

Integrating Prescription For Radon Into The Rural Clinic Setting: A Provider Perspective

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Bridging Research Efforts and Advocacy
Toward Healthy Environments



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Purpose

- To assess the impact of *Prescription for Radon* materials on healthcare providers' perceived radon risk, synergistic risk and likelihood of discussing the dangers of radon with patients in a rural clinic setting
- To explore the barriers and facilitators to integrating the *Prescription for Radon* materials into the rural clinic setting from the provider perspective

Lung Cancer and Kentucky

- ❖ Kentucky is the nation's leader in both incidence and mortality from lung cancer



- ❖ Appalachia Kentucky contributes to the vast majority of the lung cancer incidence and mortality of the state
- ❖ Lung cancer is almost totally preventable by eliminating smoking and exposure to radon and secondhand smoke

Kentucky's Triple Threat

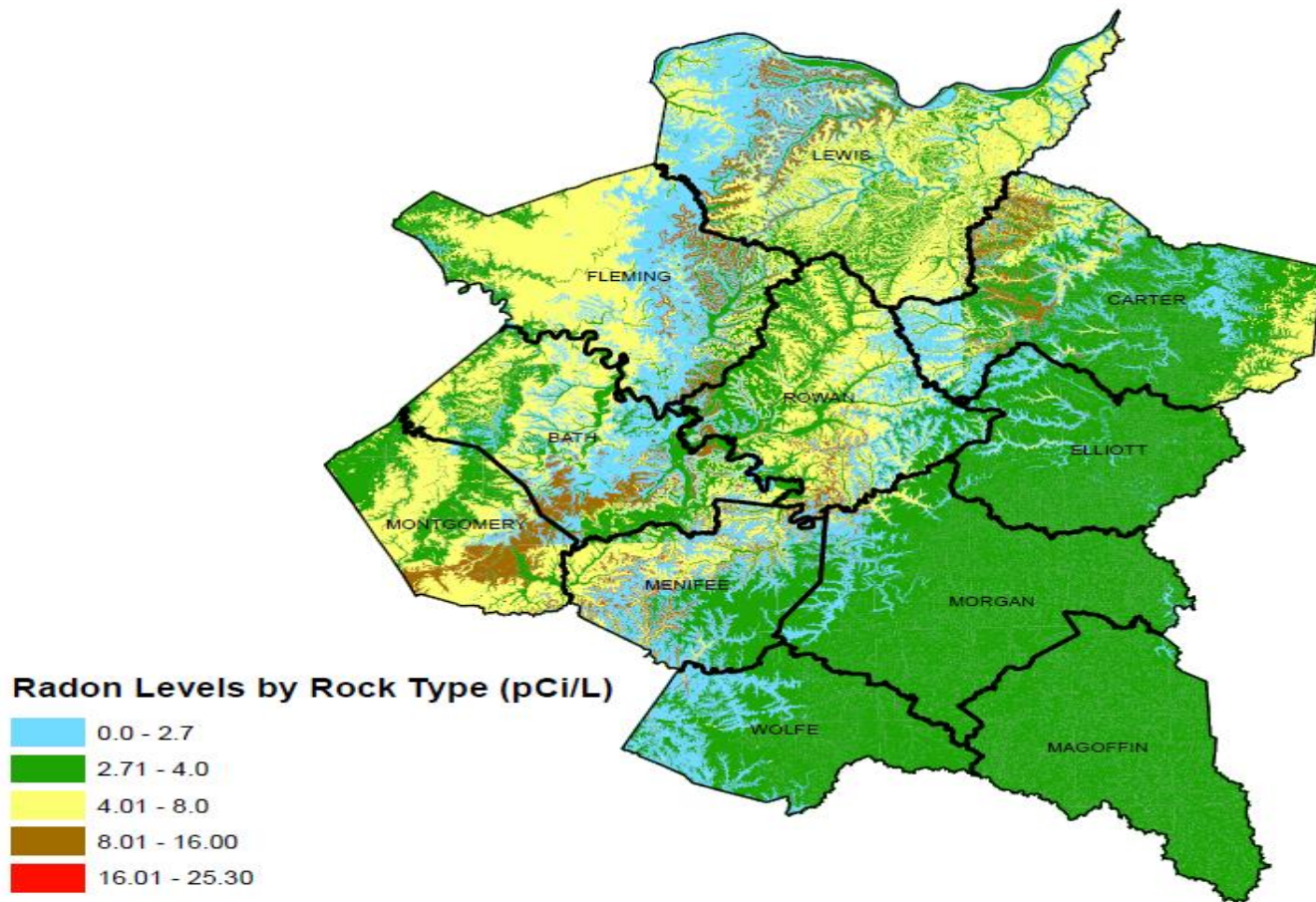
- High smoking rates and exposure to secondhand smoke



- Elevated radon potential



Map of Radon Potential



Radon Reduction: Taking Action for a Healthy Home in the Primary Care Setting

BREATHE

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UK College of
Nursing

Clinic Sample

- Two study groups
 - Treatment- provided the Prescription for Radon materials via a lunch & learn presentation and the materials were integrated into the patient waiting areas and patient rooms
 - Control- oriented to the research study via a lunch & learn presentation and received the PFR provider brochure about radon.

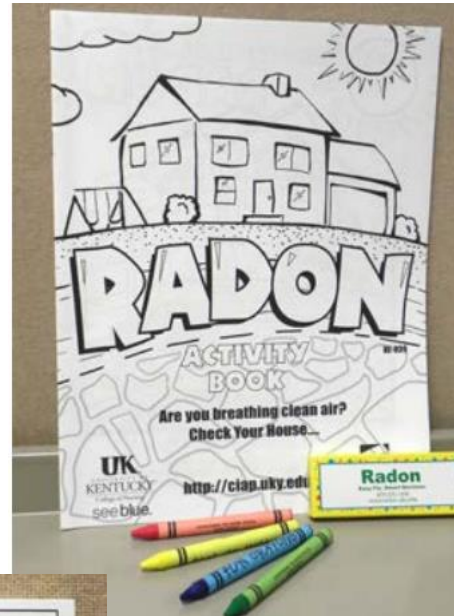
County Characteristics

Table 1. County demographics by study group

	Treatment	Control
Population	6,306	11,591
Median Household Income	\$29,740	\$30,458
Smoking Prevalence (adult)	28%	30%
Less than High School	31%	28%
High School Graduate	40%	38%
College Graduate	10%	13%
Total Housing Units	4,025	5,385
Owner Occupied Homes	1,944	3,498
# Known Radon Values (1986-2014)	10	55
Mitigation Rates	Unknown	Unknown

Prescription for Radon

<http://www.uky.edu/breathe/radon/provider-education>



Radon.
Easy Fix. Smart Decision.

Name: _____ Date: _____

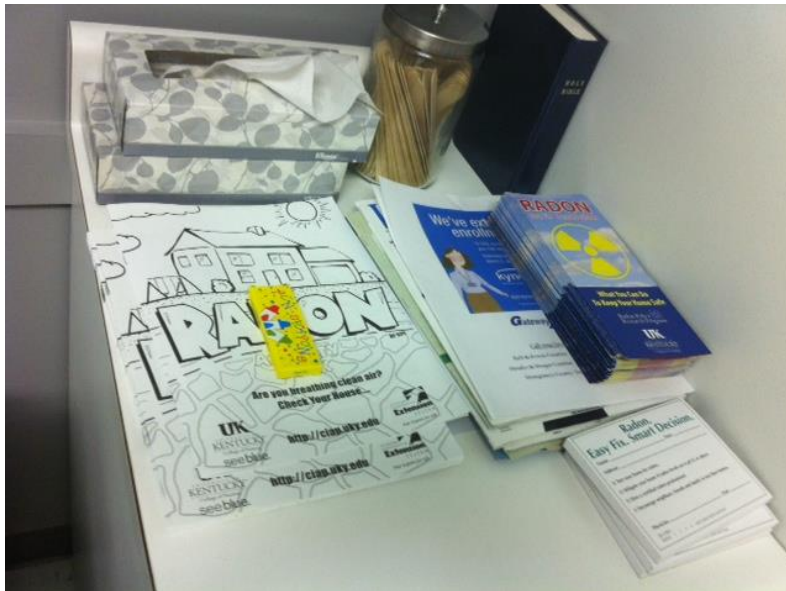
Address: _____

- ☐ Test your home for radon.
- ☐ Mitigate your home if radon levels are 4 pCi/L or above.
- ☐ Hire a certified radon professional.
- ☐ Encourage neighbors, friends and family to test their homes.

Physician _____ Date _____

☐ LABEL
REFILL 1 2 3 4 until radon levels are fixed





Data Collection

- Two rural, family health clinics in Appalachia KY
- Clinicians within each clinic were surveyed
 - Treatment providers: 1 MD, 1 APRN, 5 RN/LPN/CMA
 - $n = 7$
 - Control providers: 1 APRN, 1 PA, 6 RN/LPN/CMA
 - $n = 8$
- Survey Data
 - Post lunch & learn, 3 months and 6 months
- Qualitative Interview



Survey Measures

Outcome variables:

- *Perceived risk*: How serious are illnesses caused by radon?
 - (1) 'Not serious at all' to (5) 'Extremely serious'
- *Synergistic risk*: Please rate the risk from being exposed to radon AND smoking a pack of cigarettes per day, compared to the risk of only smoking a pack of cigarettes a day with no radon exposure
 - (1) 'Much less risky' to (5) 'Much more risky'
- How often do you typically discuss the importance of radon testing with patients or community members?
 - (1) 'Never' to (3) 'Always'
- How likely are you to have a conversation about the danger of radon exposure with your patients?
 - (1) 'Very unlikely' to (4) 'Very likely'
- How likely are you to educate others in your community about radon?
 - (1) 'Very unlikely' to (4) 'Very likely'

Data Analysis

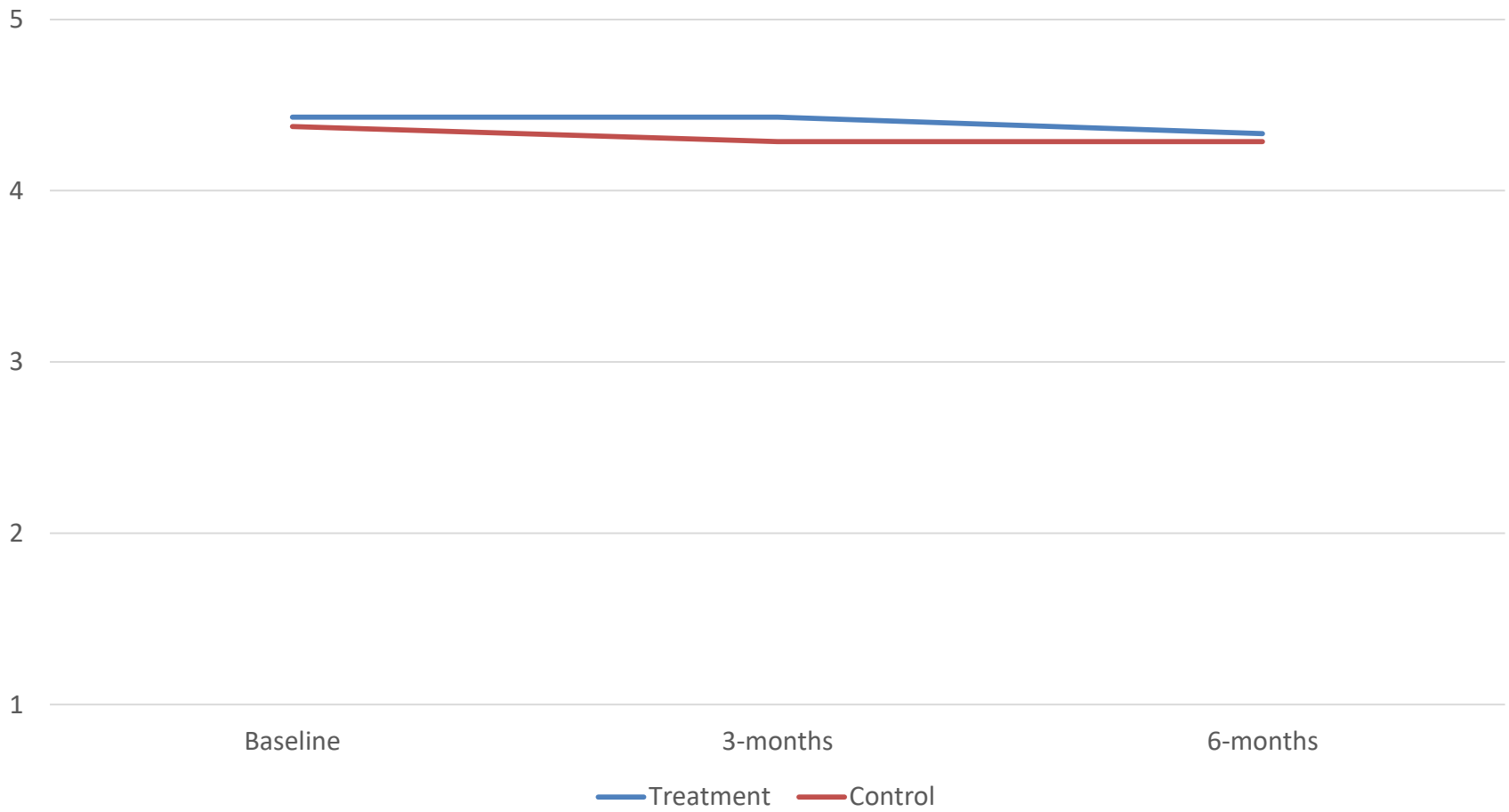
- Demographic characteristics of participants were summarized by study group
- Two-way repeated measures analysis of variance (ANOVA) was used to assess changes in outcome variables by study group (treatment vs. control) over time (baseline, 3-, and 6-months)

Results

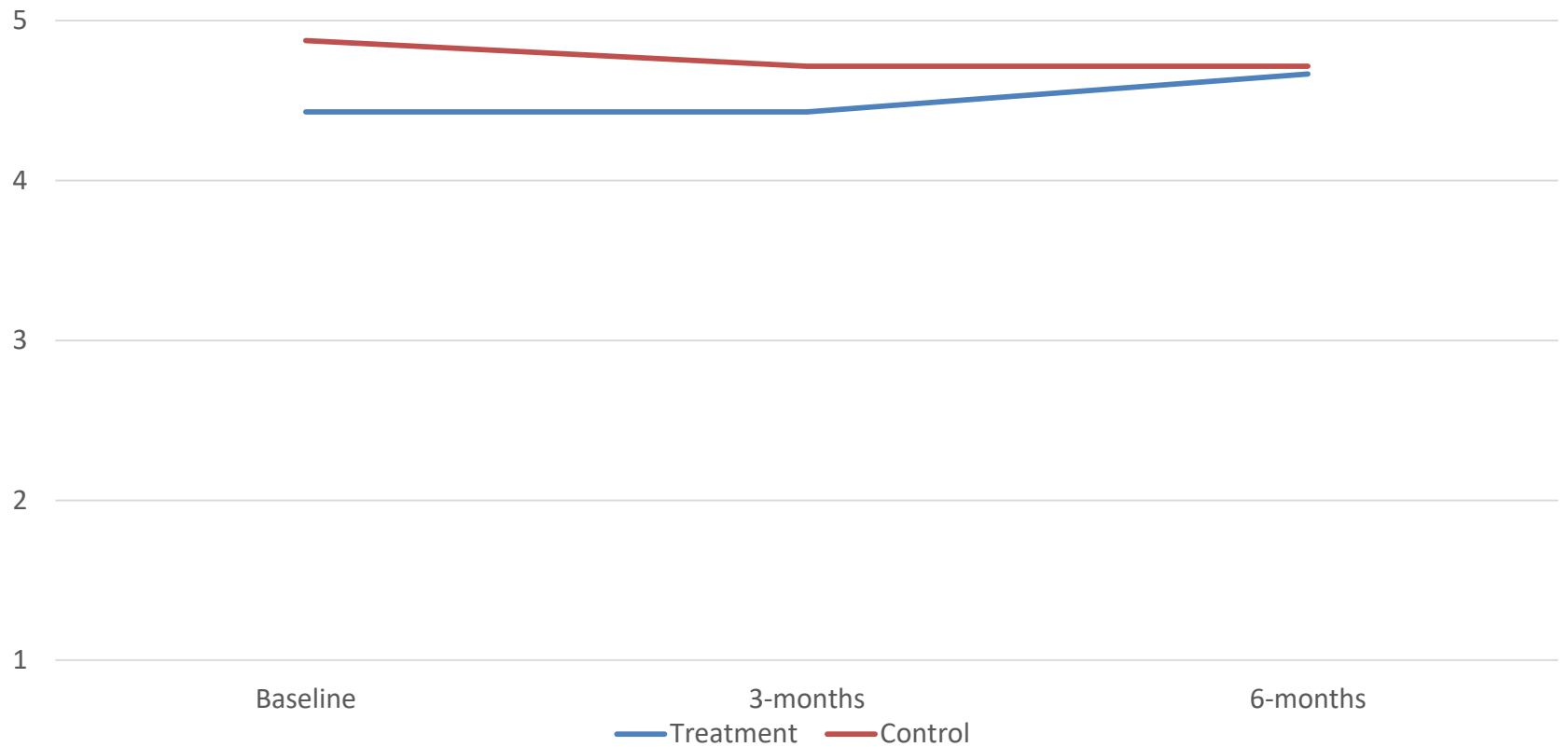
Table 2. Demographic characteristics by study group

	Treatment (<i>n</i> =7)	Control (<i>n</i> =8)
Age	48.0 (9.3)	43.6 (11.9)
Sex		
Male	20%	10%
Female	80%	90%
Race/ethnicity		
White/non-Hispanic	100%	100%
Other	0%	0%
Position		
MD	1	-
APRN	1	1
PA	-	1
RN/LPN/CMA	5	6

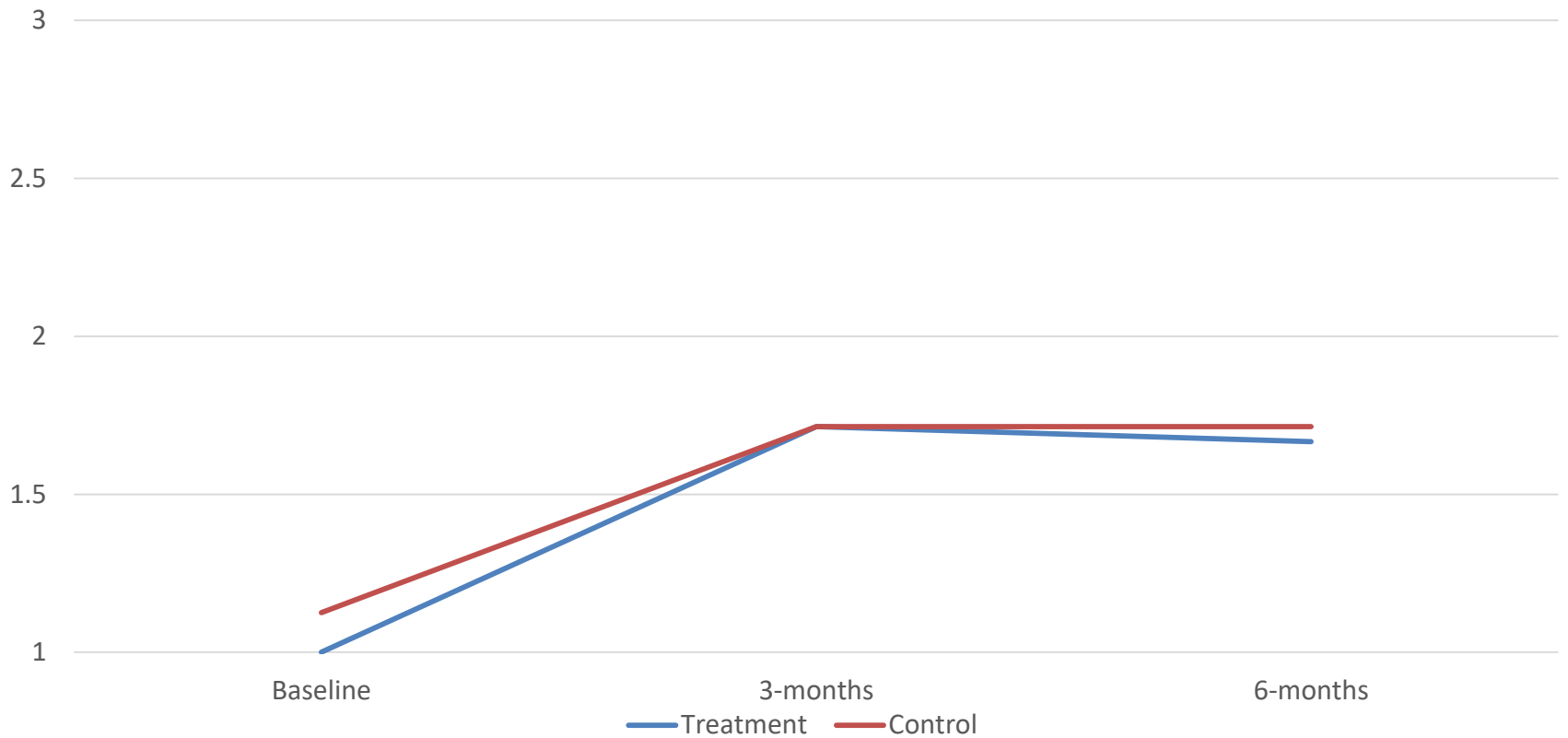
Perceived radon risk



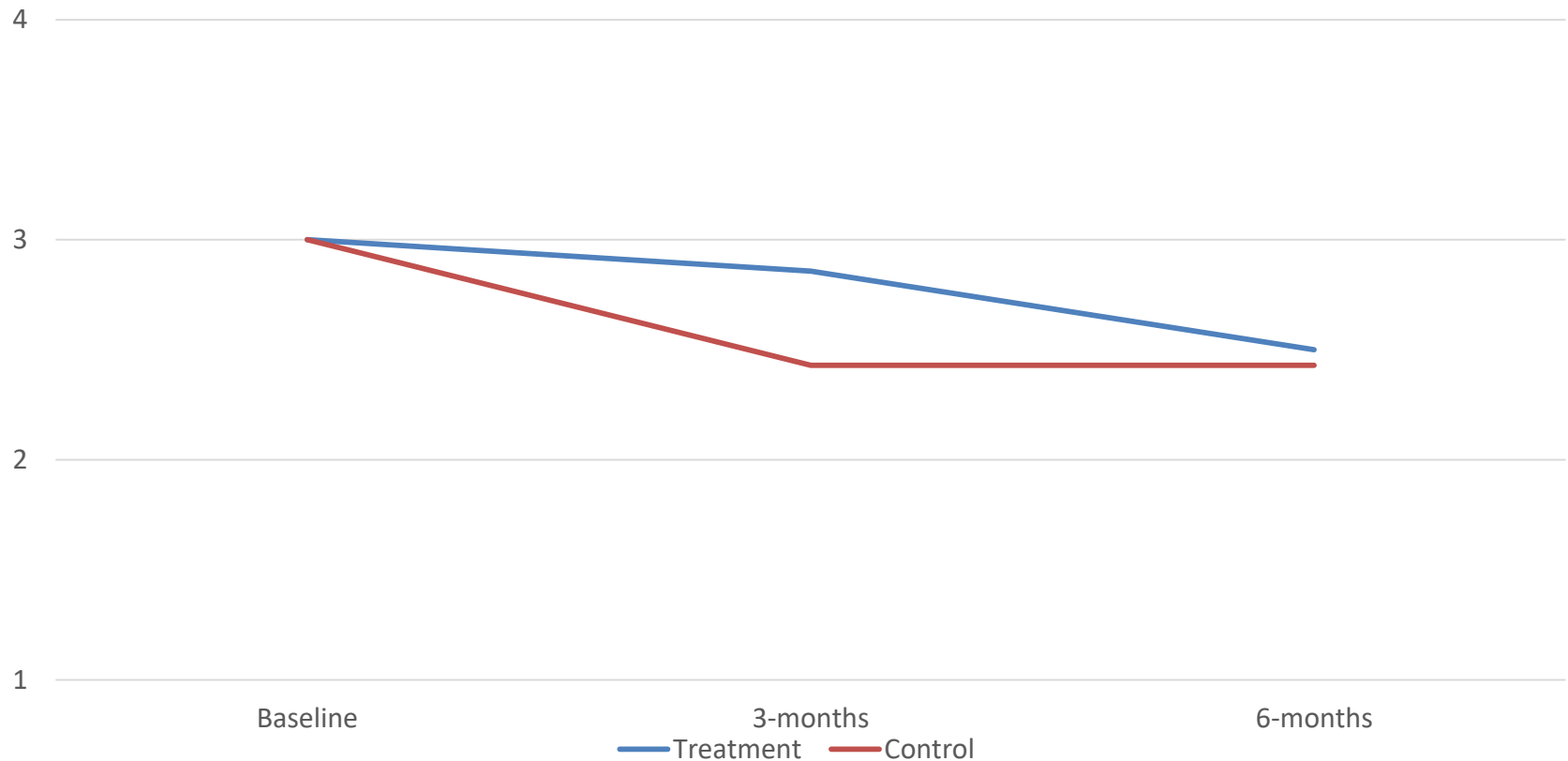
Perceived synergistic risk



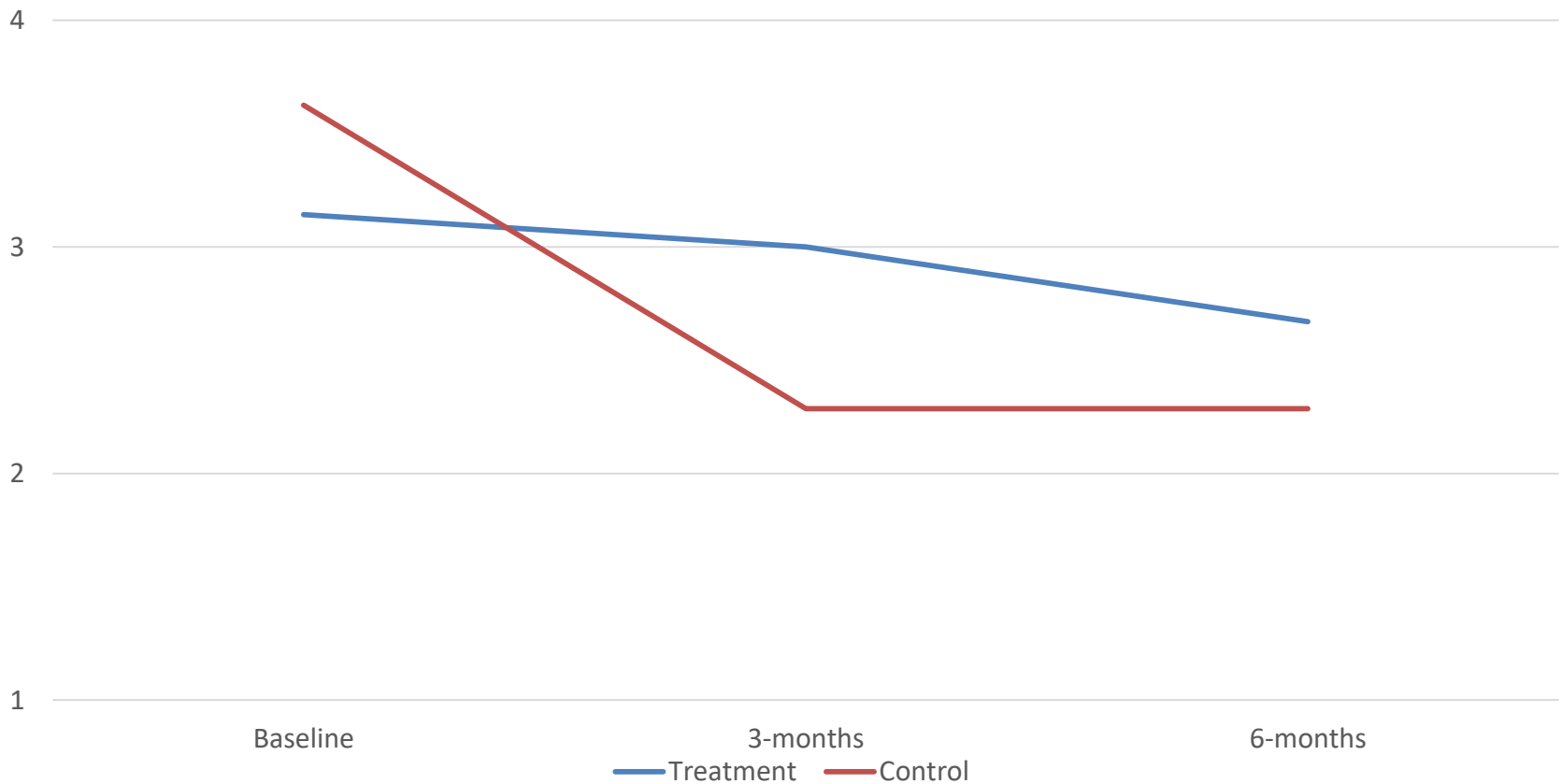
Frequency of discussing importance of radon testing



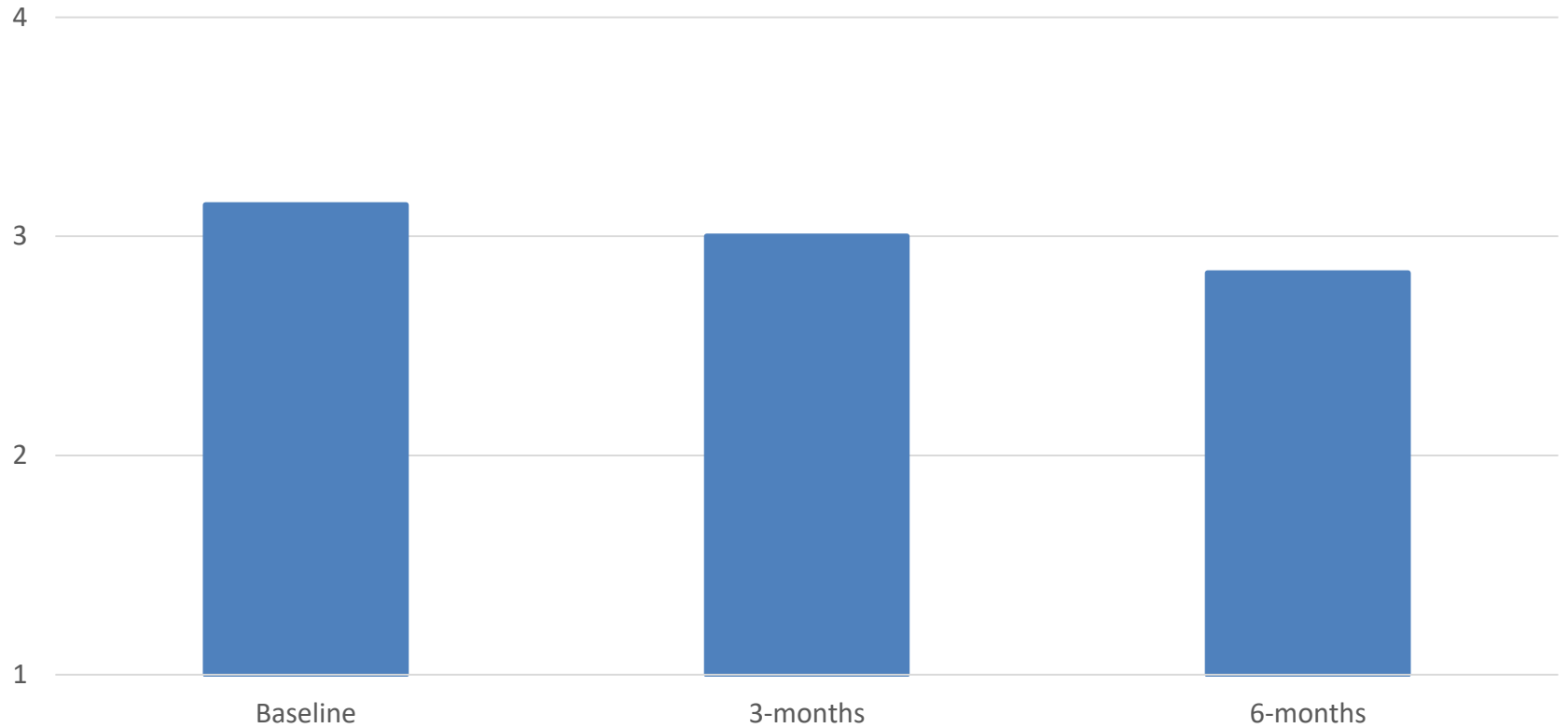
Likelihood of discussing radon dangers with patients



Likelihood of educating community



Likelihood of using PFR materials



Results

Table 3. Thoughts about PFR materials over time	3-months	6-months
Health Provider Brochure <ul style="list-style-type: none"> • Raised my awareness of radon risk in KY • Convinced me that radon exposure is a potential health concern for patients • Provided me ways to share information about radon with my patients • Reminded me to write a prescription for home testing • Helped me encourage patients to test and/or mitigate for radon 	3.8 (0.4) 3.8 (0.4) 3.8 (0.4) 3.7 (0.5) 3.8 (0.4)	4.0 (0.0) 3.8 (0.4) 4.0 (0.0) 3.5 (0.5) 3.7 (0.5)
Patient Brochure <ul style="list-style-type: none"> • Answered patients' questions about radon • Provided patients with easy-to-understand information on how to test and mitigate their home 	3.8 (0.4) 3.8 (0.4)	4.0 (0.0) 3.8 (0.4)
Radon Pad <ul style="list-style-type: none"> • Reminded me to write a prescription for home radon testing 	3.8 (0.4)	3.2 (1.2)
Radon Activity Book <ul style="list-style-type: none"> • Was a good way to educate patients about radon 	3.8 (0.4)	3.8 (0.4)

Interview Findings

Facilitators

- Material
 - “*Patient brochure* was informative”
 - “Staff, provider and patients all liked the *activity booklet*. It was used the most”
 - “Patients really liked the *activity booklet*, it is hands on”
 - “Children would pick up the *activity booklet* and then the parents or adult with them would start reading or help color”
 - “*Activity booklet* was most useful, easy to read and understand”

Interview Findings

Facilitators

- Discussion & Visibility of Material
 - “Staff talking with patients and urging them to consider radon testing in their home (was the most important thing that facilitated the use of these materials in the clinic)”
 - “Keep the materials in the rooms and lobby visible to patients (is the best way to educate patients about radon at our clinic)”
 - “Actually talking with the patients was most successful with us (to encourage patients to test their home for radon)”

Interview Findings

Barriers

- Material
 - “*Brochure* was too timely for some patients to read”
 - “Providers did not use the *prescription pad* much at all. It seemed to be pushed to the side”

Interview Findings

Barriers

- Knowledge Deficit
 - “Patients really did not know that radon was an issue here in our county”
 - “Most of the patients had never heard of radon”
 - “This is a very rural area and I think patients really just don’t understand the importance or the impacts that it could have on their health”
 - “This is a very rural area and patients are sometimes hard to approach, not willing to listen, not interested in something they have never heard of before.”

Interview Findings

Barriers

- Interest
 - “There were those that were those that just were not the least bit interested and said they did not want testing and if it was positive, they wouldn’t change anything anyway”
 - “Some patients wanted nothing to do with the materials or testing their home”

Limitations



SMALL SAMPLE SIZE

Implications

- Education
 - Provide a booster intervention
 - Consider incorporating academic detailing strategies
 - Community education campaign on radon & tobacco smoke
- PFR Material
 - Availability of material
 - Cultural awareness
- Distribute free test kits periodically

Questions

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