

Development of a Community-based Hearing Health Education and Support Program for Adults with Hearing Loss and their Families



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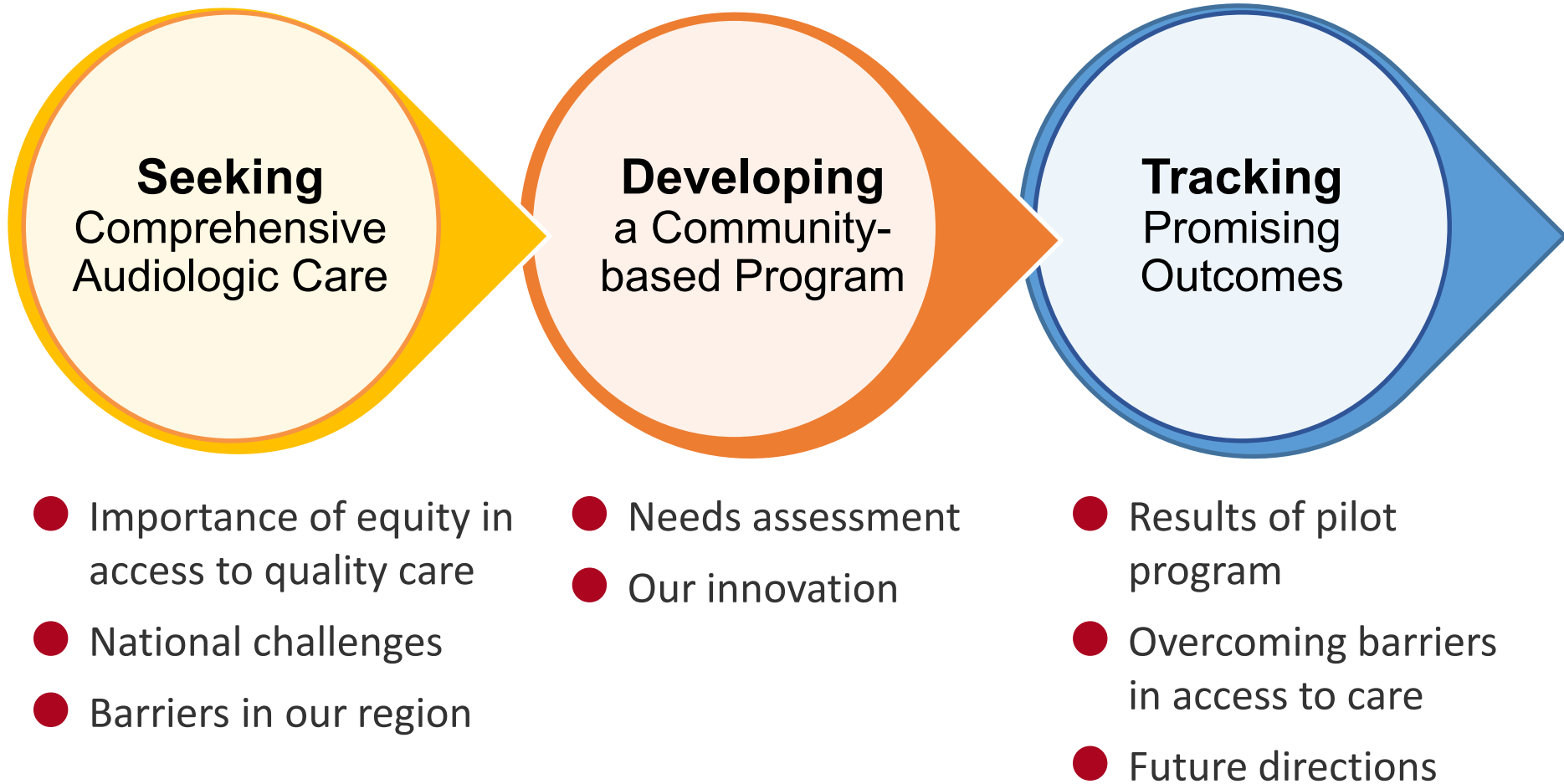
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Healthy People 2020 Progress Review
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Overview



Access to comprehensive hearing health care is important for the health and wellbeing of all Americans.



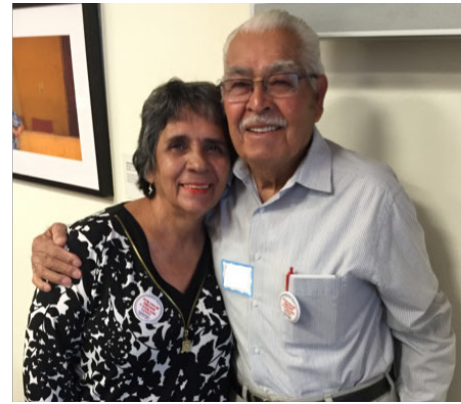
Medical services

e.g., Screening and assessing the auditory system;
Otolaryngology



Diagnostic audiology services

e.g., Evaluate degree, type, configuration of hearing loss and its functional impacts on daily life



Rehabilitative audiology services

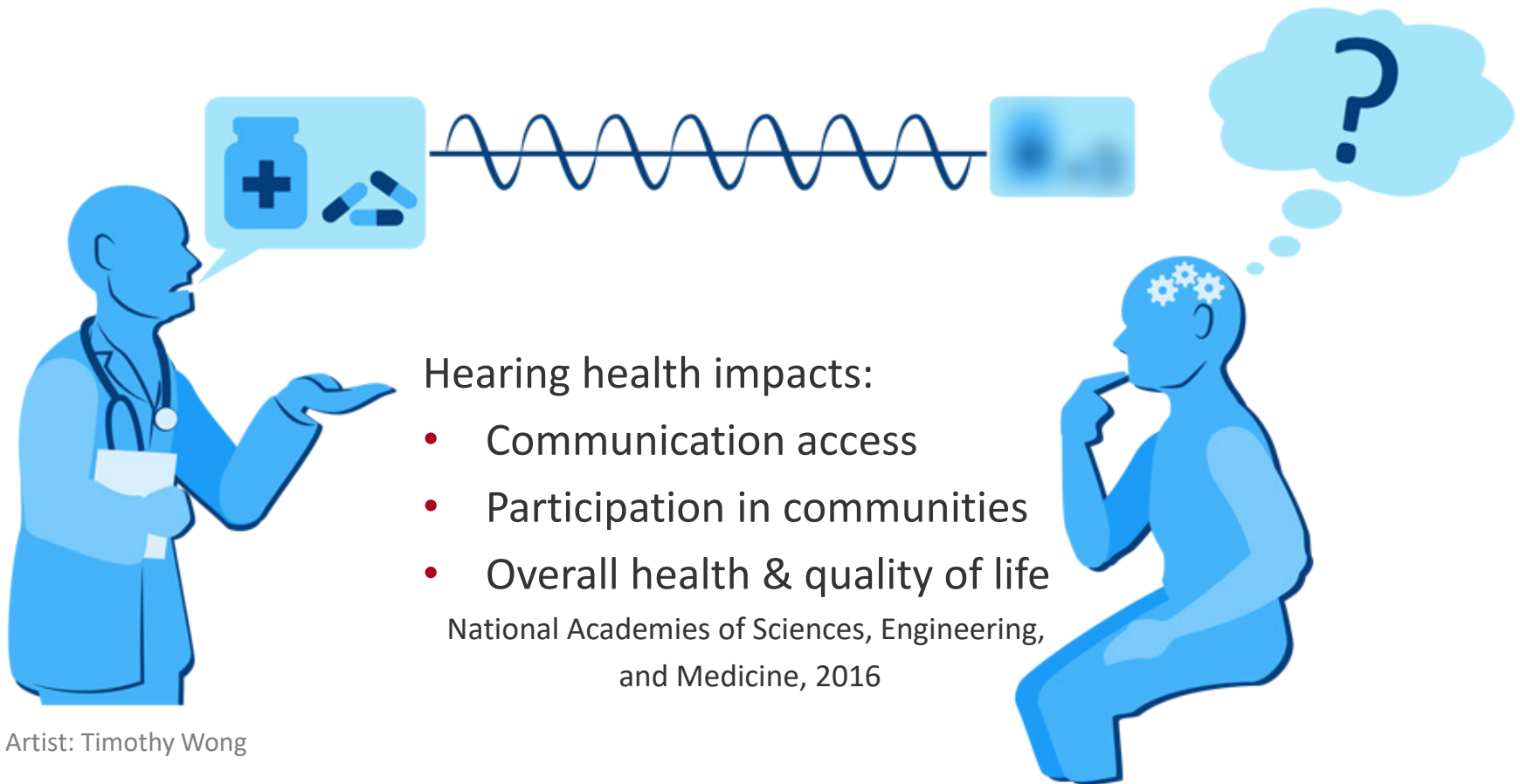
e.g., Family-centered care, counseling, amplification, assistive technology, ongoing management and aural rehabilitation



Preventive services

e.g., Health education, hearing conservation
("It's a Noisy Planet: Protect Their Hearing")

Hearing loss affects health and quality of life, like other sensory and communication disorders.



Artist: Timothy Wong

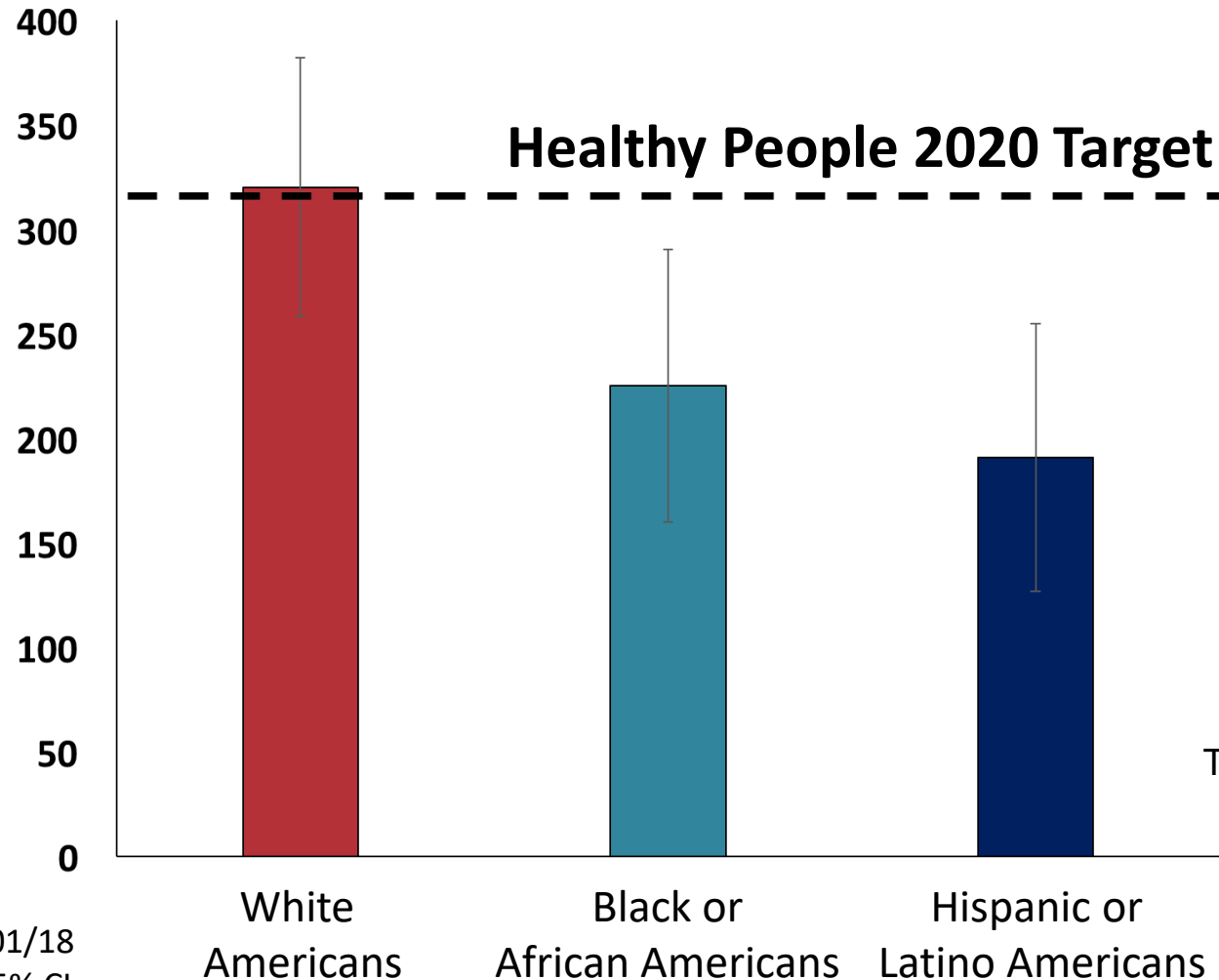
Nearly 2 in 3 Americans age 70+ are living with hearing loss.

Challenges in access to comprehensive audiologic care in the U.S.

- **Significant gaps in care**, between self-reporting hearing loss and receiving evaluation, treatment, and rehabilitation services (Mahboubi, Lin, & Bhattacharyya, 2017).
- **Nationally, rehabilitative services from audiologists are not covered by Medicare** (National Academies of Sciences, Engineering, and Medicine, 2016).
- **Coverage varies across state Medicaid systems** for adults (Arnold, Hyer, & Chisolm, 2017).
 - Adults with **lower socioeconomic status** are less likely to use hearing aids (Bainbridge & Ramachandran, 2014).

Hearing Aid Use in the U.S. by race/ethnicity

Rate per 1,000 Adults 70+ years with moderate or greater hearing impairment



Data Source:

HP2020

ENT-VSL-3.3

2011-2013

Accessed 02/01/18

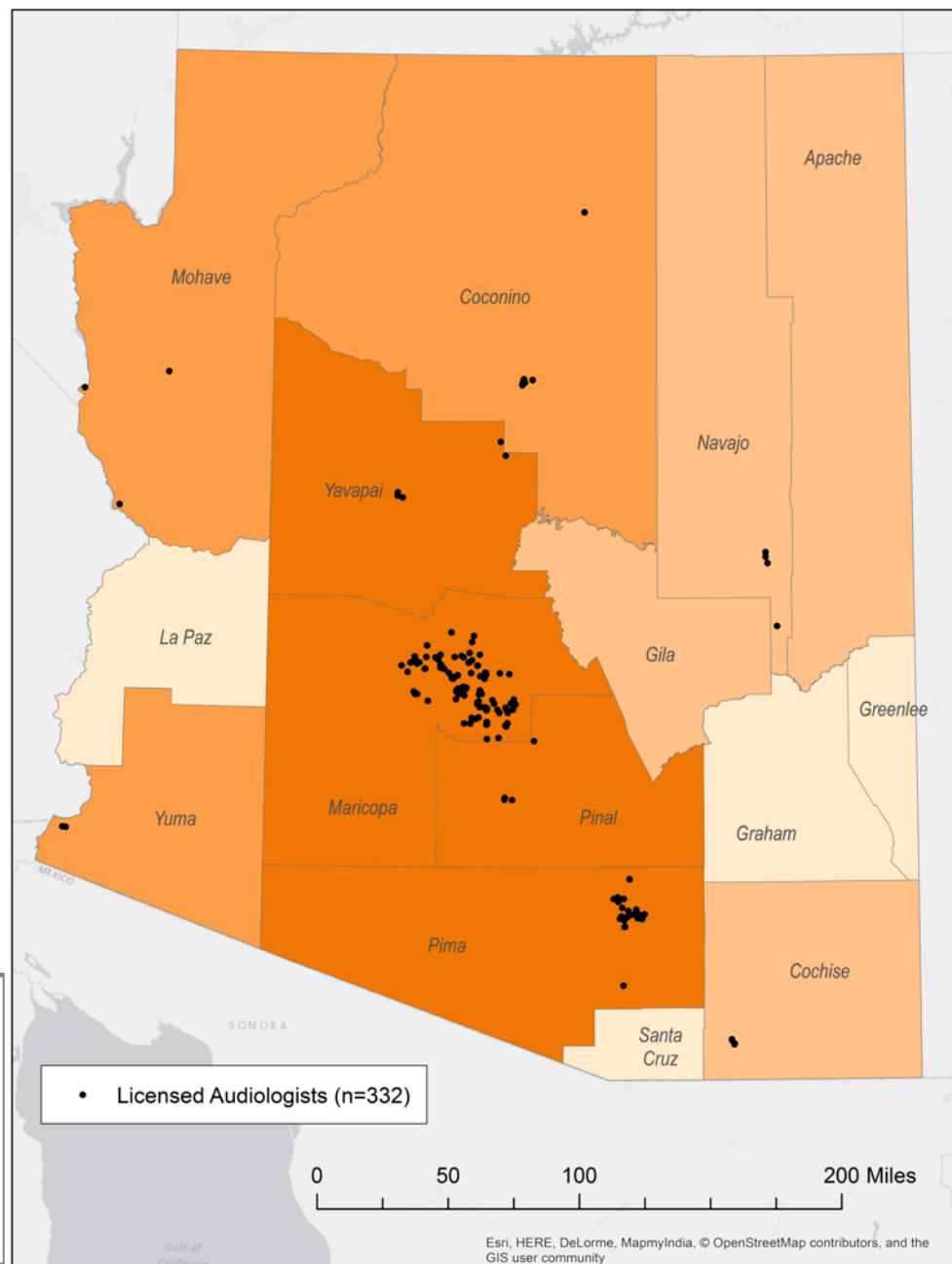
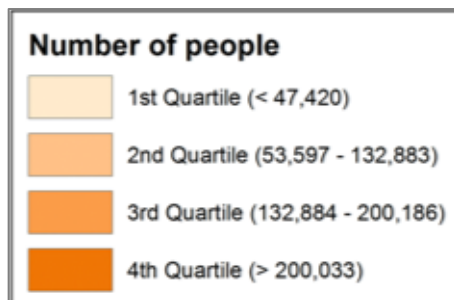
Error bars \pm 95% CI

See also Nieman,
Marrone, Szanton,
Thorpe, & Lin (2016),
J Aging Health

Availability of Health Care Providers in Rural Areas

- **Rural USA:** shortages of health care providers (Chan et al., 2017; Goins et al. 2005; Rosenblatt et al., 2006).
- **Arizona:** 6 non-metro counties without any audiologists (Coco, Sorlie Titlow, & Marrone, submitted)

Data Source: Licensed dispensing audiologist practice locations; list accessed 06/17/17 from Arizona Department of Health and Human Services



Our Approach:

Community-Based Participatory Research



A strategy for reducing health disparities in underserved communities that:

- Helps define health needs;
- Increases trust and bridges cultural gaps;
- Enhances relevance of research and accuracy of study findings.

Our Innovation:

Collaboration between Audiologists and Community Health Workers

Audiologists

are health care professionals who provide care in the prevention, diagnosis, treatment, and management of hearing loss, other auditory and balance disorders

(Bureau of Labor and Statistics, 2018).

Community health workers

are “frontline,” lay public health workers who share sociocultural characteristics with their community and provide culturally-relevant health education

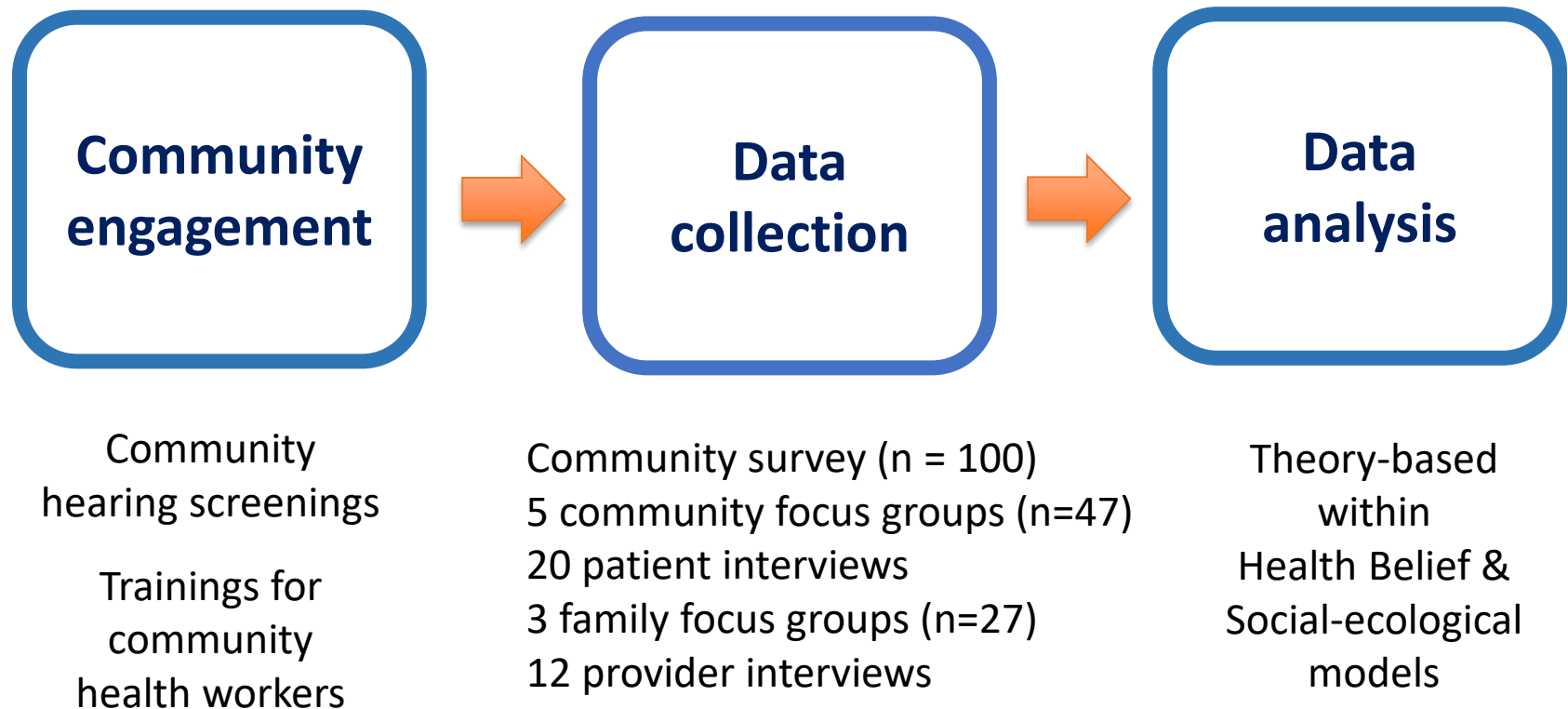
(American Public Health Association).

- For our research, audiologists have trained community health workers on recognizing hearing concerns and communicating effectively with people with hearing loss in their programs and community (Sánchez et al., 2017).

Community Needs Assessment

Ingram et al. (2016), *Frontiers in Public Health*

n = 206



Key barriers to be addressed

- **Lack of knowledge and resources on hearing loss**
 - Perception that the “only” intervention (i.e., hearing aid) is out of reach
- **High perceived severity of issue**
 - Many concerns related to depression, reduced participation
- **Low perceived self-efficacy**
 - Social withdrawal and lack of support
 - Frustrations of family
- **Gaps in access to care**
 - Medical providers not referring to Specialists due to perceived costs
 - Limited availability of local options
 - Limited trust of care requiring out-of-pocket expenses

Ingram et al. (2016),

Frontiers in Public Health

Illustrative Quotes

“Many people assume, ‘well, this is how I am, and this is how I’ll stay.’ We don’t seek help, but the problem is serious.”

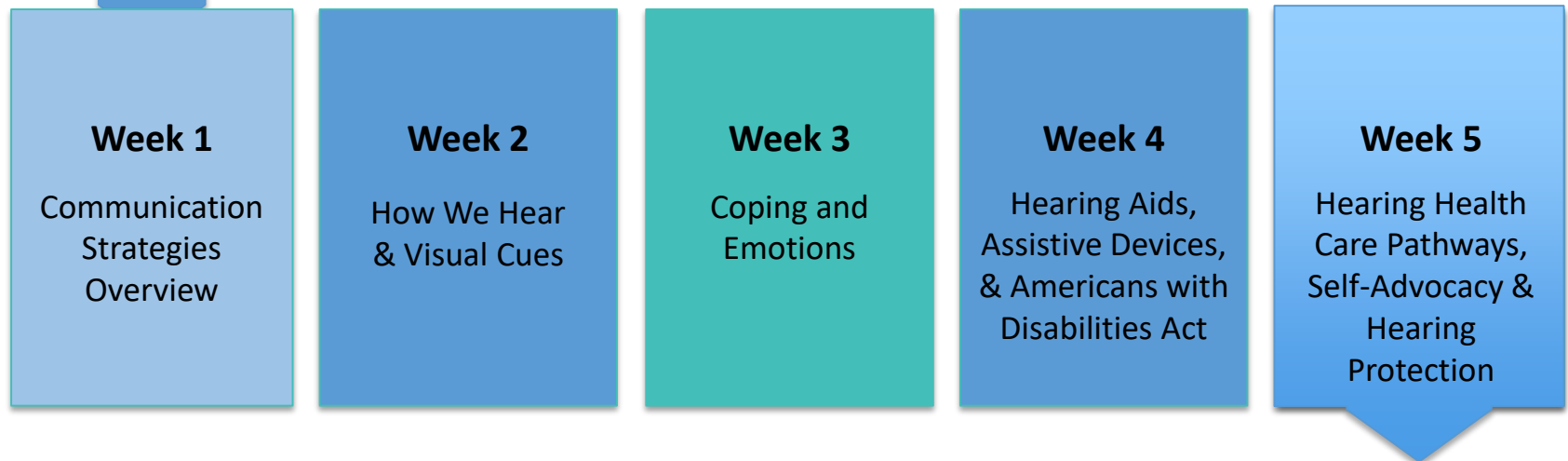
“I know it is expensive so I don’t do anything.”

“Other health concerns have more attention and resources.”



Hearing assessment and
counseling by an audiologist
at enrollment in program

Each weekly session facilitated by community health workers



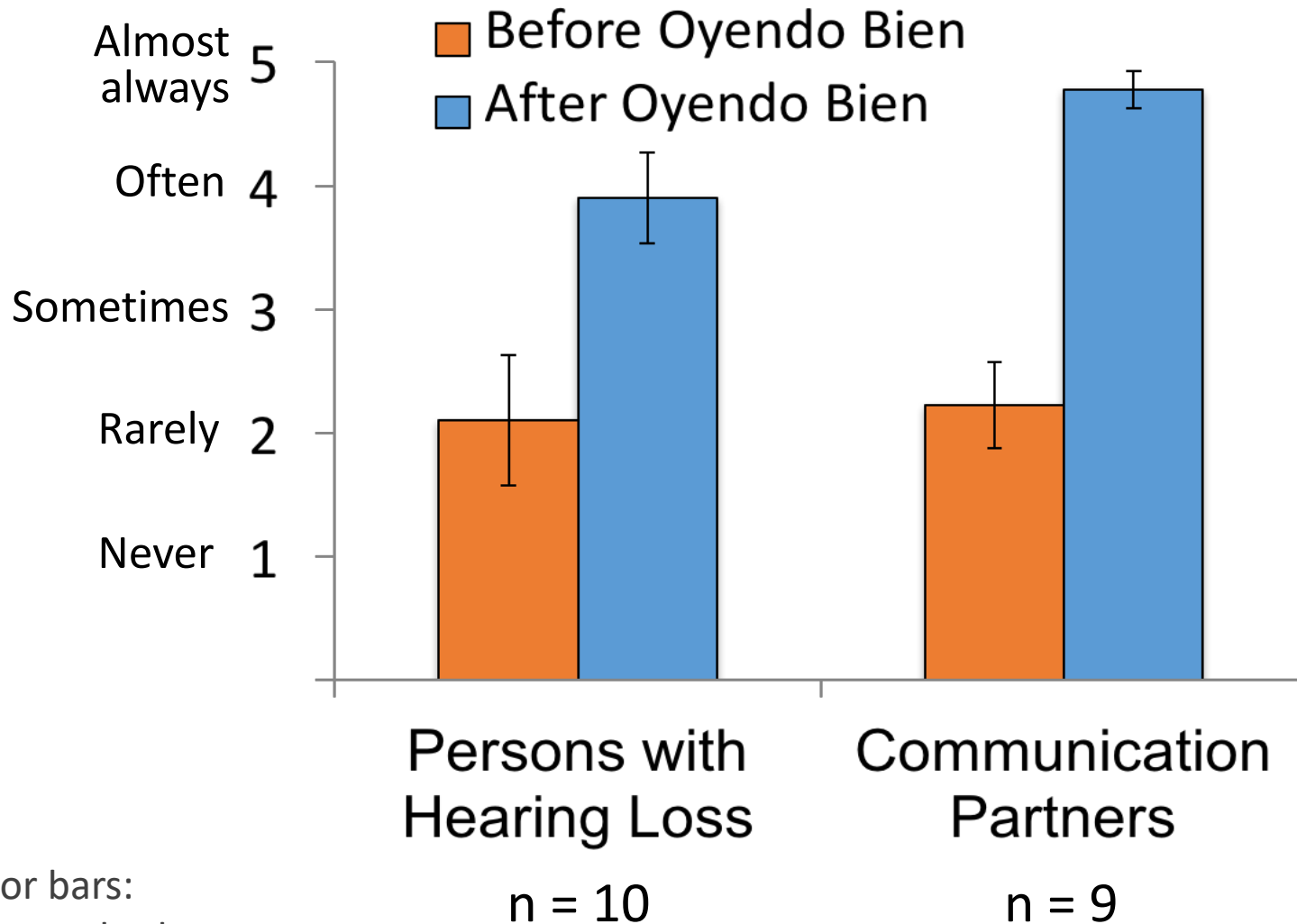
**Outcomes
assessment**

Pilot study: n = 21 (2 communication partners withdrew)

Marrone, Ingram, Somoza, Sánchez, Sanchez, Adamovich, & Harris (2017) *Seminars in Hearing*

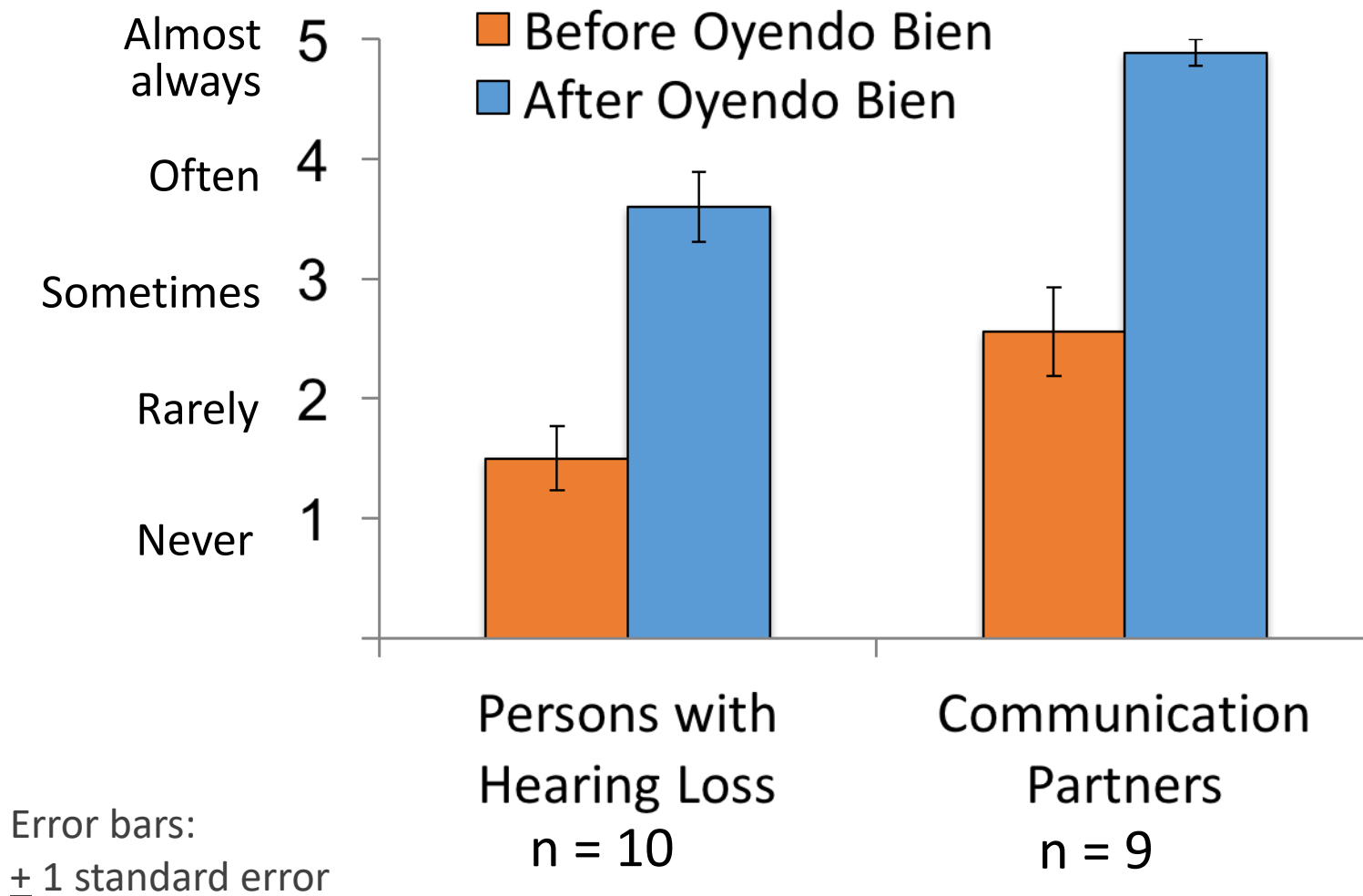
See also: Colina, Marrone, Sánchez, & Ingram (2017); Coco, Colina, Atcherson, & Marrone (2017)

Pilot study results: Spoke slowly & clearly



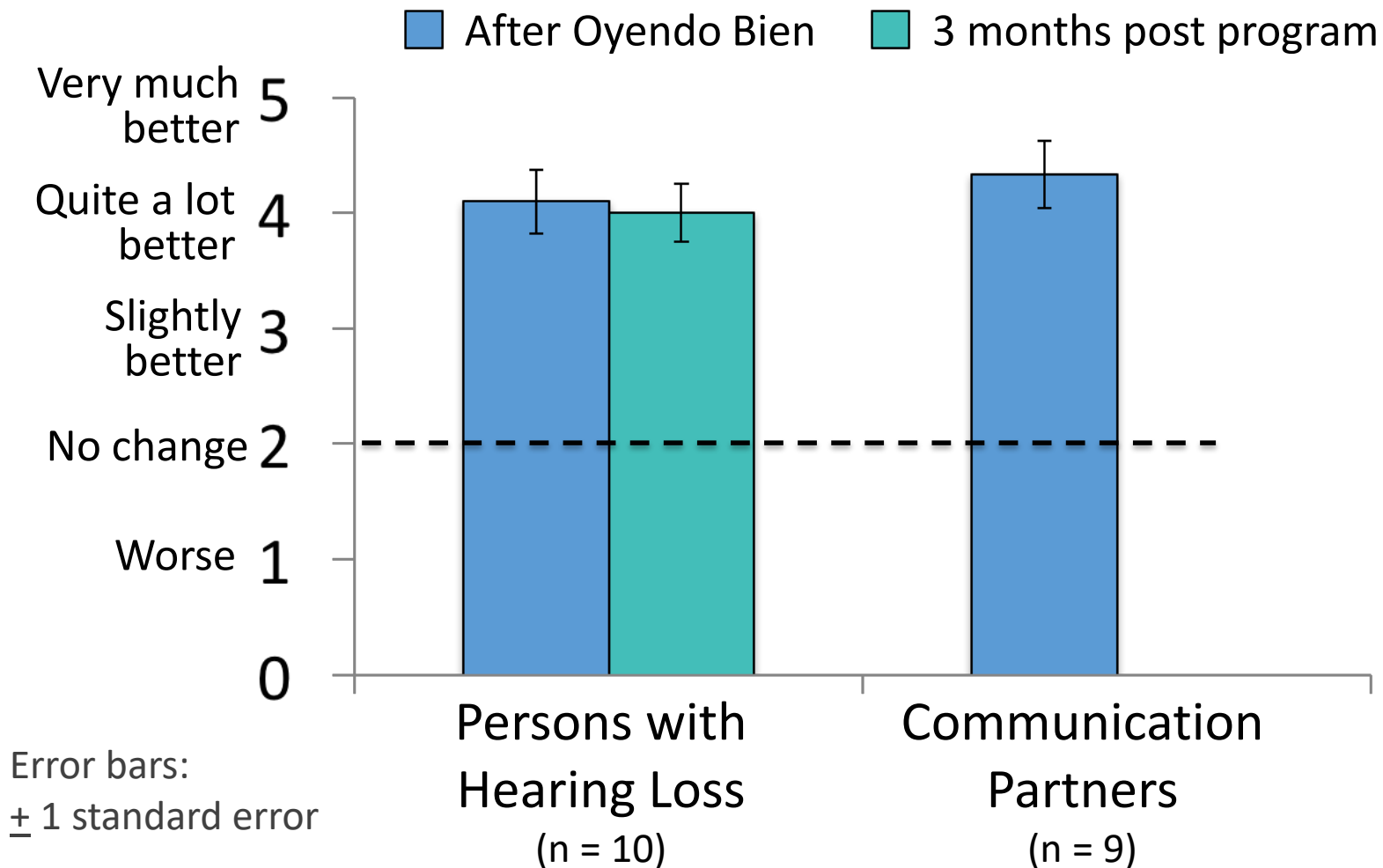
Error bars:
± 1 standard error

Pilot study results: Helped plan activities so partner with hearing loss can hear and participate



Pilot study results: Enjoyment of Life

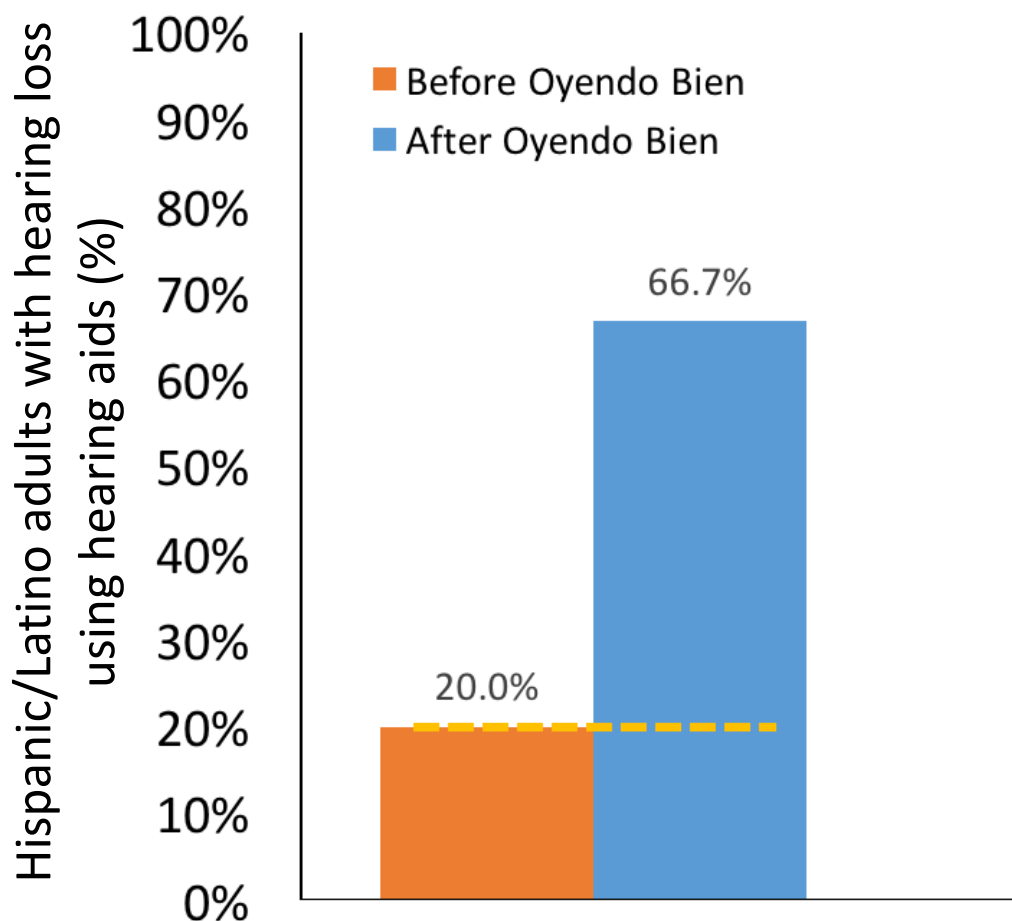
International Outcomes Inventory –Alternative Interventions Scale (Noble, 2002)



Overcoming barriers in access to care:

Hearing health care utilization outcomes

1 year post pilot study



“You all taught us something new. Before attending the classes, I had almost no hearing. I now have one hearing aid and I have to go back in three weeks for a second...”

Pilot study outcomes:

Marrone et al. (2017)

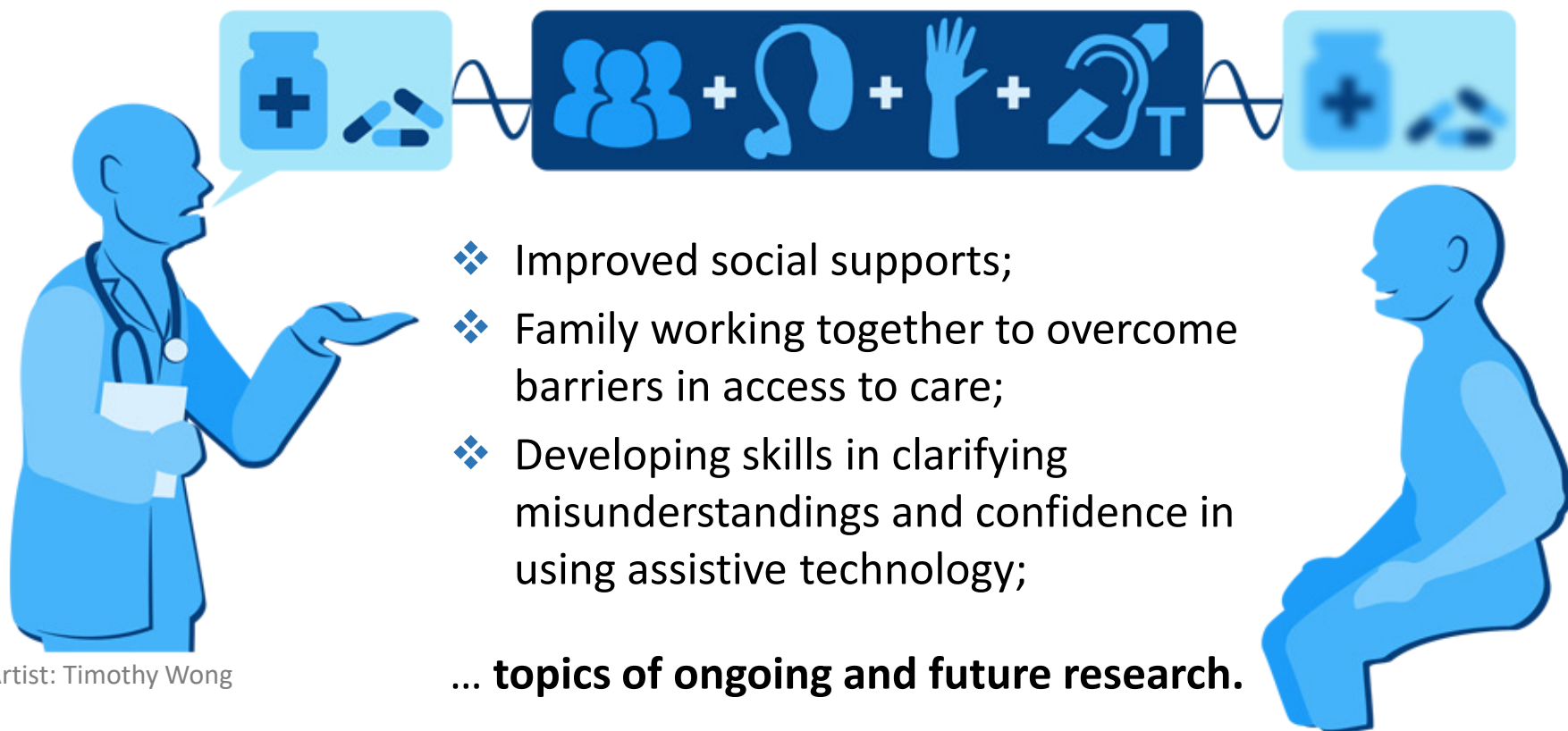
Current research:

Ongoing randomized trial

ClinicalTrials.gov NCT03255161

Returning to our example ...

*After Oyendo Bien,
a person may have more effective communication through:*



Artist: Timothy Wong

Summary

- **Collaboration between audiology, public health, and the community** has led to a novel, culturally competent program with promising outcomes in quality of life and access to hearing health care (Marrone et al., 2017).
- Community health workers may serve as a feasible link between underserved communities and the hearing health care system; **continued research is needed** in this area and in other communities across the U.S. (e.g., Baltimore HEARS, Nieman et al., 2017).
- **Achieving health equity includes increasing access to, and use of, comprehensive audiologic care for all Americans.**

Thank you

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- *Speech, Language, & Hearing Sciences:* Nicole Marrone, PhD (PI), Aileen Wong, AuD, Adriana Sanchez, Laura Coco, AuD, Frances Harris, PhD, Clemente Morales, Alyssa Everett, Diane Cheek, Giau Le, AuD, Daisey Sánchez Jacob, AuD, Anette Real-Arrayga
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***OYENDO* BIEN**



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