

# *Efficacy of Group Cognitive Behavioral Therapy among African American Smokers*



**Monica Webb Hooper, Ph.D.**  
Department of Psychology  
Biobehavioral Oncology  
University of Miami &  
Sylvester Comprehensive Cancer Center



# Tobacco Smoking & African Americans

- ◉ Particularly negative impact

- > Lung cancer
- > Hypertension
- > Stroke
- > Cardiovascular disease



- ◉ Evidence of greater nicotine dependence
- ◉ Preference for menthol cigarettes
- ◉ Fewer cessation trials

# Group-Based Counseling

- ◉ **Meta-analysis found only 2 trials**
  - > Murray et al. (2001)—Lung Health Study
    - Standard 12 week intervention + NRT
    - Efficacious
  - > Knight (2004)—Church-based
    - Culturally specific, 10 weeks + NRT
    - Efficacious
- ◉ **Limitations:**
  - > Confounded treatment intensity and supportive contact



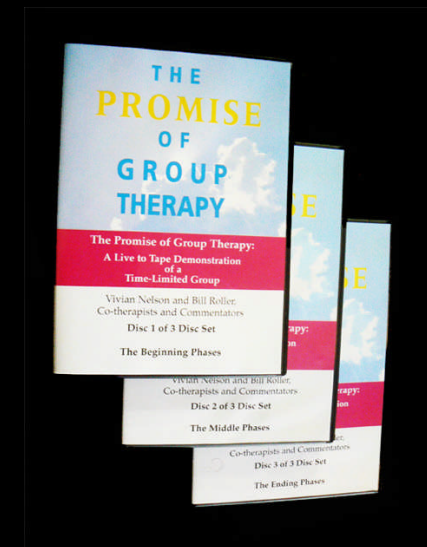
# Need for Group Interventions among African Americans

1. Largest effect sizes
  - > Provide education, positive reinforcement, coping skills, social support, adjuvant pharmacological treatment
2. Social support important



# The Present Study

- Test efficacy of group-based tobacco intervention
- Established cognitive behavioral therapy (CBT)
  - > Directive psychotherapy, coping skills training, problem-focused coping, relapse prevention
  - > Evidence-based
  - > 98% Caucasian samples
- Test generalizability
  - > No ethno-culture modifications



# Participants

- **Inclusion:**

- Self-identified African Americans
- Age 18-65
- $\geq 5$  cpd; CO  $\geq 8$ ppm
- Interest in cessation

- **Exclusion:**

- Enrolled in cessation program
- Using pharmacotherapy for cessation
- Pregnant/breastfeeding, acute medical problem
- No transportation



# Recruitment

- Proactive (face to face) and reactive (ads)
- Screened:  $n = 343$
- Met criteria:  $n = 273$  (80%)
- Randomized:  $N = 154$  (56%)
- $n = 77$  (CBT);  $n = 77$  (GHE)





**Treatment Condition**

**Group Cognitive-Behavioral Therapy for Smoking Cessation (CBT)**

**General Health Education Attention Control (GHE)**

**Orientation Session**

Yes

Yes

**Baseline Assessment**

Yes

Yes

**Smoking Cessation Counseling**

Yes, 6 sessions

No

**Didactic Education on Various Health Topics**

No

Yes, 6 sessions

**Post-Group Smoking Status Assessment**

Yes

Yes

**Three-month Assessment**

Yes

Yes

**Six-month Assessment**

Yes

Yes

	<b>CBT</b>	<b>GHE</b>
<b>Orientation</b>	Introductions, Program Explanation, Informed Consent, Baseline, Breath Samples (CO)	Same as CBT condition
<b>Session 1</b>	Quit Day, Expectancy Enhancement, Addiction, Withdrawal, Patch Use, High-Risk Situations, Behavioral Contract (BC), CO	Hypertension
<b>Session 2</b>	Withdrawal , Cognitive and Behavioral Coping skills, BC, CO	Heart Disease and Heart Attacks
<b>Session 3</b>	Cognitive Reframing, Anticipatory Planning (AP), Responding to Lapses, BC, CO	Type II Diabetes
<b>Session 4</b>	Withdrawal, AP, Weight Gain, Decision Making, BC, CO	Stroke
<b>Session 5</b>	Withdrawal, AP, Relapse Prevention, Health Effects, Abstinence Violation Effect, BC, CO	Colorectal cancer
<b>Session 6</b>	Benefits of Quitting, Nicotine Patch Schedule, Individual High-Risk Situations, Follow-up Procedures, BC, CO	Bronchitis, Sensory problems, Review of topics
<b>3-month</b>	Smoking Status, CO, Patch Use, Urges/Cravings, Coping, Follow-up	Healthy Lifestyles

# Assessments

## ◎ Process variables:

- > Nicotine patch utilization
- > Minnesota Withdrawal Scale (Hughes & Haysukami, 1986)
- > Intervention satisfaction

## ◎ Outcome variables:

- > Time-line follow-back (Brown et al., 1998)
- > 7-day point prevalence abstinence (ppa; Primary)
- > 24 hr ppa (Secondary; biochemically verified)
- > 1-month continuous abstinence (Secondary)

# Analyses

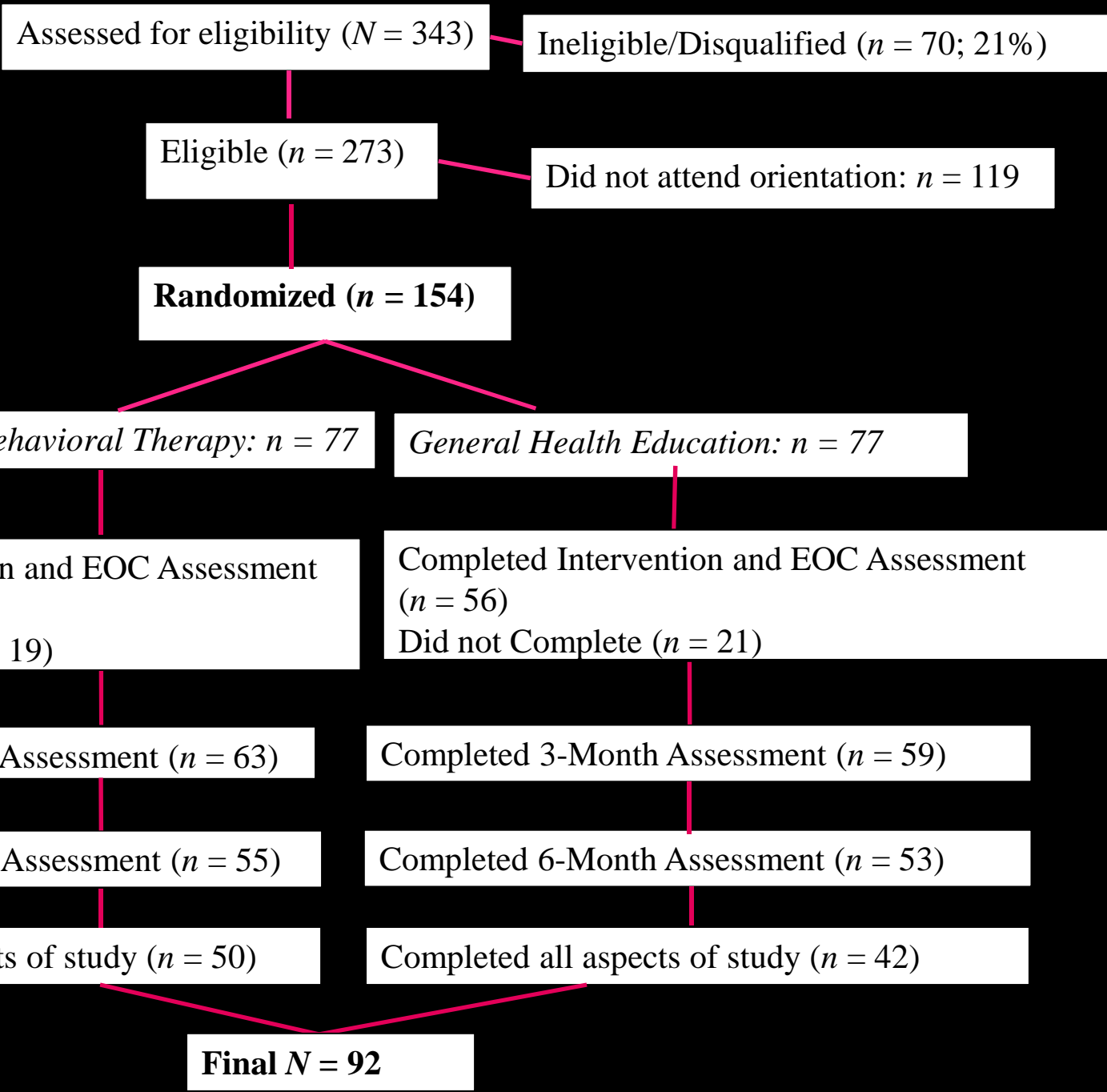
- ◉ **Intent to treat (ITT):** no data = smoker
- ◉ **Per protocol:** completed study
- ◉ Generalized linear mixed models (GLMMs)
  - > Correlated repeated measures, non-normal distributions
  - > Main effects
  - > Condition x time interactions

# Intervention Condition ( $N = 154$ )

	<b>General Health Education (<math>n = 77</math>)</b>	<b>Cognitive Behavioral Therapy (<math>n = 77</math>)</b>	<b><math>p</math></b>
<b><u>Demographic Variables</u></b>			
Sex (% female)	52%	61%	.31
Age (years; $M, SD$ )	45 (9.3)	43 (10.1)	.12
Marital status (% not married)	58%	65%	.32
Education (% $\geq$ high school)	86%	86%	.13
Income (% $<$ \$10,000/year)	40%	34%	.27
<b><u>Smoking Variables</u></b>			
Rate (cigarettes/day; $M, SD$ )	13 (8.6)	12 (7.8)	.32
Duration smoking (years; $M, SD$ )	25 (10.4)	24 (11.5)	.40
Dependence (FTND Score; $M, SD$ ; 0-10)	5 (2.2)	4 (2.0)	.17
Smoking status (carbon monoxide; $M, SD$ )	12 (9.2)	13 (7.4)	.51
<b><u>Psychosocial Variables</u></b>			
Motivation (readiness-to-quit; 1-10)	9 (1.8)	9 (1.5)	.38

# Patterns of Attendance by Session among Participants Attending Orientation (N = 154)

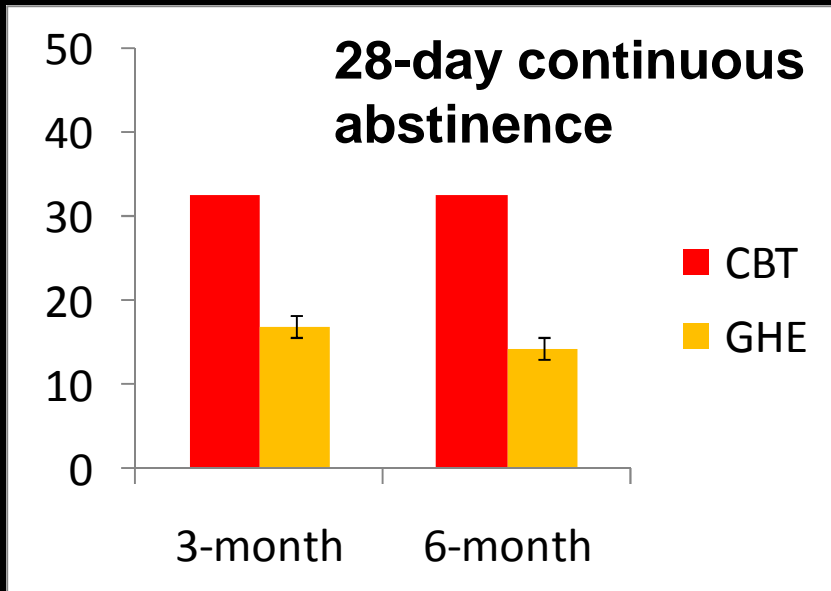
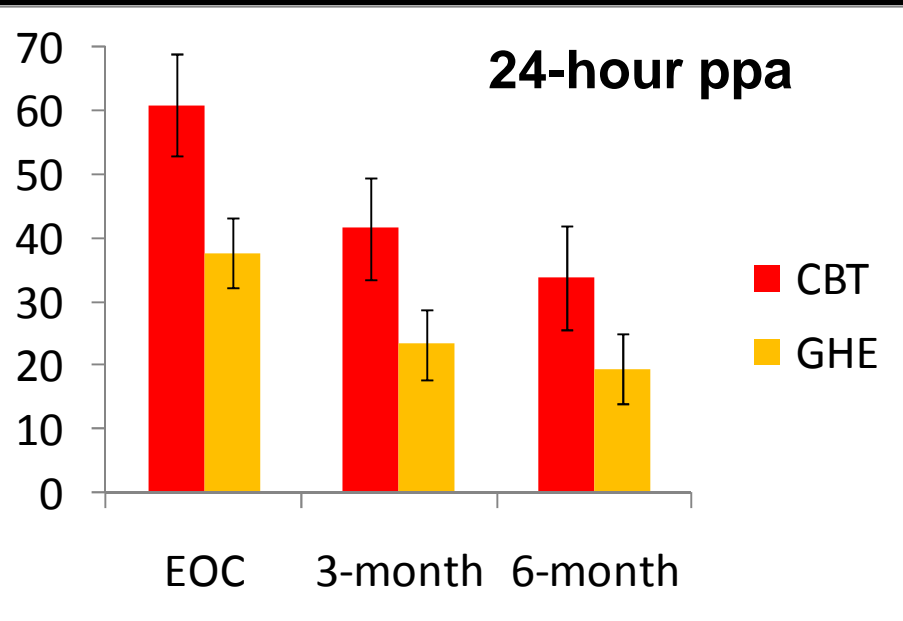
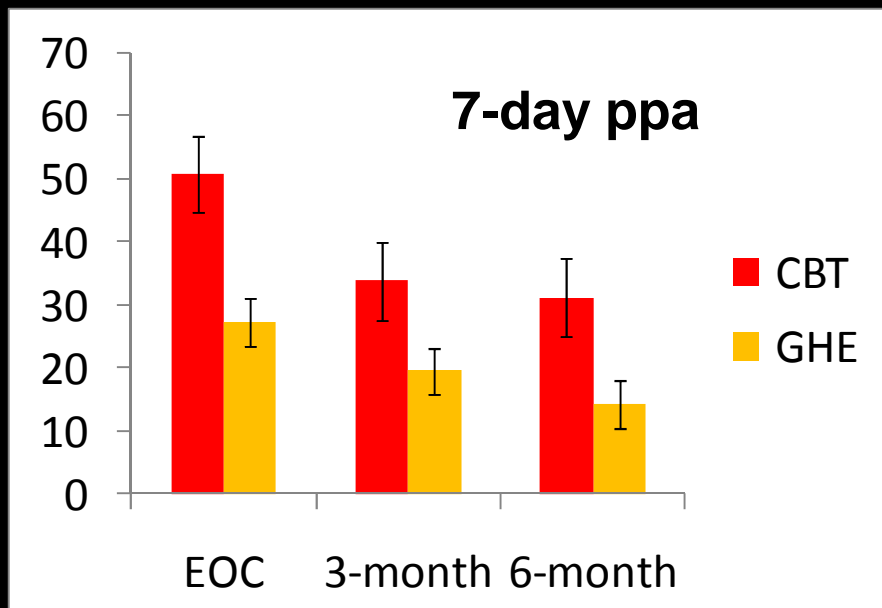
Attendance	CBT	GHE	Total
<b>Orientation</b>	77	77	154
<b>Session 1</b>	56 (73%)	59 (77%)	115 (75%)
<b>Session 2</b>	50 (65%)	53 (69%)	103 (67%)
<b>Session 3</b>	49 (64%)	55 (71%)	104 (67%)
<b>Session 4</b>	47 (61%)	41 (53%)	89 (57%)
<b>Session 5</b>	47 (61%)	47 (61%)	94 (61%)
<b>Session 6</b>	53 (69%)	50 (65%)	103 (67%)
<b>% Orientation to Session 1</b>	73%	77%	75%
<b>% Orientation to Session 6</b>	69%	65%	67%



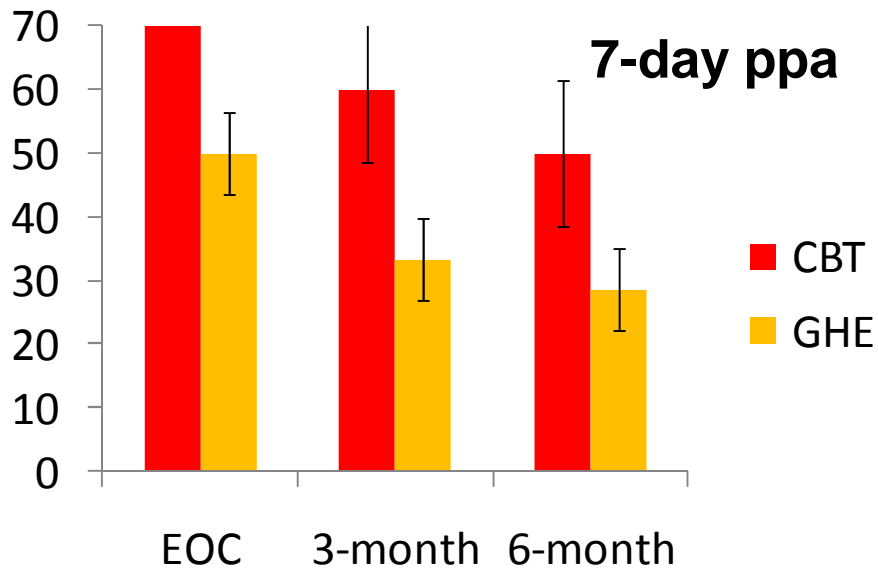
# Results: Process Variables

- ◉ No group differences in:
  - > Nicotine patch utilization
  - > Nicotine withdrawal
  - > Intervention satisfaction

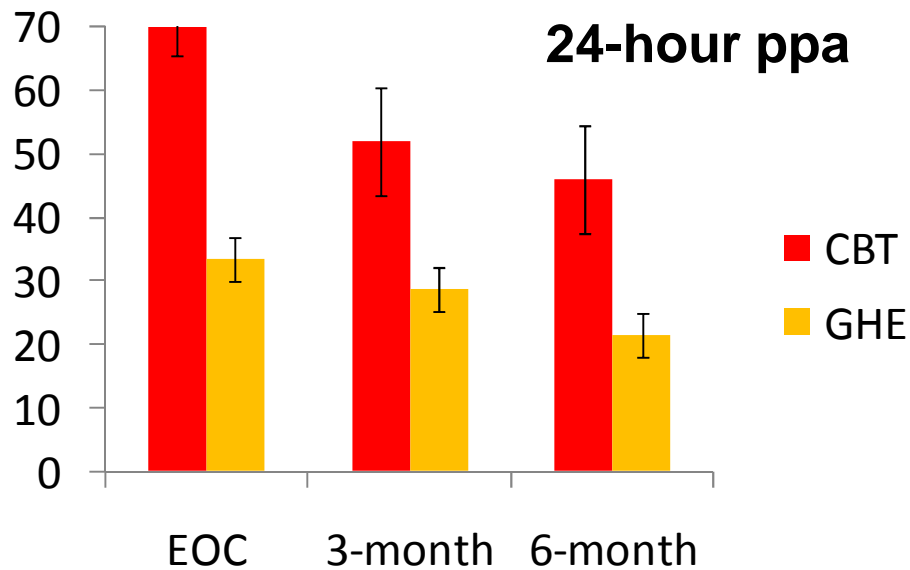
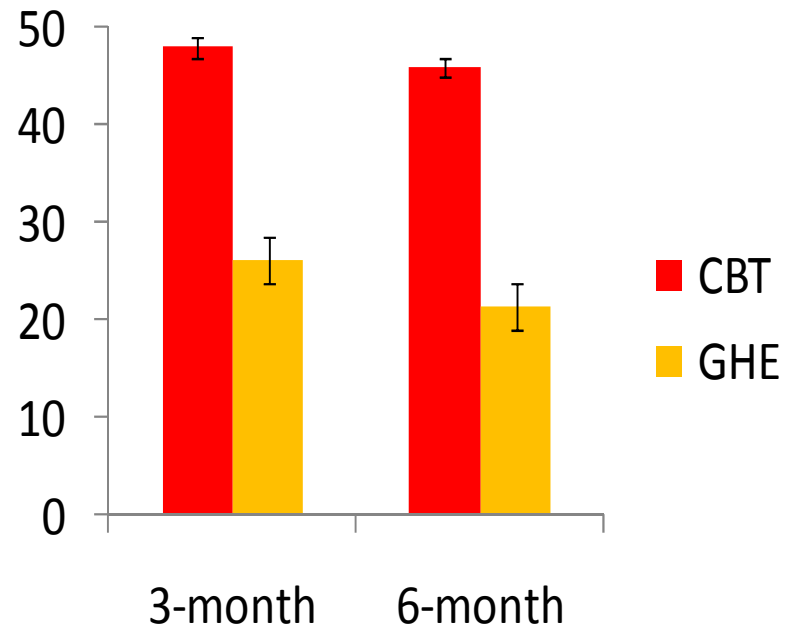




***Intent-to-Treat Analyses of Intervention Efficacy (N = 154)***



### 28-day continuous abstinence



***“Per Protocol” Analyses of Intervention Efficacy (n = 92)***

# Summary and Discussion (1)

- Group CBT vs. GHE for cessation
- Evidence for feasibility and acceptability
- Found standard CBT can be generalized to African Americans
- Effects maintained over 6 months



## Summary and Discussion (2)

- CBT at least doubled odds of cessation
- High concordance between self-report and CO readings
- GHE: 7-day ppa 20% at 3-months



# Conclusions

- ◉ **Future research 1:** examine mechanisms
  - > Cognitive—affective—motivational factors?
  - > Behavioral skills factors?
- ◉ **Future research 2:** examine incremental efficacy
  - > Culturally specificity?
  - > Pharmacotherapy?
- ◉ **Future research 2:** longer follow-up duration



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- ◉ **Webb, M. S.,** Rodriguez-Esquivel, D.,\*  
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(2010). Cognitive behavioral therapy to  
promote smoking cessation among  
African American smokers: A  
randomized clinical trial. *Journal of  
Consulting and Clinical Psychology, 78,*  
24-33.





African American women:

- Are more at-risk for heart disease than any major ethnic group in US
- Have higher incidence of diabetes and hypertension
- Are underrepresented in major research trials
- Are up to 60% less likely to receive aggressive diagnostic testing

 ADAM.