

Long-Term Findings from the NIDCD/VA Hearing Aid Clinical Trial

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Demographics and Audiometrics CSP #418-A

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CSP 418: The NIDCD/VA Hearing Aid Clinical Trial

- **Study Chair:** Vernon Larson, Ph.D.
- **Sponsors:** National Institute on Deafness and other Communication Disorders & the Department of Veterans Affairs
- **Support:** Hines VA Cooperative Studies Program Coordinating Center

CSP 418: The NIDCD/VA Hearing Aid Clinical Trial

- **Object:** To compare the benefits provided to patients with sensorineural hearing loss by 3 commonly used hearing aid circuits
 - ◆ Wide Dynamic Range Compression
 - ◆ Peak-clipping
 - ◆ Compression Limiting

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- **Design:** Double blind, 3-period, 3-treatment crossover

CSP 418: The NIDCD/VA Hearing Aid Clinical Trial

- Patients: n=360
- Mean age: 67.2 years
- 57% male
- 78.6% white
- 70% veterans
- 47% new hearing aid users

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- Outcome Measures
 - ◆ Speech Recognition
 - ◆ Aided, unaided
 - ◆ Quiet, noise
 - ◆ Sound Quality
 - ◆ Subjective Hearing Aid Benefit

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Conclusions:

- No significant superiority for any circuit on all measures, preferential superiority in favor of compression limiting
- Significant improvement aided in quiet and noise
 - ◆ Larson et al., 2000, *JAMA*

Study Objectives: CSP 418-A

- To determine current use or non-use of the original study hearing aids *and* reasons for any changes
- To compare changes in selected audiologic measures from the original study to the current day
- To assess predictors of long-term hearing aid use

CSP 418-A Participating Sites

- Albuquerque, NM:
 - ◆ Michael Crum
 - ◆ Cheryl Byrd
- Iowa City, IA:
 - ◆ Gail Takahashi
 - ◆ Julie Bridges
- Long Beach, CA
 - ◆ Janet Shanks
 - ◆ Charlene Mikami

CSP 418-A Participating Sites

■ Mountain Home, TN

- ◆ Richard Wilson
- ◆ Deborah Weakley

■ Nashville, TN

- ◆ Barbara Peek
- ◆ Kjersten Branscome

■ Portland, OR

- ◆ Gabrielle Saunders
- ◆ Kate Dunkley

CSP 418-A Participating Sites

- **Washington, DC**
 - ◆ Lucille Beck
 - ◆ Sharon Beamer
- **West Los Angeles, CA**
 - ◆ Doug Noffsinger
 - ◆ Chuck Martinez
 - ◆ Karen Sugiura

Hines Cooperative Studies Project Coordinating Center

- **Acting Director:** Domenic Reda
- **Study Biostatistician:** David Williams

National Institute on Deafness and other Communication Disorders

- **Program Director:** Lynn Luethke

Chair's Office

- **Study Chair:** Gene W. Bratt
- **Clinical Coordinator:** Mia Alexandra Lee
Rosenfeld

CSP 418-A Control Measures

- Demographics; Checklist of Life Events
- Pure tone thresholds: AC (BC when needed)
- Otoscopy
- Tympanometry
- Stapedial reflexes
- Word Recognition Ability
- Loudness Discomfort Levels
- Hearing aid measures: 2cm³ coupler, *in situ*

Outcome Measures: Speech Intelligibility

- **Northwestern University Auditory Test # 6** (Tillman & Carhart, 1966)
 - ◆ Quiet Unaided
 - ◆ Quiet Aided
- **Connected Speech Test** (Cox et al., 1987)
 - ◆ Quiet Unaided
 - ◆ Quiet Aided
 - ◆ Noise Unaided
 - ◆ Noise Aided

Outcome Measures: Hearing Aid Usage

- Hearing Aid Status Questionnaire (HASQ)
 - ◆ (Noffsinger & Boothroyd, 2001)

Outcome Measures: Self-Reported Quality of Life

- The Communication Profile for the Hearing Impaired (CPHI) (Demorest & Erdman, 1986)
- The Glasgow Hearing Aid Benefit Profile (GHABP) (Gatehouse, 1994)
- The International Outcome Inventory for Hearing Aids (IOI-HA) (Cox et al., 2000)
- The Life Orientation Test (LOT) (Scheier & Carver, 1985)

Outcome Measures: Hearing Aid Satisfaction

- Satisfaction with Amplification in Daily Life (SADL) (Cox et al., 1999)

Outcome Measures: Hearing Aid Benefit

- Profile of Hearing Aid Benefit (PHAB)
(Cox & Rivera, 1992)

Enrollment

- Total Participants = 210
- Clinic = 190
- Home Visits = 7
- Phone Survey only = 13

Age

- Mean 418-A = 73.2 years
 - ◆ range 36-96 years

- Mean 418 = 67.2 years
 - ◆ range 29-91 years

Gender

■ 418-A

◆ Females = 38.1%

◆ Males = 61.9%

■ 418

◆ Females = 43.1%

◆ Males = 56.9%

Ethnicity

■ 418-A:

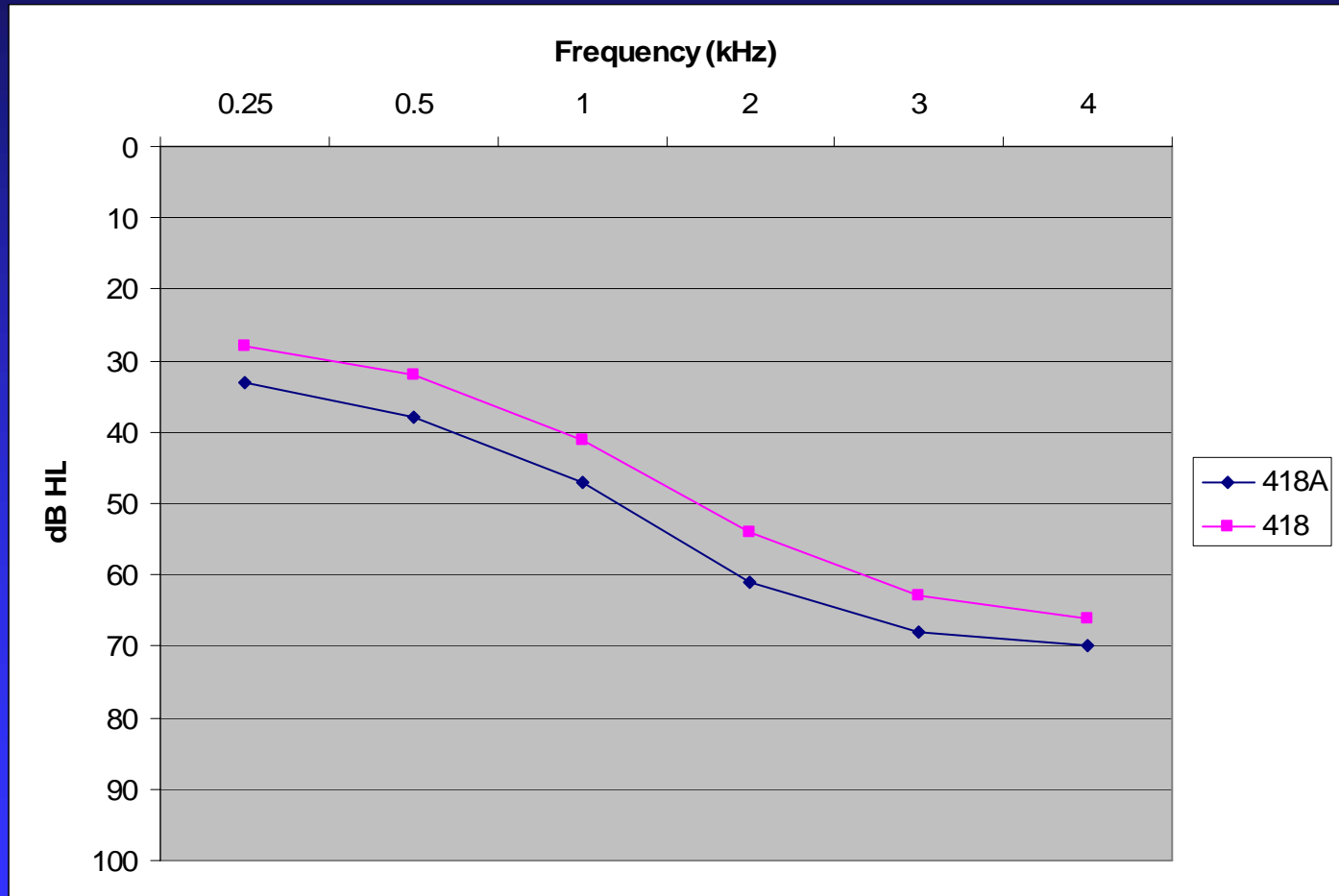
- ◆ White: 79.4%
- ◆ Black: 12.9%
- ◆ Hispanic: 5.2%
- ◆ Asian/Pacific Islander: 2.1%
- ◆ American Indian/Native Alaskan: 0.5%

■ 418: 78.6% White

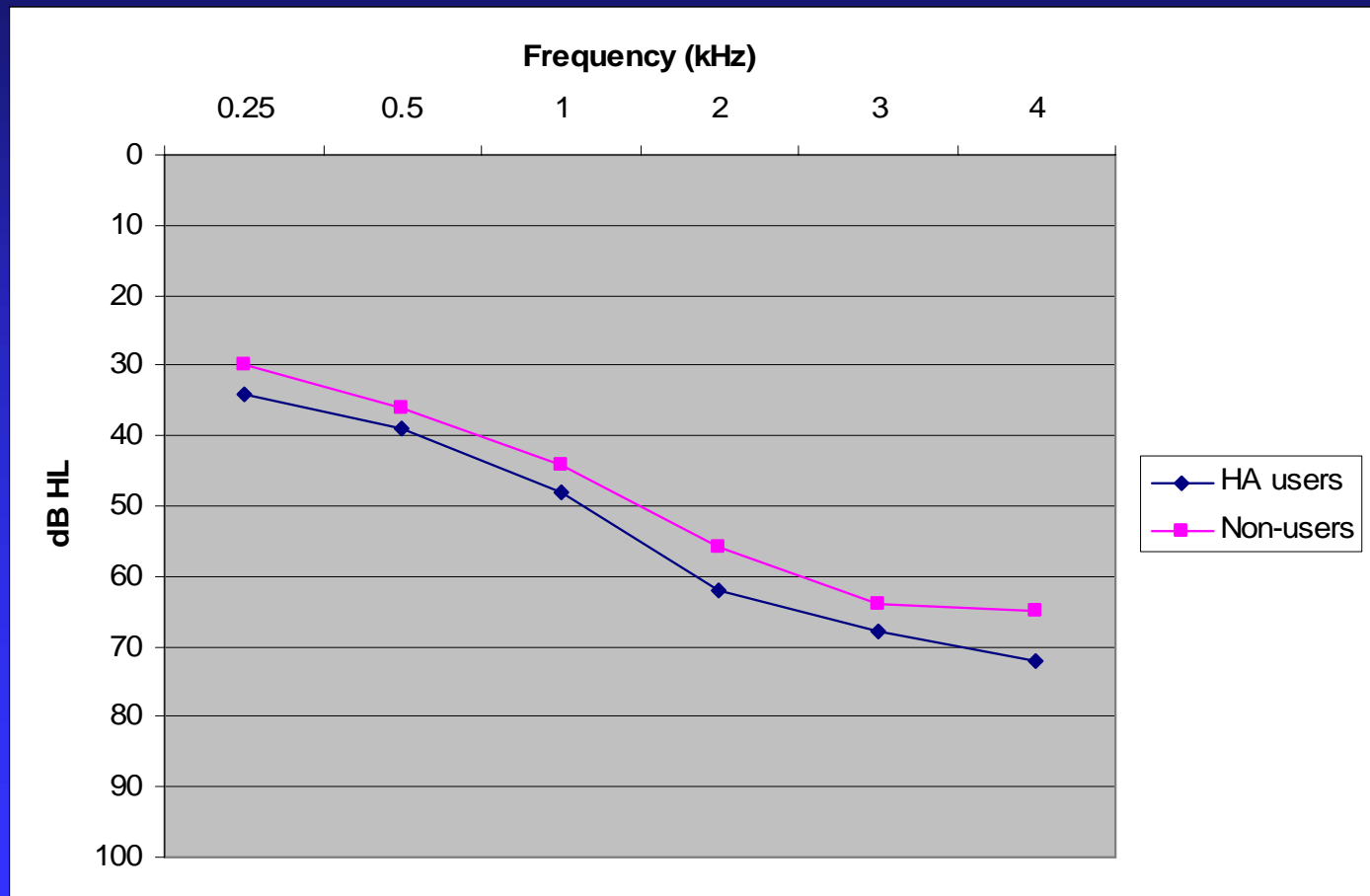
Other 418-A Demographics

- Veterans: 76%
- College Educated: 72%
 - ◆ (includes college degree or some college)
- Married: 65.5%
- Retired: 75.3%

Audiometrics: 418A vs. 418



Audiometrics: Hearing Aid Users vs. Non-Users



Speech Discrimination (W-22)

■ 418-A

- ◆ Right Ear: 77%
- ◆ Left Ear: 74%

■ 418

- ◆ Right Ear: 87%
- ◆ Left Ear: 87%