



# AFRICA STEMI LIVE!

# 2018

THE EPIDEMIC OF CORONARY ARTERY DISEASE HAS  
ARRIVED IN AFRICA.  
ARE YOU READY FOR IT?





# Five Myths About Statins (Cholesterol Lowering)

Elijah N. Ogola, FACC

University of Nairobi

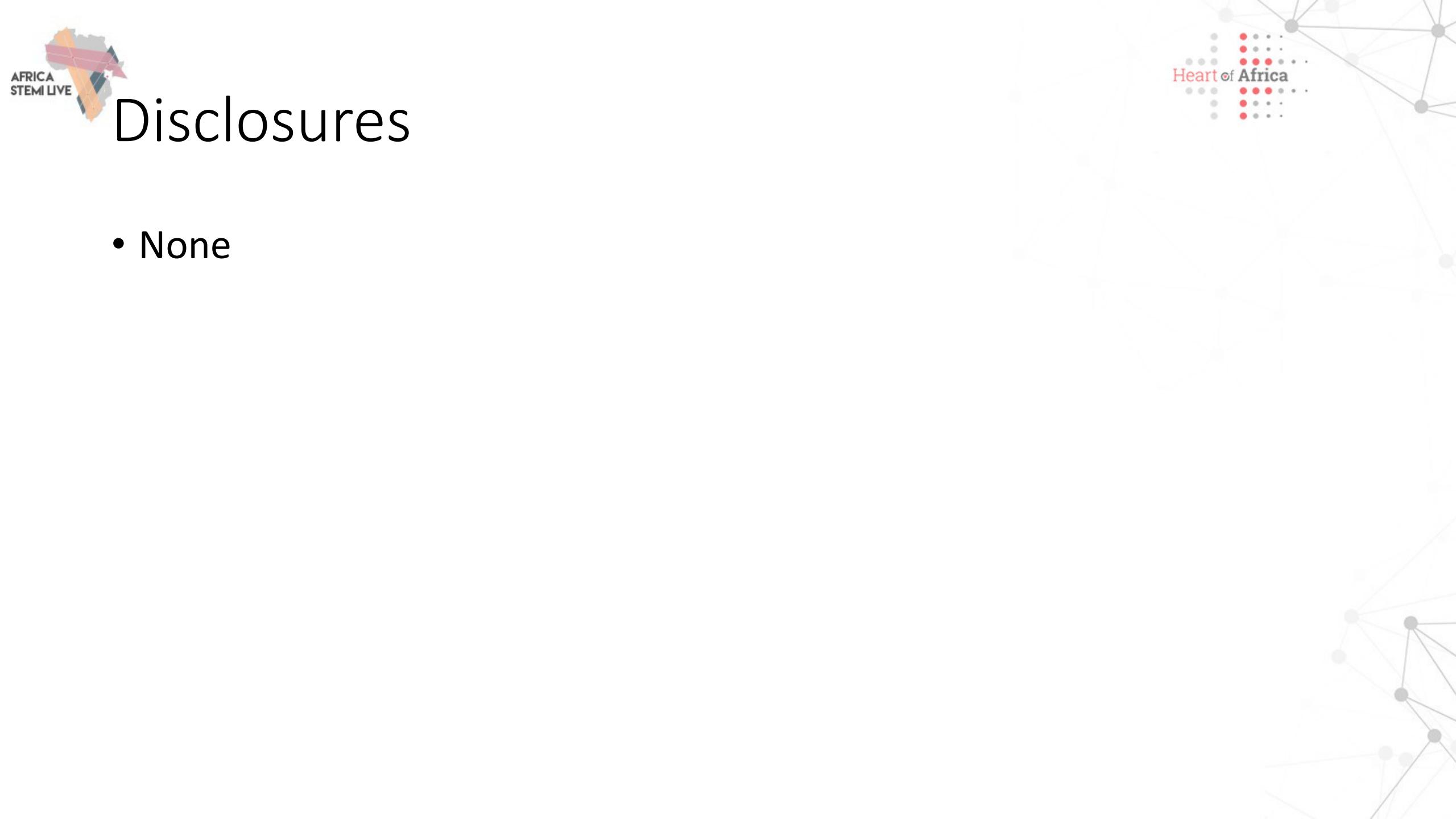
Secretary General, PASCAR

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STEMI Africa 2018

27<sup>th</sup> – 28<sup>th</sup> April 2018

Nairobi, Kenya



# Disclosures

- None

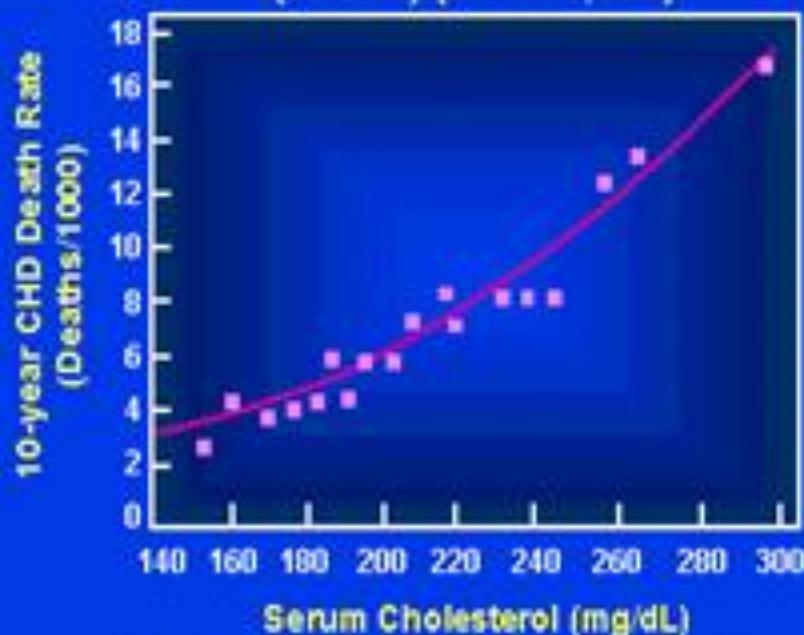
# Outline

- Does high cholesterol cause heart disease?
- Does lowering LDL cholesterol lower heart disease?
- Is cholesterol lowering useful in primary prevention (low risk)?
- Does the risk of diabetes outweigh benefits of cholesterol lowering?
- Does cholesterol lowering cause neuro-cognitive decline?
- Does cholesterol lowering increase cancer risk?

# Relationship Between Cholesterol and CHD Risk

## Epidemiologic Trials

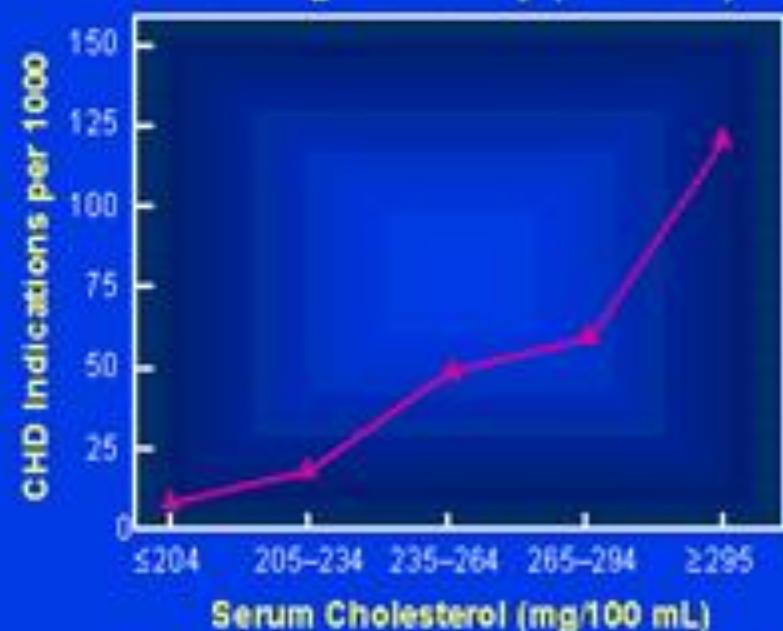
Multiple Risk Factor Intervention Trial  
(MRFIT) (n = 361,662)



Each 1% increase in total cholesterol level is associated with a 2% increase in CHD risk

Goto AM Jr, et al. Circulation. 1990;81:1721-1733.  
Castelli WP. Am J Med. 1984;76:4-12.

Framingham Study (n = 5209)



1% reduction in total cholesterol resulted in a 2% decrease in CHD risk

## 4S: Cardiovascular Endpoints

**Post-MI or Angina Patients with Raised Cholesterol**

Outcomes	Number of events			
	placebo (n=2223)	simvastatin (n=2221)	Relative risk reduction (%)	p-value
Total mortality*	256	182	30	<0.001
Coronary death	189	111	42	<0.001
Major coronary events	622	431	34	<0.001
PCTA/CABG	383	252	37	<0.001

\* primary endpoint

# WOSCOPS: Nonfatal MI and CHD Death

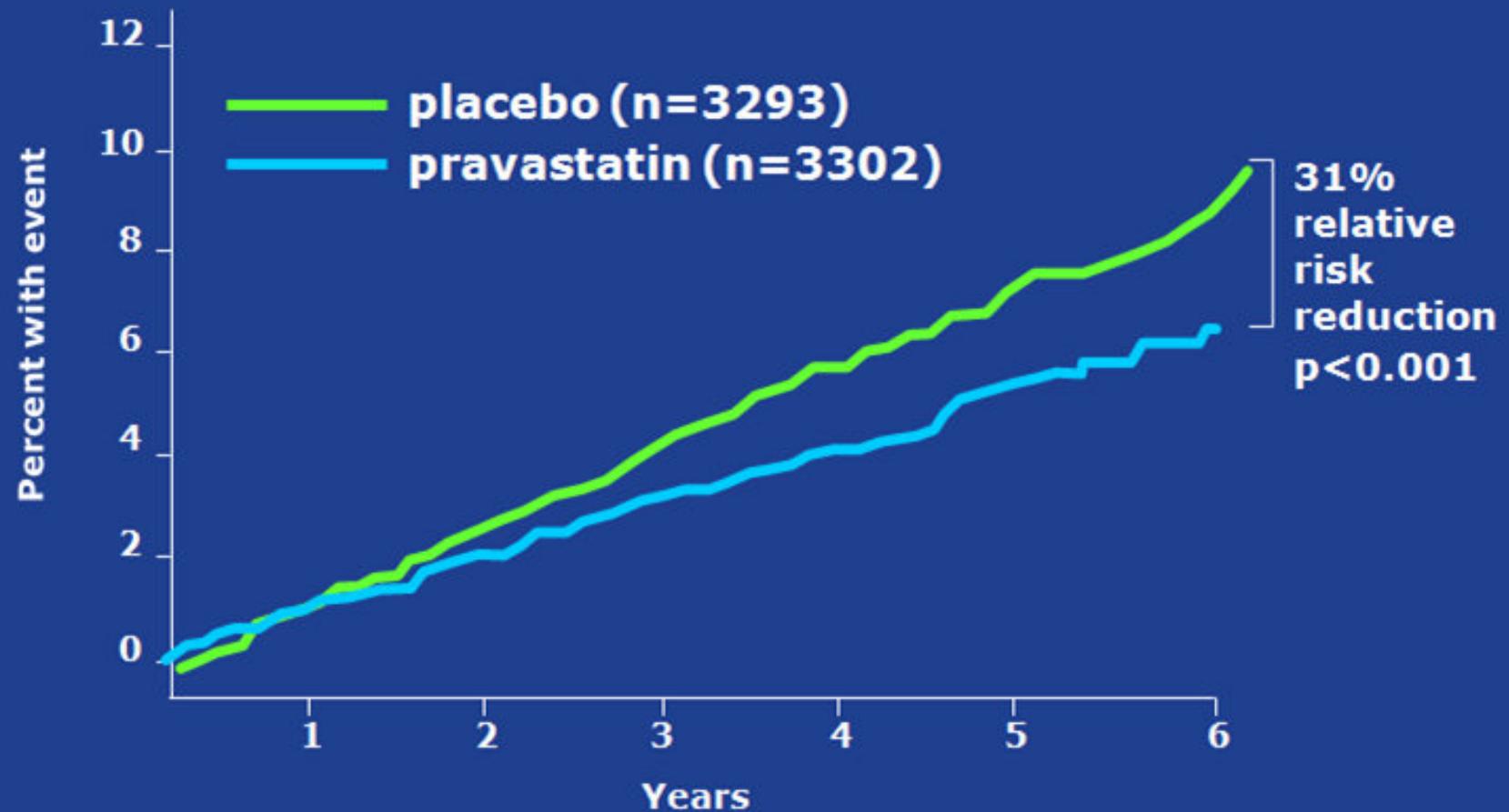


Figure 1

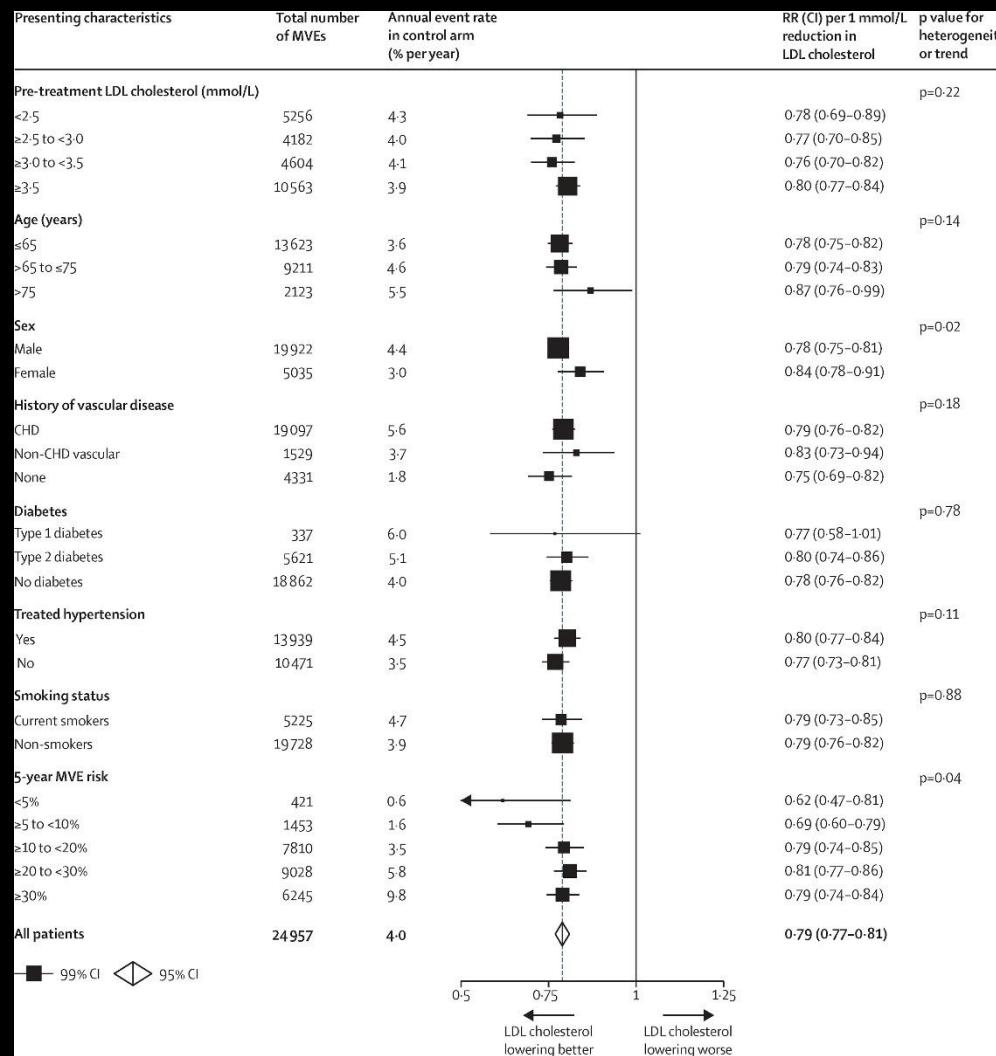


Figure 2

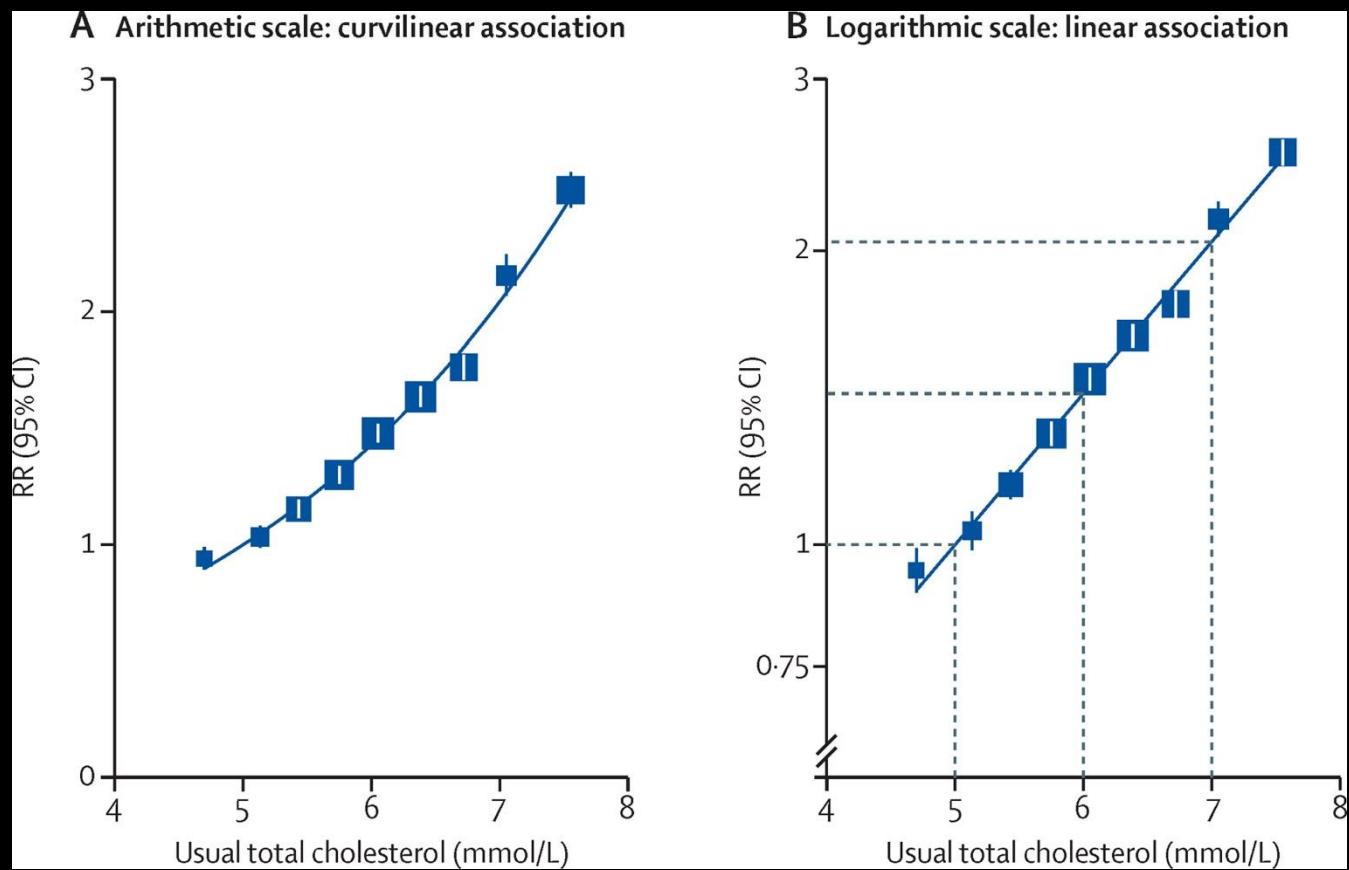


Figure 6

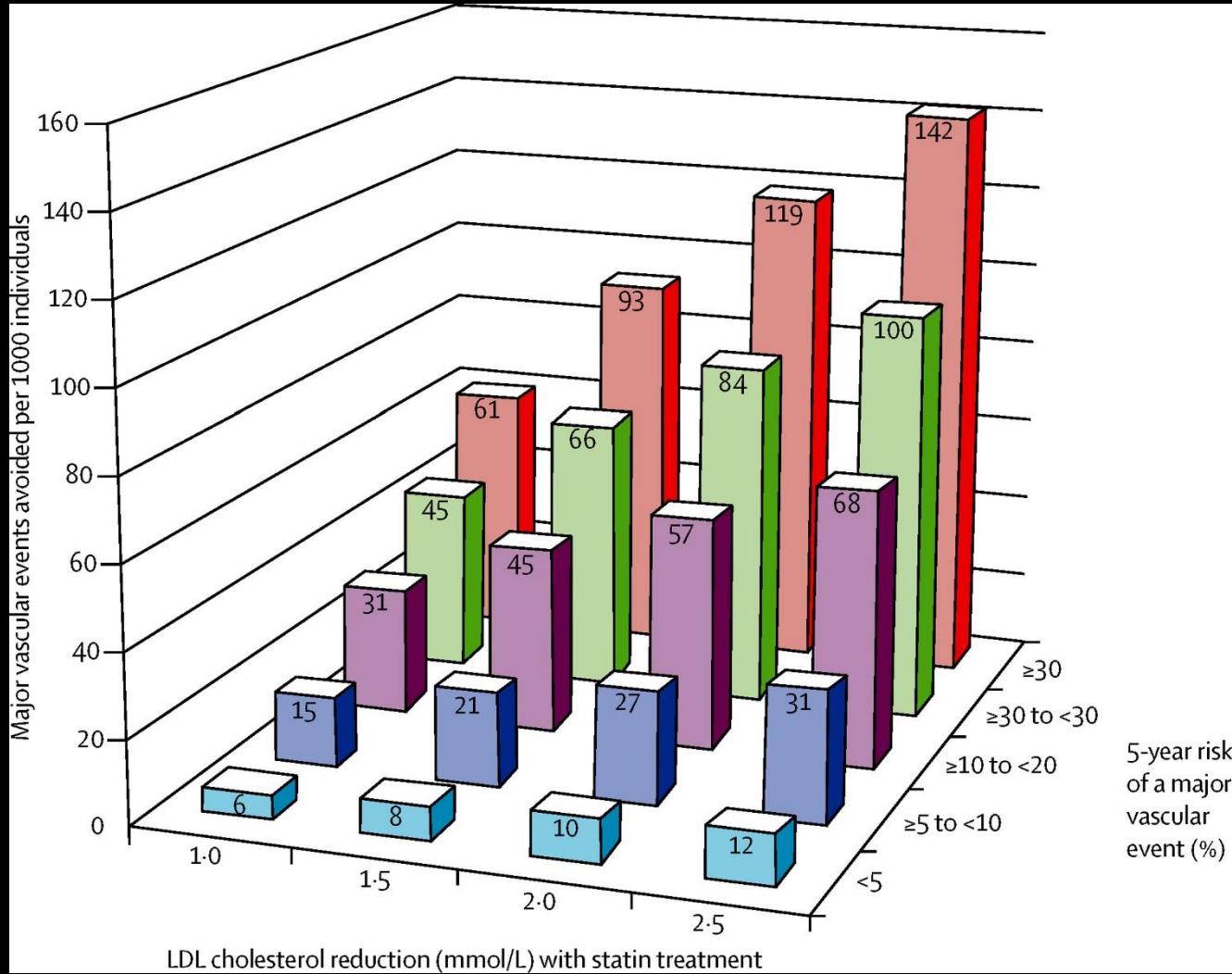
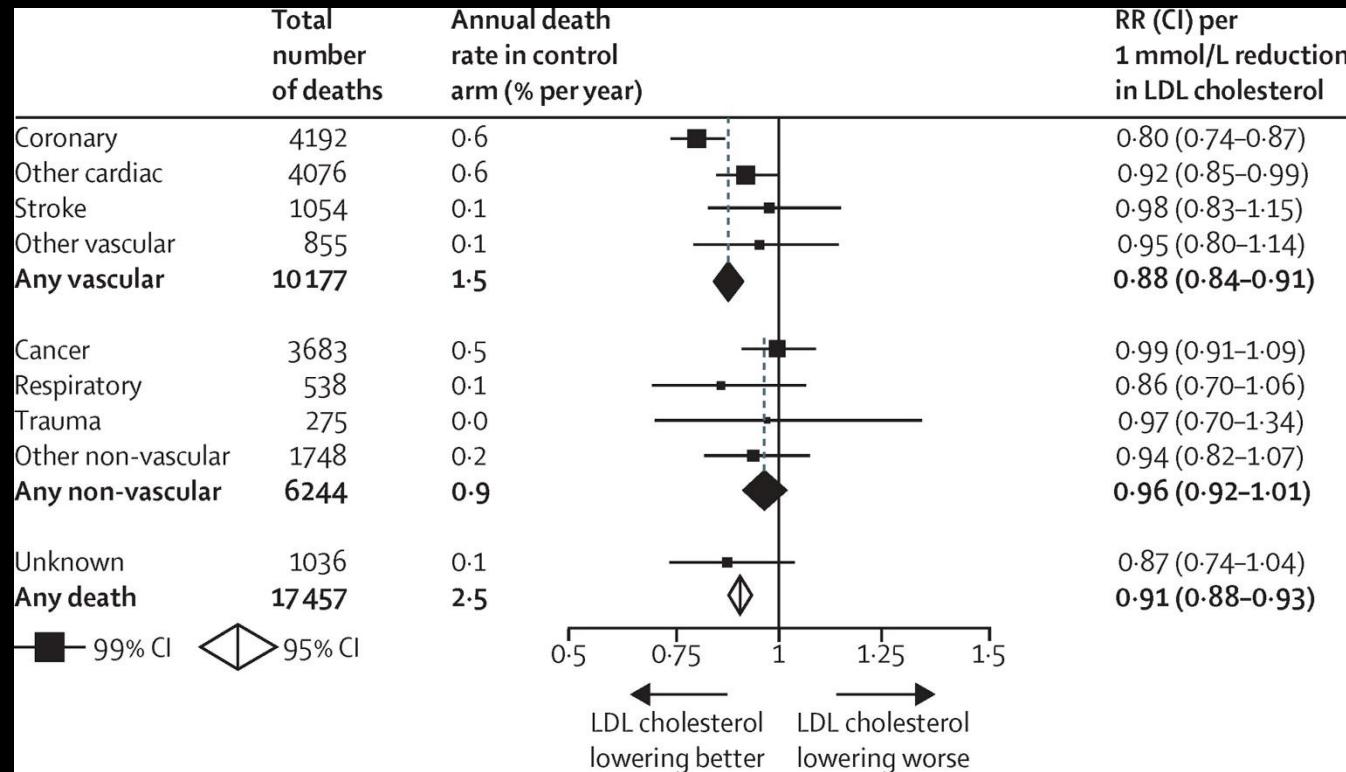


Figure 6



From: Association Between Lowering LDL-C and Cardiovascular Risk Reduction Among Different Therapeutic InterventionsA Systematic Review and Meta-analysis

JAMA. 2016;316(12):1289-1297. doi:10.1001/jama.2016.13985

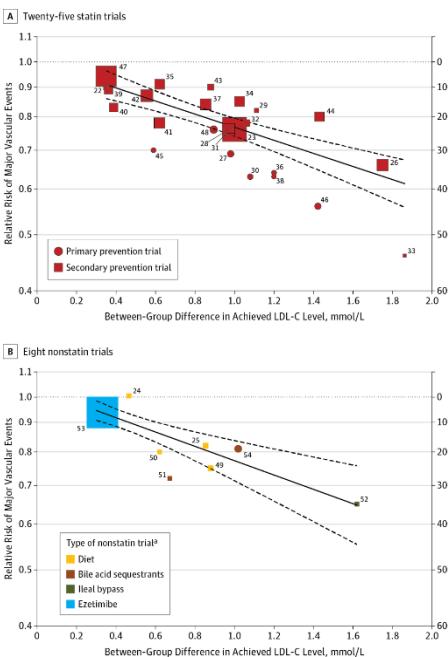


Figure Legend:

Association of Between-Group Difference in Achieved Low-Density Lipoprotein Cholesterol (LDL-C) Levels and Risk of Major Vascular EventsThe LDL-C differences are either mean or median depending on what was presented for each trial. Major vascular events include cardiovascular death, acute myocardial infarction or other acute coronary syndrome, coronary revascularization, and stroke (eTables 1-5 in the Supplement provide additional details). The size of the data marker is proportional to the weight in the meta-regression. The meta-regression slope (predicted relative risk for degree of LDL-C reduction) is represented by the solid line and the 95% CIs by the dashed lines. To convert LDL-C from mmol/L to mg/dL, divide by 0.0259.

<sup>a</sup>The square data markers indicate secondary prevention trials. There was 1 primary prevention trial and 1 secondary prevention trial.

Figure 1

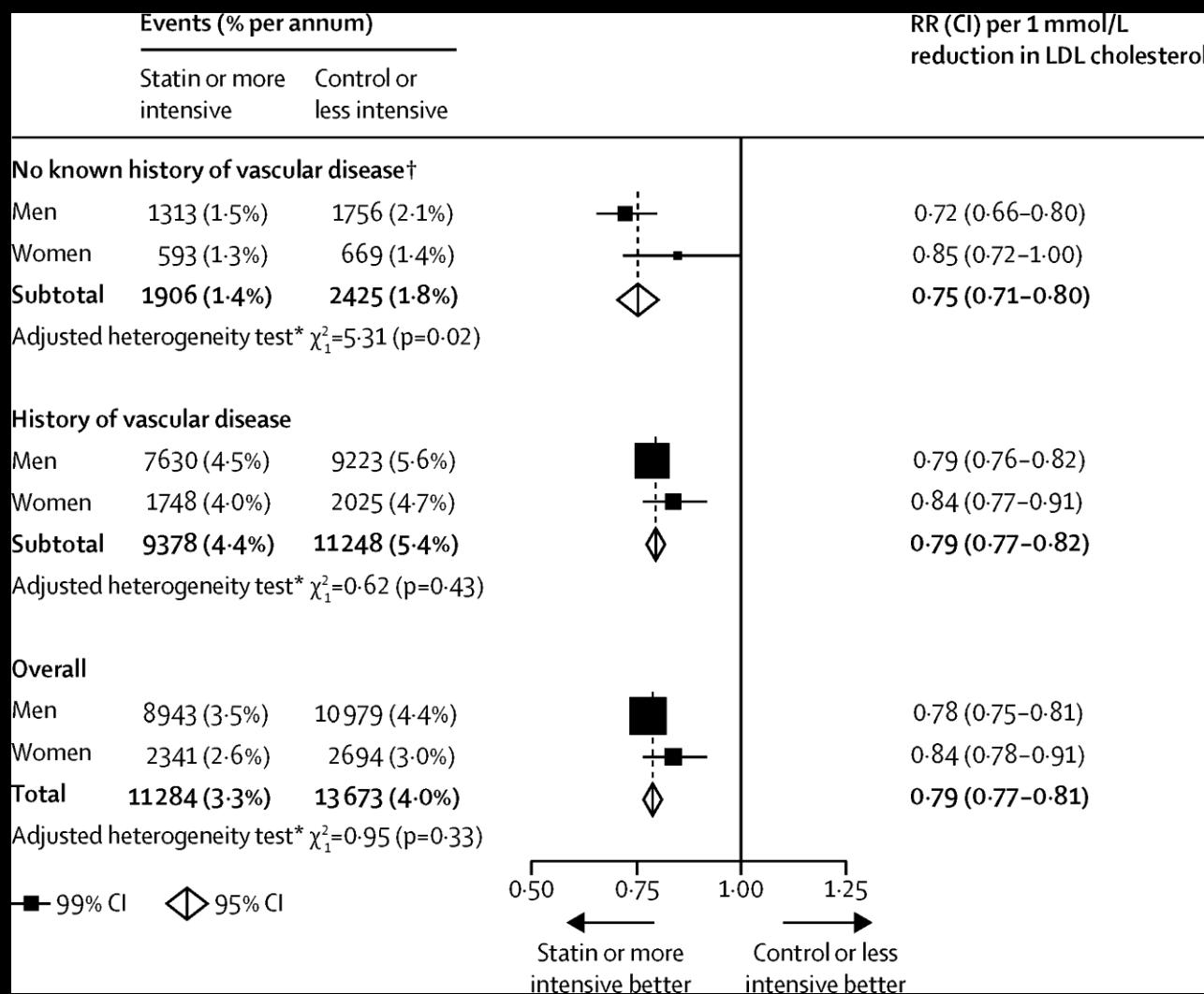
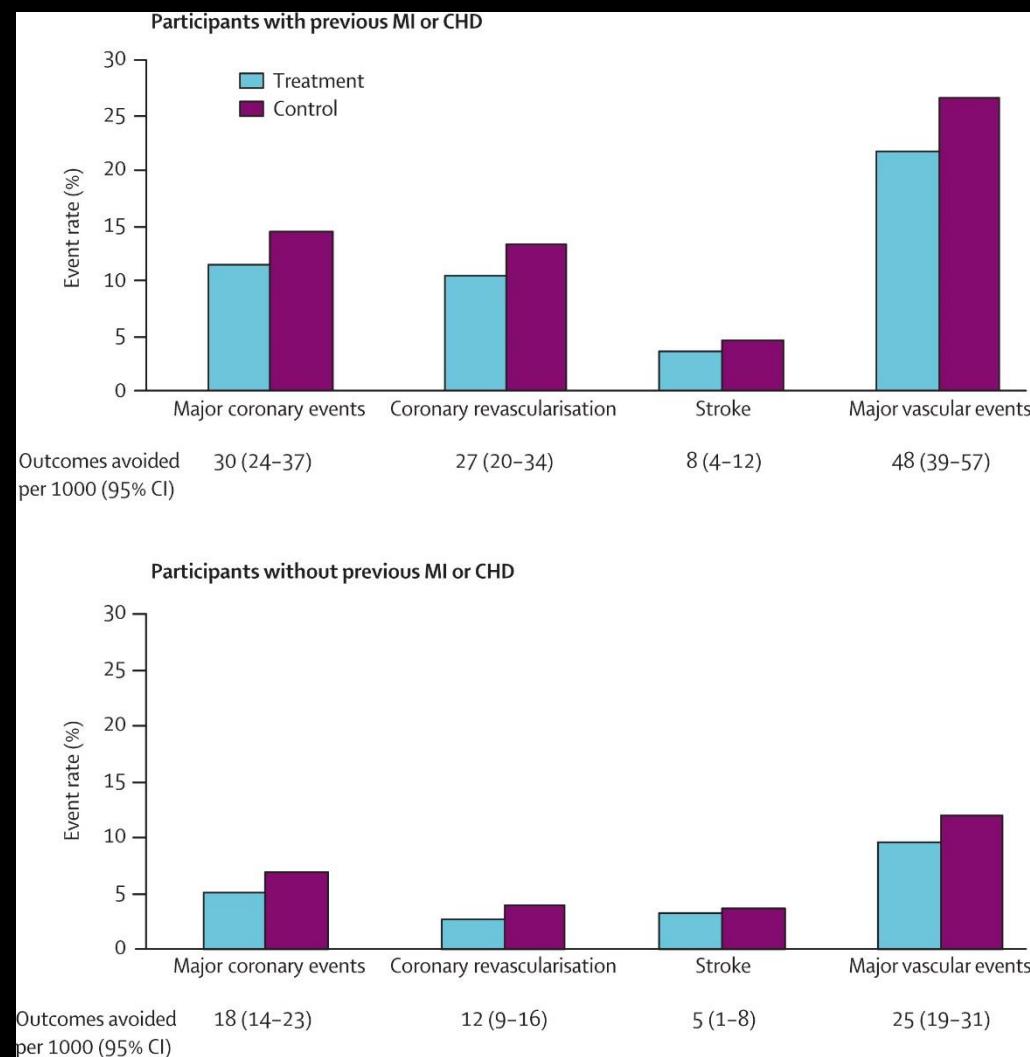
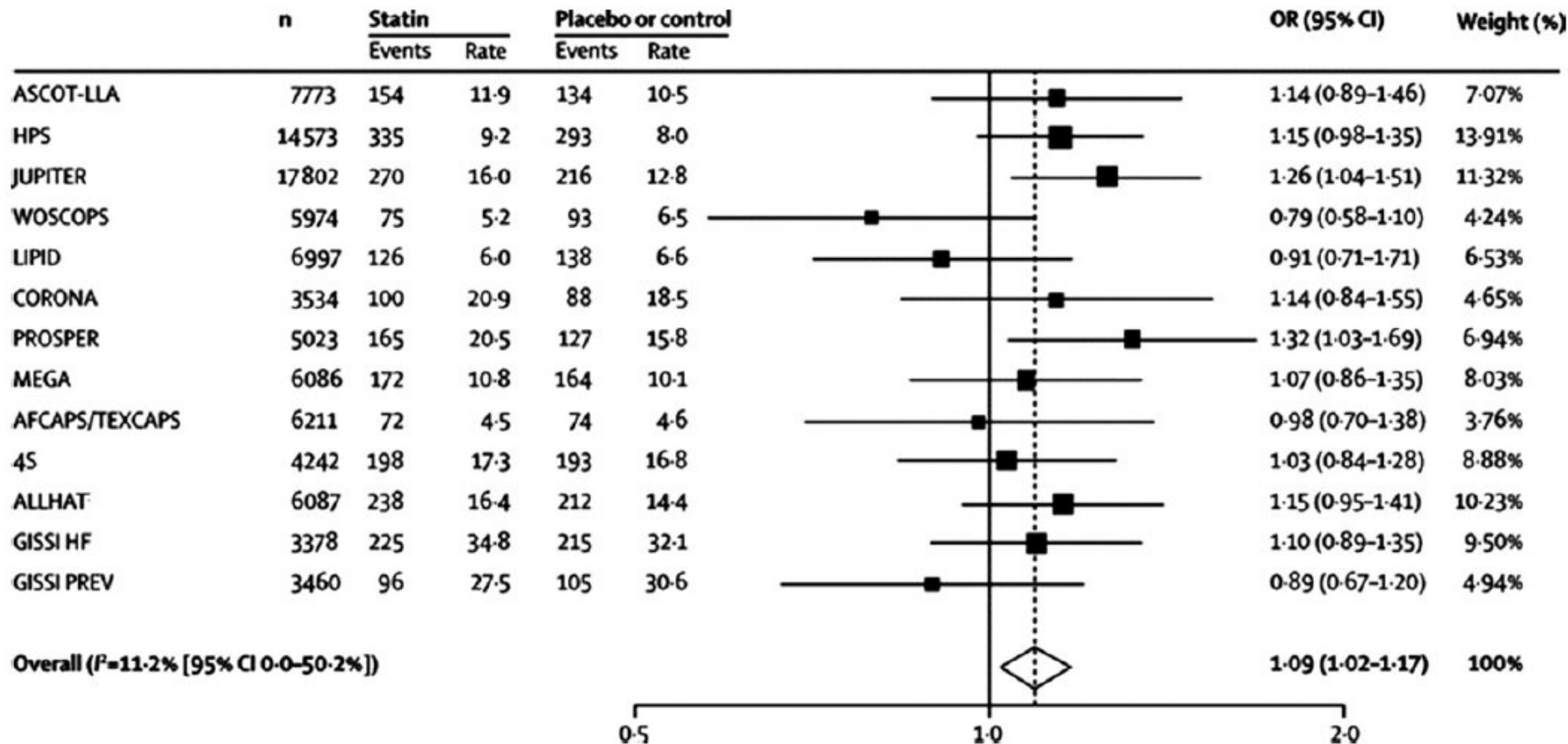


Figure 6





**Figure 3** Association Between Statin Therapy and Incident Diabetes in 13 Major Cardiovascular Trials

Events per 1,000 patient-years. Weights are from random-effects analysis. Figure was originally published in Sattar et al. (66); permission for its use granted by the publisher. CI = confidence interval; OR = odds ratio.

# Effects on major vascular events of 1 mmol/L reduction in LDL-C: Patients with and without diabetes from 14 RCTs

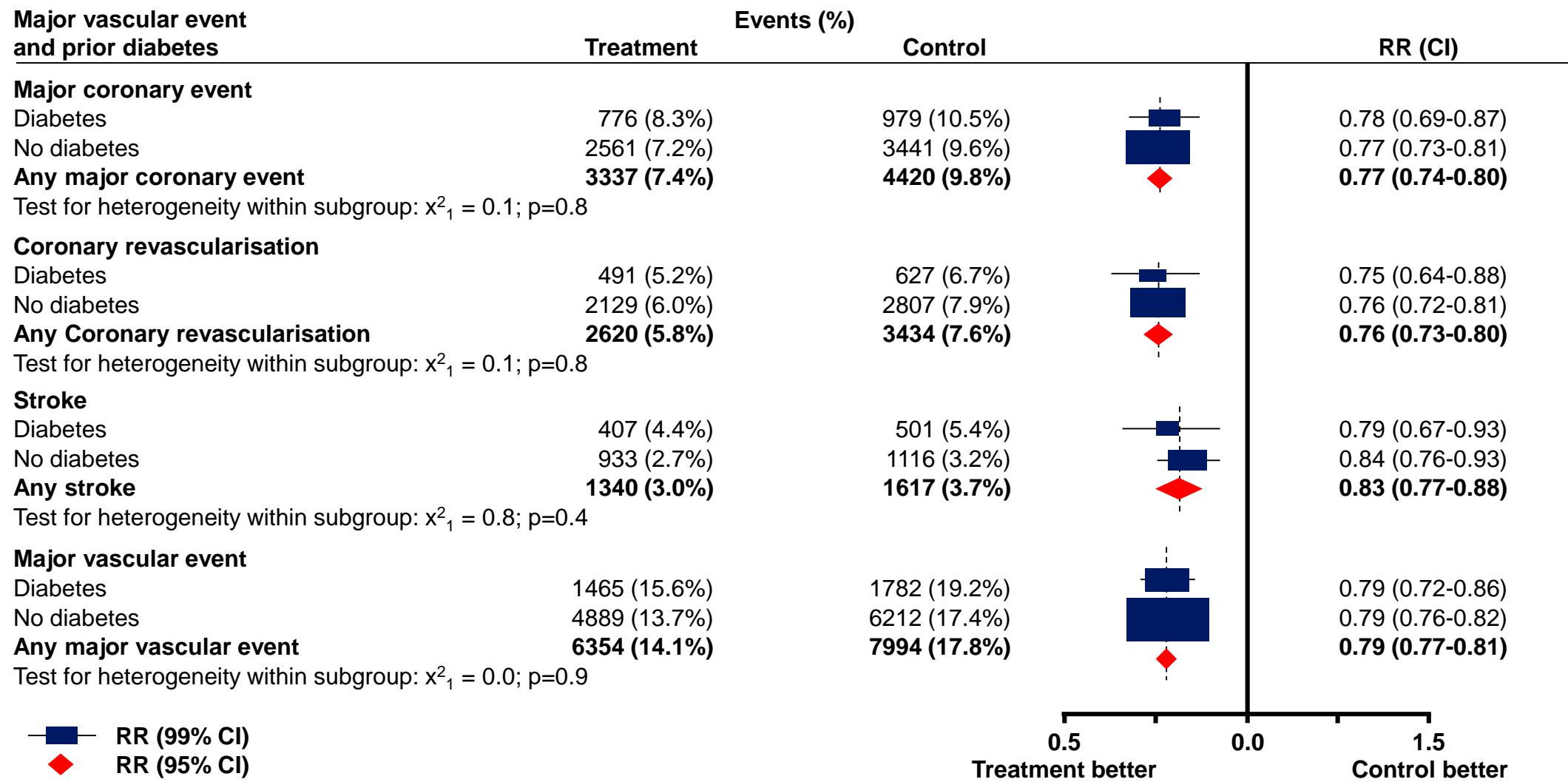
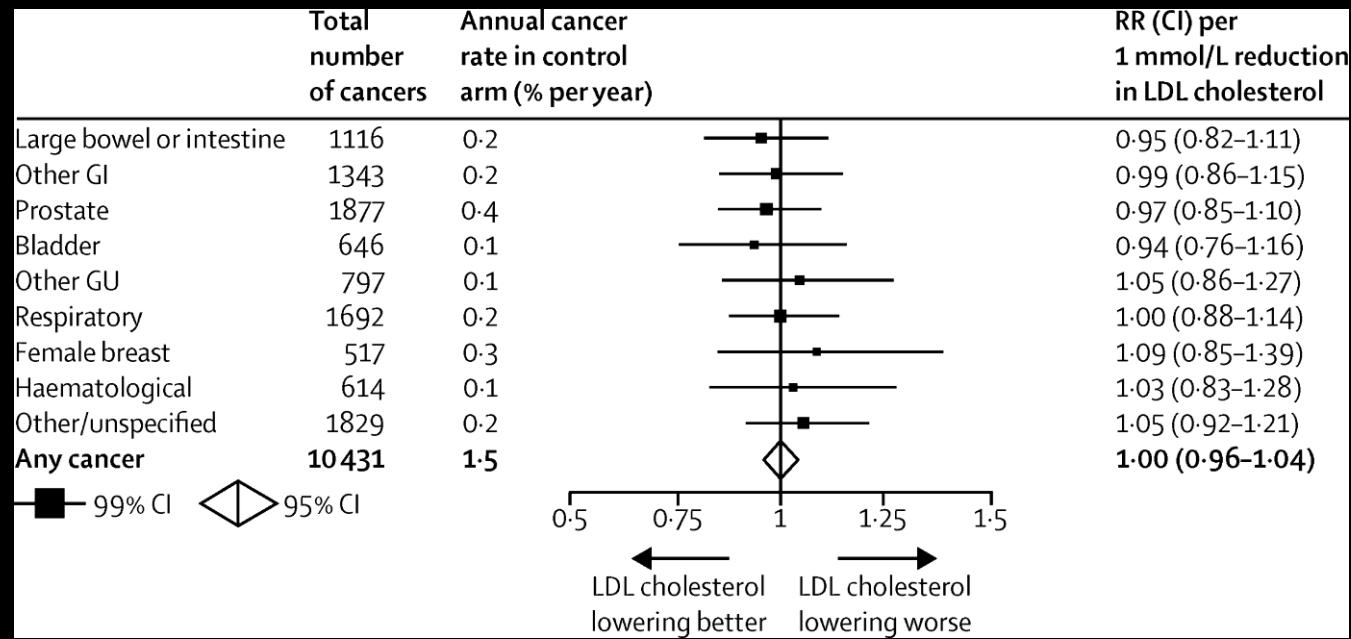
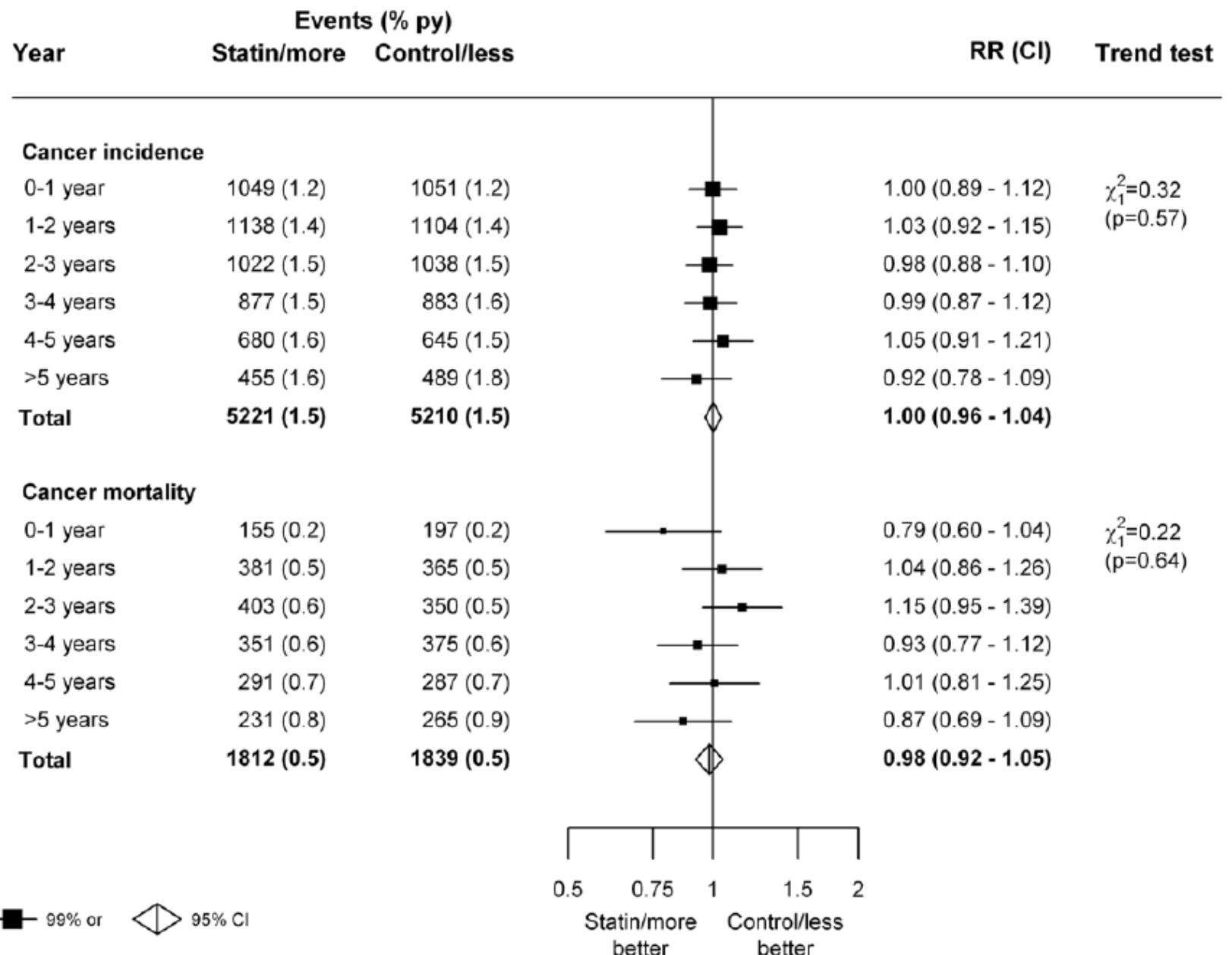
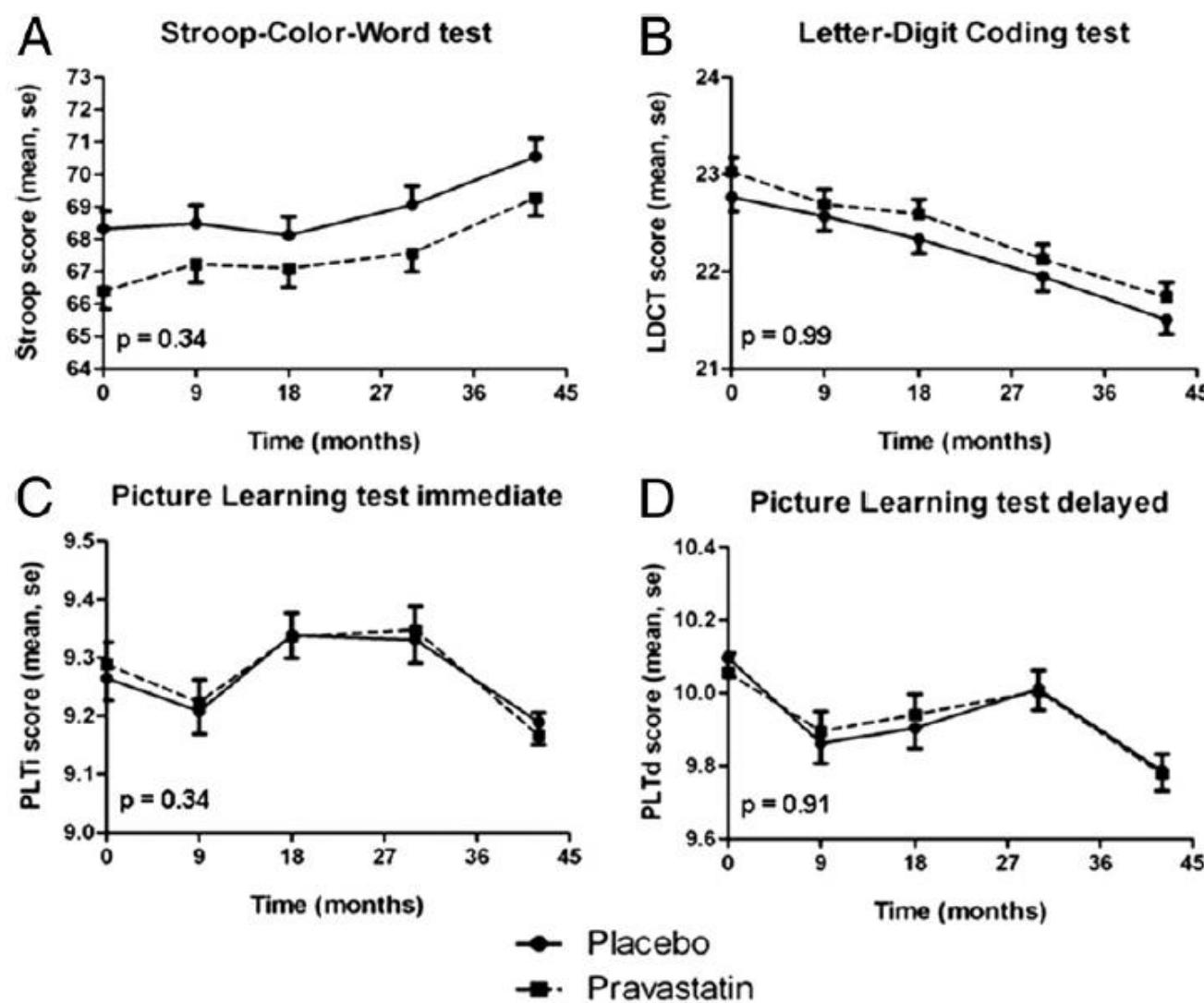


Figure 7





**Figure 3. Effects of statin therapy on cancer incidence and mortality, by duration of treatment.** Symbols and conventions as in Figure 1.  
doi:10.1371/journal.pone.0029849.g003



**Figure 1** Effect of Pravastatin on Cognitive Function Among Participants of the PROSPER Study

The p values represent the statistical significance of the difference in test score changes over time between statin users (squares) and nonusers (circles) in the PROSPER study. Means were assessed using linear mixed models adjusted for sex, age, educational status, country, and version of test where appropriate. (A) Stroop-color-word test; (B) letter-digit coding test (LDCT); (C) picture learning test immediate (PLTi); (D) picture learning test delayed (PLTd). Figure was originally published in Trompet et al. (42); permission for its use granted by the publisher.



*Thank You*