Impact of Teach-Back on Comprehension of and Satisfaction with Discharge Instructions among Emergency Patients with Limited Health Literacy

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SCHOOL OF MEDICINE

Background

- Transitions of care are critical contexts to improve provider-patient communication

  (*Brach et al. 2012*)

- Discharge from the Emergency Department (ED) to home is an important transition of care
  - Potential for miscommunication of critical information

  (*Forster et al. 2007, Hastings 2007*)

- Patient recall of ED discharge information is often limited
  - Comprehension has been shown to be related to adherence

 (*Engel et al. 2009, Zavala 2011, Clarke 2005*)

Background

- Effective and feasible interventions needed to improve provider-patient communication during transitions of care

- Teach-back is a promising intervention approach
  - Widely recommended
  - Improves physician communication with diabetic patients
  - Efficacy data limited
  - Particularly for acute care settings such as the ED

  (*Schillinger et al. 2003, DeWalt et al. 2011, Baker et al. 2011, Kandula et al. 2011*)

Research question

Will teach-back increase objective and self-reported comprehension and patient satisfaction among ED patients with limited health literacy?
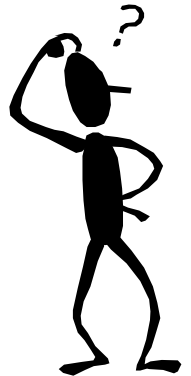
Study design and setting

- Experiment in which adult patients with limited health literacy randomized to:
  - Teach-back
  - Standard discharge

- Setting
  - Barnes-Jewish Hospital ED
  - Urban academic level one trauma center
  - Over 95,000 annual visits
  - Prior work found that about 49% of patients had limited health literacy

Participant enrollment

- Patients 18 years or older approached

- Those with score of ≤6 on the Rapid Estimate of Adult Literacy in Medicine – Revised eligible

- Exclusion criteria
  - Patient distress as judged by physician
  - Acute trauma
  - Altered mental status, acute psychiatric illness
  - Previously diagnosed dementia
  - Aphasia
  - Non-English speaking
  - Corrected visual acuity worse than 20/100

Study conditions

- ## Standard discharge
  - Patient received written instructions
  - Reviewed by an ED nurse

- ## Teach-back
  - Written instructions reviewed by nurse
  - Patients prompted to repeat back information in their own words
 - Received clarifying feedback from the nurse

Outcome measures

Outcomes assessed in post-discharge interview

- ## Objective comprehension
  - Concordance between interview responses and information in medical record *(Engel et al. 2009)*
  - Domains: diagnosis, ED course, post-ED care, reasons to return to ED

- ## Self-reported comprehension
  - Reported understanding of and difficulty with information on five-point Likert scales *(Engel et al. 2009)*

- ## Patient satisfaction
 - Four items derived from CAHPS questionnaires

Analysis
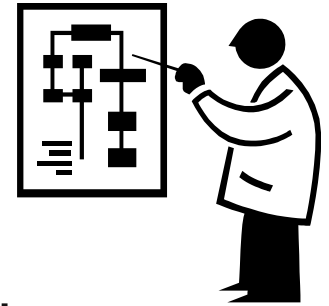
- Examined differences in demographics between groups using chi-squared tests

- Bivariate associations between study condition and outcome variables investigated using Mantel-Hanzel chi-squared tests

- Multivariable ordinal logistic regression models built to examine effects of study condition on outcomes
  - Controlled for race

Study flow diagram
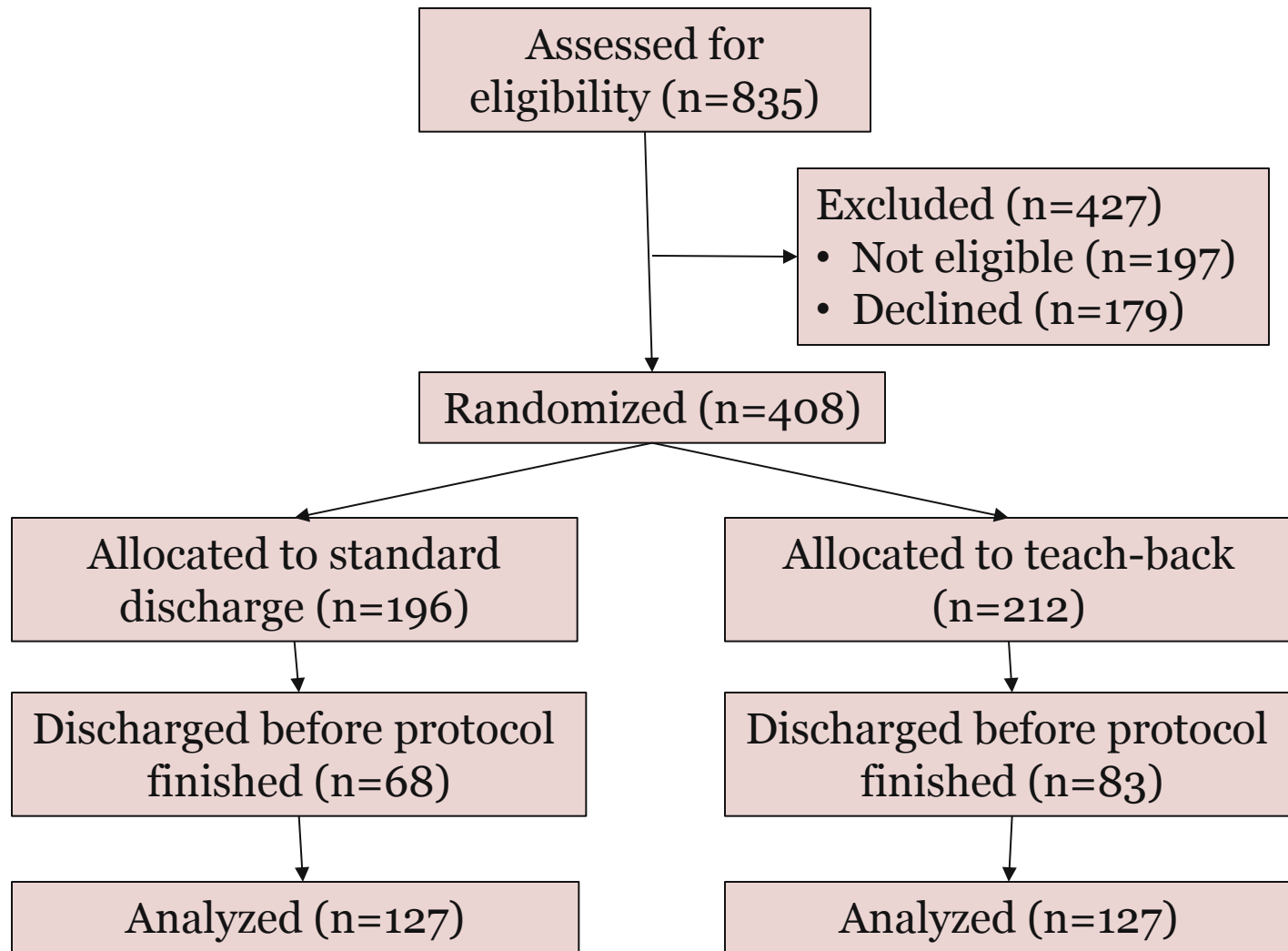
Characteristics of patients by group (n=254)

	Standard discharge (n=127) N (%) or M (SD)	Teach-back (n=127) N (%) or M (SD)	P-value
Black	118 (92.9%)	105 (82.7%)	0.01
Female	75 (59.1%)	76 (59.8%)	0.90
Education			
Less than high school	50 (39.4%)	44 (34.7%)	0.37
High school degree	50 (39.4%)	61 (48.0%)	
Some college or higher	27 (21.3%)	22 (17.3%)	
Age	34.7 (12.8)	36.0 (13.2)	0.42

Effect of teach-back on objective comprehension

Outcome	Odds Ratio	95% CI	P-value
Diagnosis	1.35	(0.81, 2.25)	0.25
Testing in ED	1.01	(0.60, 1.72)	0.96
Treatment in ED	1.60	(0.94, 2.73)	0.08
Post-ED medications	1.84	(1.09, 3.12)	0.02
Post-ED self care	1.83	(1.07, 3.13)	0.03
Post-ED follow up	3.61	(2.09. 6.22)	<0.0001
Return instructions	1.26	(0.76, 2.07)	0.37

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Effect of teach-back on self-reported comprehension

Outcome	Odds Ratio	95% CI	P-value
Diagnosis			
Understanding	0.99	(0.62, 1.58)	0.97
Difficulty	0.68	(0.40, 1.17)	0.17
ED care			
Understanding	1.13	(0.71, 1.81)	0.61
Difficulty	0.78	(0.41, 1.47)	0.44
Post-ED care			
Understanding	1.43	(0.88, 2.33)	0.15
Difficulty	1.18	(0.56, 2.50)	0.67
Return instructions			
Understanding	1.15	(0.71, 1.84)	0.57
Difficulty	0.91	(0.47, 1.74)	0.76

Effect of teach-back on satisfaction

Outcome	Odds Ratio	95% CI	P-value
Satisfied with instructions	0.73	(0.38, 1.42)	0.35
Recommend ED	0.94	(0.56, 1.57)	0.81
Satisfied with ED time	0.68	(0.39, 1.21)	0.19
Satisfied with discharge instructions	0.78	(0.37. 1.65)	0.51

Limitations

- Single institution

- Primarily English-speaking patients

- Convenience sampling of patients

- Nurses not blinded to condition

- Did not have delayed assessment of retention

Discussion

- Teach-back improved understanding of post-ED care

- Teach-back did not affect self-reported comprehension or patient satisfaction
  - Need to assess time required

- Need to assess downstream outcomes such as adherence to follow up instructions

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