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# Literacy and use of preventive health care

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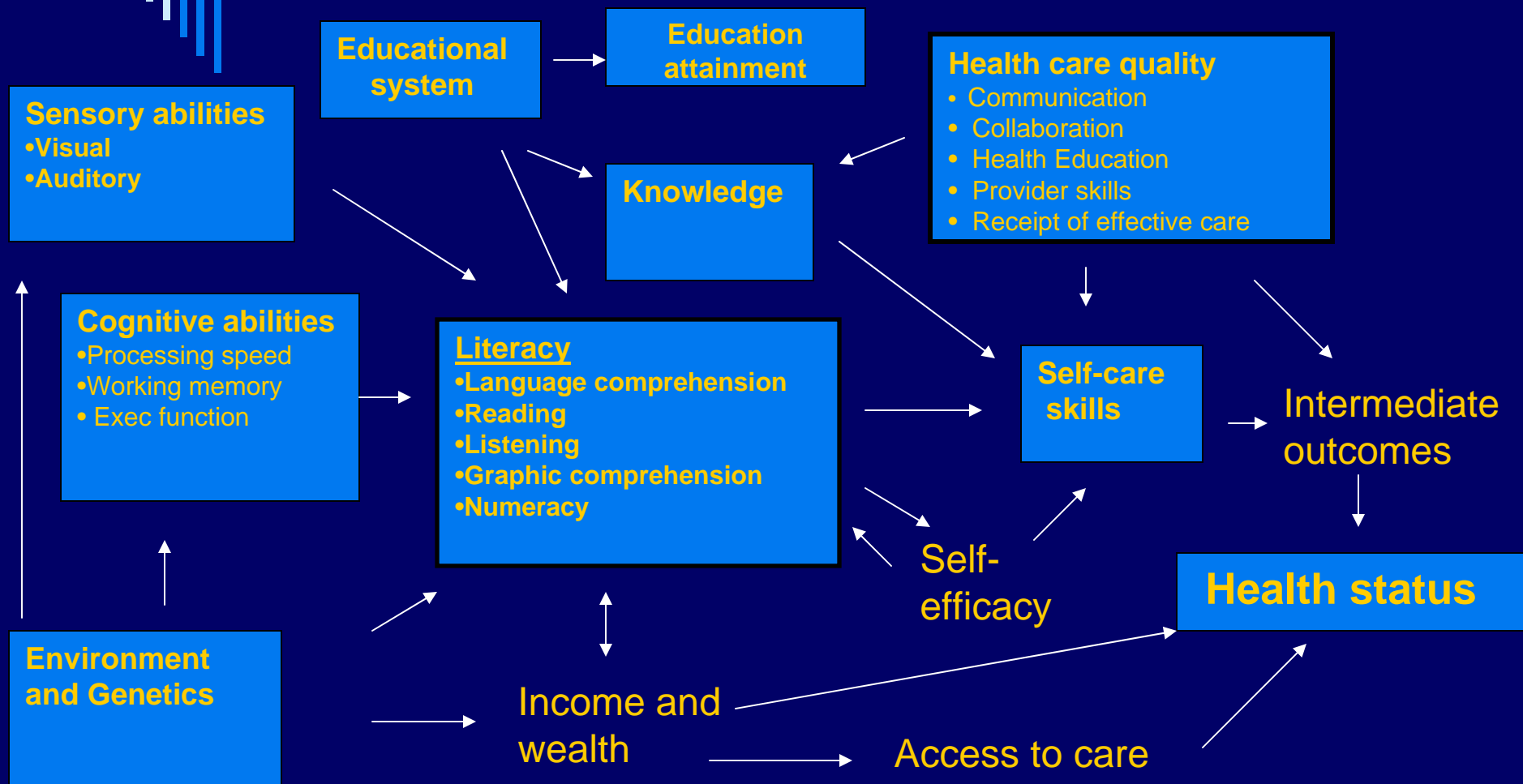


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# Background

- Literacy is related to many, but not all, health outcomes
  - The pathway(s) responsible for these relationships are not well understood
  - Few studies have examined whether interventions work differently in patients with different literacy levels
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# Model of Literacy and Health





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# Preventive health care

- Large body of literature showing that few people receive all or most recommended preventive services
  - Many studies have examined factors associated with differential rates of use / receipt and have reached mixed findings
  - It seems plausible that literacy could be related to receipt of preventive services
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# What do we know?

- In our previous systematic review, we identified two studies examining the relationship between literacy and receipt of preventive care
  - Since our review, several more studies have been published
  - Xx studies have examined interventions to increase preventive care and how literacy impacts their effectiveness
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# Scott et al Medical Care 2002

- Survey of 2722 Medicare managed care enrollees ages 65-79
  - S-TOFHLA
    - 20% inadequate; 11% marginal
  - Self-reported use of preventive care
  - Analyses adjusted for other potential confounders
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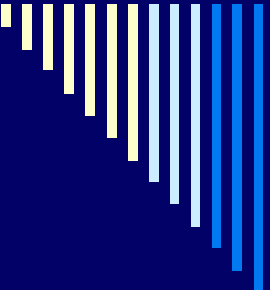


## Low literacy associated with lack of receipt of preventive care\*

- ❑ Pneumovax (ever): 54% vs. 65%
  - ❑ Flu vaccine (ever): 19% vs. 29%
  - ❑ Mammogram (2 yrs): 17% vs. 24%
  - ❑ Pap test (ever): 5% vs. 10%
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- ❑ Relationships remained after control for potential confounders

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\*Data shown are adequate literacy vs. inadequate



# Literacy and preventive care: data from 2003 NAAL

- 18,100 participants in nationally representative sample of US population
- Extensive assessment of literacy and sub-assessment of health literacy
  - 36% scored basic or below basic for health literacy
- Self-report of receipt of preventive care in past year
- Measured and adjusted for key potential confounders



# 2003 NAAL- unadjusted results

	Below Basic	Basic	Inter- mediate	Proficient
Pap	63%	67%	70%	74%
Dental	44%	59%	70%	77%
Mammo	58%	61%	62%	62%
Osteo- porosis	35%	43%	45%	40%



# 2003 NAAL- unadjusted results

	Below Basic	Basic	Inter-mediate	Proficient
Vision	54%	58%	59%	58%
CRC	38%	41%	41%	36%
Pneu-movax	39%	42%	38%	27%
Flu vax	39%	37%	32%	26%
PrCA (men)	31%	34%	31%	26%



# Multivariate analyses

- Under age 40, low literacy:
    - Increased report of flu shot
    - Decreased report of Pap or eye check
  - Ages 40-64, low literacy:
    - Decreased report of dental and Pr Ca checks
  - Ages 65 and older, low literacy:
    - Decreased report of all measures except Pneumovax
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## Other new studies

- Lindau et al 2006: patients with low literacy less likely to follow-up on abnormal Pap tests
  - Miller et al 2007: no difference in self-reported CRC screening by literacy
  - Barragan et al 2005: patients with low literacy more likely to accept HIV testing
  - Bennett et al 2006: prenatal care among women with Medicaid did not differ by literacy
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# Intervention studies

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## Kripalani et al 2007

- Randomized trial of educational handout vs. encouragement to talk to MD vs. control handout in 250 men ages 45-70
  - 79% had low literacy on REALM
  - Both interventions increased discussions about screening and test ordering (by 10-12 percentage points)
  - No difference in effect by literacy level
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# Ferreira et al 2005

- Quasi-randomized trial in VA of 1978 avg.-risk men 50 and older
  - Literacy assessed in 382 patients
    - 139 found to have limited literacy on REALM
  - Intervention included provider education, training, and feedback on screening rates
  - Intervention increased screening overall: 41% vs. 32%
  - Improvement was greater among patients with low literacy: 56% vs. 30%
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# Conclusions

- ❑ Low literacy sometimes related to lower receipt of preventive care
  - ❑ Pathways for this relationship (or lack thereof) currently unclear
  - ❑ Few interventions have been tested to mitigate literacy-related disparities
  - ❑ Available interventions show promise, but more research is needed about how and why they are effective
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