Factors Associated with Patients' Understanding of their Preadmission Medication Regimen

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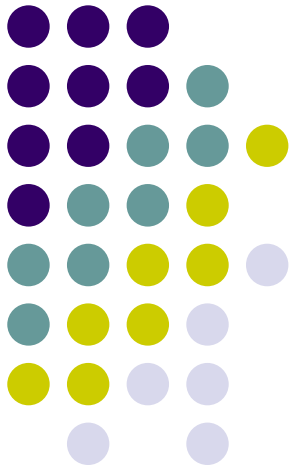

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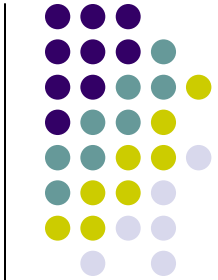
Funding and Disclosures



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Importance of Patients' Understanding of their Regimen

- Patients' ability to accurately report their pre-admission medication regimen is a vital basis for medication reconciliation in the hospital.
- Understanding of the medication regimen may also affect post-discharge adherence and medication safety.
- To our knowledge, no prior studies on patients' understanding of their medicines at hospital admission

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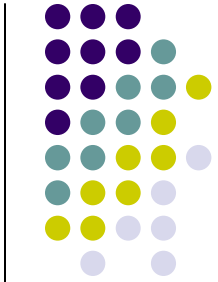
Objective



- To examine the independent predictors of patients' understanding of their pre-admission medication regimen

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Patient sample: PILL CVD

- Pharmacist Intervention for Low Literacy in Cardiovascular Disease
- Randomized controlled trial of patients hospitalized for acute coronary syndromes or acute decompensated heart failure (N=860)
  - Vanderbilt University Hospital, Nashville, TN
  - Brigham and Women's Hospital, Boston, MA
- Aim: reduce serious medication errors after hospital discharge

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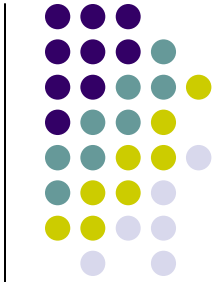
Methods



- Major eligibility criteria:
  - ≥18 years
  - Managing their own meds
  - No severe dementia or delirium
  - Speak English or Spanish
- Typically enrolled within 24 hrs of admission
- In-person baseline interview
- Cross-sectional analysis
  - Eligible if taking ≥1 med.

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Understanding of Pre-Admission Medications

- Medication Understanding Questionnaire (MUQ)
- Testing procedures:
  - Choose up to 5 prescription meds from preadmission regimen
    - Documented by treating physician upon admission
    - Selected meds using random number tables
  - Prompt patient with the name (brand and generic)
  - Ask patient to report the indication, dose, frequency
  - 3 possible points per med
  - Overall score is average of all meds tested
  - Range: 0-3
- All MUQs were scored by one clinical pharmacist, using pre-determined criteria

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Example of MUQ scoring

Furosemide 40mg BID	
Patient response	Scoring
Indication: "water pill"	✓ Correct (1 point)
Dose (Strength): 20mg	✓ Correct (½ point)
Dose (Units): 2 pills	✓ Correct (½ point)
Frequency: twice a day	✓ Correct (1 point)

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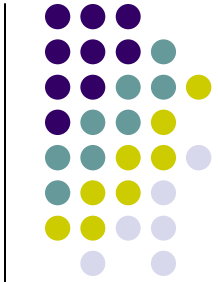
Example of MUQ scoring



Simvastatin 20mg QPM	
Patient response	Scoring
Indication: blood pressure	✗ Incorrect (0 points)
Dose (Strength): 20mg	✓ Correct (½ point)
Dose (Units): ½ pill	✗ Incorrect (0 points)
Frequency: every morning	✗ Incorrect (0 points)

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Methods

- Other Baseline measures
  - Patient sociodemographic characteristics
  - Other measures
    - Health Literacy (s-TOFHLA)
    - Cognitive function (Mini-Cog)
    - Number of pre-admission prescription medications
- Characteristics summarized using frequencies, or median and interquartile range (IQR)
- Analysis: Proportional odds logistic regression
  - Covariates chosen *a priori*
  - Odds ratios

Results

Patient Characteristics, N=790 (92%)	
Site: Vanderbilt BWH	373 (47%) 417 (53%)
Age, years	61 (IQR, 52 – 71)
Gender, male	452 (57.2%)
Race, white	610 (77.2%)
No insurance	35 (4.4%)
Marginal or Inadequate Health Literacy	158 (20%)
Dementia	96 (12%)
Median # medications	8 (IQR, 5 – 11)
Median MUQ score	2.5 (IQR, 2.2 – 2.8)

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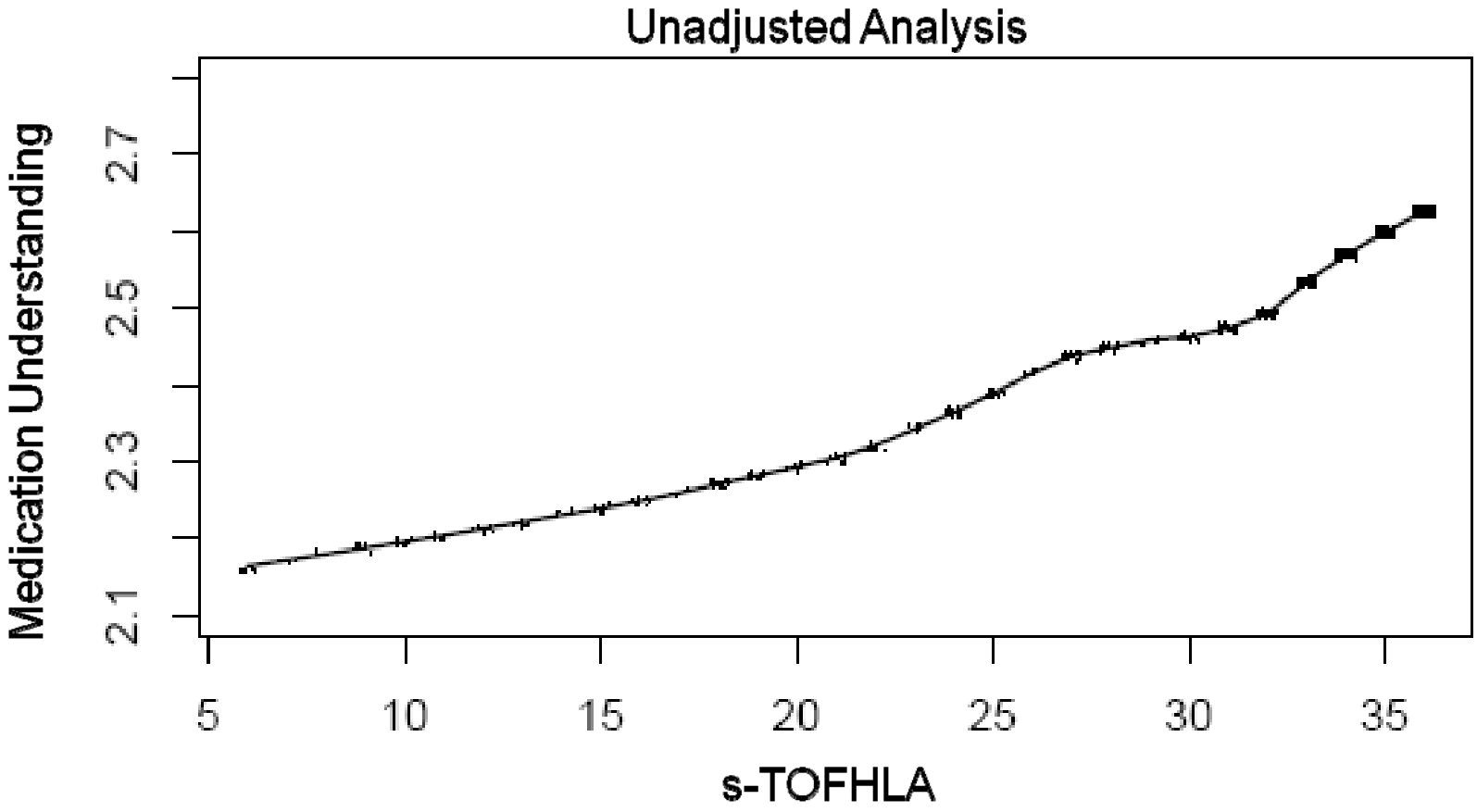
Results:
Health Literacy



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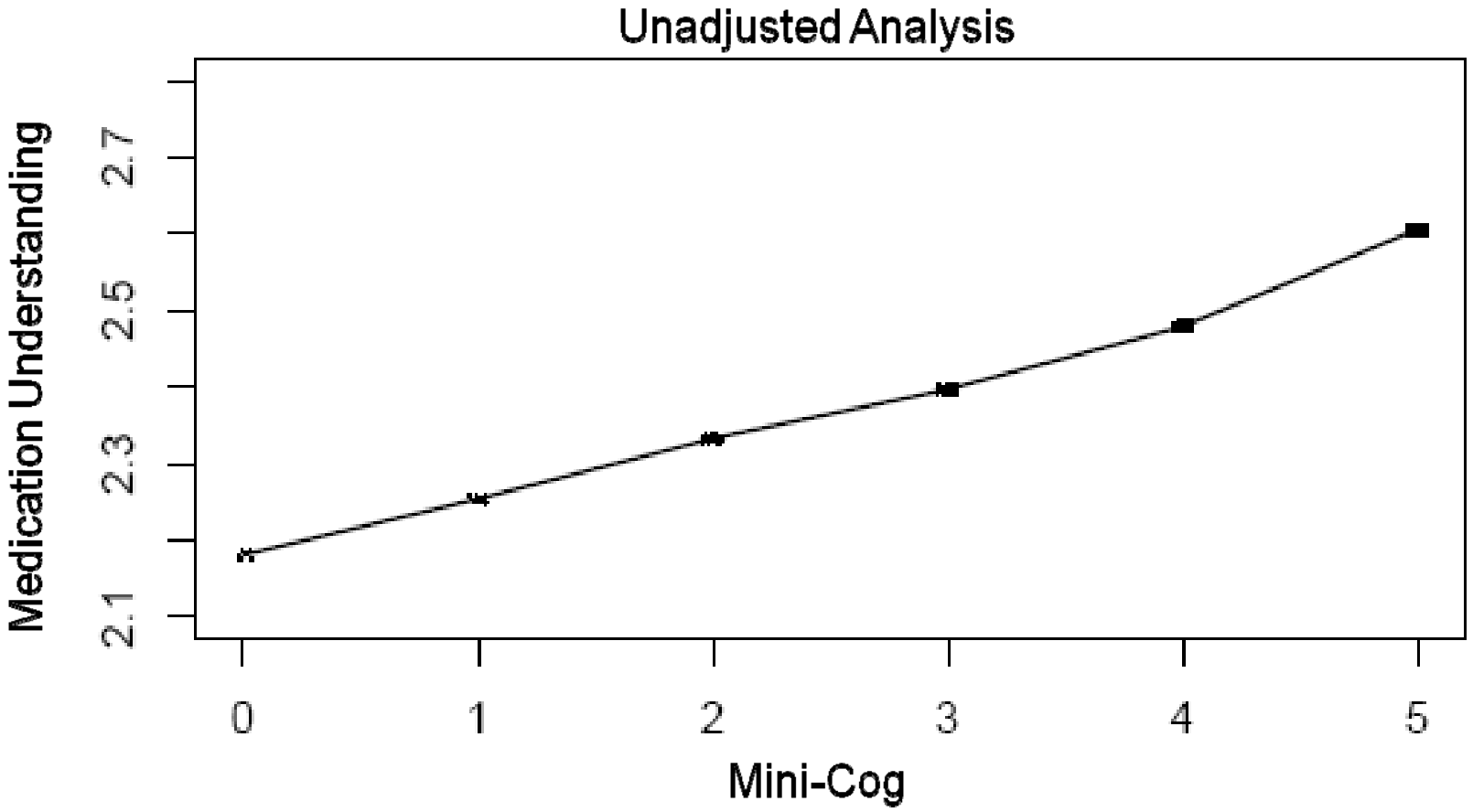
Results:
Cognitive Function



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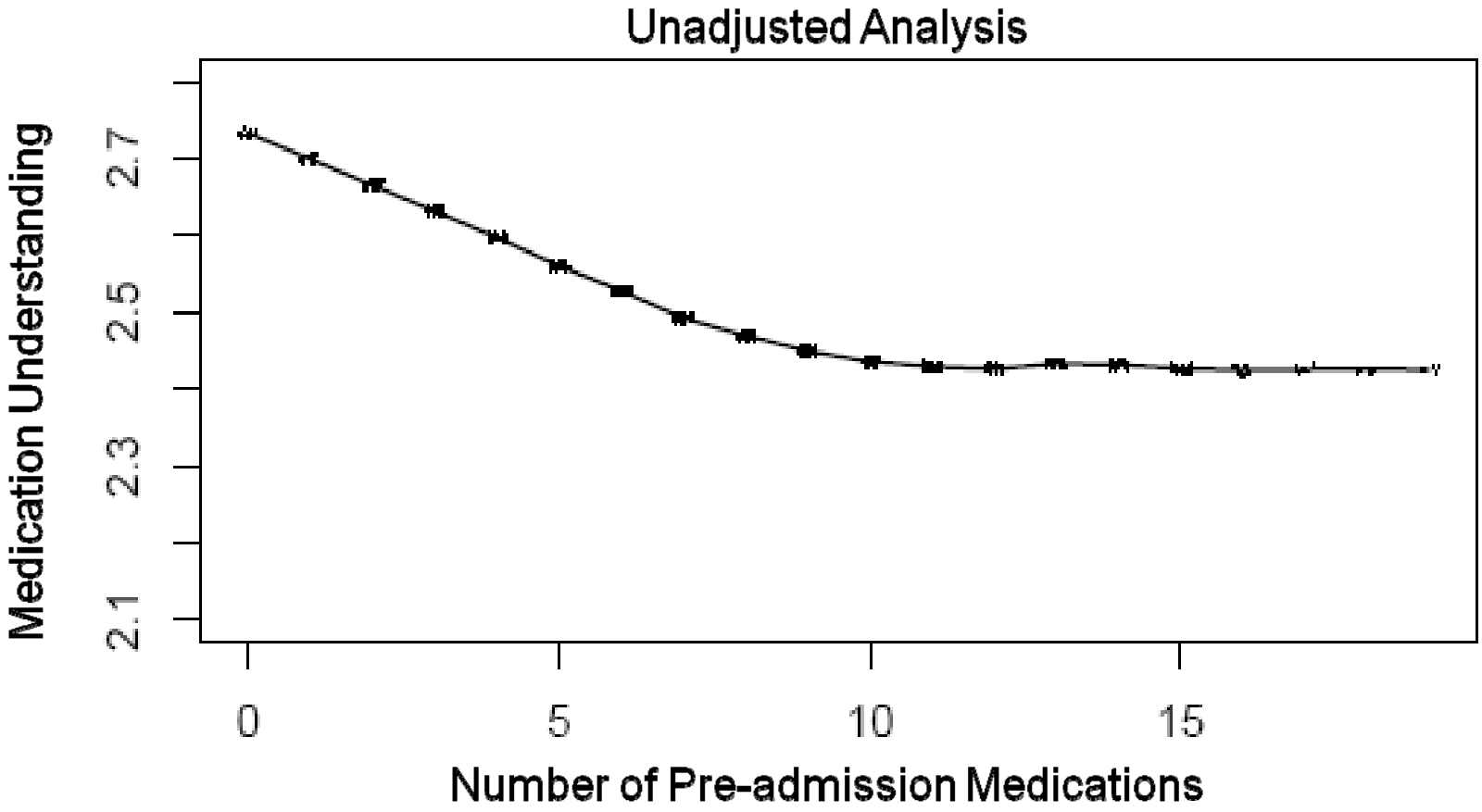
Results:
Number of Medications



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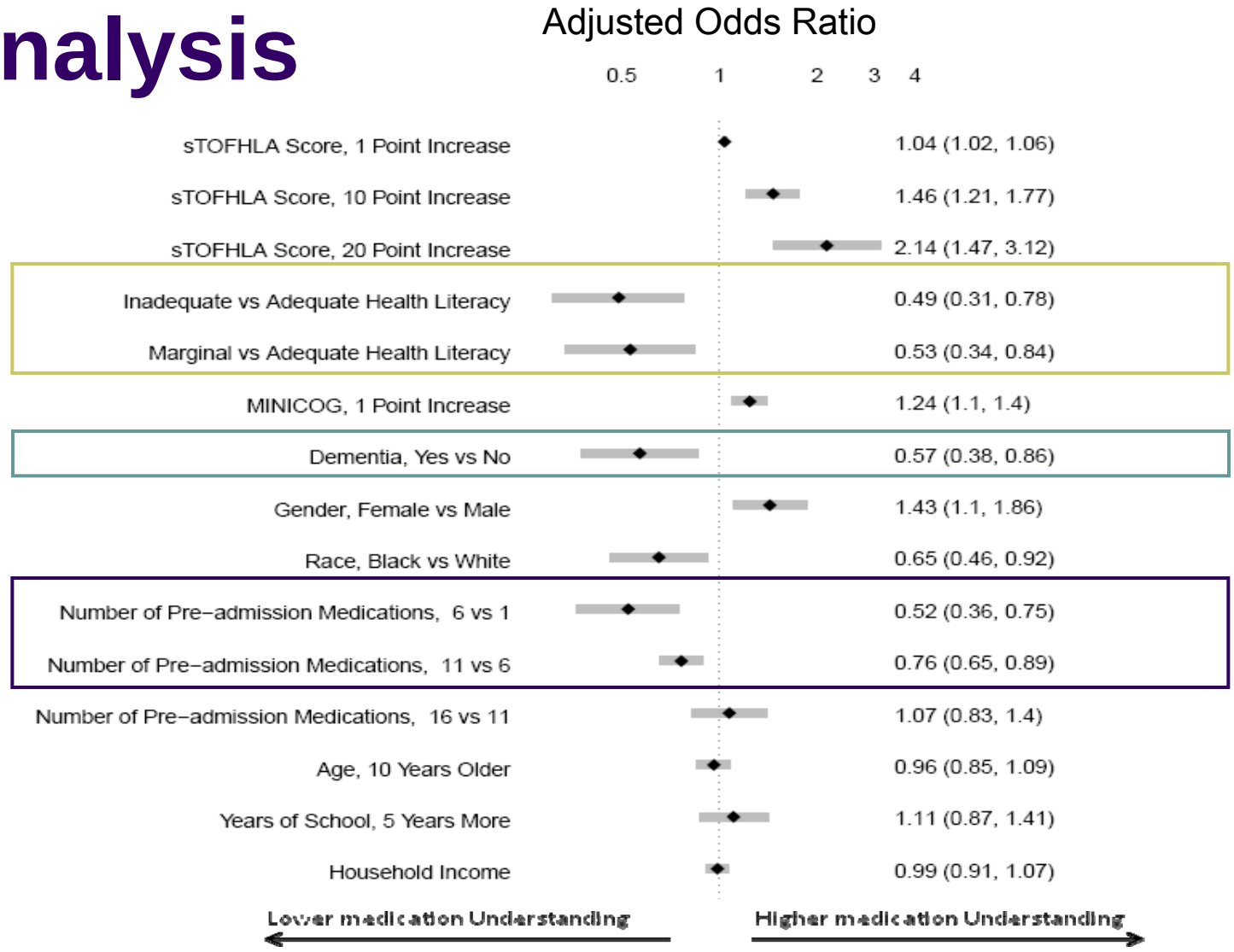
Multivariate Analysis



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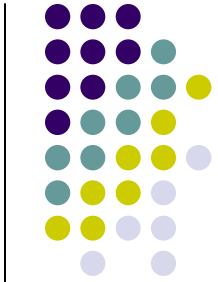
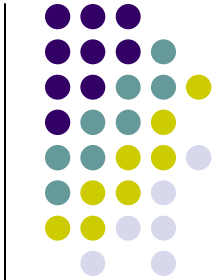
Discussion



- We used a novel MUQ instrument
  - Easy, fast to administer
  - Feasible to administer in hospital setting
- Limitations
  - Did not assess all aspects of medication understanding (e.g., pill appearance or side effects)
  - Patient may have influenced the physician's documented list: reference standard for scoring
  - Scoring challenges
- Identified important, significant predictors of medication understanding

Conclusions



- Low health literacy, poor cognitive function, and a higher number of medications were independently associated with poor medication understanding
- Providers should take these patient factors into account when taking a medication history
- Future directions:
  - Provide education on effective communication of medication information
  - Investigate the effect on medication reconciliation

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What questions do you have?

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