

What is Optimal Medical Therapy

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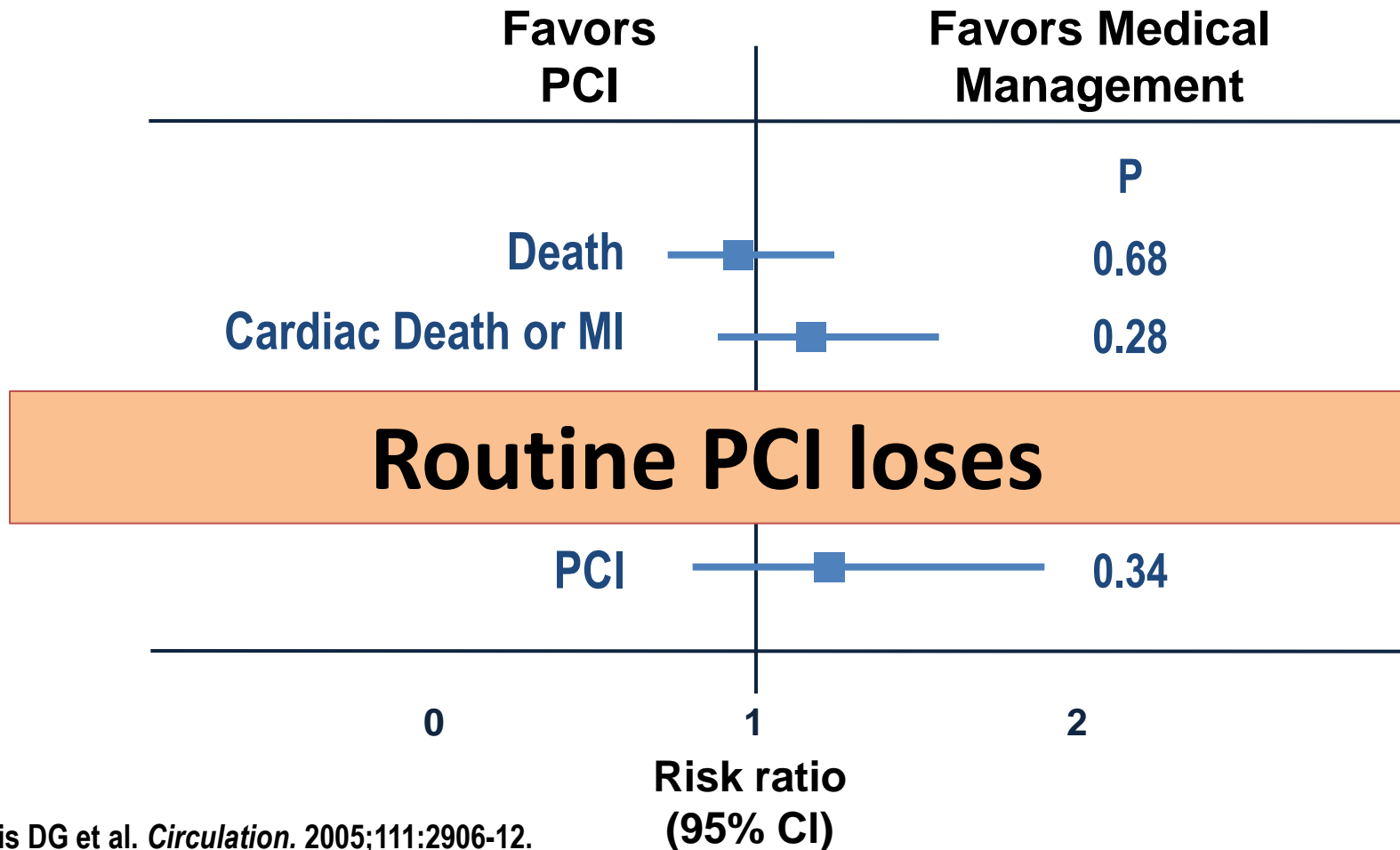
Houston, TX, USA

Disclosure

- I am an interventional cardiologist

Stable CAD: PCI vs. Medical Management Pre-COURAGE

Meta-analysis of 11 randomized trials; N = 2,950



Dual Goals for Management of Stable Ischemic Heart Disease (SIHD)

Prevent MI and Death (Disease Modification)



Improve “Quantity of Life”

Reduce Ischemia & Relieve Anginal Symptoms



Improve “Quality of Life”

Boden WE. Medical management of chronic coronary disease. Am J Cardiol. 2008;101:69D-74D.

Gibbons RJ et al. Circulation. 2003;107:149-158.

http://acc.org/qualityandscience/clinical/guidelines/stable/stable_clean.pdf.

Optimal \neq Maximal

Medications Patient



After Taking Medications



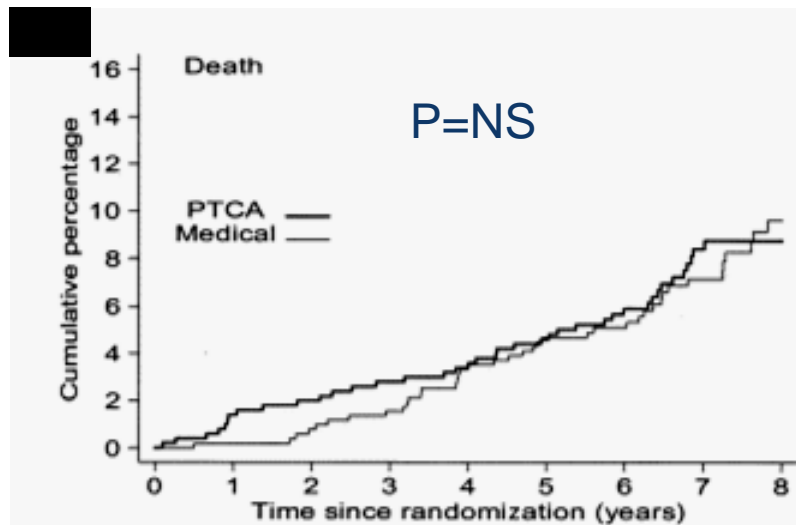
Randomized Clinical Strategy Trials of Revascularization in SIHD

- CABG vs. “Medical Therapy” (minimal, by 2014 standards): 1970’s-1980’s
- PCI (BMS) vs. “Some” (but not disease-modifying) Medical Therapy: 1990-2000
- PCI + “Optimal” Medical Therapy (OMT) vs. OMT alone: 2000-Present

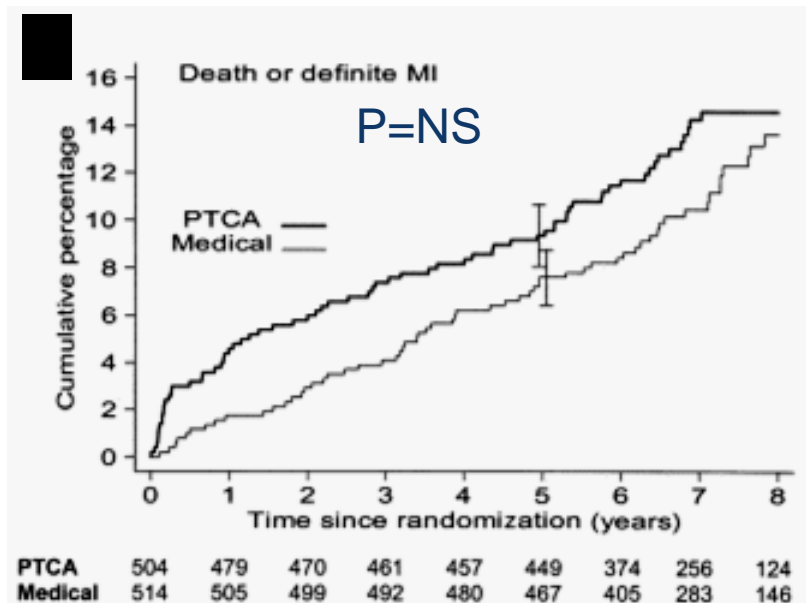
Evidence That Coronary Stenoses Could Be “Left Alone” Without Adverse Events

RITA-2, 1018 patients (504 PTCA, 514 medical management)

Death



Death or MI

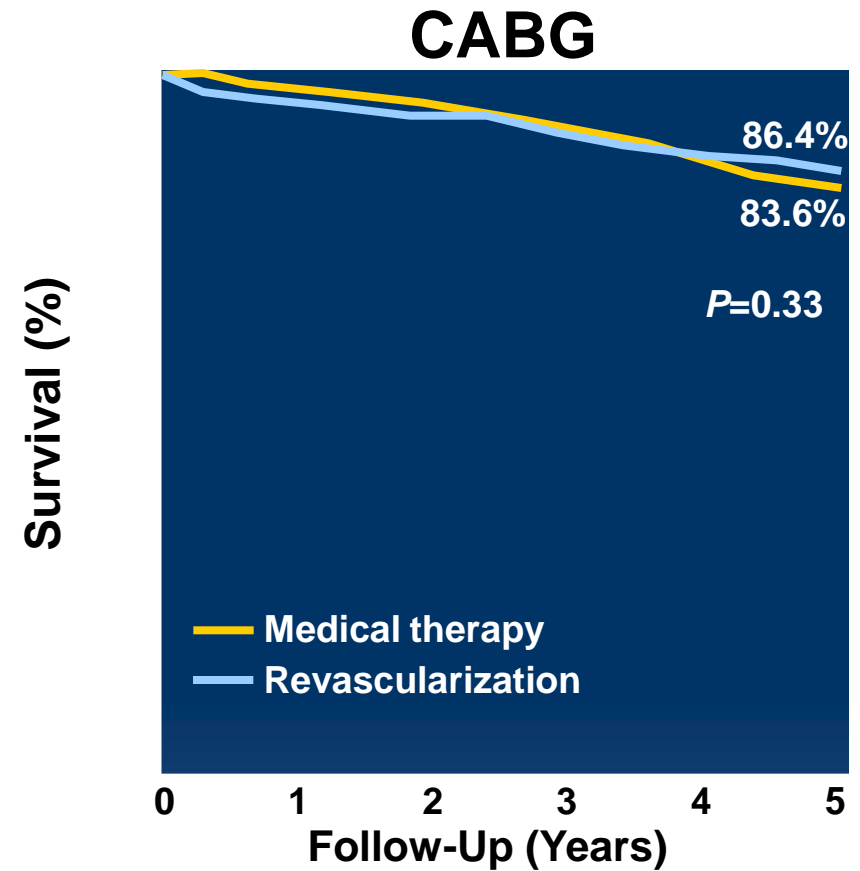
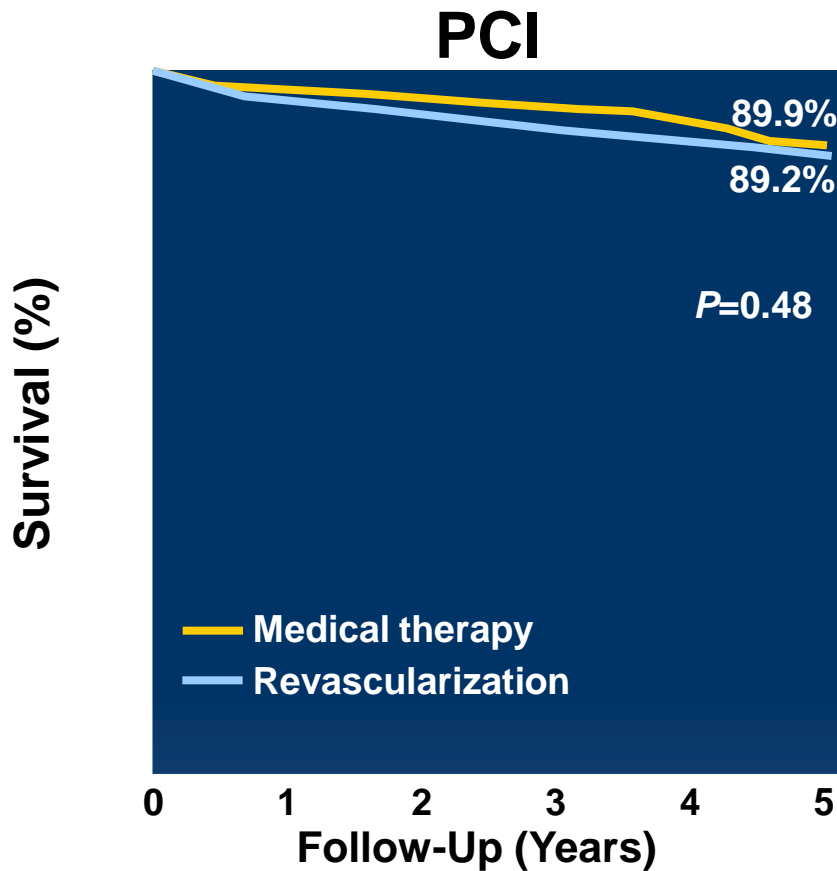


No Difference in Outcome over Median of 7 Years

(Henderson, et al. JACC 2003;42:1161)

BARI 2D Study: Medical Therapy Versus Revascularization

Primary Outcome (All-Cause Death)





Gated SPECT Results:

Post MI: Total PDS > 20%; IPDS > 10%

	Strategy 1 Medical Therapy (N=83)	Strategy 2 Revascularization (N=86)	p Value
Total PDS (Δ change)	-16.2 \pm 10	-17.8 \pm 12	0.36
Ischemic PDS (Δ change)	-15.0 \pm 9	-16.2 \pm 9	0.44
Scar PDS (Δ change)	-1.2 \pm 8	-1.6 \pm 7	0.73
% patients \geq 9% decrease			
Total PDS	75	79	0.50
Ischemic PDS	80	81	0.76
LVEF (Δ change)	4.7 \pm 7	4.6 \pm 8	0.93

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Optimal Medical Therapy with or without PCI for Stable Coronary Disease

2287 patients

“Optimal Medical Therapy“

At 5 yrs: 70% had LDL <100 mg/dl; median LDL = 71 mg/dl at 5 yrs

65% and 94% had SBP and DBP < 130/85 mmHg, respectively

45% of patients with diabetes had Hb A1c <7%

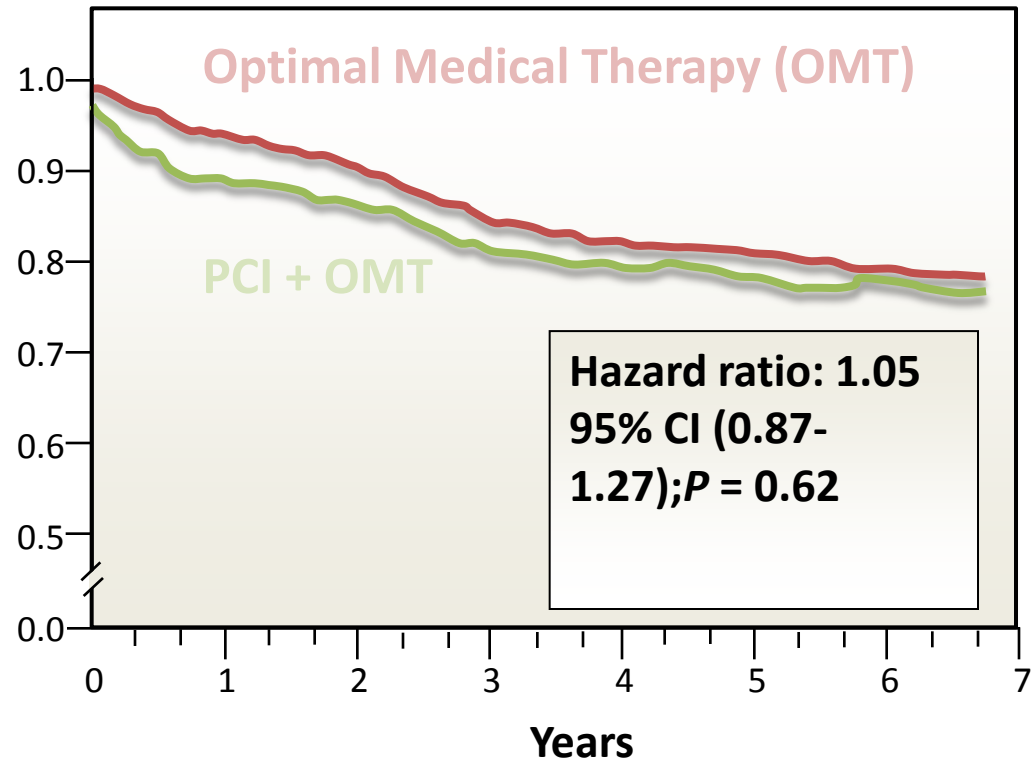
High adherence to diet, exercise, smoking cessation, and meds

97% BMS; 3% DES; all patients suitable for PCI; intermediate event rate

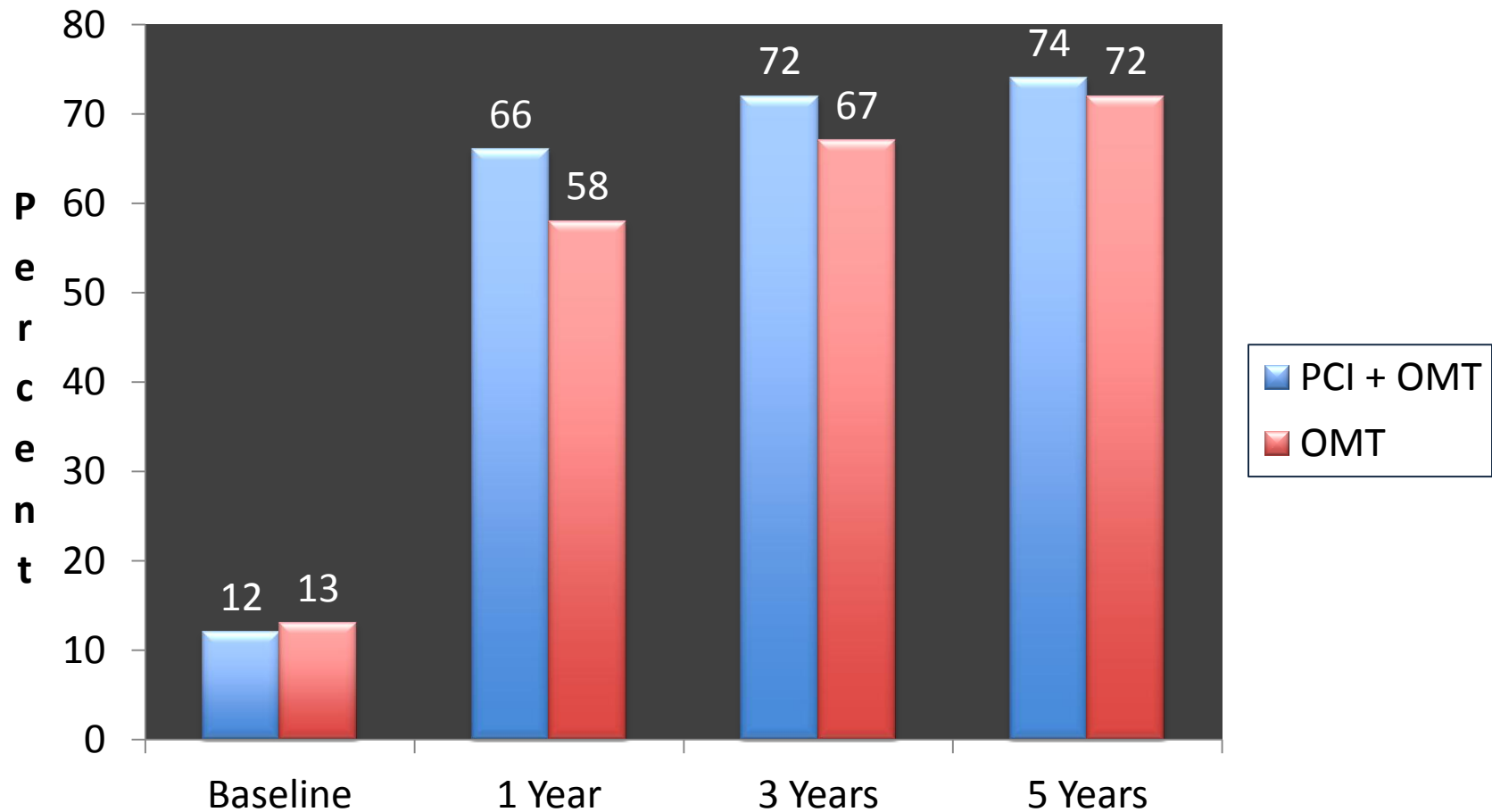
What Was Achieved with Optimal Medical Therapy (OMT) in COURAGE...

Primary Endpoint: Survival Free of Death or MI

- Randomization to PCI + OMT vs OMT
- Intensive, Guideline-driven Medical Therapy & Lifestyle Intervention In Both Groups



COURAGE: Freedom From Angina



Pharmacologic Therapy in SIHD: 2000

Disease-Modifying Therapy

- Aspirin
- Statins
- ACE inhibitors and/or ARBs
- Beta-blockers Post-MI

Symptomatic Treatment for Angina/Ischemia Control

- Beta-blockers w/o MI
- Calcium antagonists
- Nitrates

Pharmacologic Therapy in SIHD: 2014

Disease-Modifying Therapy

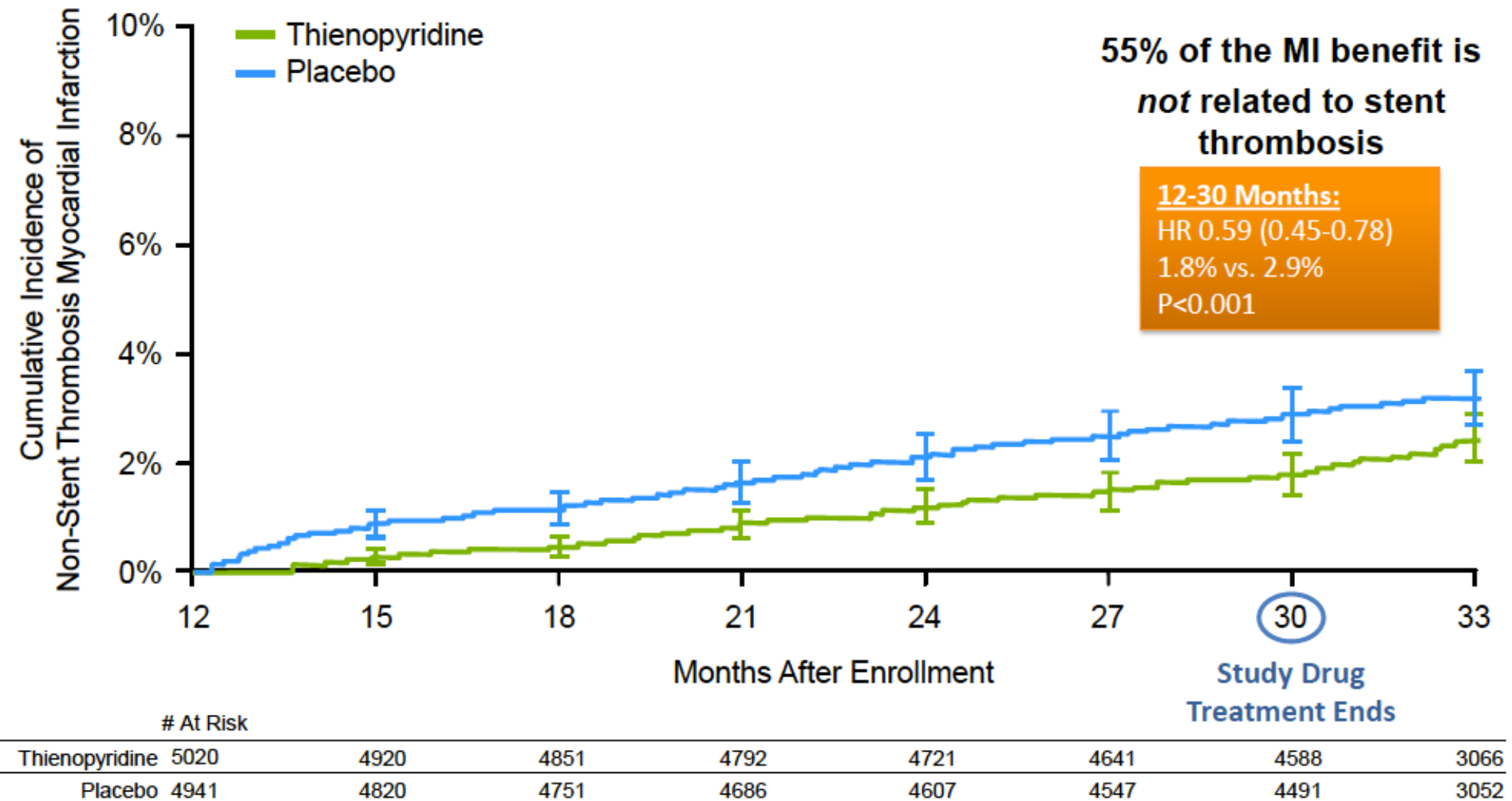
- Aspirin
- Thienopyridines
- ? Vorapaxar
- Statins (Higher dose)
- ACE inhibitors and/or ARBs
- Beta-blocker Post-MI
- Aldosterone Inhibitors
- ? Fibrates and Niacin

Symptomatic Treatment for Angina/Ischemia Control

- Beta-blockers w/o MI
- Calcium antagonists
- Nitrates
- Ranolazine
- ~~Ivabradine (in Europe)~~

Ezetemibe

Non-Stent Thrombosis Myocardial Infarction



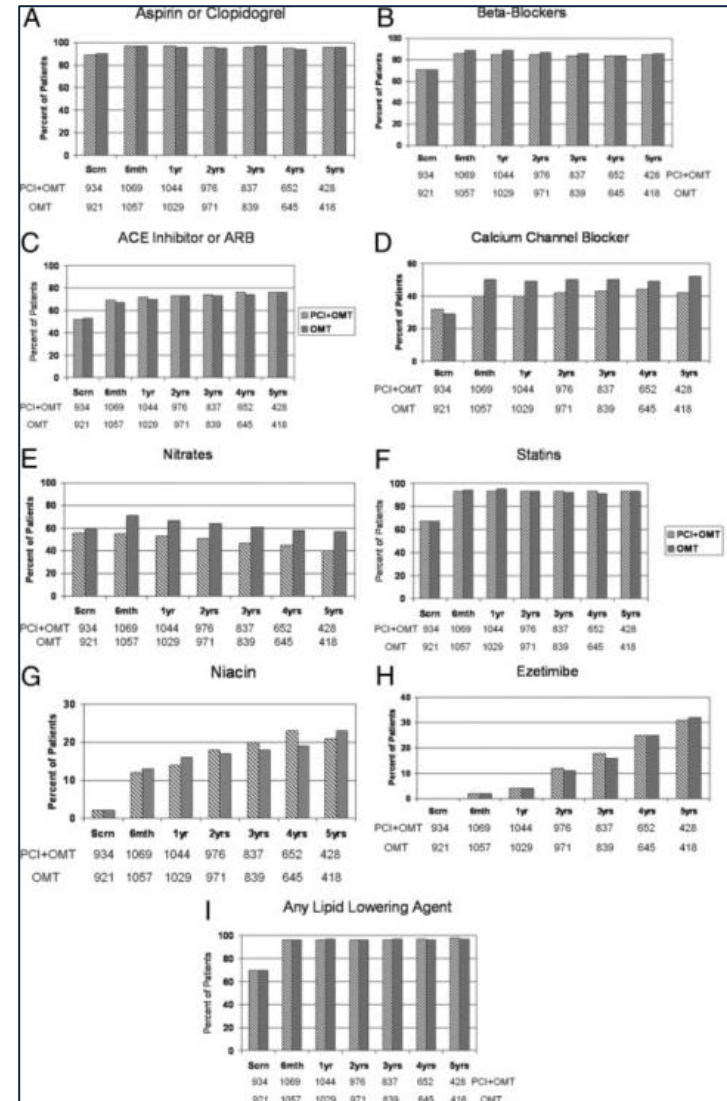
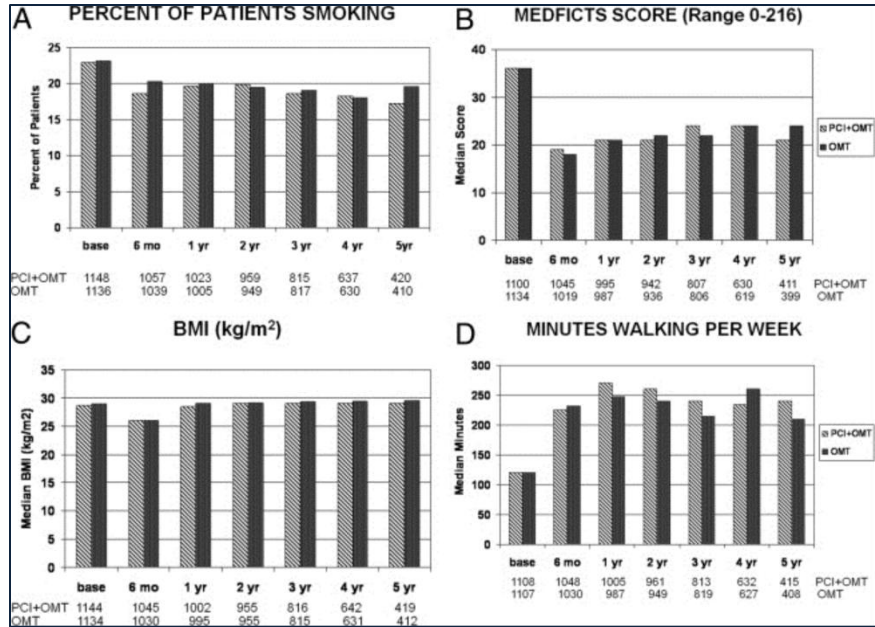
COURAGE Treatment Goals

- Aspirin Use
- Blood pressure < 130/85 (<80 if diabetic)
- LDL-C < 85 mg/dL (lowered in 2004)
- HDL-C \geq 40 mg/dL
- TG < 150 mg/dL
- Fasting glucose < 126 mg/dL
- Non-smoking
- BMI < 25 kg/m²
- Exercise \geq 4 days/wk

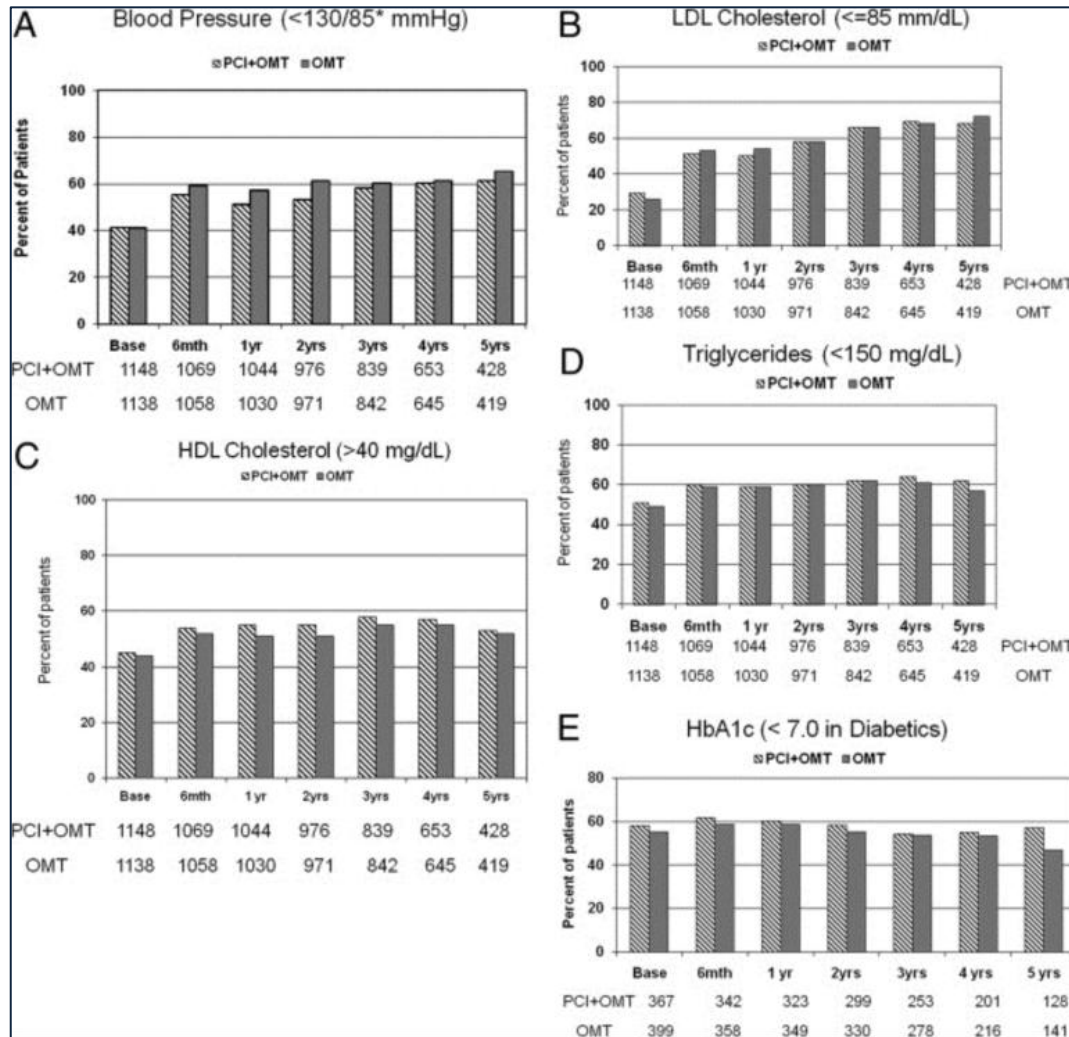
COURAGE Treatment Goals

- Aspirin Use
- Blood pressure < 130/85 (<80 if diabetic)
- LDL-C < 85 mg/dL (lowered to ≤ 70 in 2004)
- HDL-C ≥ 40 mg/dL
- TG < 150 mg/dL
- Fasting glucose < 126 mg/dL
- Non-smoking
- BMI < 25 kg/m²
- Exercise ≥ 4 days/wk

COURAGE: Trends in Lifestyle Modification and Medication Use



COURAGE: Trends in Lifestyle Modification and Medication Use



Optimal medical therapy is
really the treatment that the
patient will let you give him/her.

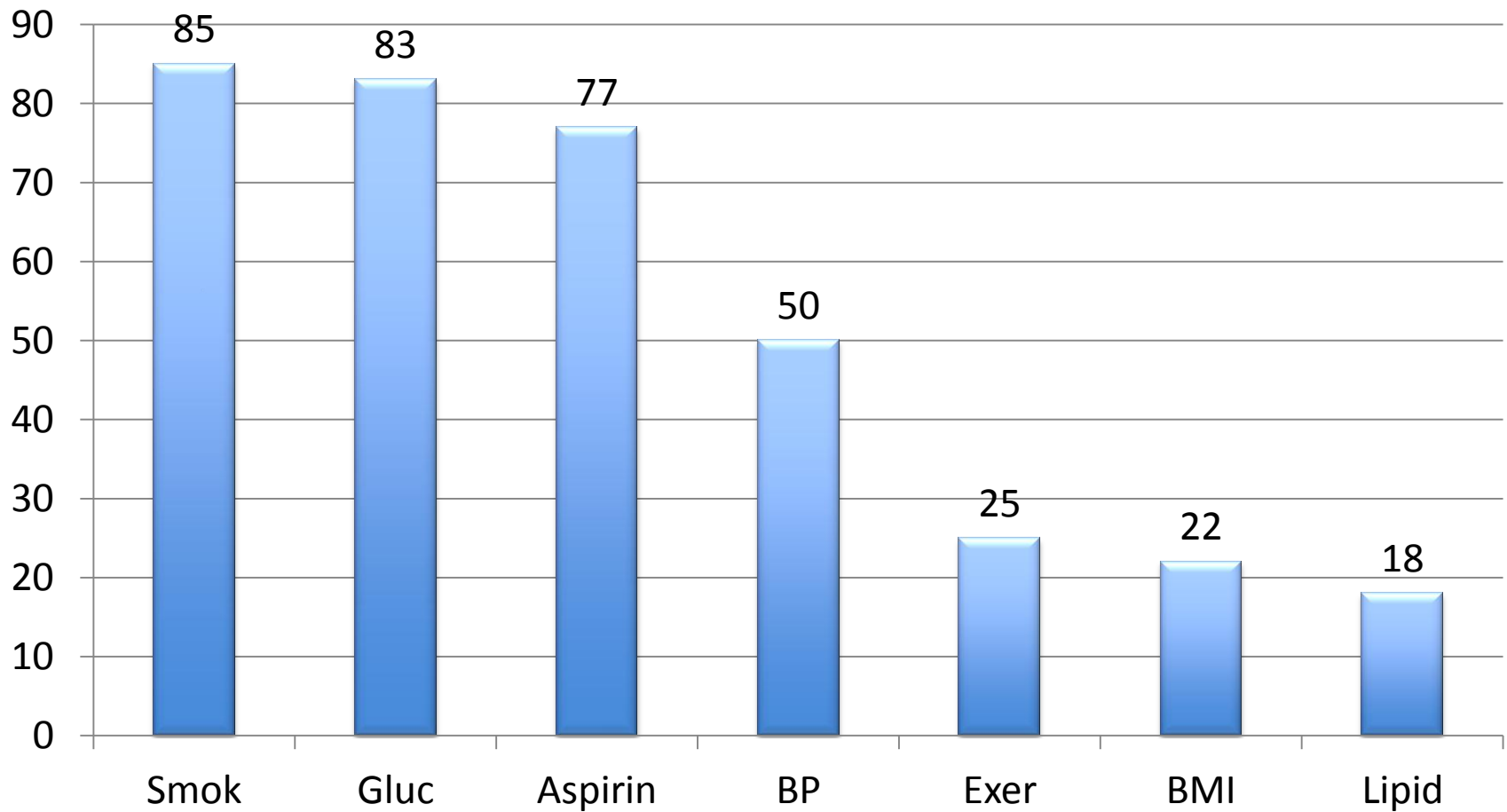
COURAGE Treatment Procedure

- Patients met with a nurse case manager at baseline, 1, 2, 3, 6 months, then every 6 months thereafter.
- How does this procedure play out in the real world?
 - Systematic vs fragmented approach to health care

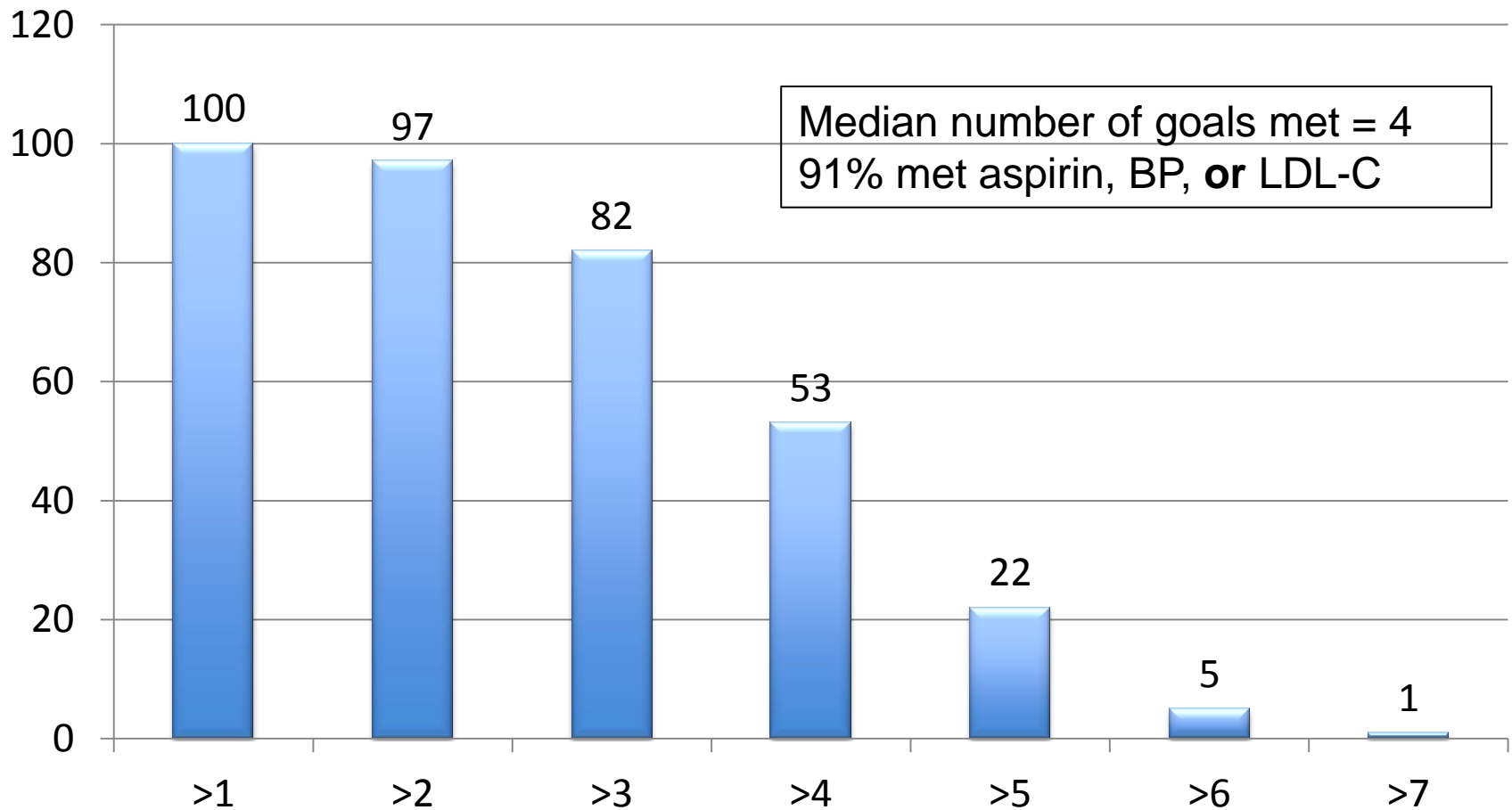
REGARDS Study

- Cohort study of 30,239 individuals in the Southeast US recruited 2003-7 with longitudinal follow-up
- 42% African American; 55% female
- 4,245 reported history of CAD (MI, PCI, CABG)
 - Mean age = 69+/- 9 years
 - 1/3 African American
 - 1/3 Female

Percentage of Subjects Reaching Each Goal



Percentage Achieving Goals

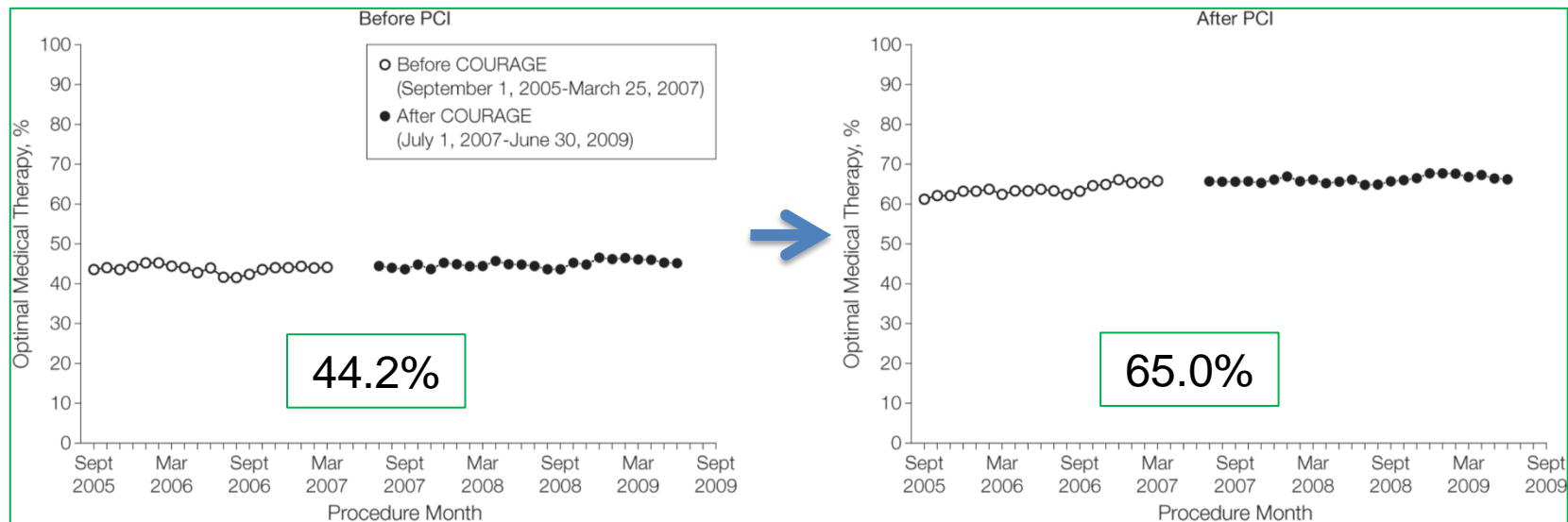


Predictors of Achieving Goals for Aspirin, BP Control, and LDL Control

- Age
- Sex
- Region of Southeast US
- Urban vs Rural
- Income
- Education
- Kidney function
- Physical component score of SF-12

OMT in Patients Receiving OMT: Before and After COURAGE

- ACC CathPCI Registry Database 2005-9
- 467,211 Patients at 1,013 hospitals
- Analysis based on prescriptions filled; patients with contraindications were excluded

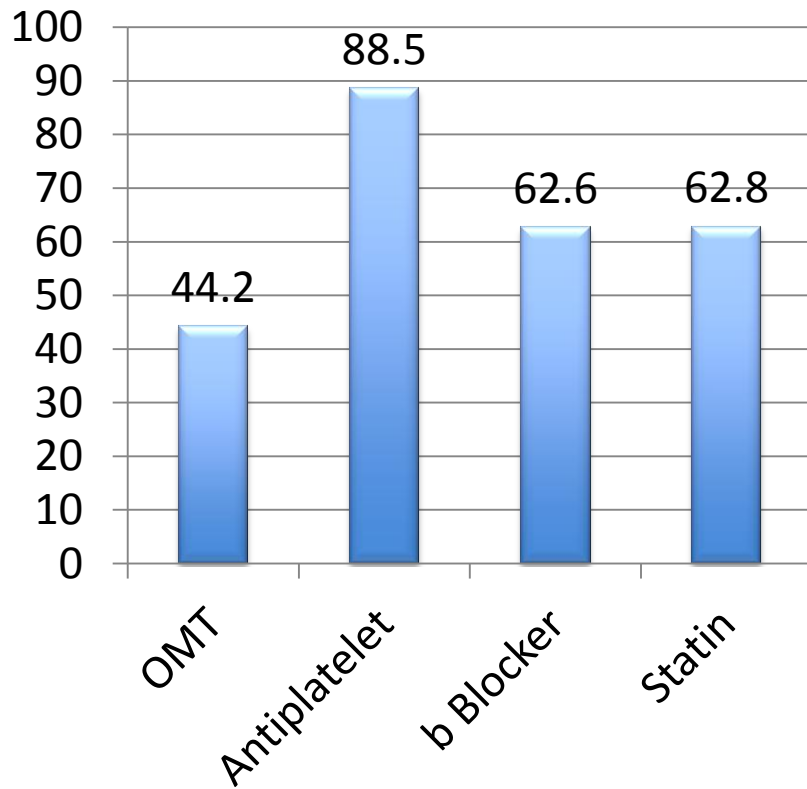


OMT = Aspirin or thienopyridine, β -blocker, statin, ACE/ARB if indicated

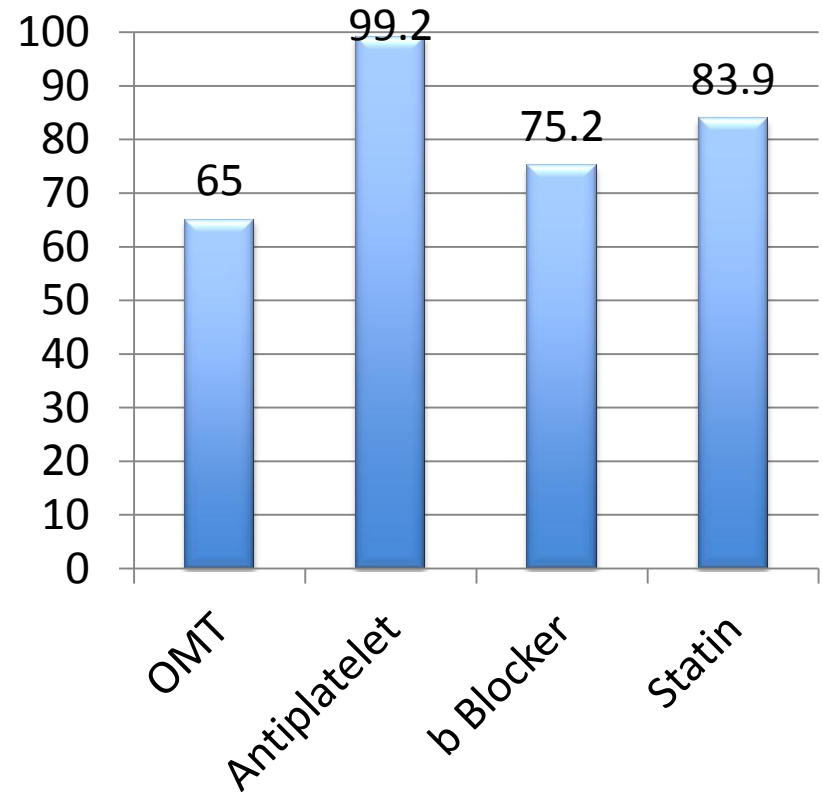
Borden:JAMA. 2011;305:1882.

OMT Before and After PCI

Before PCI



After PCI



Major Points

- OMT is the winner with or without PCI
- The definition of OMT is fluid -- in a big way
- Administering and maintaining OMT requires a well-maintained infrastructure
- PCI seems to be a focal point that allows patients entry into a world of more optimized medical therapy