US-Mexico Border Region

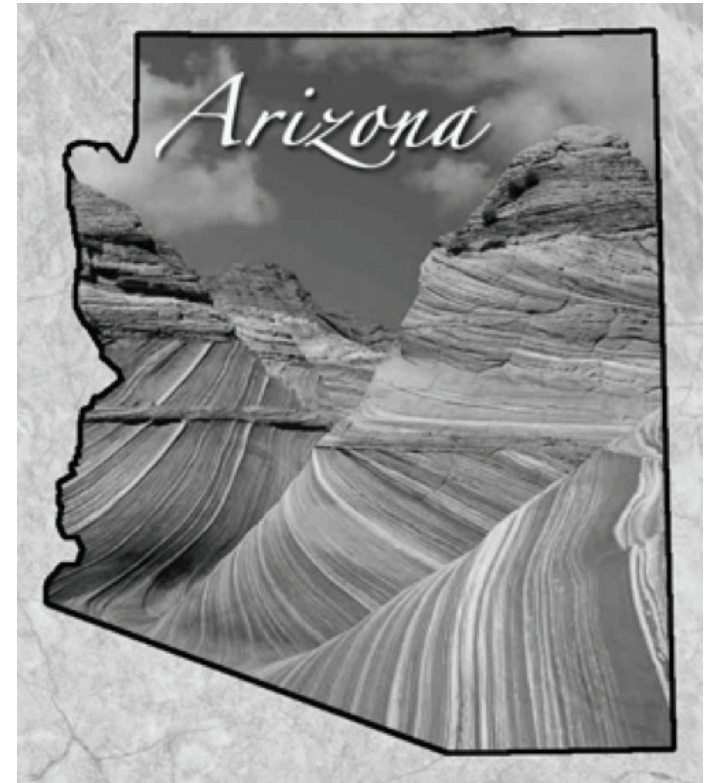


Map source: US Texas Dept Agriculture
Nogales, AZ 110 km from Tucson, AZ to US/Mexico Border

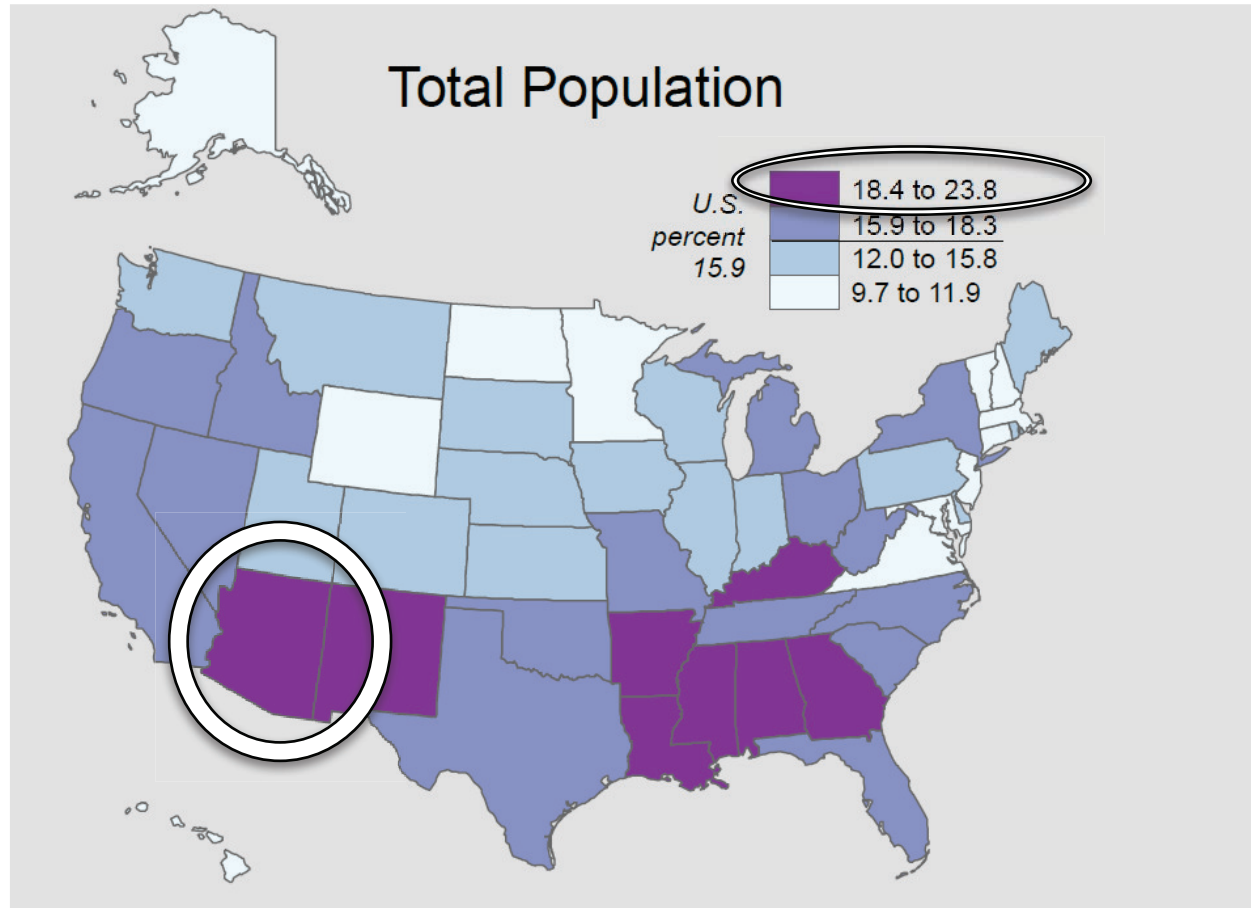


A little bit about Arizona...

- Arizona Population: 6,581,054
- Living below poverty: 18.5%
- Percent Hispanic: 35%
- Hispanic Adults living in poverty: 26%



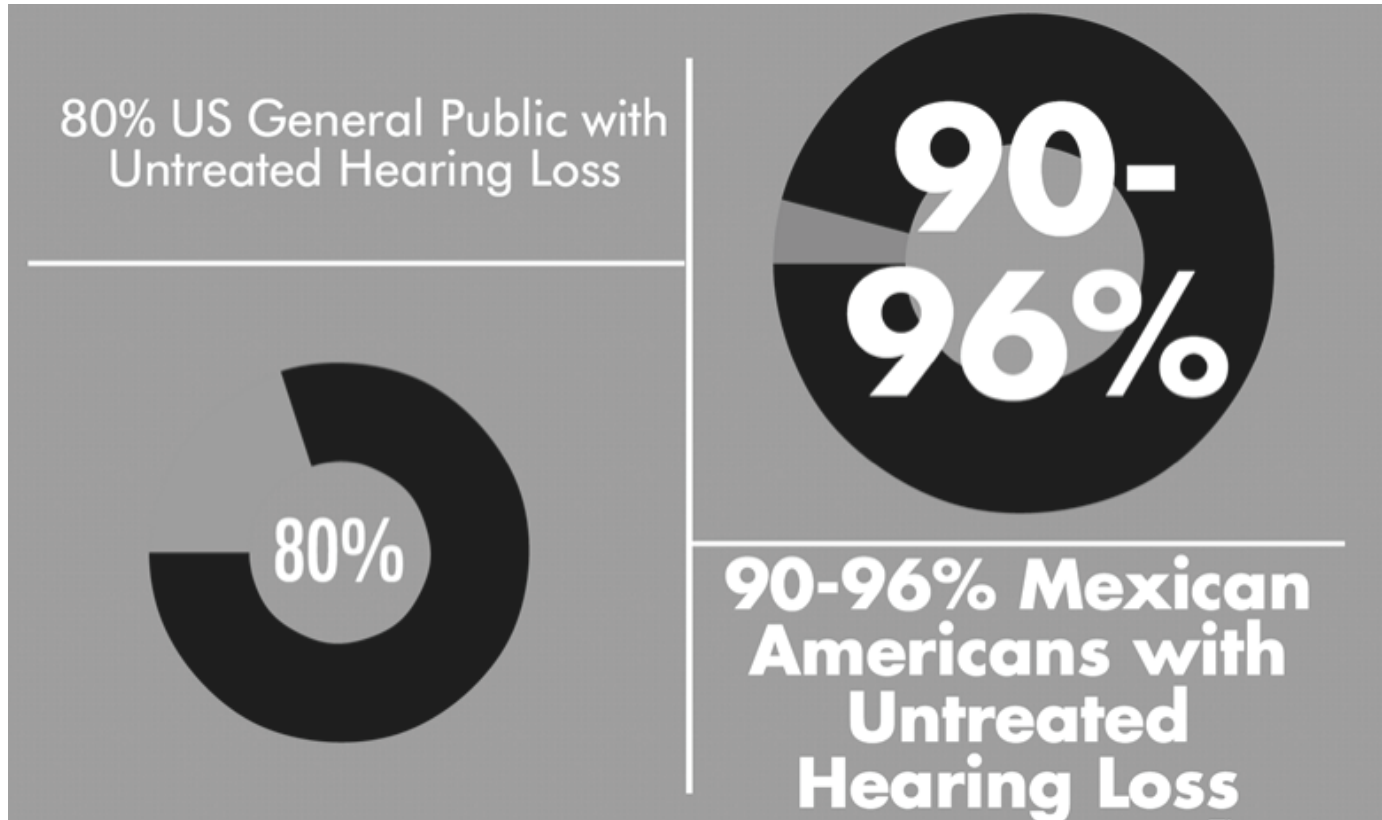
Poverty Estimates by State



**Arizona is the 6th poorest state
in the United States (US Census, 2010)**



Hearing Health Care Disparities in the United States



Data based on Lee et al., 1991; Nieman, Marrone, et al. (2016)



Audiology and Health Promotion

Health Promotion and Audiology: The Community-Clinic Link

Arlene J. Carson and M. Kathleen Pichora-Fuller
*School of Audiology and Speech Sciences
University of British Columbia*

- "Audiology and health promotion are two fields whose paths have seldom crossed."
(Carson & Pichora-Fuller, 1997)

In this paper we describe a model of health promotion planning, the PRECEDE-PROCEED model (L.W. Green & M.W. Kreuter, 1991), which may be applied by audiologists. Within the context of a specific population, a community of seniors living in a care facility, the concepts and components of the model are applied toward the health goal of improving hearing-related communication performance. The PRECEDE-PROCEED model, in its systematic step-by-step approach, stresses the importance of planning; highlights how clear, realistic, objective-setting is key to meaningful evaluation; and emphasizes the active involvement of community members in all phases of program planning, implementation, and evaluation. It is concluded that this health promotion model holds promise as a framework within which the concepts and practices that are presently evolving in audiology may be organized.

Audiology and health promotion are two fields whose paths have seldom crossed. At a personal level, members of each discipline have some awareness of the other field, but interdisciplinary dialogues have seldom occurred. Since its inception, audiology has been concerned with applied science in clinical practice. In contrast, health promotion existed for most of this century as philosophy rather than practice. In the last two decades, however, health promotion has increasingly shaped changes in health care practices. Interest in health promotion has been sparked for many health care practitioners by public sector efforts to encourage more healthful lifestyles through community education and legislation (e.g., to restrict smoking in public places), shrinking health care dollars, and growing de-



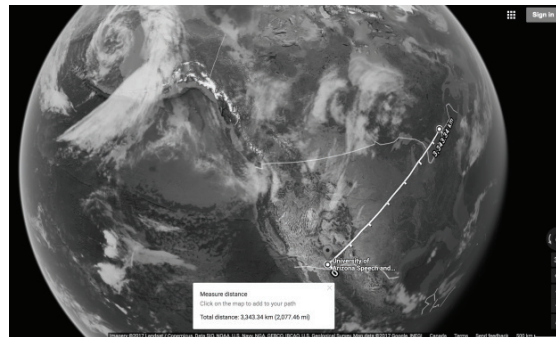
Davis, McMahon, Pichora-Fuller, et al. (2016)

“Priorities for Future Service Delivery and Research”

- Hearing provider education options that support a variety of needs
- Utilization of affordable, low-cost hearing options and other technology. Consider other forms of communication (written)
- Use of “**community-delivered**” **care** in addition to the traditional “clinic-based” services
- Rehabilitation programs for individuals with hearing loss and **their communication partners**
- Greater awareness of accommodations needed in delivering any healthcare to older adults experiencing hearing loss
- Use of internet based services in addition to other hearing services



Community-engaged audiology: Examples from our area



University of Arizona Community Engagement Programs



Protect Your Ears Project
(PYEP)



Community-delivered



Living Well with Hearing
Loss
(Group Adult AR in English)



Community-delivered
**** Some ****



Communication Partners



Oyendo Bien
(Group Adult AR in Spanish)



Community-delivered



Communication Partners



Protect Your Ears Project (PYEP)

PYEP is a University of Arizona community outreach initiative that partners with the City of Tucson Parks and Recreation after-school KidCo program to promote:

- **Role models**
- **Age-appropriate hearing protection strategies**
- **Interactive activities for science outreach**

- (photo – Protect Your Ears program – gymnasium presentation)



Program Data

The Team

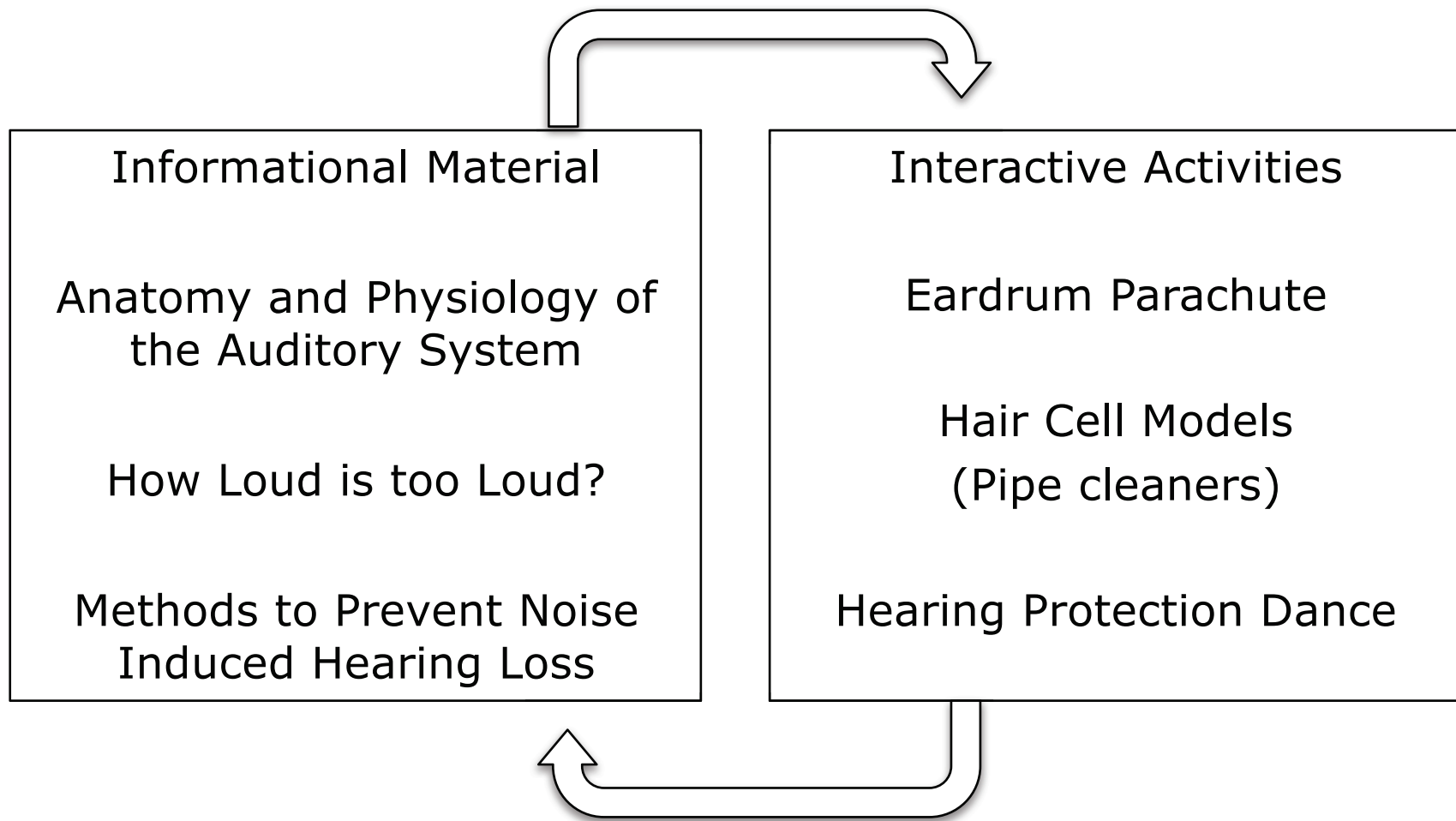
- Principal Investigator
 - Nicole Marrone, Ph.D., CCC-A
- Research Audiologist
 - Giau Le, Au.D., CCC-A
- Four Graduate Research Assistants

- Approximately 900 children participated since the inception of PYEP in 2012
- Large portion of children from underserved backgrounds
- 2016-2017
 - 11 Site Visits
 - 302 children ages 5-13

- (photo – program facilitators)



Program Content



Lessons Learned

- Must be adaptive to the needs of the community partner
- Collaborate on materials and what will work well in the community setting
- Use active learning and empowering strategies to make learning lasting, helpful, and fun

• (photo –
Protect
Your Ears
Program
group
activity)

- Parent letter



James S. and Dyan Pignatelli/UniSource Clinical Program in
Audiologic Rehabilitation for Adults

Living Well with Hearing Loss

Mission: To maximize communication and quality of life of adults with hearing loss and their communication partners in Southern Arizona

- (photo – Pignatelli family)



Group Approach

- The purpose of the group process is to:
 - increase **self-efficacy** and **improve communication skills** for **persons with hearing loss and their partners** (e.g., Smith & West, 2006; Smith, 2014)
 - Added benefits of providing **counseling experience** for student clinicians that **humanizes** the impact of hearing loss.

- (photo of Group AR program)



In the clinic, in the community

- Groups in English, in Spanish
 - Clinic
 - Community: Library, assisted living communities, neighborhood centers
- Participants are individuals with hearing loss and communication partners

(Photos of Group AR programs in the community and in the clinic)

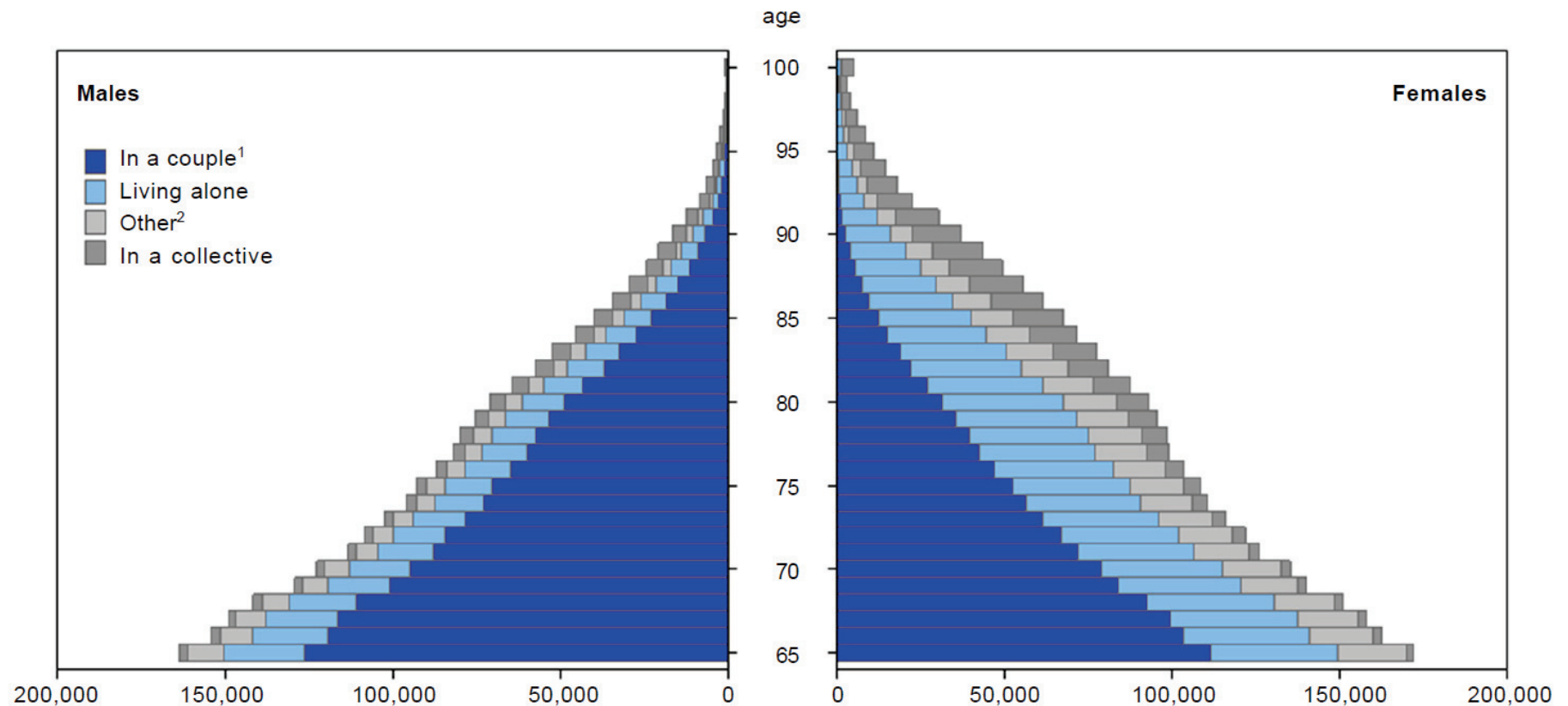


Engaging Communication Partners is important

Most Canadians 65+ are not living alone

Figure 41

Age pyramids of the population aged 65 and over by living arrangement and sex, Canada, 2011



1. Refers to married spouses and common-law partners.

2. 'Other' includes seniors who are lone parents, living with other relatives or non-relatives, or adult children living with their parent(s).

Source: Statistics Canada, Census of Population, 2011.

Source: Statistics Canada, *Canadian Demographics at a Glance*, February 19, 2016. Reproduced and distributed on an "as is" basis with the permission of Statistics Canada.

Including communication partners

- It is recommended that participants invite their **most frequent communication partner(s)** to group (Preminger, 2003).
 - Often this is a spouse or family member
- Communication partners play a **vital role** in practicing effective strategies and gain understanding as well as confidence to manage hearing loss together.

(Photos of
Group AR
programs with
communication
partners)



Incorporating Technology

- It is important to be sure that the class is accessible for everyone who is participating.
 - Loop system, soundfield system, assistive devices (routine)
 - CART services (ordered as necessary)
 - All videos are captioned
 - Workbook with printed materials to follow along
 - Participant's personal amplification is checked and used as well

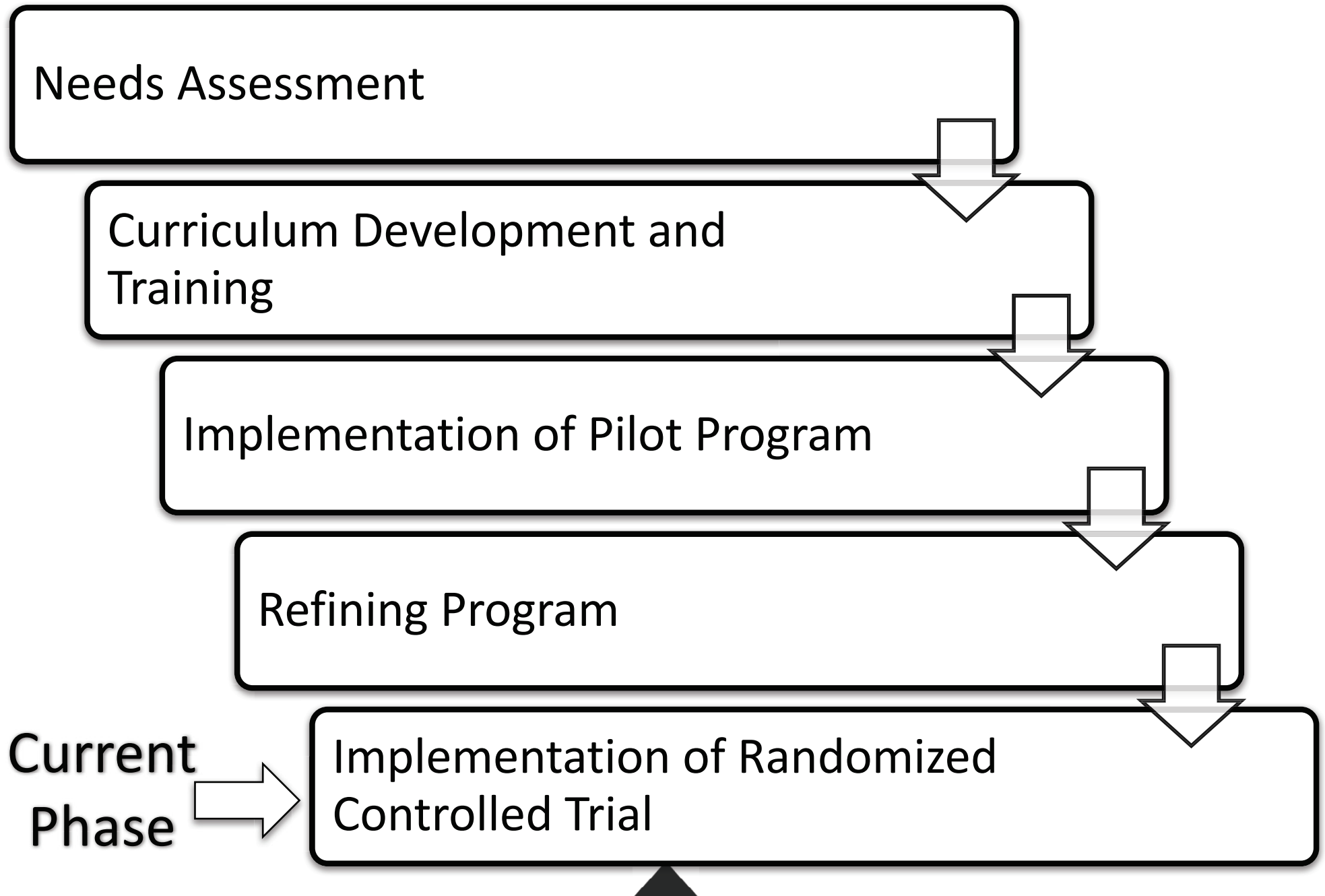


Audiologists on the road

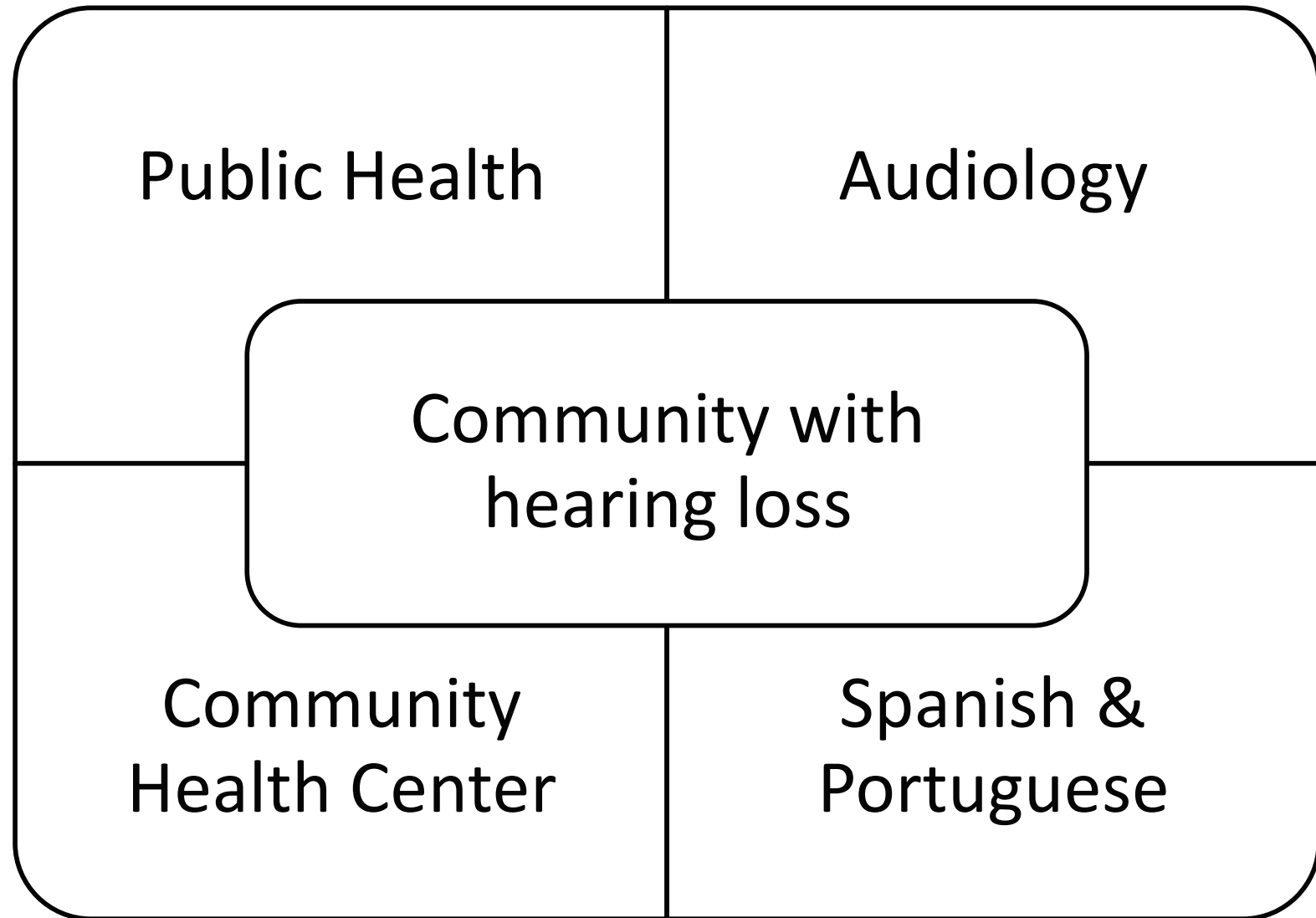
- Group photos



Oyendo Bien Phases



COMMUNITY-BASED PARTICIPATORY RESEARCH (CBPR)



What is a Federally-qualified Community Health Center?

- Federal grant funding gives enhanced reimbursement from Medicare & Medicaid
- “Health care safety net” serving an underserved area or population
- 25 medical providers
- No in-house audiology/otolaryngology
- 49 *Promotoras* (bilingual)



Approach from public health to address health disparities: Community Health Workers



- Evidence-based approach for increasing access to care and self-management for chronic conditions
- Proven effectiveness in increasing healthcare utilization, providing health education, and advocating for patient needs

CDC (2011); Peretz et al. (2012); Rosenthal et al. (2010); Viswanathan et al. (2009)



Who are Community Health Workers or *Promotoras de Salud*?

- Members of the community who are “frontline” public health workers
- May better understand the social determinants impacting a certain community – may have even had personal experiences with this.
- Provide culturally appropriate health education
- Assist the community in understanding and accessing the health care system

(Photo –
promotora and
community
member)

***“The nurse’s job is to support the doctor.
Our job is to support the patient.”***

American Public Health Association (2009)

Rosenthal et al. (2010)



Community Health Worker Models of Care

- Patient Navigator
- **Health educator**
- Outreach-enrolling-informing agent
- Member of care delivery team (screenings)
- Organizer/advocacy
- (Photo – promotora leading a health education class)



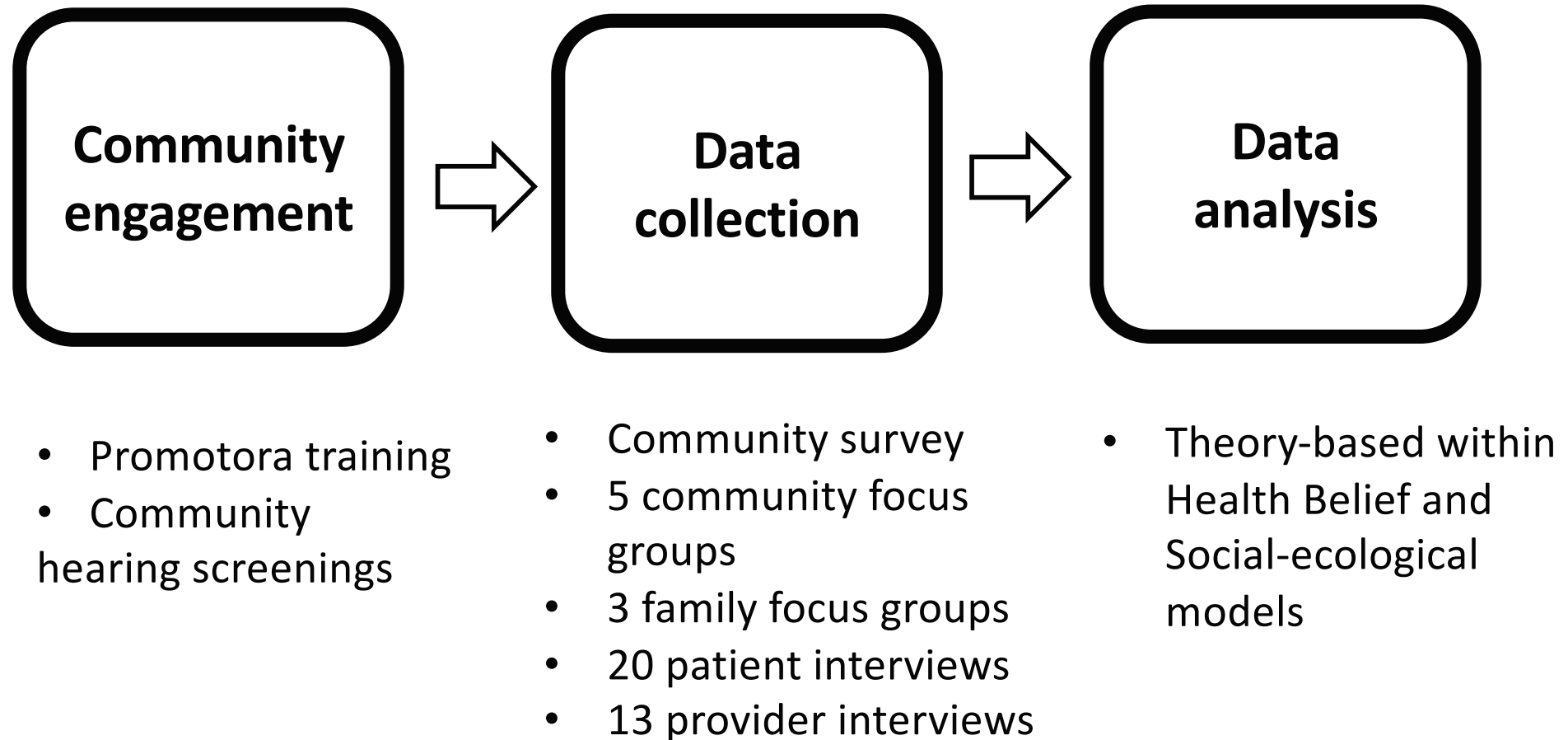
Approach from Spanish/Translation Studies

- Process of cultural adaptation goes far beyond simple translation of materials
- Functional translation is focused on **meaning**



Community Needs Assessment

n = 183



Ingram, Marrone, et al. (2016) *Frontiers in Public Health*
Sánchez et al. (2017) *Journal American Academy of Audiology*
Marrone et al. (2017) *Seminars in Hearing*

Key themes to be addressed: Challenges

- **Lack of knowledge and resources on hearing loss**
 - Perception that the only intervention is out of reach
 - Trying home remedies delays seeking care
- **Low perceived self-efficacy**
 - Perception there is no solution for old age
 - Social withdrawal and lack of support
 - Frustrations of family
- **Gaps in cues to action**
 - Medical providers not referring to Specialists due to perceived costs
 - Limited local options
 - Limited trust of out-of-pocket care expenses

Ingram, Marrone, et al. (2016)



Key themes to be addressed:

Community resources

- **Cultural influences**

- Pride in community identity
- Respect for elders, family
- Trust in *Promotoras*

“There is a lot of tradition. We are very united. The Mexican tradition is very united.”

- **High perceived severity of issue**

- Many concerns related to depression, reduced participation

- **Perceived benefits of interventions**

- Desire to hear and communicate better
- Desire to maintain independence

- **Cues to action**

- Strong family bonds
- Frustrations with family communication

Ingram, Marrone, et al. (2016)



Preparing *Promotoras* to Address Hearing Loss (Sánchez et al., 2017)

- Photo – promotora training session

Implementation of Freire's
Empowerment Education Model
Wallerstein & Bernstein (1988)

- ① **Listening:** Identify needs in the community as co-learners
- ② **Problem-posing:** Critical-thinking and discussion of complex problems
- ③ **Act-Reflect-Act:** Taking action within the community; apply learning



Oyendo Bien Pilot Study

5-week group program

Program 1: n =10

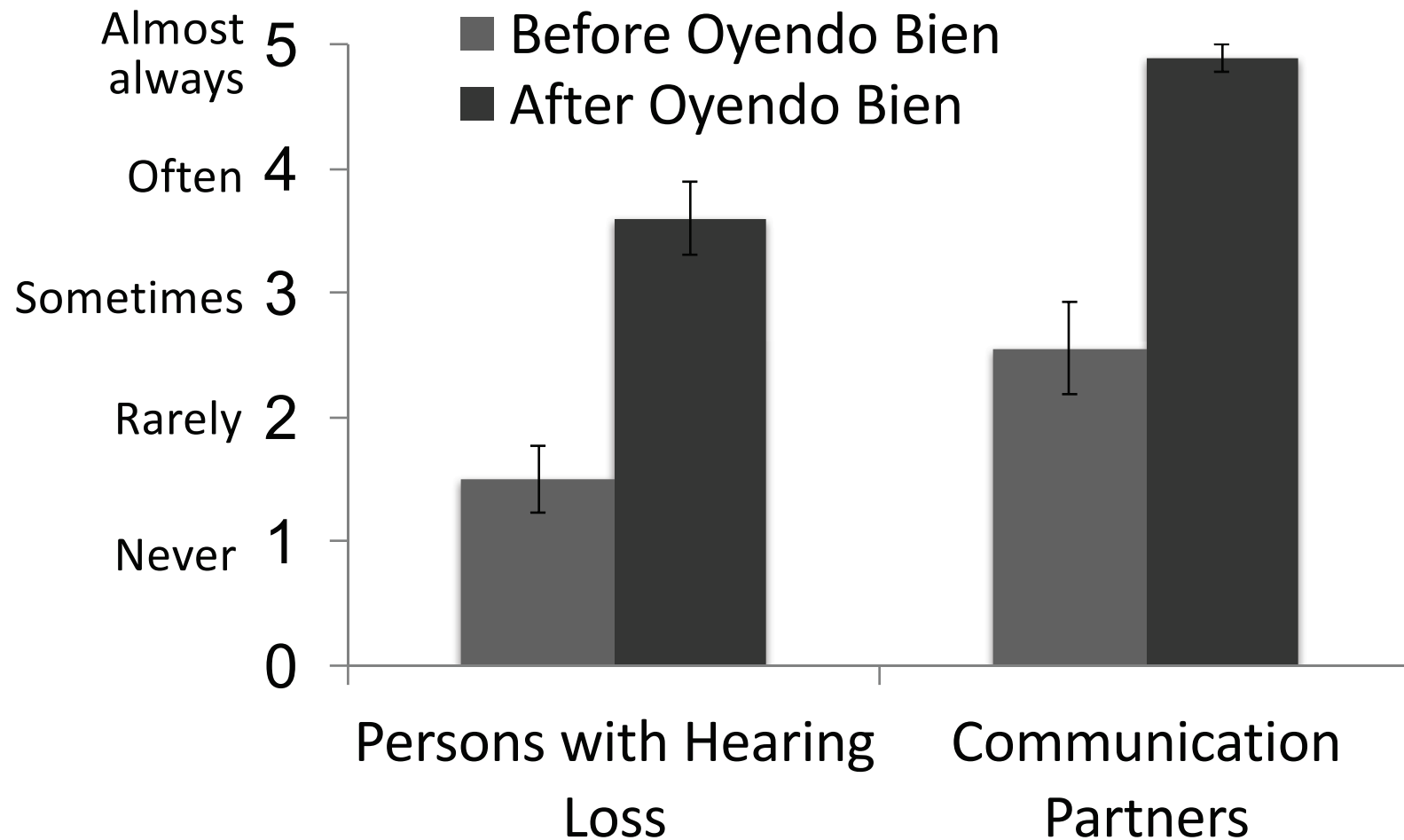
Program 2: n = 11

Persons with Hearing Loss	Communication Partners
Moderate loss	Mild hearing loss
59-90 years (avg. 76)	40-84 years (avg. 65)
5 male, 5 female	1 male, 10 female
100% attendance	82% attendance

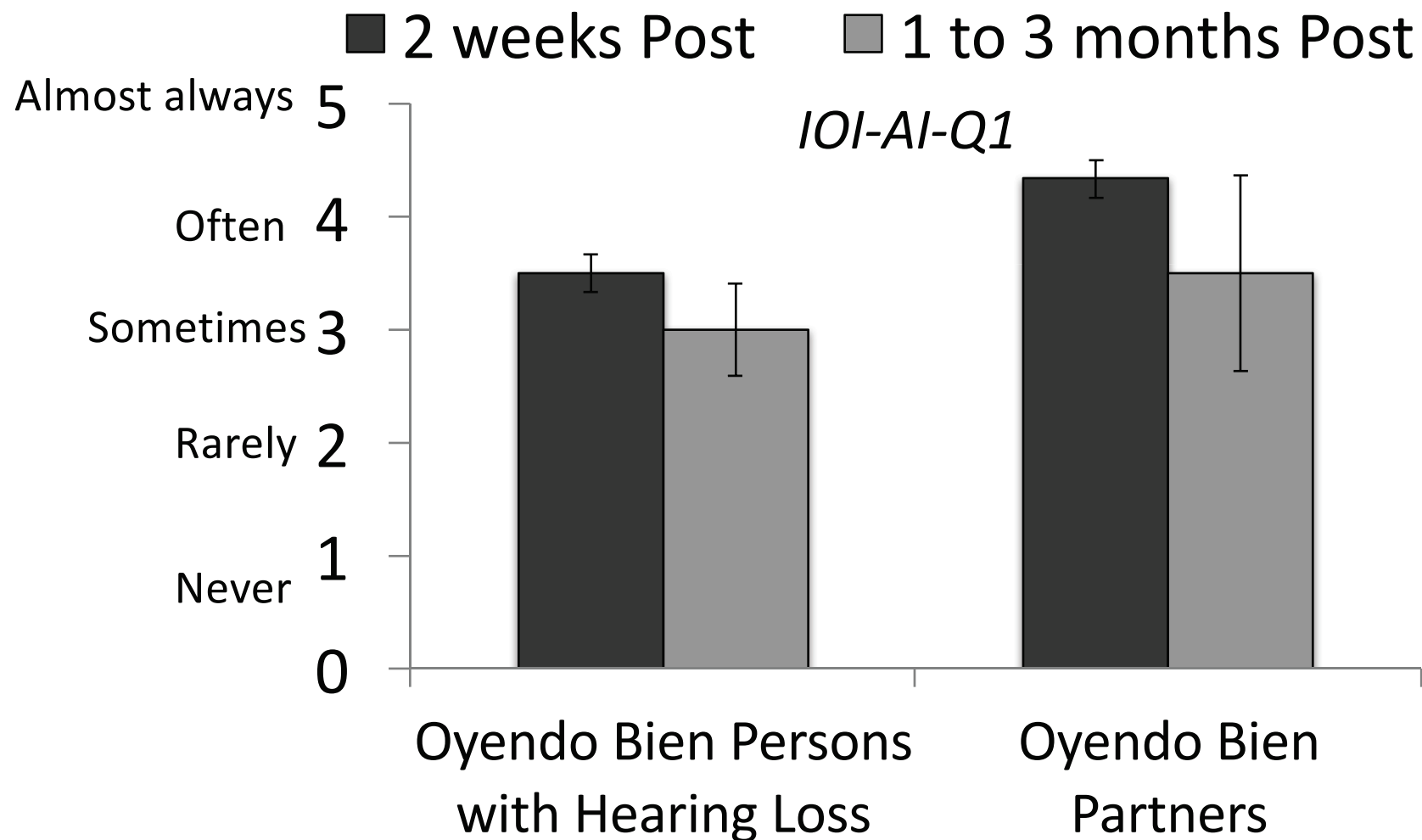
- Photo – Oyendo Bien program session



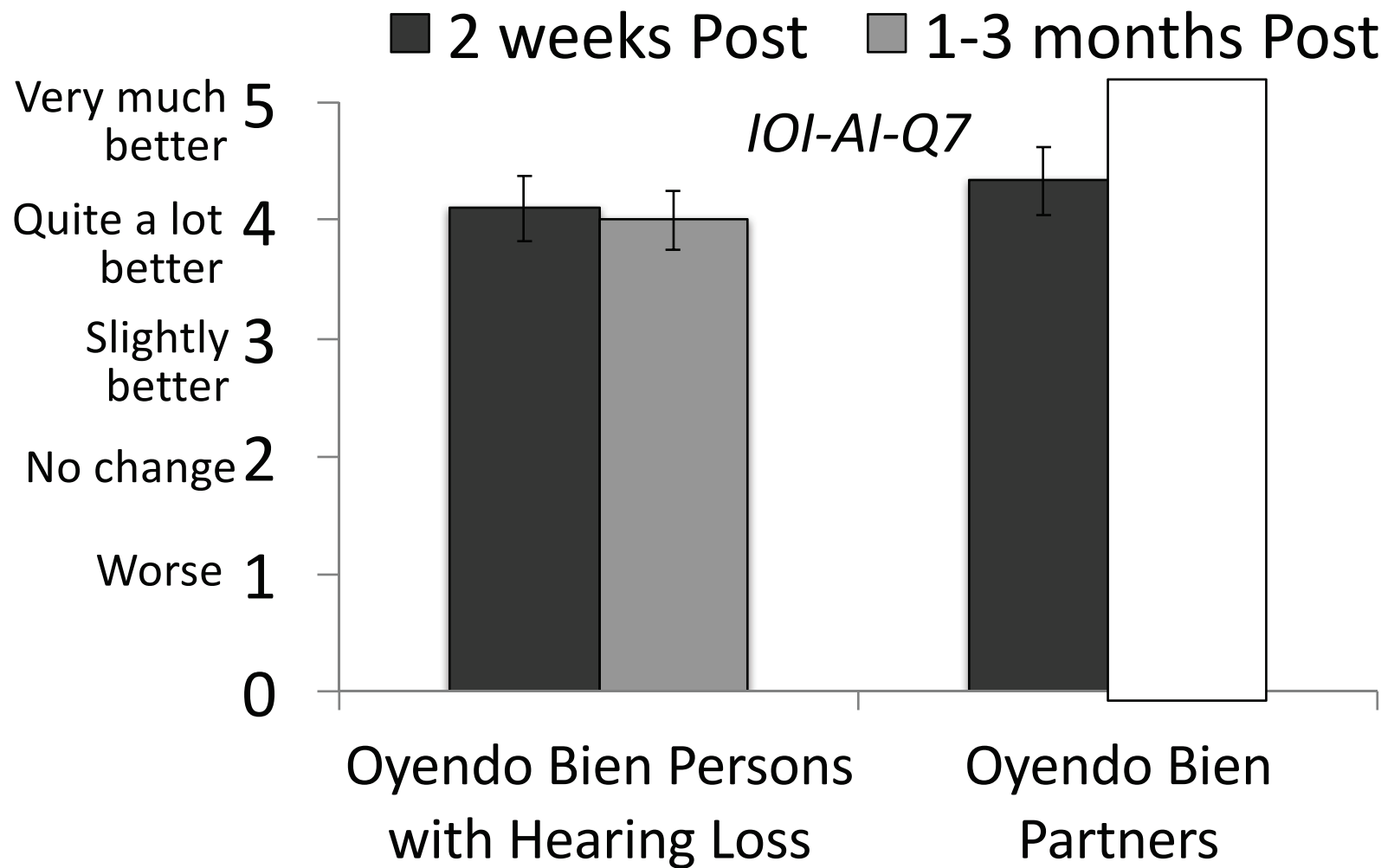
Helped plan activities so partner with hearing loss can hear and participate



Daily use of Oyendo Bien strategies



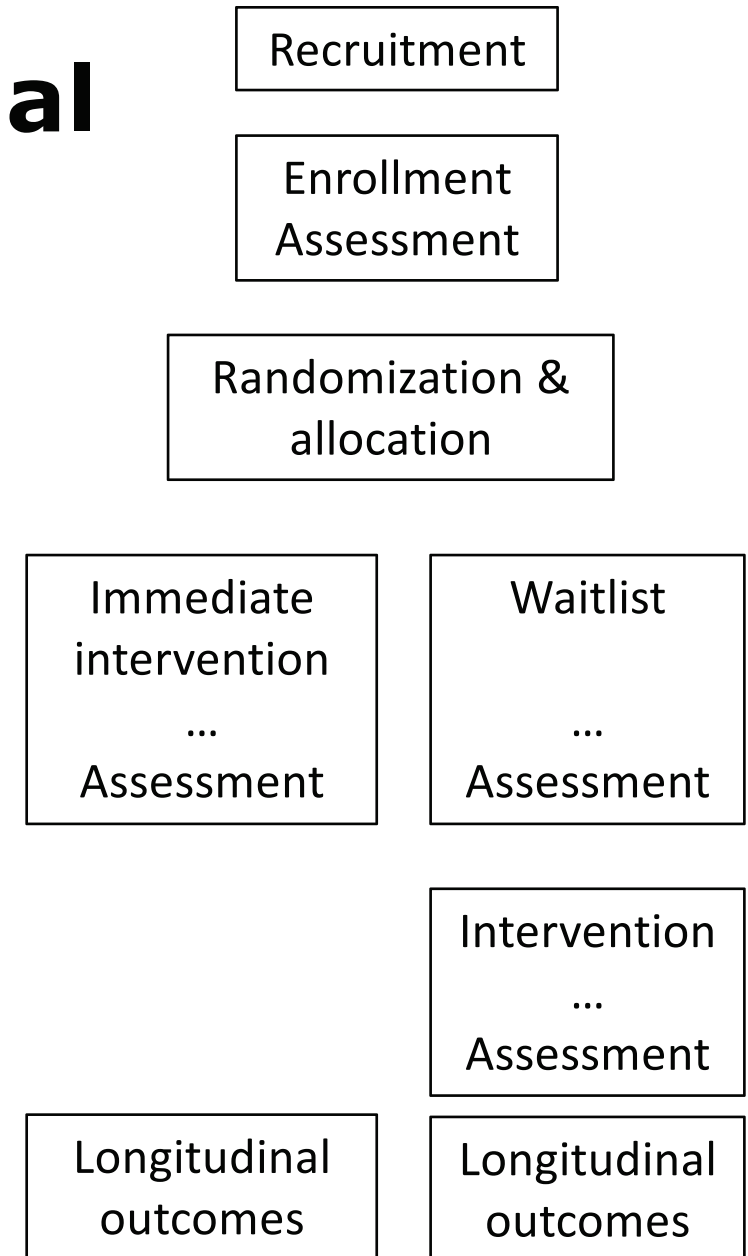
Enjoyment of Life



Marrone et al., unpublished data

Oyendo Bien Randomized Control Trial (R33 phase)

- Planned recruitment: $n = 160$ (20 for attrition, 20 for exclusion)
- Planned enrollment in study: 120 participants
- 6 cycles



***Oyendo Bien* Lessons Learned**

- *Promotoras* are a feasible link between unserved community with hearing loss and hearing health care
- There is an on-going process of observing fidelity of intervention and language mediation
- Community members had a continued interest in and need for amplification



University of Arizona Community Engagement Programs



Protect Your Ears Project
(PYEP)



Community-delivered



Living Well with Hearing
Loss
(Group Adult AR in English)



Communication Partners

***Some Community-
delivered Groups**



Oyendo Bien
(Group Adult AR in Spanish)



Community-delivered



Communication Partners



Community-based approach

- Assessing the needs of the community and adapt health promotion/intervention for the community's needs
- Consideration of social determinants of health
- Solutions come from within the community rather than outside the community



How can I expand my reach?

- Invite patients to self-advocate and share information with their families when comfortable
 - Example: Create a communication strategies brochure that targets not only the patient, but their partner
- Introductory letter
- Person-centered needs assessment
- Connect with other audiologists
- Visit an existing program or consult with audiologists implementing AR in practice
- Become involved in hearing loop initiatives



How can I expand my reach?

- **Find community partners**
- **Consider different entry points and gate keepers**
- **Community-engaged outreach** with community health workers and interdisciplinary collaboration
- **Outreach with primary care, public health**
- **Go where people go:** library, community centers, primary care



Resources for Community-engaged Audiologists

- Ida Institute GROUP AR tool

<http://idainstitute.com/toolbox/group/>

- Active Communication Education Curriculum and example videos

<https://shrs.uq.edu.au/research/research-centres-and-units/communication-disability-centre/active-communication-education-program>

- ASHA SIG 7 Aural Rehabilitation and Its Instrumentation

<http://www.asha.org/SIG/07/About-SIG-7/>

- University of Arizona group AR programs

<http://lwhl.arizona.edu>



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- Community partners
 - Tucson Parks & Recreation
 - Mariposa Community Health Center

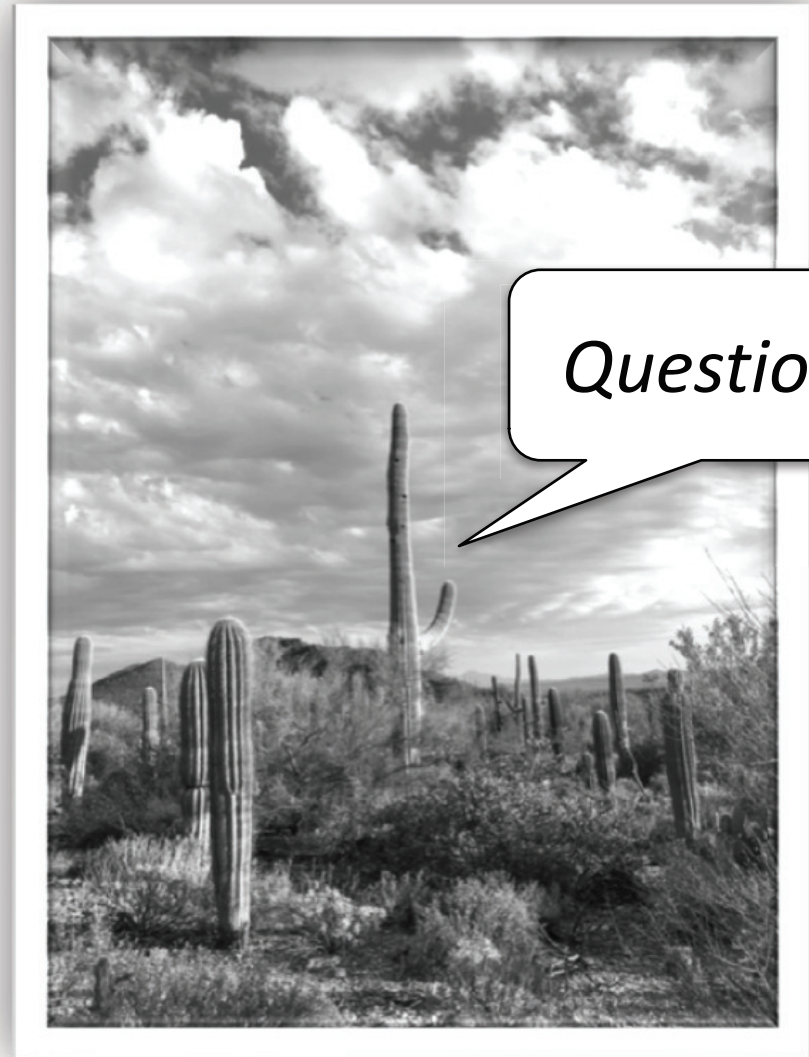


- St. Luke's Home
- University of Arizona
Audiology Clinical
Faculty
- University of Arizona
Audiology students

**Thank you, merci,
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Aileen Wong, AuD
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Nicole Marrone, PhD
Giau Le, AuD



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