

Cigarette Smoking and Health-Related Quality of Life in Medicare Beneficiaries

Ron D. Hays



ISOQOL
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“You know, it's cigarettes that killed Jerry Garcia.

Everyone thinks it's heroin, but it wasn't.

It was cigarettes.”

John Mellencamp

Existing Literature

- ❖ Smokers have lower self-reported physical and mental health than non-smokers¹⁻²
- ❖ Recent quitters tend to have the worse self-reported health.¹
- ❖ Long-term quitters (12+ months) have similar mental health to non-smokers¹
- ❖ Effect size ranges from small (0.2 SD) to moderate (0.5)

1. Arday et al. ([Am J Prev Med](#), 2003); 2. Health Services Advisory Group (2005, October 26)

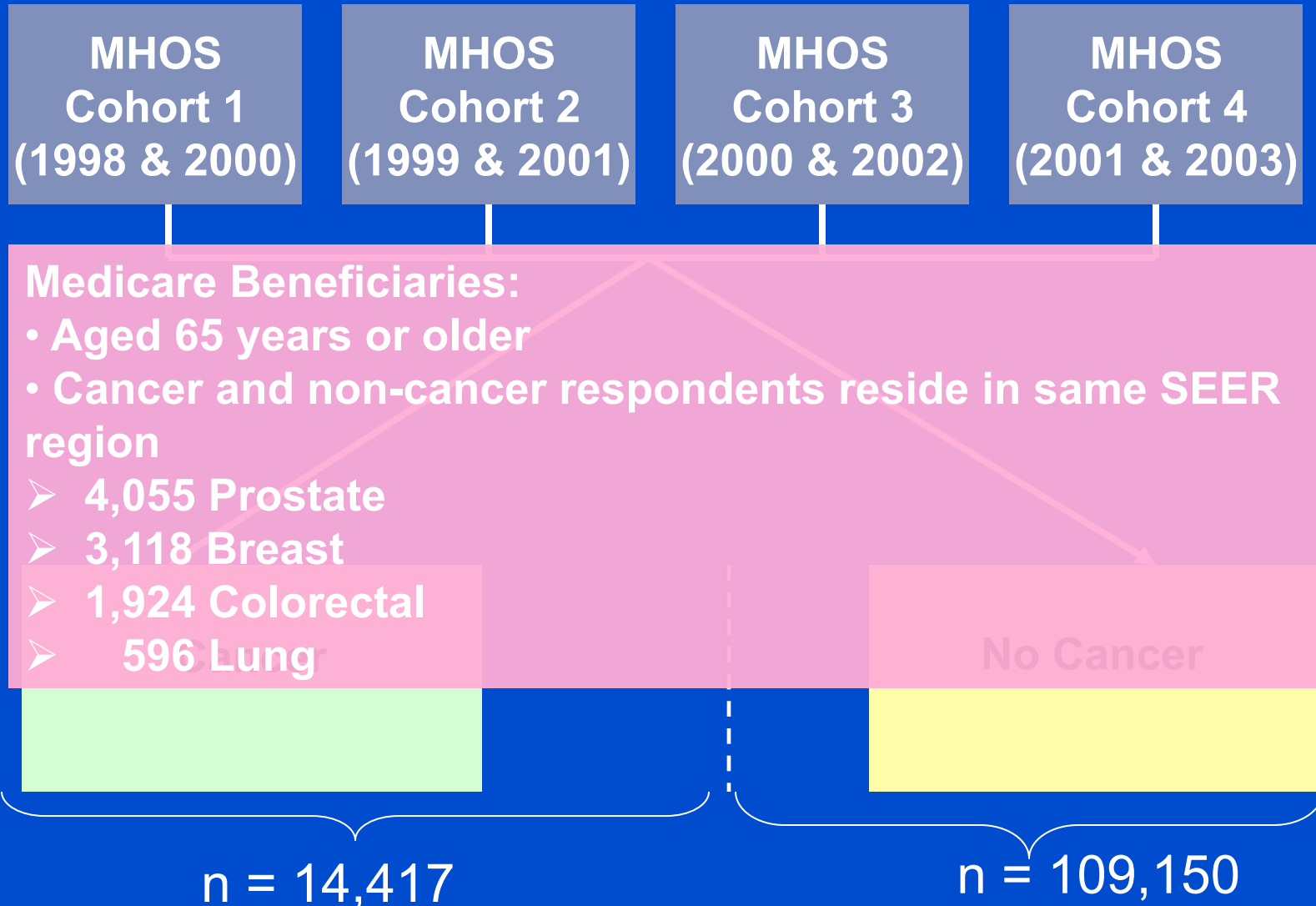
Research Goals

1) To compare HRQOL between Medicare beneficiaries with different histories of smoking:

- **never smoked 100+ cigarettes**
- **ex-smokers**
- **current smokers**

2) To estimate whether the associations differ for those who have cancer versus do not.

Sample (n = 123,567)



Demographic Variables

Age (continuous)

Gender (male; female)

Education (8th grade or less; some high school; high school graduate; some college; 4 year college grad; > 4 year college)

Income (<10k, 10-19,999, 20-29,999, 30-39,999, 40-49,999, 50-79,999, 80k and above)

Race/ethnicity (Hispanic, white, black, asian, AI, other)

Marital status (married, widowed, not married)

Chronic Medical Conditions

1. Hypertension / high blood pressure
2. Arthritis of the hip or knee
3. Arthritis of the hand or wrist
4. Sciatica
5. Other heart conditions
6. Diabetes
7. Angina / coronary artery disease
8. Emphysema / asthma / COPD
9. Myocardial infarction / heart attack
10. Stroke
11. Congestive heart failure
12. Crohn's Disease / ulcerative colitis / inflammatory bowel disease

Smoking Questions

- Items

- Have you ever smoked at least 100 cigarettes in your entire life?
- Do you now smoke every day, some days, or not at all?
- How long has it been since you quit smoking?

- Smoking Categories

- Never Smoked (45%)
- Previous Smoker (44%)
 - Distant (1%)
 - Don't know when quit (6%)
 - Recent (37%)
- Current Smoker (11%)

SF-36 PCS and MCS

$$\begin{aligned} \text{PCS} = & (\text{PF_Z} * .42402) + (\text{RP_Z} * .35119) + (\text{BP_Z} \\ & * .31754) + (\text{GH_Z} * .24954) + (\text{EF_Z} * . \\ & 02877) + (\text{SF_Z} * -.00753) + (\text{RE_Z} * -. \\ & 19206) + (\text{EW_Z} * -.22069) \end{aligned}$$

$$\begin{aligned} \text{MCS} = & (\text{PF_Z} * -.22999) + (\text{RP_Z} * -.12329) + \\ & (\text{BP_Z} * -.09731) + (\text{GH_Z} * -.01571) + \\ & (\text{EF_Z} * .23534) + (\text{SF_Z} * .26876) + \\ & (\text{RE_Z} * .43407) + (\text{EW_Z} * .48581) \end{aligned}$$

Smoker Groups Comparison (column comparison)

	Male	Hispanic	Married	COPD
Non-smoker	30%	9%	57%	7%
Long quitter	58%	6%	66%	15%
Don't know when quit	51%	10%	62%	13%
Recent quitter	48%	7%	56%	<u>30%</u>
Current smoker	47%	7%	51%	19%

Cancer vs. non-Cancer Group (column comparison)

	No cancer	Cancer
Age	74	75
Male	43%	<u>52%</u>
Hispanic	8%	5%
Black	5%	5%
High school educ. or less	33%	32%
Married	59%	61%
Number of comorbidities	2.3	2.4
PCS	43	<u>40</u>
MCS	52	51

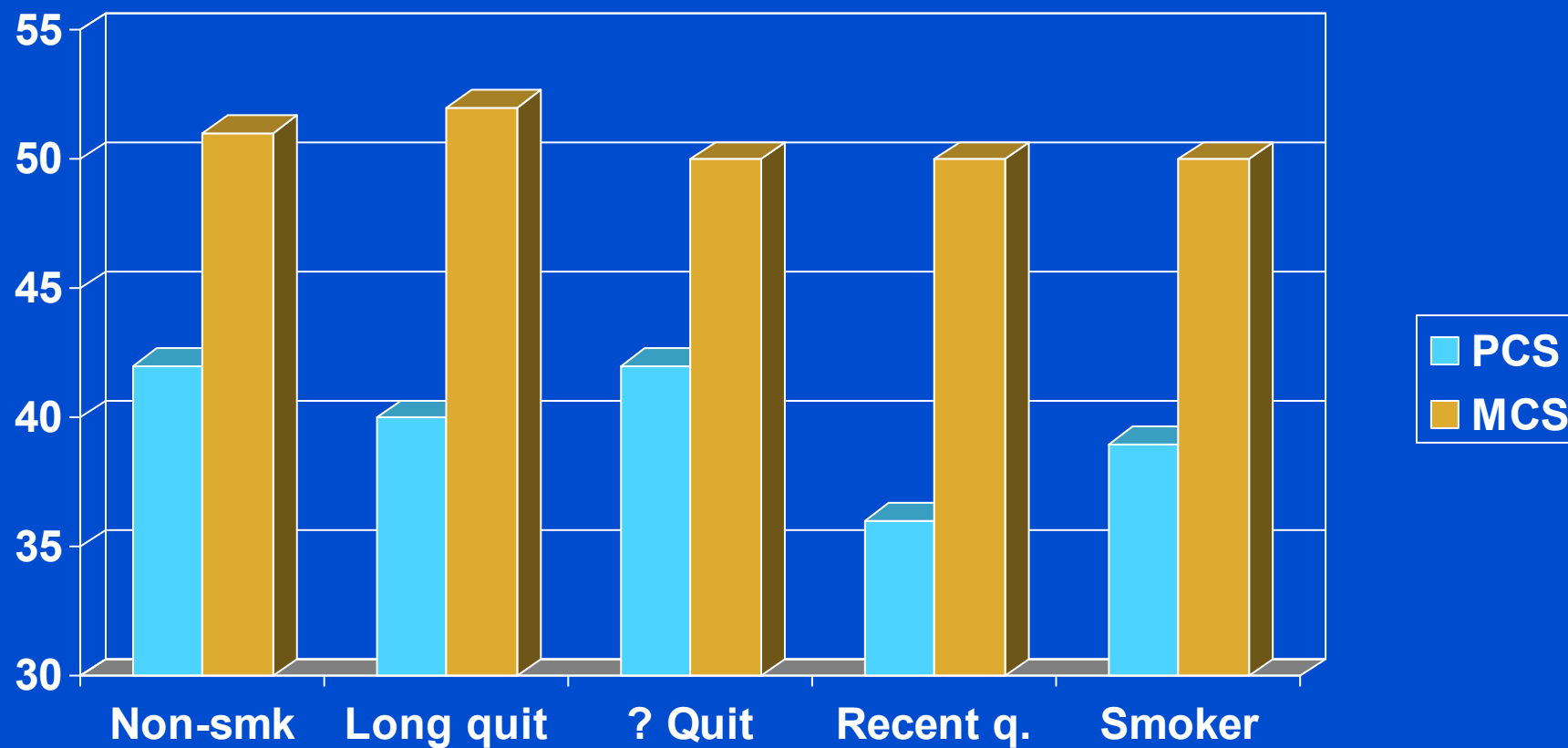
SF-36 by Smoker Status

(PCS range: 41-43 and 38-41; MCS range: 50-53 and 47-51)

	PCS		MCS	
Cancer?	No	Yes	No	Yes
Non-smoker	43 ^a	41 ^a	52 ^b	50 ^a
Long quitter	42 ^b	41 ^b	53 ^a	51 ^a
Don't know when quit	43 ^a	41 ^{a,b}	51 ^c	50 ^{a,b}
Recent quitter	41 ^d	38 ^{b,c}	50 ^d	47 ^c
Current smoker	42 ^c	40 ^c	50 ^d	48 ^{b,c}

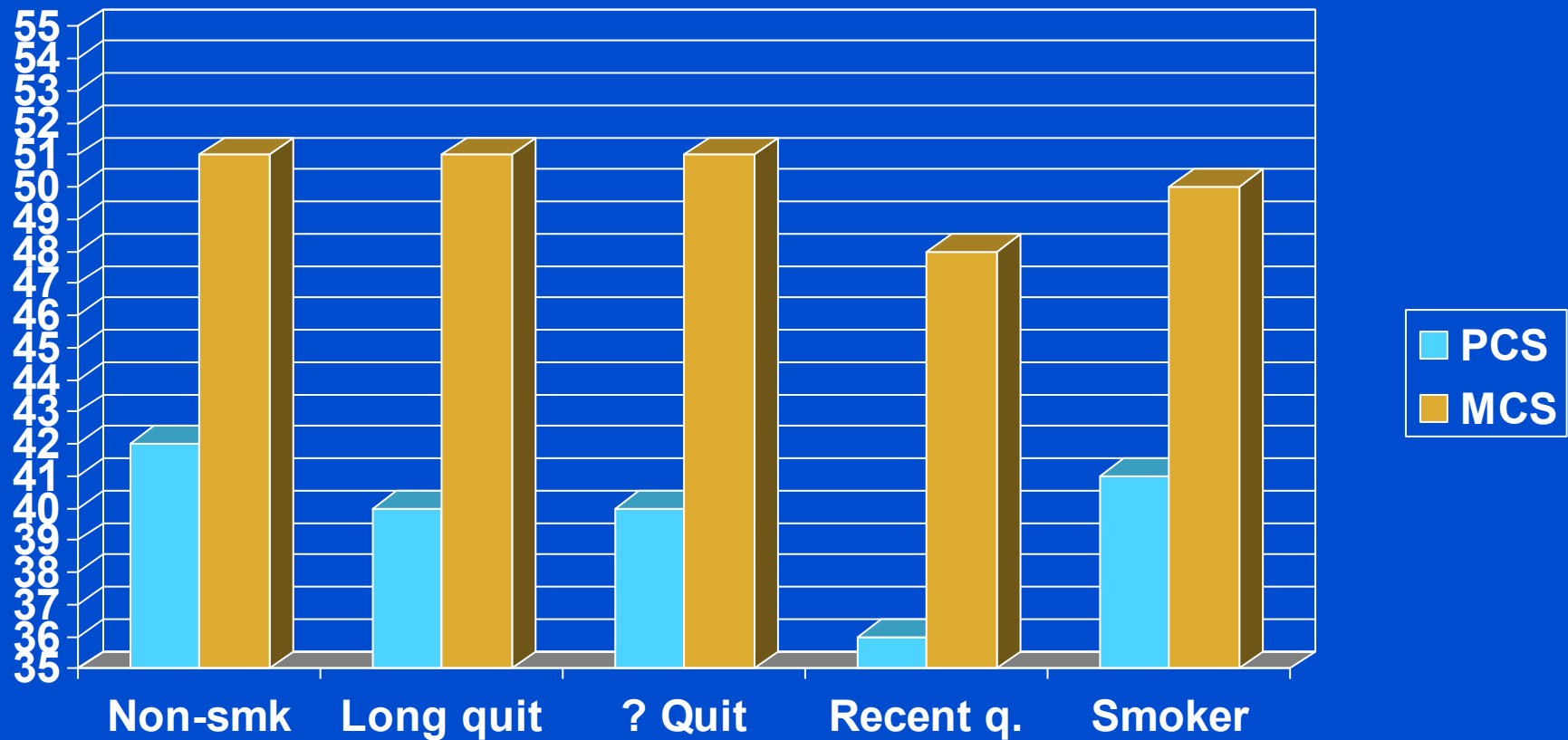
*Adjusted for age, gender, education, income, race/ethnicity, marital status, mode of administration, proxy response, and comorbidities.

PCS and MCS by Smoker Status for Prostate Cancer



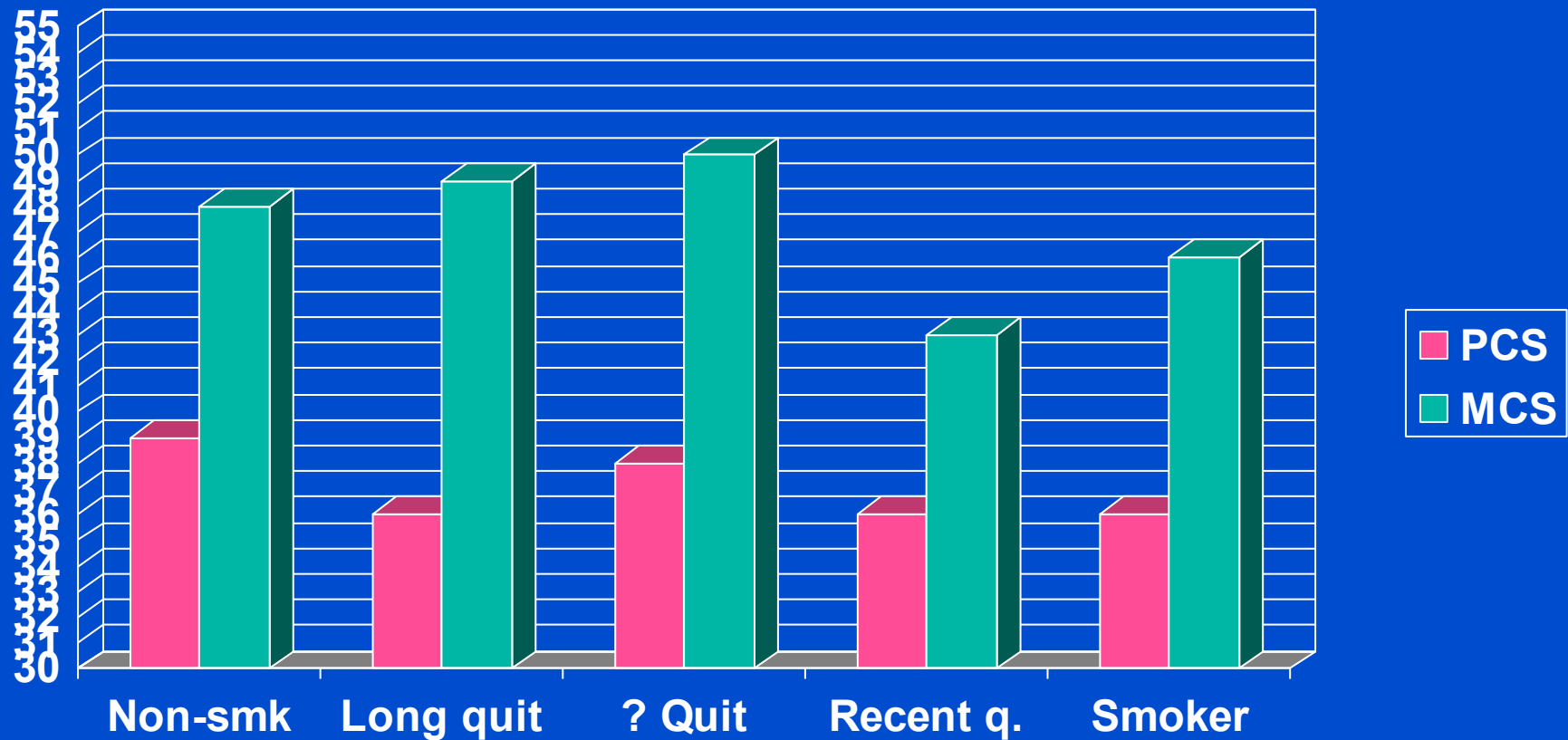
Adjusted for age, gender, education, income, race/ethnicity, marital status, mode of administration, proxy response, and comorbidities.

PCS and MCS by Smoker Status for Colorectal Cancer



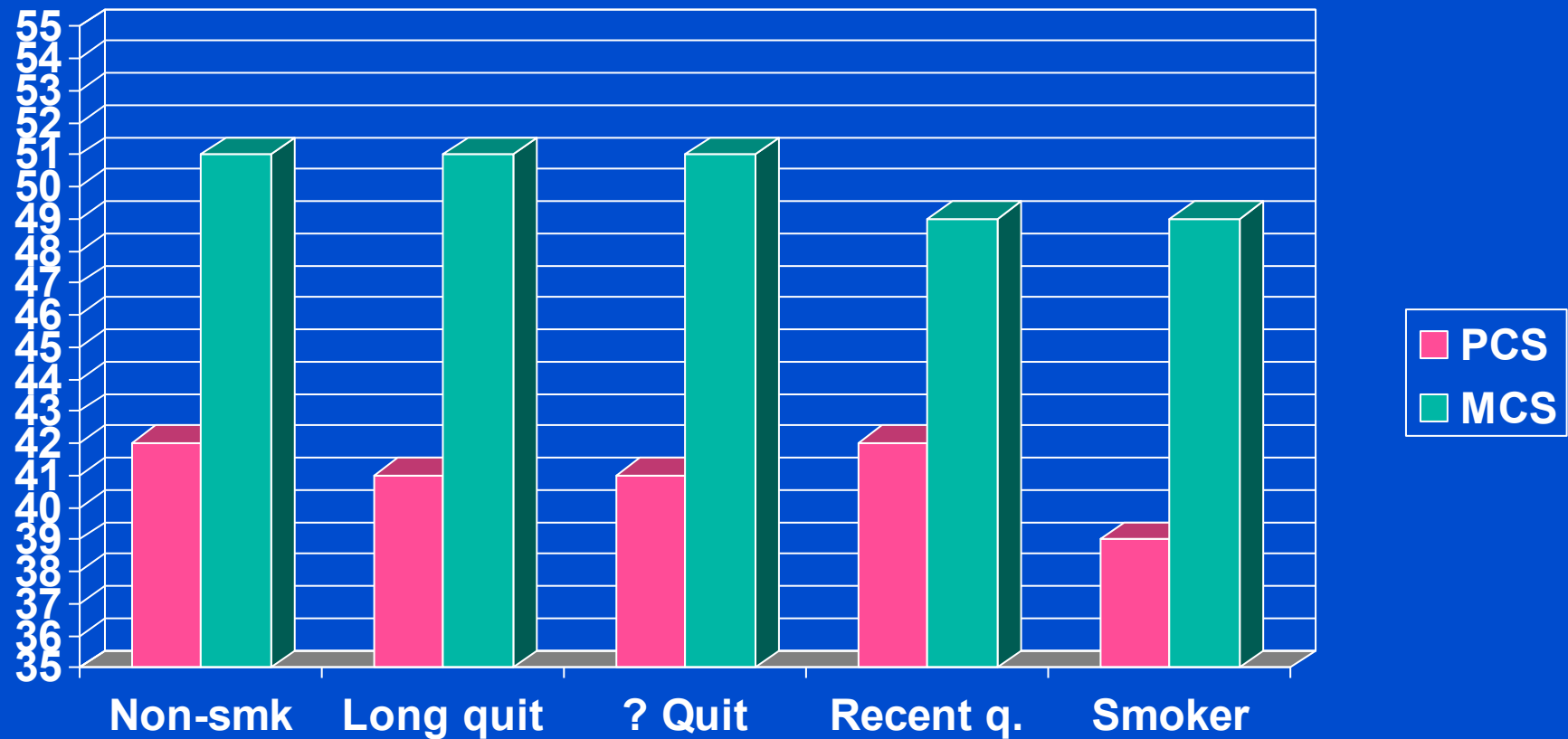
Adjusted for age, gender, education, income, race/ethnicity, marital status, mode of administration, proxy response, and comorbidities.

PCS and MCS by Smoker Status for Lung Cancer



Adjusted for age, gender, education, income, race/ethnicity, marital status, mode of administration, proxy response, and comorbidities.

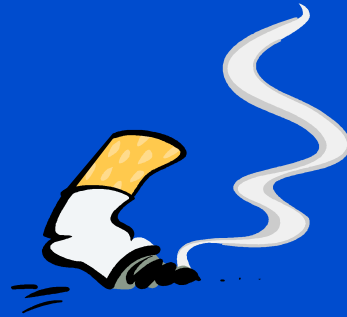
PCS and MCS by Smoker Status for Breast Cancer



Adjusted for age, gender, education, income, race/ethnicity, marital status, mode of administration, proxy response, and comorbidities.

“When are people going to realize that breathing in smoke from anything that burns is not a good idea?”

Duane Alan Hahn



Smoking has unique negative associations with physical and mental health

Those who recently quit smoking have noteworthy impairments in physical and mental health overall, but the impact differs by type of cancer (recent quitters do relatively well if they have lung and breast cancer)

