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## Health Literacy and Medication Practices in Senior Housing Residents

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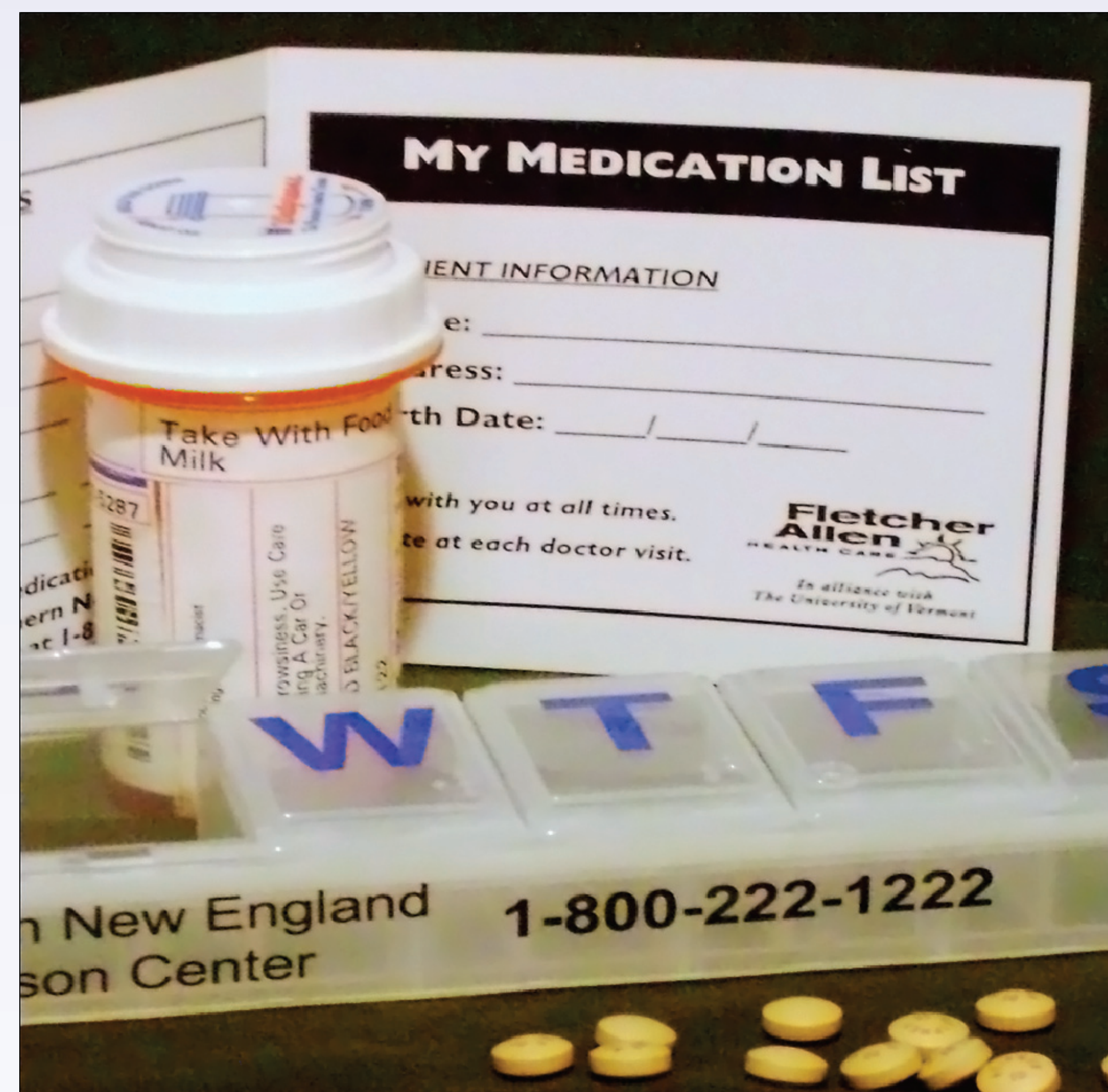
89 Beaumont Ave. Burlington, VT 05401

## Objective

To conduct a descriptive analysis of health literacy, knowledge of prescribed medications, and methods of administering medications in a cohort of senior housing residents.

## Background

- It is predicted that 90 million adults in the United States have trouble understanding and acting on health care information, including instructions for prescription medications <sup>1</sup>
- Low level of literacy is a known contributor to medication errors and adverse drug events <sup>2</sup>
- The Short Test of Functional Health Literacy in Adults (STOFHLA) is a "functional literacy assessment tool designed to evaluate adult literacy in the health care setting". It measures "functional literacy on the assumption that more than classroom reading ability is necessary to understand and negotiate the health care system adequately" <sup>3</sup>
- Cathedral Square Corporation provides housing, services, and long term care needs to seniors and individuals with special needs <sup>4</sup>



## Methods

- Those who agreed to participate were interviewed at 5 Cathedral Square living facilities surrounding Burlington, Vermont
- Participants were asked to bring all of their prescription medications to the structured interview so (1) a complete Medication Passport could be filled out for each subject and (2) survey information could be verified
- Participants completed the 7-minute STOFHLA to assess health literacy, during which the student interviewer cataloged the subject's prescriptions on a Medication Passport
- Participants were administered a self-report survey to assess:
  - Demographic information (e.g. age, sex, education)
  - Behaviors related to medication administration (e.g. methods of taking medications, frequency of missed doses)
  - Specific knowledge about each medication (e.g. purpose of the medication, proper dosing, taken with food or water)
- Participants were allowed to reference a medications list to answer the survey questions if they typically kept one and brought it along
- Statistical analyses performed: t-tests and Chi-squared tests <sup>5</sup>
- This study was approved by the University of Vermont Committees for Human Research as exempt review

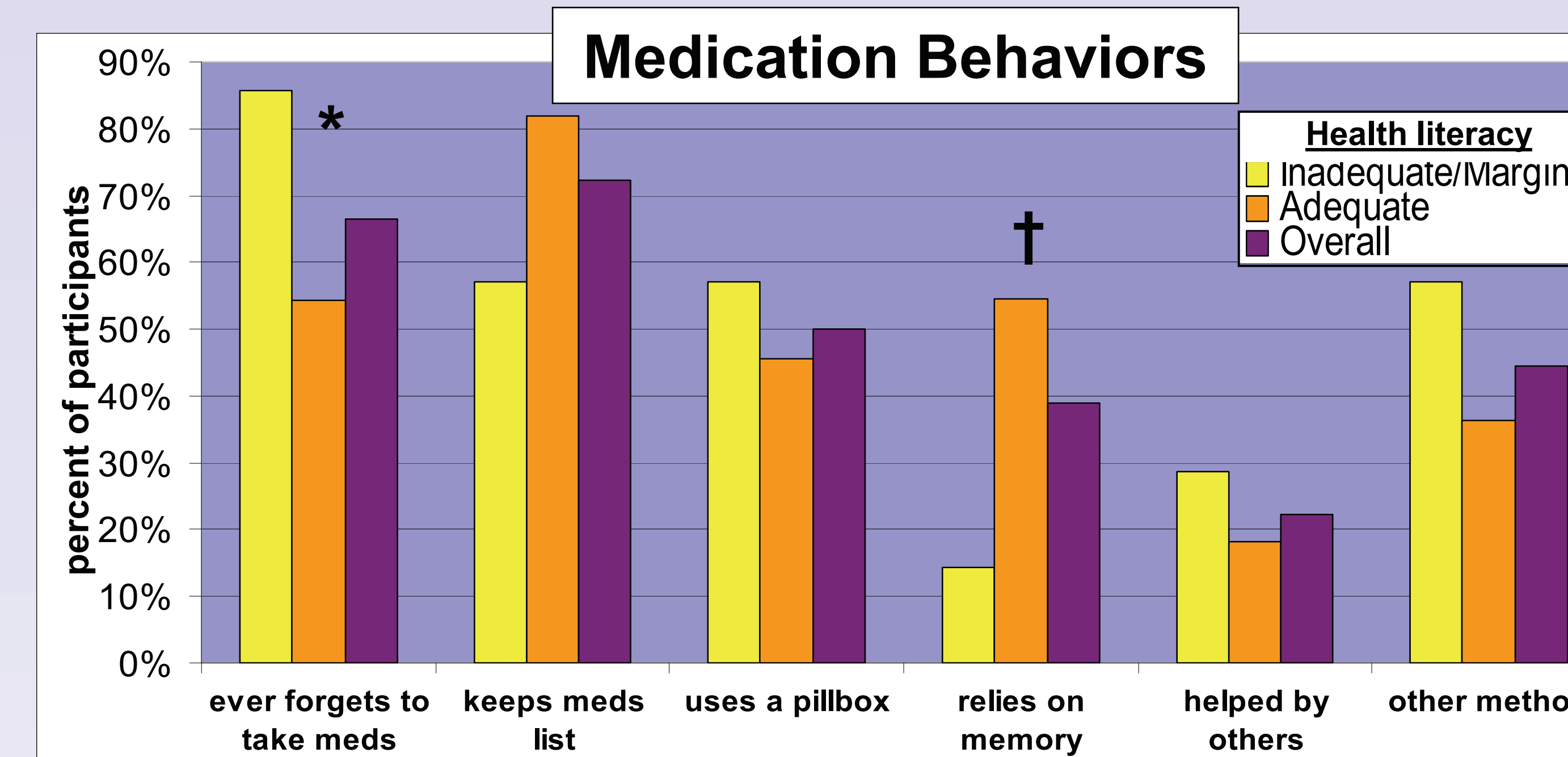
## Results

- 21 individuals participated; 3 were removed from data analysis due to difficulties verifying their medication data
- The mean STOFHLA score = 22.6, or marginal health literacy
- As determined by STOFHLA score:
  - 11 subjects (61%) had adequate health literacy (23-36 points)
  - 1 subject (6%) had marginal health literacy (17-22 points)
  - 6 subjects (33%) had inadequate literacy (0-16 points)
- For the purposes of analysis, the inadequate health literacy and marginal health literacy groups were combined

## Demographics

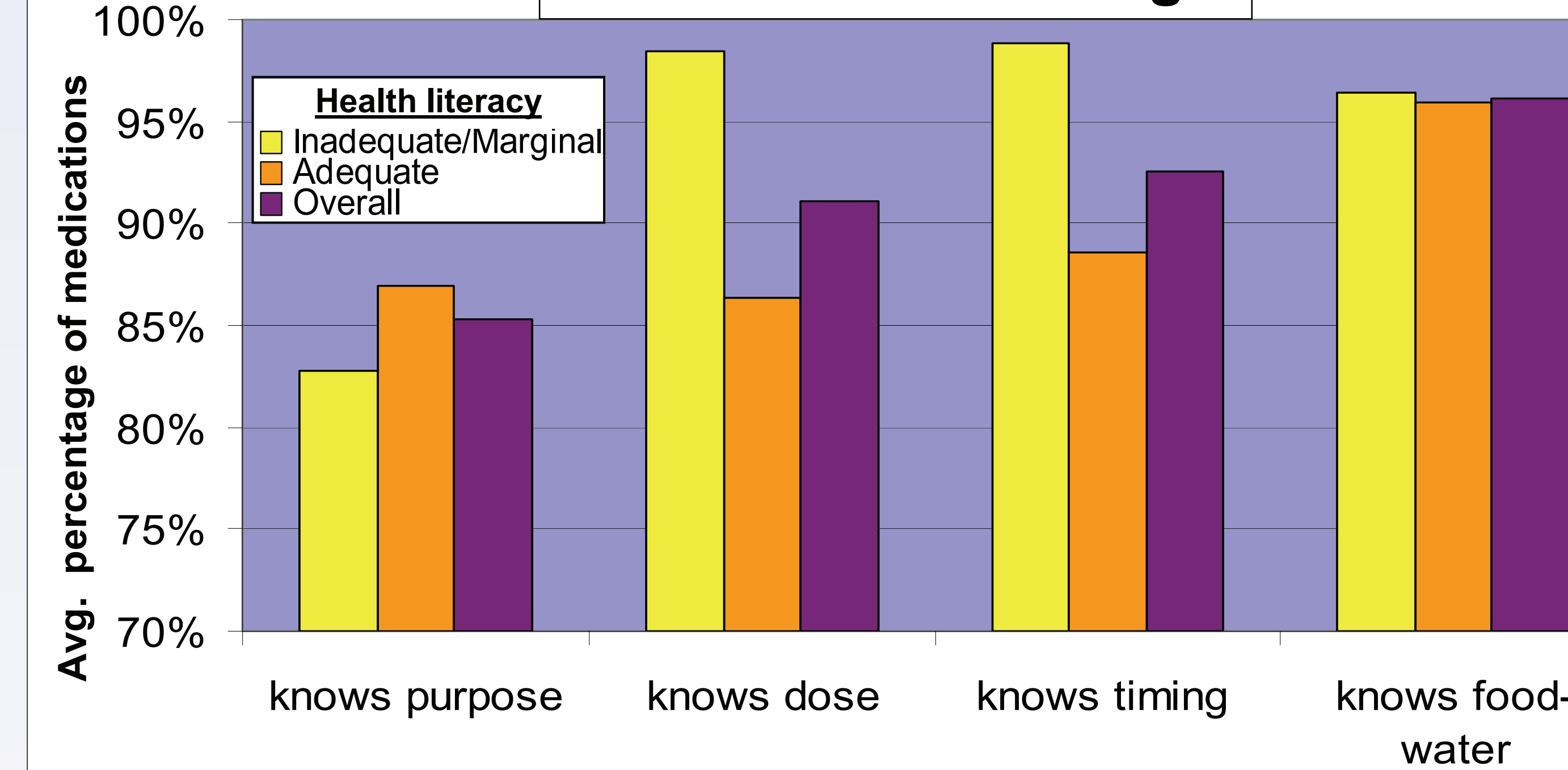
	inadequate/marginal health literacy	adequate health literacy
n (% of sampled)	7 (38.9%)	11 (61.1%)
average age (SD)	76.9 (12.2)	67.6 (13.2)
average education	high school diploma	high school diploma
avg. # of meds (SD)	9.0 (7.9)	9.0 (5.3)
male : female	1:6	1:10

Demographics divided by health literacy (STOFHLA scoring category). None of these results were found to be statistically significant.



Medication behaviors of participants by health literacy scores. None of these results were statistically significant. Although not significant, the chi-squared analyses of "ever forgets to take medications" is (p= 0.17)\* and "relies on memory" is (p= 0.09)\*, suggesting a trend.

## Medication Knowledge



Medication knowledge of participants by their health literacy score. None of these values were statistically significant.

## Conclusions

- On average, the senior housing residents in our study each take **9 prescription medications**
- Nearly **40% of these individuals may lack sufficient health literacy to navigate the healthcare system**

- Though not significant, there may be a trend for individuals with inadequate or marginal health literacy to rely less on their memory when taking prescription medications, and to miss medication doses more often
- Similarly, there may be a trend for those with adequate health literacy to rely more on their memory than those with lower health literacy

## Future Directions

- Conduct a larger study to evaluate the relationship between health literacy and adverse drug events
- 50% of all participants in our study are at risk for moderate or major drug interactions amongst their prescription medications. Future studies may ascertain if those with lower levels of health literacy are more at risk of suffering adverse drug interactions.
- Identify specific interventions that may increase an individual's health literacy level and develop methods for implementing these strategies

## Lessons Learned

- The small text on the FAHC Medications Passport may prove difficult for seniors with vision problems
- Well-orchestrated and well-executed project results from the cumulative efforts of attentive faculty, invested community partners, and engaged students
- Persistence is key in finding participants
- Be flexible regarding issues that arise during field work that may necessitate changing the way the project is executed
- Working with the community and getting to know the individuals that live in it was a rewarding part of this public health project

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