Changes in Vision Impairment Among Older Adults Over Time

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Disclaimer: The findings and conclusions in this presentation are those of the authors and do not necessarily represent the views of the Centers for Disease Control and Prevention.

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Background

- 18% of older adults report vision impairment
- Poor outcomes associated with vision impairment
  - Functional and activity limitations
  - Greater prevalence of medical conditions
  - Loss of valued activities
  - Increased health care usage
  - Increased mortality

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Methods

- Longitudinal Study on Aging (1994-2000)
  - Based off of NHIS
  - 3 Waves of Data
  - ~9500 respondents
  - Question on vision impairment

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Methods

- Research questions
  - Did older adults with vision impairment experience poorer outcomes than older adults without vision impairment?
  - Is vision impairment stable among older adults?
- Outcomes
  - Death
  - Entry into assisted living/nursing home
  - Self-reported fair/poor health

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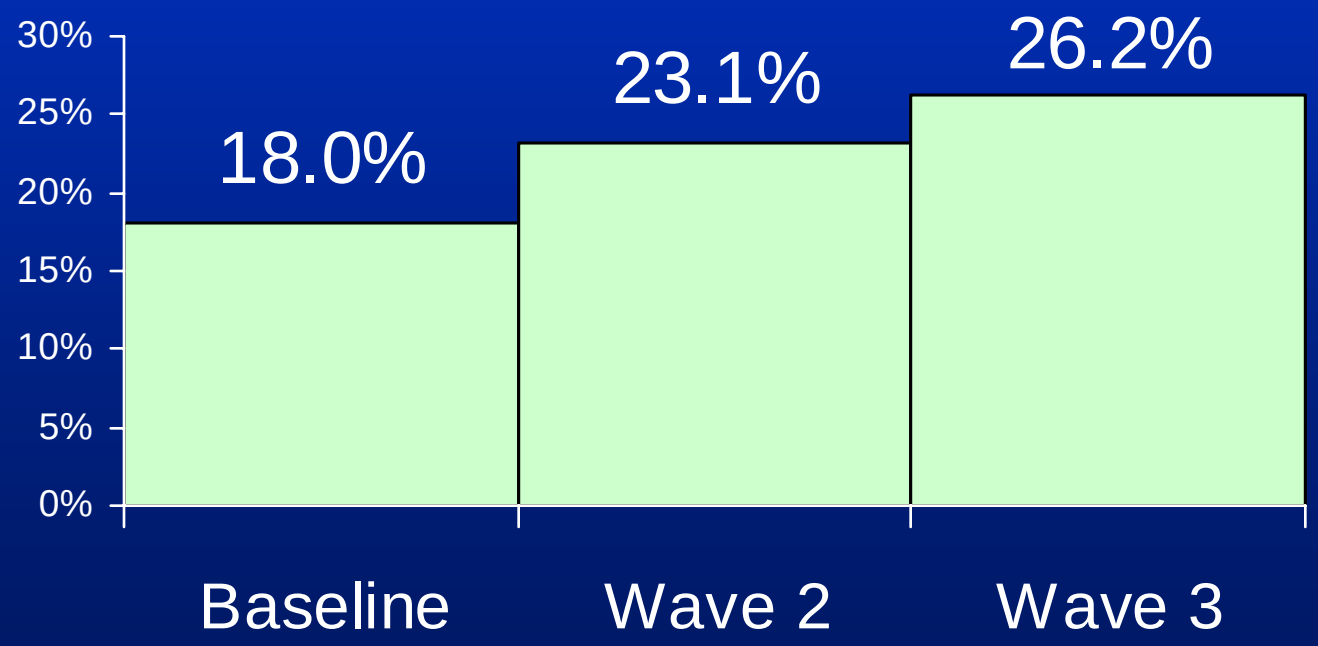
Frequency of Vision Impairment

- Increasing percentage of older adults reporting vision impairment at each time point



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Outcomes

	Wave 2 OR** (95% C.I.)	Wave 3 OR** (95% C.I.)
Death	1.35 (1.13, 1.61)	1.29 (1.07, 1.55)
Entry into Assisted Living/Nursing Home*		1.53 (1.19, 1.95)
Self-Reported Fair/Poor Health*	1.34 (1.13, 1.60)	1.28 (1.08, 1.51)

* Considers only those who survived until Wave in question

** OR comparing those who were visually impaired at prior wave to those that were not, after controlling for age at baseline, gender, race and # of concurrent medical conditions; also controls for prior health status for fair/poor health outcome

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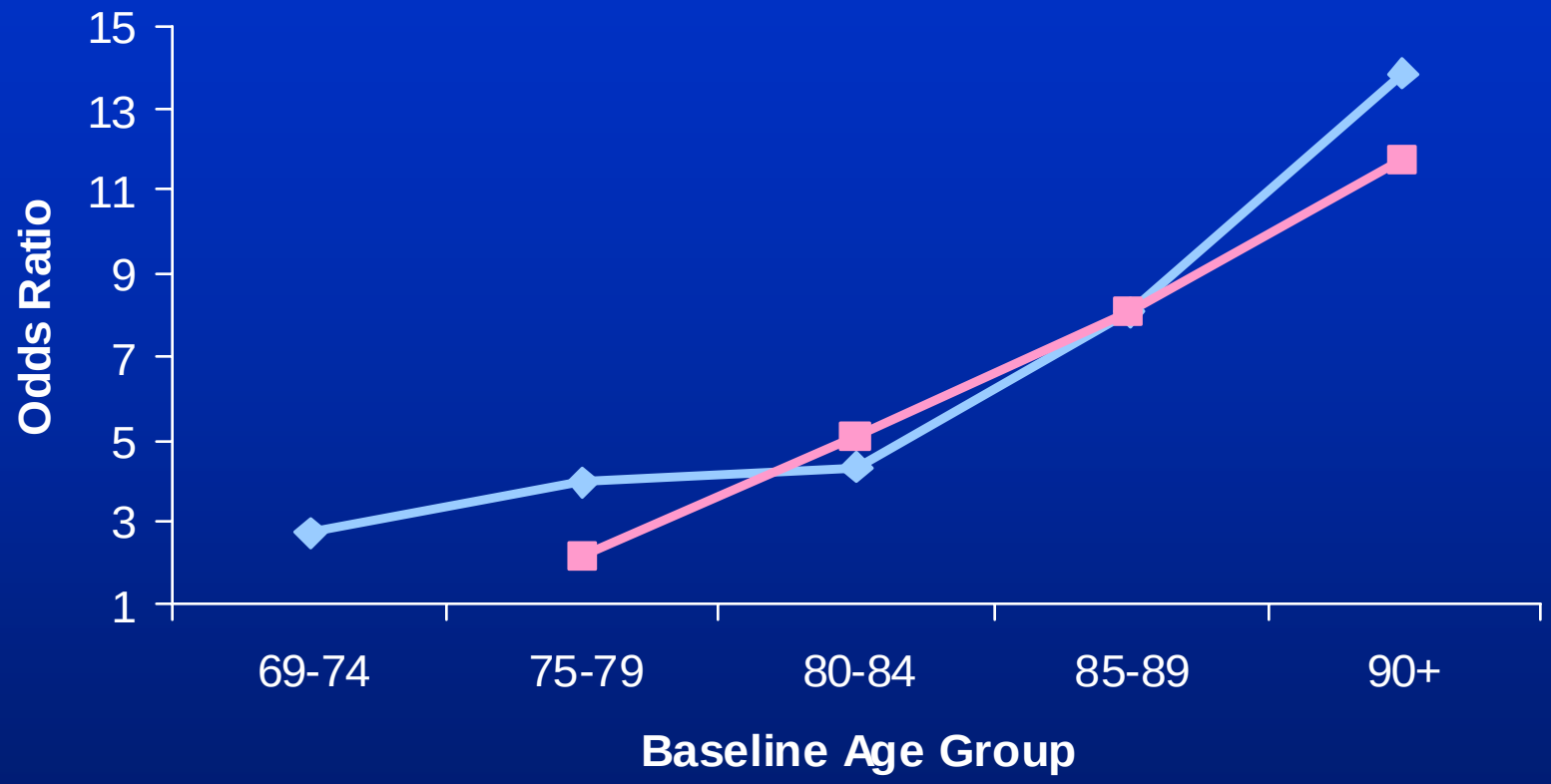
Odds Ratios for Assisted Living/Nursing Home Outcome



*Reference group is non-visually impaired adults in 69-74 age group

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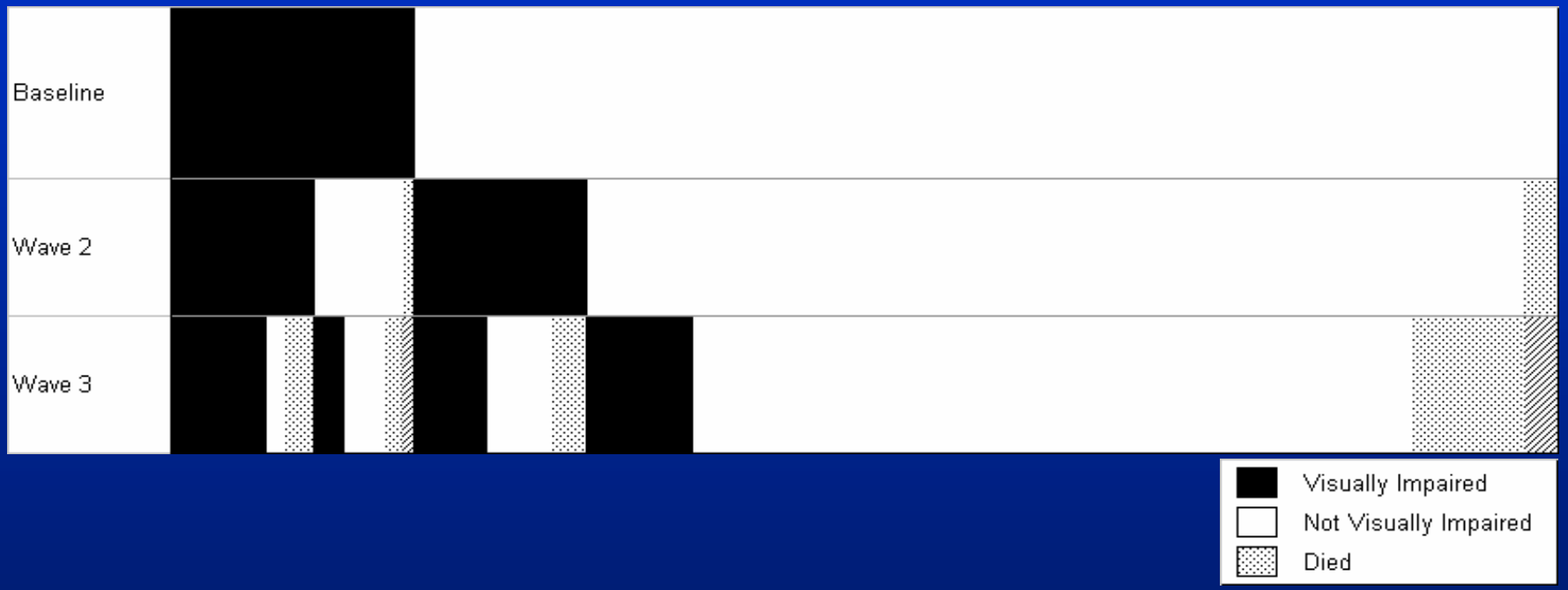
Vision Changes Chart

However,



Adults reporting vision impairment are not the same from wave to wave

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Reasons for Vision Improvement

- Cataracts removal
  - 22% of those with improved vision in both Wave 2 and Wave 3
- Correct prescription glasses
- Adjustment
- Environment

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Outcomes Based on Changes in Vision Status – Death

	Wave 3 OR (95% CI)
Consistently No Vision Impairment	1.0
Improved Between Waves	1.36 (1.00, 1.84)
Declined Between Waves	1.43 (1.14, 1.80)
Consistently Vision Impaired	1.24 (0.98, 1.58)

Controlling for age, gender, race and # of concurrent medical conditions

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Outcomes Based on Changes in Vision Status – Assisted Living/Nursing Home

	Wave 2 OR (95% CI)	Wave 3 OR (95% CI)
Consistently No Vision Impairment	1.0	1.0
Improved Between Waves	1.53 (0.98, 2.39)	1.41 (0.91, 2.19)
Declined Between Waves	1.57 (1.16, 2.14)	1.51 (1.09, 2.08)
Consistently Vision Impaired	1.68 (1.22, 2.32)	1.80 (1.36, 2.37)

Controlling for age, gender, race and # of concurrent medical conditions

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Outcomes Based on Changes in Vision Status – Fair/Poor Health

	Wave 2 OR (95% CI)	Wave 3 OR (95% CI)
Consistently No Vision Impairment	1.0	1.0
Improved Between Waves	1.11 (0.85, 1.43)	1.14 (0.86, 1.50)
Declined Between Waves	2.59 (2.14, 3.13)	2.30 (1.83, 2.90)
Consistently Vision Impaired	2.05 (1.68, 2.50)	1.76 (1.43, 2.16)

Controlling for age, gender, race and # of concurrent medical conditions

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Limitations

- Based on self-report
- Limited data on severity of vision impairment
- No questions on routine eye exams, glasses (improved refraction), certain conditions (ARMD, diabetic retinopathy)
- Old data

Conclusions

- Older adults move in and out of visual impairment – impact on use of services
- Cross-sectional measurement produces similar frequencies, but different groups of people reporting visual impairment
- Older adults with vision impairment are more likely to have poor outcomes, such as death, entry into assisted living and self-reported fair/poor health

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Implications

- Connection to ICF
  - Dynamic nature of vision impairment not captured by ICF
- Substantial change during 2-year increments
- Effect on growing population of adults over age 70

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