

Health Literacy and Cancer Prevention: Do People Understand What They Hear?

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Multidisciplinary Team

- Psychometrician
- Social Anthropologist
- Psychologist
- Epidemiologist
- Oncologist
- Primary Care Physician
- Experts in Health Research and Communication

Cancer Research Network

- Consortium of 14 HMOs conducting research in cancer prevention and control
- CRN health systems \approx 11 million enrollees, or 4% of U.S. population—representing a unique platform for disseminating this work
- A multi-disciplinary population laboratory, perfect for this work

Background

- Attention on prevalence and impact of inadequate health literacy with respect to written messages has been important.
- Much health information is transmitted via spoken word.
- Better measurement of oral communication important for progress.

Aims...

- **To develop and validate a psychometrically sound test of Health Literacy-Oral.**
- To investigate the relationship between health literacy-oral and cancer prevention behaviors.
- To develop and test recommendations for improving oral communication about cancer prevention and screening.

Steps ...

- Specify test blueprint
- Collect sample messages
- Write vignettes and items
- Produce videos
- Program test
- Pretest
- Pilot test
- Administer test to over 1,000 adults
- Estimate test and item statistics
- Conduct validity studies

Blueprint

- Cancers: breast, cervical, colorectal, general, lung, prostate, skin
- Context: Media, clinical
- Style: narrative, statistical/numeric, factual
- Purpose: instruction, information, query
- Content: Prevention, screening methods, risk factors...

Media Samples

- Search television, radio, internet, patient education materials
- Selected clips
 - varied content
 - representative
 - avoid misinformation

Clinical Vignettes

- Physician-patient roleplays
- Professional writer > scripts
- Clinical review
- Team review
- Selected vignettes varied content
- Production

Item Writing: Sentence Verification Technique

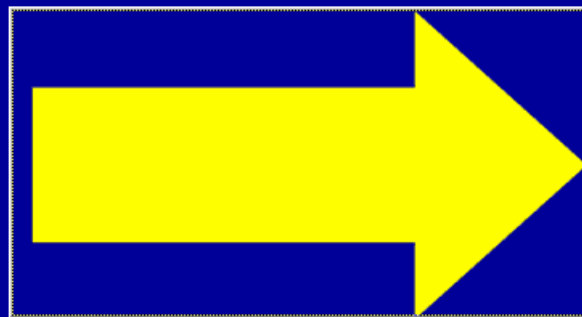
- Select portion of transcript
- **Paraphrase:** wording different, meaning constant
- **Meaning change:** wording similar, meaning different

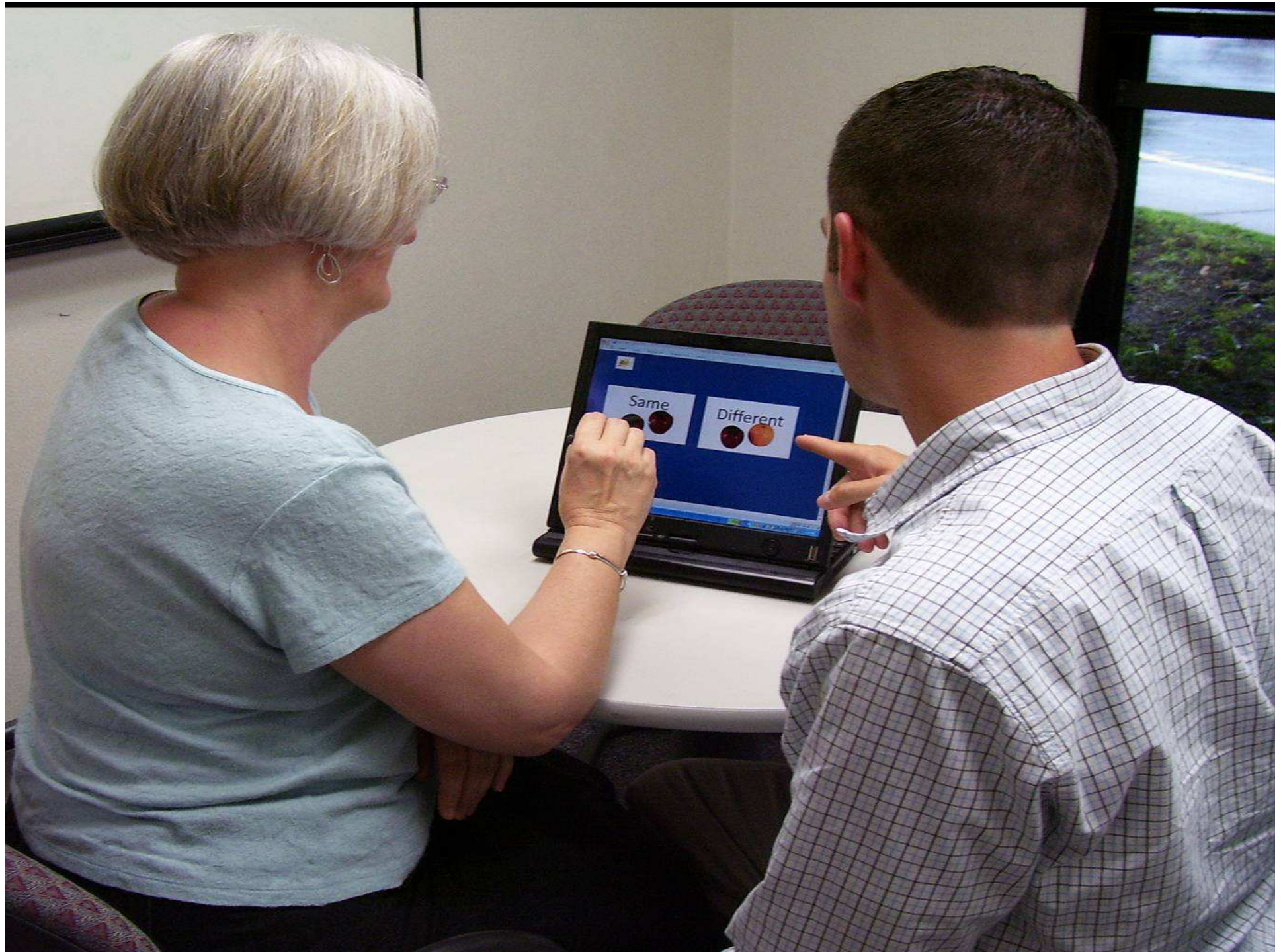
Example

- **Original:** “.... overall HPV prevalence among females in the United States, ages 14 to 59 years of age, was 26.8%, and that means one in four women are infected with HPV.”
- **Paraphrase:** A quarter of women ages 14 to 59 are infected with HPV.
- **Meaning Change:** One in four women in the United States are infected with cervical cancer.

- Is the **meaning** of the statement about the **same as the content of the original sample**, or is it **different**?

Talking About Cancer Prevention and Screening







Same



Different



Original “....So both sisters asked their doctors for a blood test to determine if they carry the genetic defect that raises their risk for breast cancer. Women without the defect have a 12% lifetime risk of the disease. For women with the mutation, the odds can range anywhere from 35 to 80%. **Both Karen and Denada tested positive for the defective gene.**”

Meaning Change: Karen and Denada both **tested positive for having breast cancer.**



Same



Different



Original: “When we do the PSA test, we’ll get a number which will tell us if we should be worried or not. But remember, **prostate cancer is slow growing**, so unless the number is unusually high, then **we’ll just track you** for a while...once a year. If the number remains stable, that’s a good sign, but if it rises, we’ll do more tests.”

Meaning Change Item: The doctor recommends **proceeding aggressively** if the PSA is elevated at all, because **prostate cancer is so fast growing**.



Same



Different



Original Script: ...polyps are very common in the U.S. population. **Up to 30...40% of individuals** over 60 years of have them.

Paraphrase: Polyps are present in as many **4 out of 10 Americans** over the age of 60.

Administration

- Touch-screen laptop
- No reading required
- Introduction and practice part of program
- ~1 hour to administer
 - 16 videos, 66 questions
- English

Participant feedback ...

- Very user friendly, even for those unfamiliar with a computer
- Engaging and informative
- Instructions clear
- No participant fatigue

Next steps ...

- Complete pilot testing
- Revise items
- Administer to ~1,000 adults at 4 sites
- Conduct psychometric analyses
- Conduct validity studies
- Examine the relationship between HLO and health behaviors
- Recommendations for better communication

What we've learned so far...

- Comprehension of spoken messages is variable.
- Measuring comprehension of spoken messages is challenging.
- Many factors affect comprehension –can't evaluate fully in a single study.
- Navigating copyright laws tricky – diverse legal opinions on fair use.

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