

# Improving Osteoporosis Education for Patients with Printed Materials: A Mixed-Methods Study



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\*Patient Activation After DXA Result Notification

## Background

- Developing materials that enhance patients' comprehension is important in fracture prevention.
- Current bone health education materials are not written for a general audience, but rather for:
  - Those with osteoporosis
  - Women
  - Those with higher literacy
  - Non-elderly populations

## Objective

- To identify the optimal patient education brochure to enhance a DXA result letter.

## Methods

- Our team of experts in health communication and osteoporosis developed:
  - Written information which covered:
    - Osteoporosis information
    - Calcium and Vitamin D
    - Exercise and fall prevention
    - Tobacco and alcohol
  - Two graphic design brochure options
    - Brochure A: photographs
    - Brochure B: illustrations of objects
- The team used the Suitability Assessment of Materials (SAM) to assess the brochure's content and style.
- We presented the text document and the two designs to adults (50+) in 3 medical centers in U.S.
- Utilizing structured interviews we asked subjects questions to assess their:
  - Comprehension of the text
  - Preference of visual appeal

## Results

### Sample

- Conducted 64 interviews
- 79.7% female
- Age (mean  $\pm$  SD) 63.4  $\pm$  9.4 years
- 67.3% had some college education or more
- 73.4% white, 21.9% black
- Literacy, Mean<sup>1</sup> (4.1) – SD (0.7)

<sup>1</sup>Chew, L. et al., 2004 – Brief Questionnaire to Identify Patient with Inadequate Health Literacy

### Feedback on written information in brochure

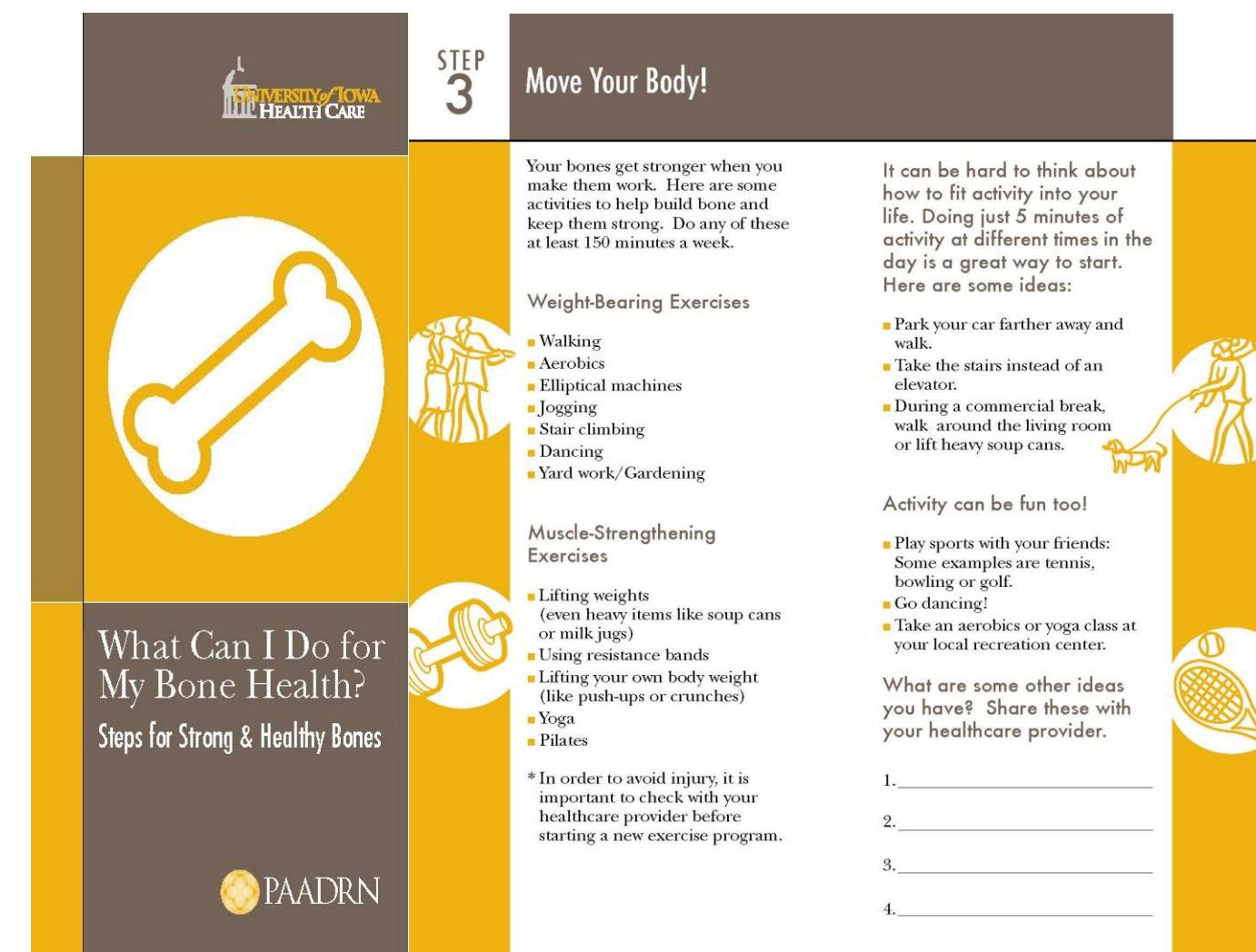
Factor	Mean Score*
Title explains brochure	4.4
Brochure hard to read	1.5
Understand all medical words	4.3
Amount of information right	4.3
All osteoporosis questions answered	4.0
Clear on where to find more information	4.2
Tables easy to understand	4.2

\*1 = Strongly Disagree to 5 = Strongly Agree

### Brochure A



### Brochure B



- 65.6% of respondents preferred Brochure A
- 63.8% more likely to pick up A vs. B in a doctor's office
- Most preferred title of Brochure B (75.4%)

Results did not differ by subgroups (sex, race, age, those with higher or lower levels of education or between study sites)

## Discussion

### Comprehension

- Subjects were able to restate basic content.
- 86.7% were able to correctly identify bone density category from a table when given a T-score.
- Many did not know what an "elliptical machine" was.
- Subjects expressed learning that smoking and alcohol could weaken bones was new information to them.

### Self-efficacy

- 80.7% of subjects felt taking care of their bones would be EASY after reading the brochure.
  - Only 42.6% said it was easy before reading the brochure.
- Subjects also listed they would exercise more after reading this.
- Subjects felt the brochure did a good job because it:
  - Gave examples
  - Gave them the right amount of information, but also provided resources on finding out more.

## Conclusion

- Utilizing a mixed-methods approach, we developed and refined a brochure for communicating bone health information to a wide spectrum of adults.
- We will now examine whether mailing these brochures to patients leads to actual behavior change in a randomized clinical trial (the PAADRN study).