

Realização:



Tel/Fax: +55 71 3245-6320  
geral.sbc.ba@cardiol.br

[www.sbc-ba.org.br](http://www.sbc-ba.org.br)

Secretaria Executiva:



# 29º

## CONGRESSO DE CARDIOLOGIA DO ESTADO DA BAHIA

10 a 13 de maio de 2017  
Bahia Othon Palace Hotel

# – Controvérsias em Hipertensão Arterial – Metas Pressóricas – Já é hora de redefinirmos?

Ambulatório de Doença Cardiovascular Hipertensiva Grave  
UDAC / HUPES / UFBA



*Cristiano Macedo*





O objetivo primordial do tratamento da hipertensão arterial é a redução da morbidade e da mortalidade cardiovascular do paciente hipertenso

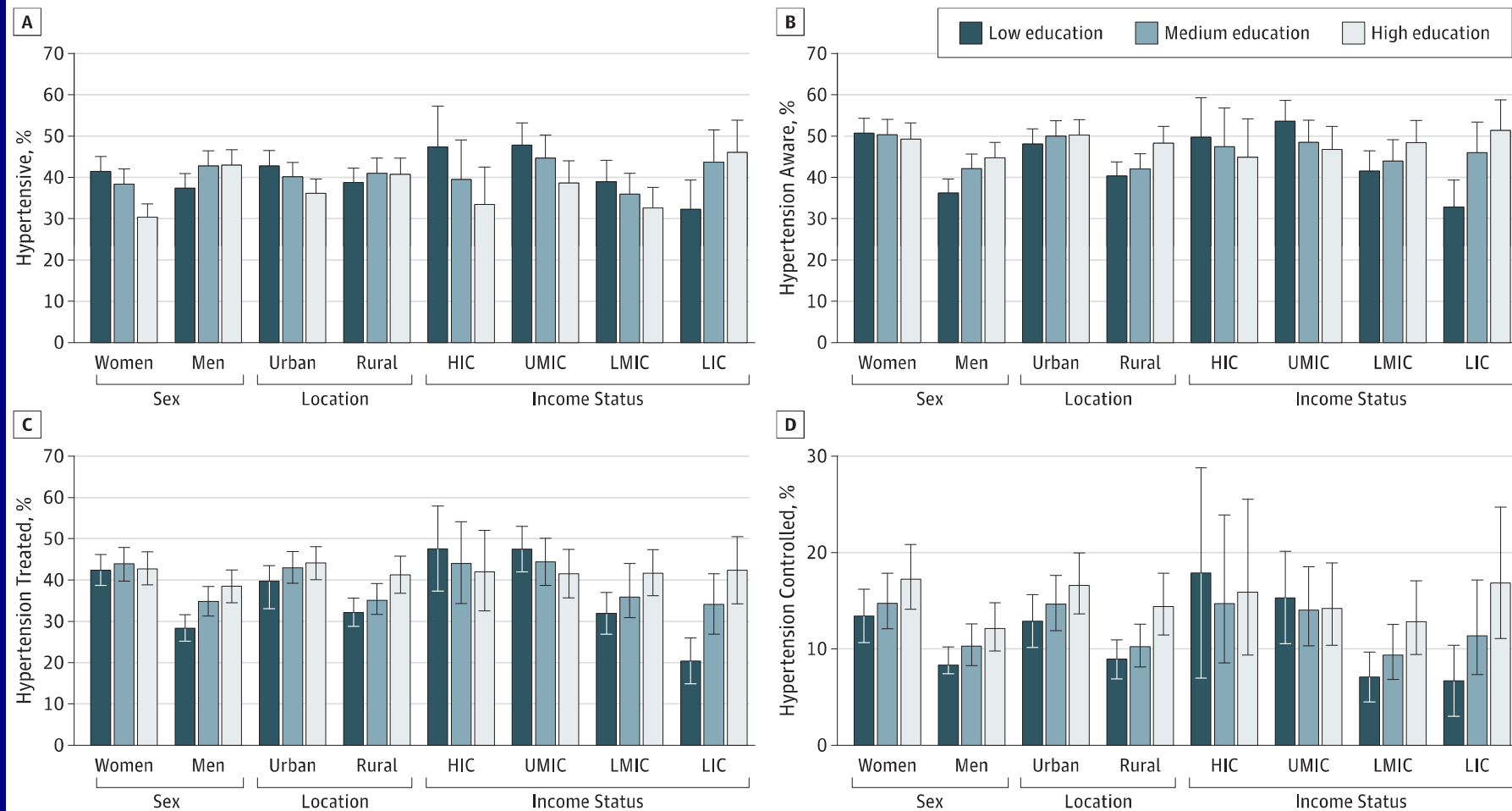


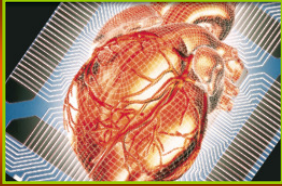
# Prevalence, Awareness, Treatment, and Control of Hypertension in Rural and Urban Communities in High-, Middle-, and Low-Income Countries

Clara K. Chow, PhD; Salim Yusuf, DPhil; et al, for the PURE (Prospective Urban Rural Epidemiology) Study investigators

JAMA. 2013;310(9):959-968.

Figure 1. Prevalence, Awareness, Treatment, and Control of Hypertension by Education

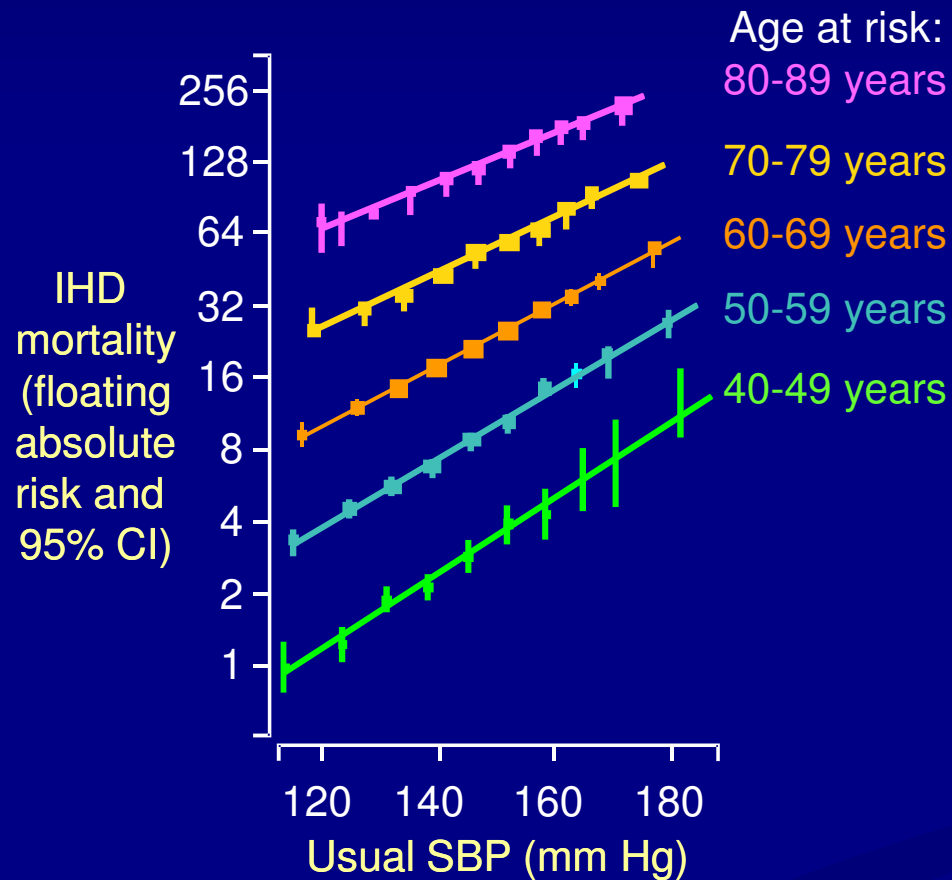




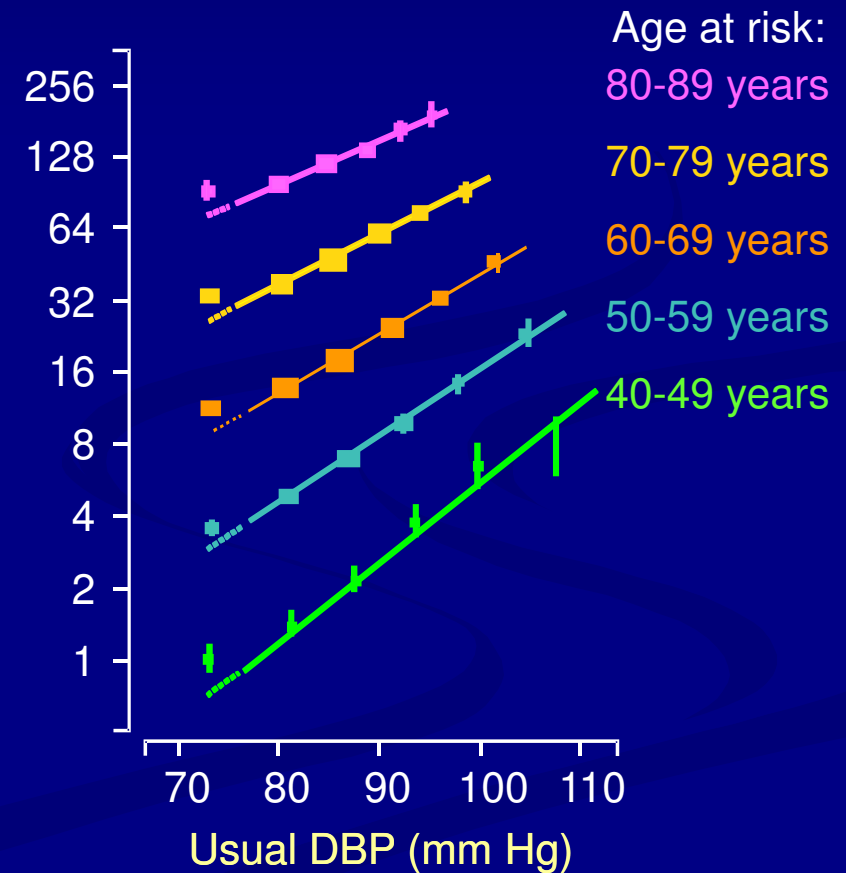
# PA e Mortalidade CV

## Ischemic Heart Disease Rates by SBP, DBP, and Age

### Systolic Blood Pressure



### Diastolic Blood Pressure

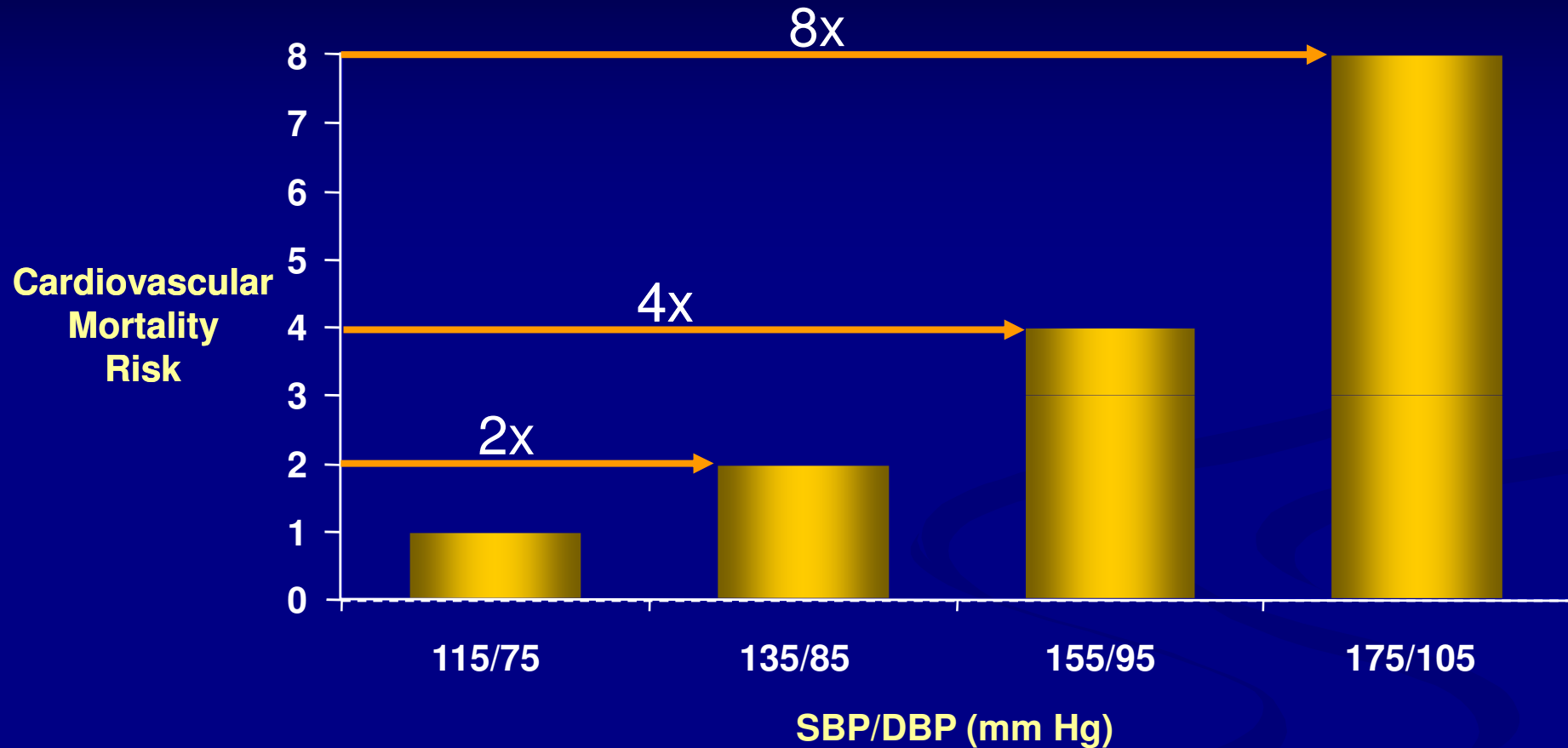


CI, confidence interval; IHD, ischemic heart disease

Lewington S et al. *Lancet*. 2002;360(9349):1903-1913.



# Risco de Morte Cardiovascular Dobra a Cada incremento de 20/10 mm Hg\*

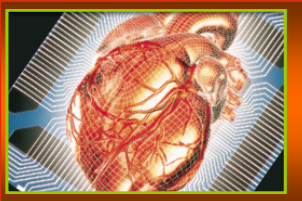


SBP = systolic blood pressure; DBP = diastolic blood pressure.

\*Individuals aged 40-69 years, starting at blood pressure 115/75 mm Hg

Chobanian AV et al. *JAMA*. 2003;289:2560-2572.

Lewington S et al. *Lancet*. 2002;360:1903-1913.



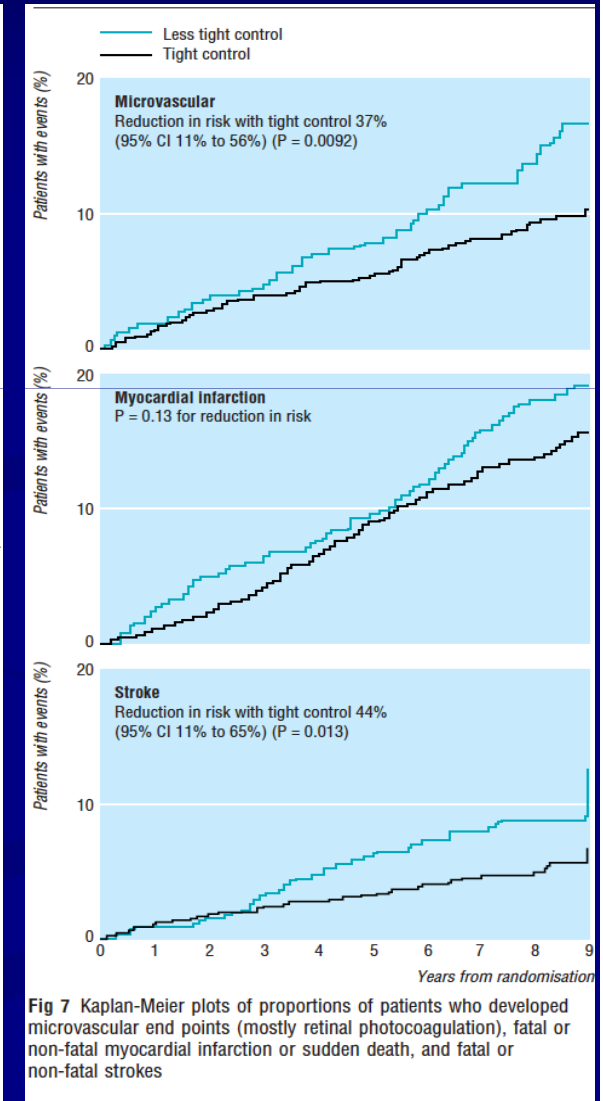
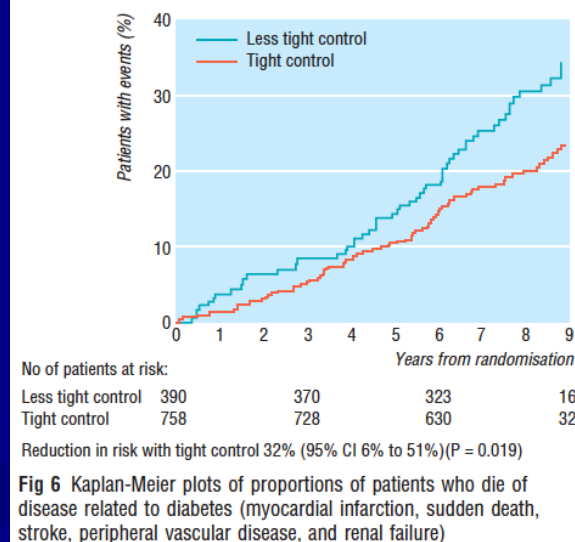
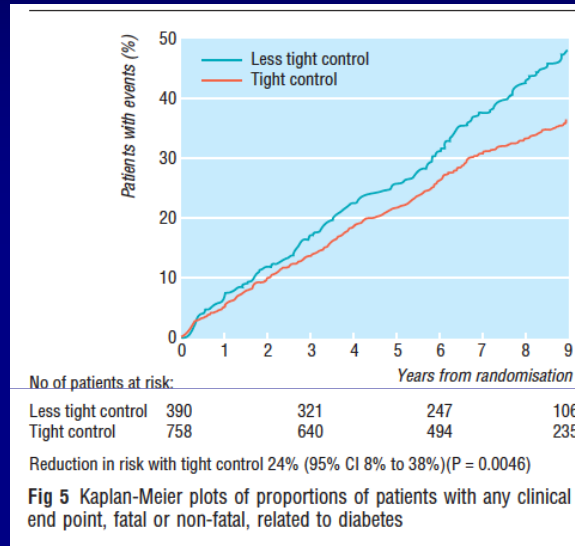
# Tight blood pressure control and risk of macrovascular and microvascular complications in type 2 diabetes: UKPDS 38

UK Prospective Diabetes Study Group | **BMJ** VOLUME 317 12 SEPTEMBER 1998 www.bmj.com

Menos Rigoroso  
(154/87mmHg)

X

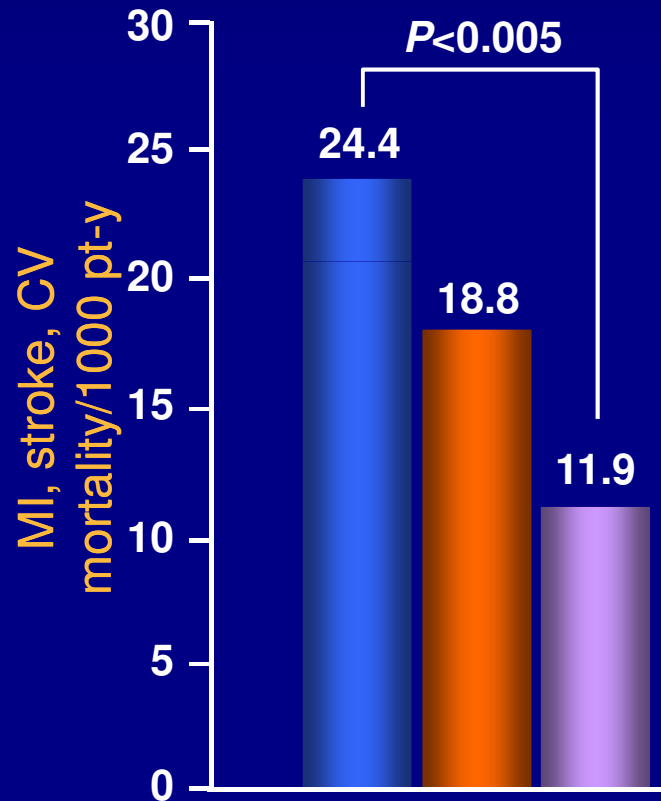
Mais Rigoroso  
(144/82mmHg)





# Controle da PA e redução de Eventos CV HOT Study

## Diabetes Subgroup



Goal of therapy:  
target diastolic BP

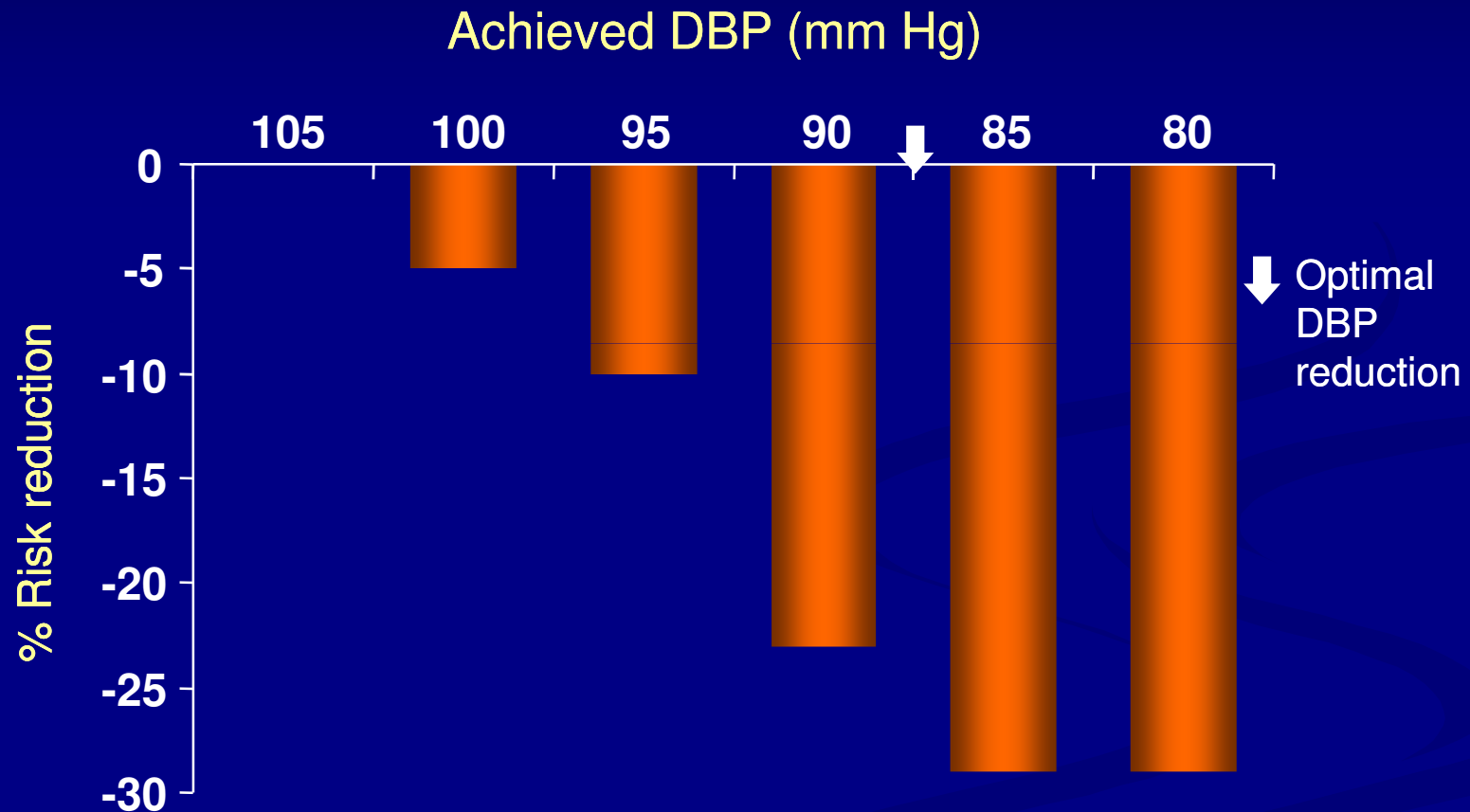
- ≤90 mm Hg (n=501)
- ≤85 mm Hg (n=501)
- ≤80 mm Hg (n=499)

Achieved

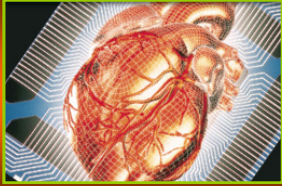
- ≤90 → 85.2 mm Hg
- ≤85 → 83.2 mm Hg
- ≤80 → 81.1 mm Hg



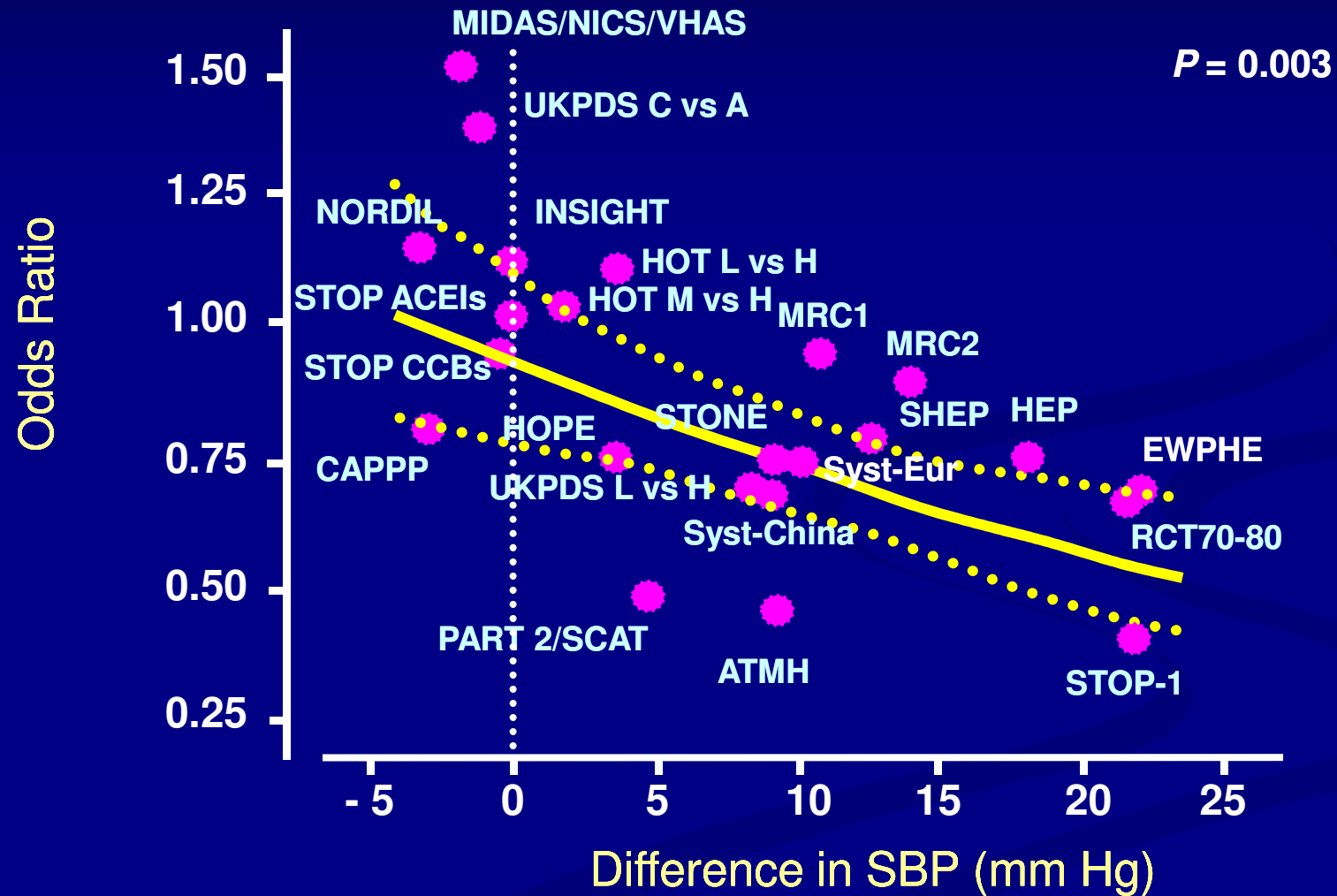
# HOT Study: Risco de Eventos CV maiores

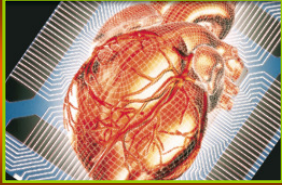






# Relação entre Redução da PAS e Mortalidade CV





## Terapêutica / Metas - 2003

### ▶ IV Diretrizes Brasileiras:

- PA  $\leq$  140/90 mmHg
- PA  $<$  130/85 mmHg

*(alto risco CV; DM; ICC; alt. Função renal; prevenção de AVC)*

### ▶ JNC 7:

- $<$  140/90 mmHg
- $<$  130/80 mmHg (DM ou doença renal)



# The NEW ENGLAND JOURNAL of MEDICINE

## Effects of Intensive Blood-Pressure Control in Type 2 Diabetes Mellitus

The ACCORD Study Group\*

N Engl J Med 2010.

**Table 3. Primary and Secondary Outcomes.**

Outcome	Intensive Therapy (N=2363)		Standard Therapy (N=2371)		Hazard Ratio (95% CI)	P Value
	<i>no. of events</i>	<i>%/yr</i>	<i>no. of events</i>	<i>%/yr</i>		
Primary outcome*	208	1.87	237	2.09	0.88 (0.73–1.06)	0.20
Prespecified secondary outcomes						
Nonfatal myocardial infarction	126	1.13	146	1.28	0.87 (0.68–1.10)	0.25
Stroke						
Any	36	0.32	62	0.53	0.59 (0.39–0.89)	0.01
Nonfatal	34	0.30	55	0.47	0.63 (0.41–0.96)	0.03
Death						
From any cause	150	1.28	144	1.19	1.07 (0.85–1.35)	0.55
From cardiovascular cause	60	0.52	58	0.49	1.06 (0.74–1.52)	0.74
Primary outcome plus revascularization or nonfatal heart failure	521	5.10	551	5.31	0.95 (0.84–1.07)	0.40
Major coronary disease event†	253	2.31	270	2.41	0.94 (0.79–1.12)	0.50
Fatal or nonfatal heart failure	83	0.73	90	0.78	0.94 (0.70–1.26)	0.67

\* The primary outcome was a composite of nonfatal myocardial infarction, nonfatal stroke, or death from cardiovascular causes.

† Major coronary disease events, as defined in the protocol, included fatal coronary events, nonfatal myocardial infarction, and unstable angina.



# 2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults

Report From the Panel Members Appointed to the Eighth Joint National Committee (JNC 8)

Paul A. James, MD; Suzanne Oparil, MD et al

*JAMA*. 2014 Feb 5;311(5):507-20.

**Table 6. Guideline Comparisons of Goal BP and Initial Drug Therapy for Adults With Hypertension**

Guideline	Population	Goal BP, mm Hg	Initial Drug Treatment Options
2014 Hypertension guideline	General ≥60 y	<150/90	Nonblack: thiazide-type diuretic, ACEI, ARB, or CCB
	General <60 y	<140/90	Black: thiazide-type diuretic or CCB
	Diabetes	<140/90	Thiazide-type diuretic, ACEI, ARB, or CCB
	CKD	<140/90	ACEI or ARB
ESH/ESC 2013 <sup>37</sup>	General nonelderly	<140/90	β-Blocker, diuretic, CCB, ACEI, or ARB
	General elderly <80 y	<150/90	
	General ≥80 y	<150/90	
	Diabetes	<140/85	ACEI or ARB
	CKD no proteinuria	<140/90	ACEI or ARB
	CKD + proteinuria	<130/90	



# Effects of blood pressure lowering on outcome incidence in hypertension: 2. Effects at different baseline and achieved blood pressure levels-overview and meta-analyses of randomized trials.

Thomopoulos C , Parati G, Zanchetti A.  
 J Hypertens. 2014 Dec;32(12):2296-304.

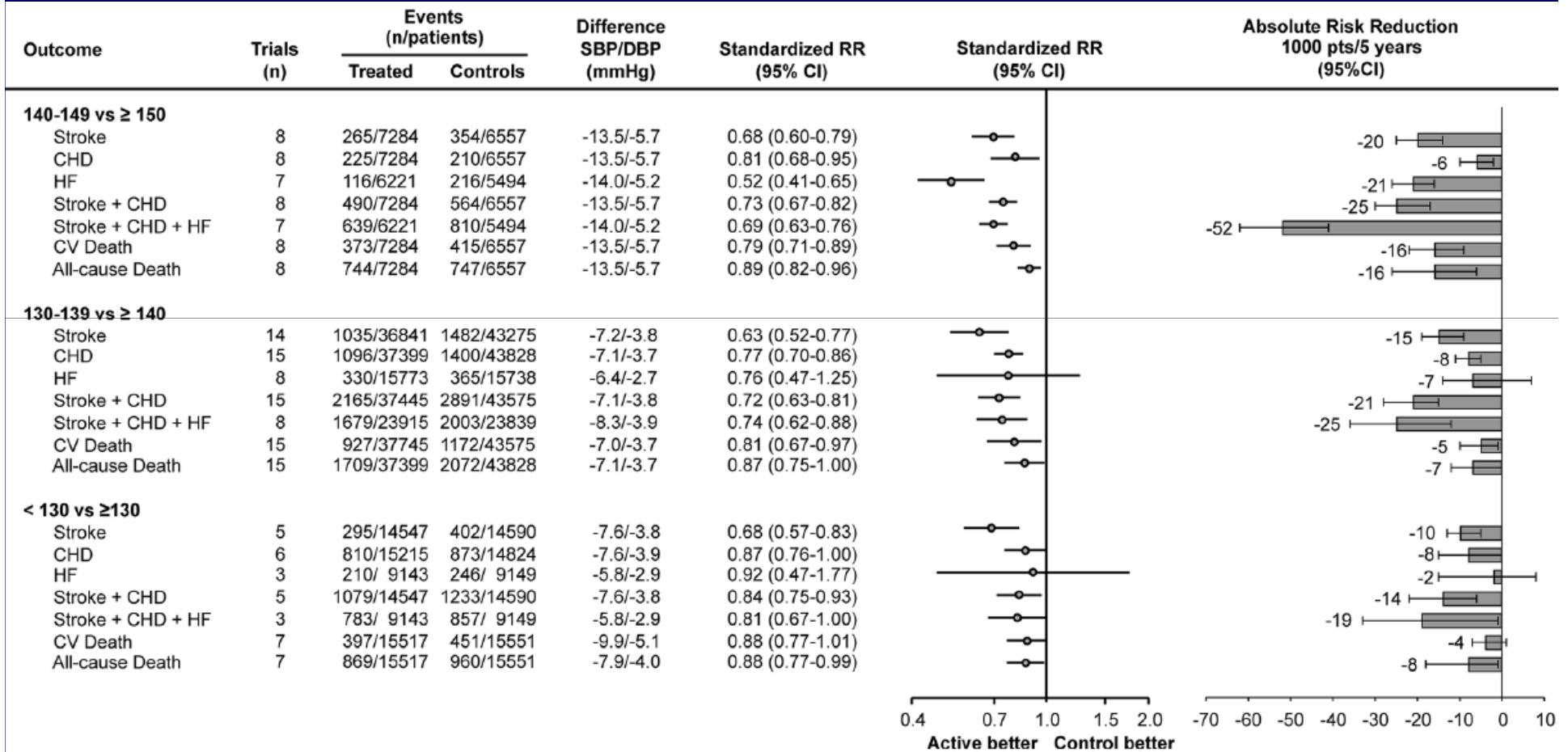


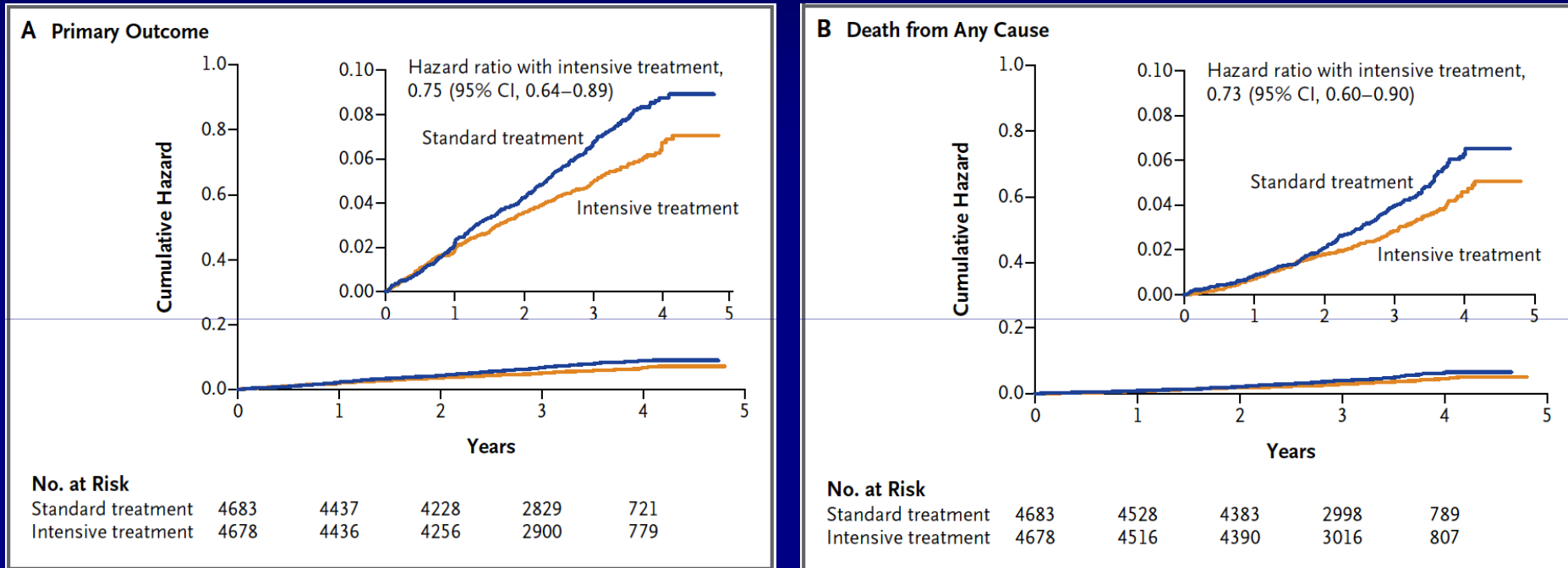
Figure 6. Effects of blood pressure (BP) lowering in trials with mean on-treatment systolic BP (SBP) below and above different cut offs.



# A Randomized Trial of Intensive versus Standard Blood-Pressure Control

The SPRINT Research Group\*

N Engl J Med 2015;373:2103-16.



**Figure 3. Primary Outcome and Death from Any Cause.**

Shown are the cumulative hazards for the primary outcome (a composite of myocardial infarction, acute coronary syndrome, stroke, heart failure, or death from cardiovascular causes) (Panel A) and for death from any cause (Panel B). The inset in each panel shows the same data on an enlarged y axis. CI denotes confidence interval.



# Intensive vs Standard Blood Pressure Control and Cardiovascular Disease Outcomes in Adults Aged $\geq 75$ Years

Jeff D. Williamson, MD, MHS; Mark A. Supiano, MD *et al.* for The SPRINT Research Group\*

JAMA. doi:10.1001/jama.2016.7050 Published online May 19, 2016.

Table 3. Incidence of Cardiovascular, Renal, and Mortality Outcomes by Treatment Group

	Intensive Treatment		Standard Treatment		HR (95% CI) <sup>b</sup>	P Value
	No. With Outcome Events (n = 1317) <sup>a</sup>	% (95% CI) With Outcome Events/y	No. With Outcome Events (n = 1319) <sup>a</sup>	% (95% CI) With Outcome Events/y		
<b>All participants</b>						
Cardiovascular disease primary outcome <sup>c</sup>	102	2.59 (2.13-3.14)	148	3.85 (3.28-4.53)	0.66 (0.51-0.85)	.001
Myocardial infarction (MI) <sup>d</sup>	37	0.92 (0.67-1.27)	53	1.34 (1.02-1.75)	0.69 (0.45-1.05)	.09
ACS not resulting in MI <sup>d</sup>	17	0.42 (0.26-0.68)	17	0.42 (0.26-0.68)	1.03 (0.52-2.04)	.94
Stroke <sup>d</sup>	27	0.67 (0.46-0.97)	34	0.85 (0.61-1.19)	0.72 (0.43-1.21)	.22
Heart failure <sup>d</sup>	35	0.86 (0.62-1.20)	56	1.41 (1.09-1.83)	0.62 (0.40-0.95)	.03
Cardiovascular disease death <sup>d</sup>	18	0.44 (0.28-0.70)	29	0.72 (0.50-1.03)	0.60 (0.33-1.09)	.09
Nonfatal MI	37	0.92 (0.67-1.27)	53	1.34 (1.02-1.75)	0.69 (0.45-1.05)	.09
Nonfatal stroke	25	0.62 (0.42-0.91)	33	0.83 (0.59-1.16)	0.68 (0.40-1.15)	.15
Nonfatal heart failure	35	0.86 (0.62-1.20)	55	1.39 (1.06-1.81)	0.63 (0.40-0.96)	.03
All-cause mortality	73	1.78 (1.41-2.24)	107	2.63 (2.17-3.18)	0.67 (0.49-0.91)	.009
Primary outcome plus all-cause mortality	144	3.64 (3.09-4.29)	205	5.31 (4.63-6.09)	0.68 (0.54-0.84)	<.001
<b>CKD</b>						
Primary CKD outcome <sup>e</sup>	7/584	0.38 (0.18-0.81)	4/577	0.23 (0.08-0.60)	1.68 (0.49-6.59)	.42
Incident albuminuria <sup>f</sup>	26/196	4.43 (3.02-6.51)	28/177	5.56 (3.84-8.06)	0.96 (0.53-1.75)	.90
<b>Non-CKD</b>						
Secondary CKD outcome <sup>g</sup>	37/726	1.70 (1.23-2.35)	13/732	0.58 (0.34-1.01)	3.14 (1.66-6.37)	<.001
Incident albuminuria <sup>f</sup>	29/303	3.31 (2.30-4.76)	42/304	4.84 (3.58-6.55)	0.80 (0.46-1.35)	.40



# Effects of blood pressure lowering on outcome incidence in hypertension: 7. Effects of more vs. less intensive blood pressure lowering and different achieved blood pressure levels - updated overview and meta-analyses of randomized trials.

Thomopoulos C, Parati G, Zanchetti A.  
*J Hypertens.* 2016 Apr;34(4):613-22.

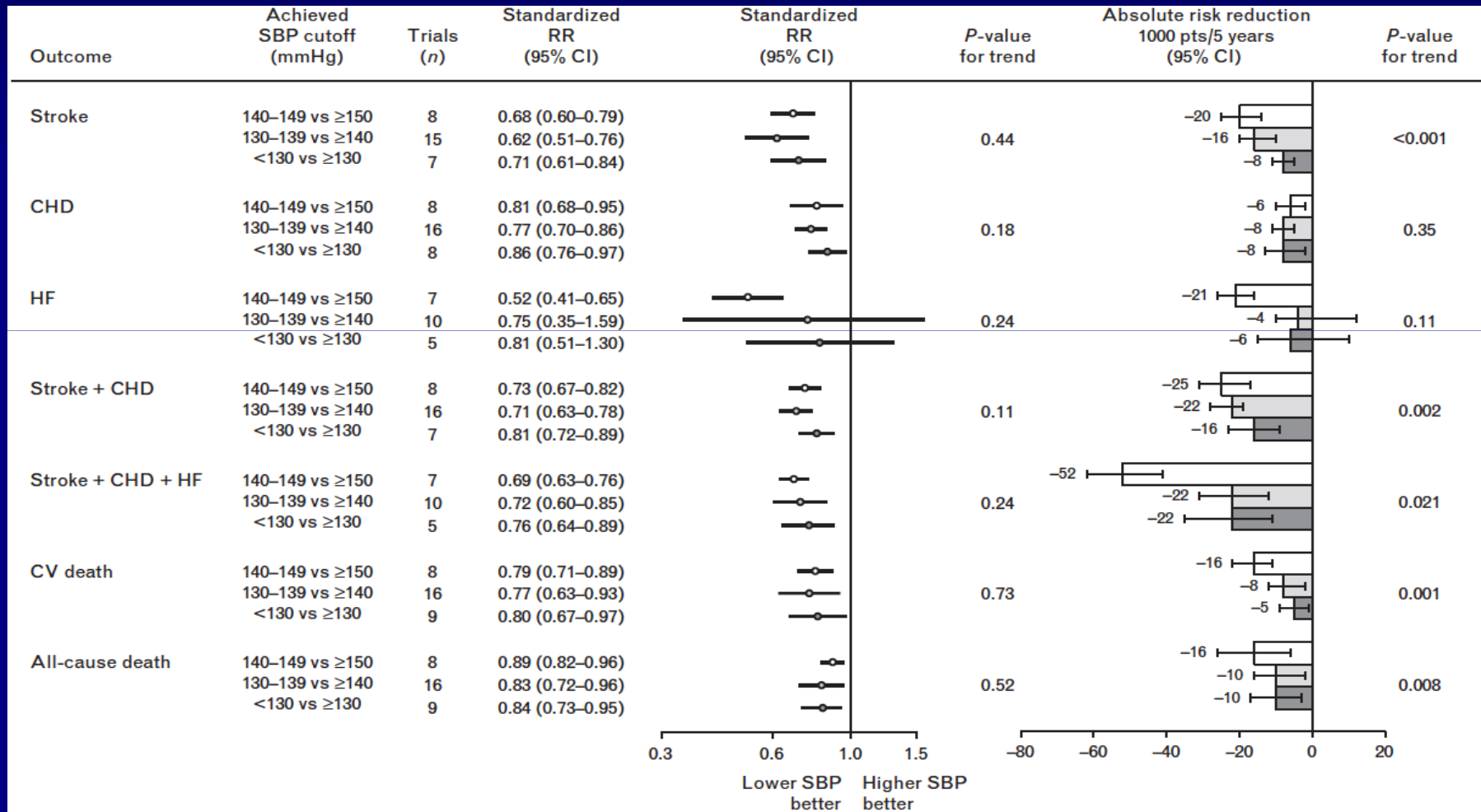
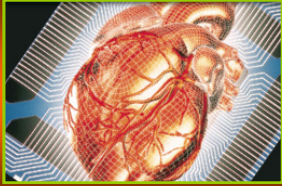


FIGURE 5 Effects of BP lowering in trials of active treatment vs. placebo and more vs. less intense treatment (considered together), stratified in three strata with mean SBP achieved by active or more intense treatment vs. mean SBP achieved in the placebo or less intense treatment





# Effects of blood pressure lowering on outcome incidence in hypertension: 10 - Should blood pressure management differ in hypertensive patients with and without diabetes mellitus? Overview and meta-analyses of randomized trials.

Thomopoulos C, Parati G, Zanchetti A.  
 J Hypertens. 2017 May;35(5):922-944.

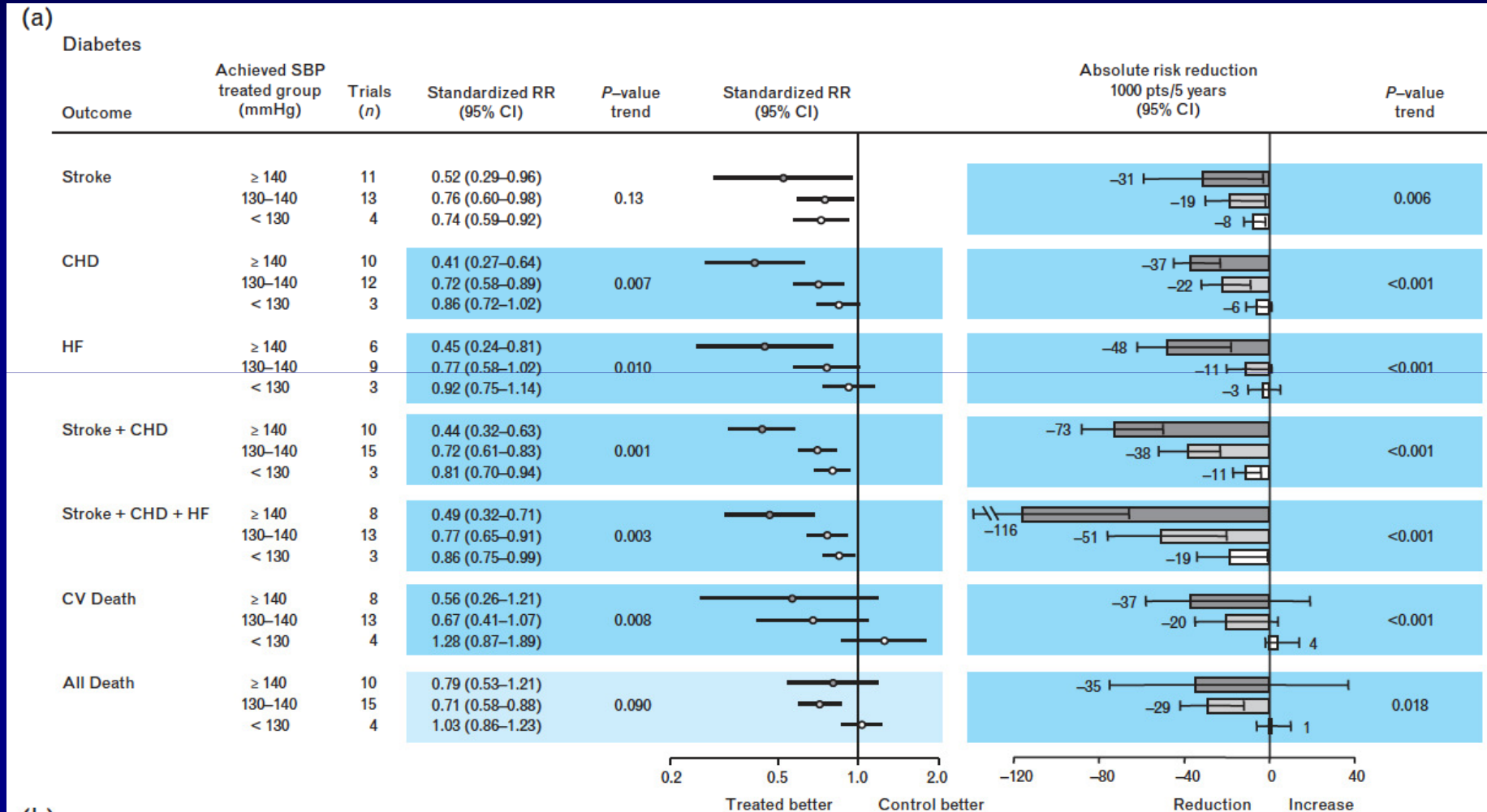


FIGURE 3 Relative risk and absolute risk reduction of various cardiovascular morbidity and mortality outcomes, according to SBP values achieved in the groups with active (or more active) BP-lowering treatment.



# Effects of blood pressure lowering on outcome incidence in hypertension: 10 - Should blood pressure management differ in hypertensive patients with and without diabetes mellitus? Overview and meta-analyses of randomized trials.

Thomopoulos C, Parati G, Zanchetti A.

J Hypertens. 2017 May;35(5):922-944.

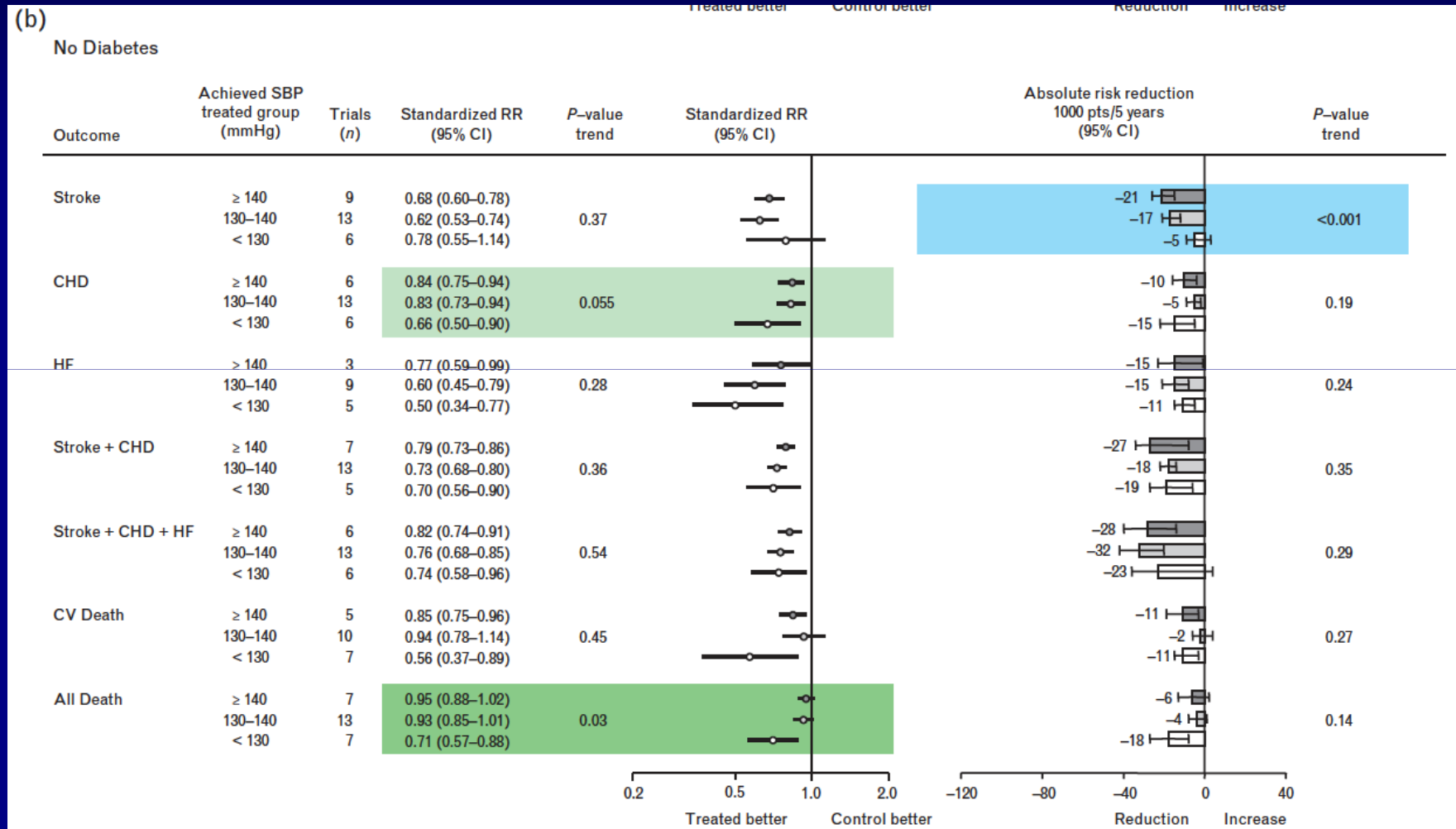


FIGURE 3 Relative risk and absolute risk reduction of various cardiovascular morbidity and mortality outcomes, according to SBP values achieved in the groups with active (or more active) BP-lowering treatment.



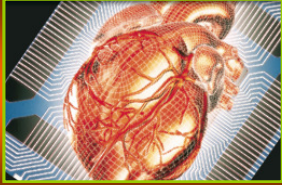
# 7ª Diretriz Brasileira de Hipertensão Arterial

Arq Bras Cardiol, Volume 107, Nº 3, Suplemento 3, Setembro 2016

**Tabela 2 – Metas a serem atingidas em conformidade com as características individuais**

Categoria	Meta recomendada	Classe	Nível de Evidência
Hipertensos estágios 1 e 2, com risco CV baixo e moderado e HA estágio 3	< 140/90 mmHg	I	A
Hipertensos estágios 1 e 2 com risco CV alto	< 130/80 mmHg*	I	A**

*CV: cardiovascular; HA: hipertensão arterial. \*Para pacientes com doenças coronarianas, a PA não deve ficar < 120/70 mmHg, particularmente com a diastólica abaixo de 60 mmHg pelo risco de hipoperfusão coronariana, lesão miocárdica e eventos cardiovasculares. \*\*Para diabéticos, a classe de recomendação é IIB, nível de evidência B.*



# Conclusões

Em relação às metas terapêuticas da HAS, conforme evidências mais recentes:

- ▶ Indivíduos de alto risco CV, não diabéticos podem se beneficiar de um controle mais intensivo da PA (120/80mmHg);
- ▶ Idosos (>75 anos), contrapondo diretrizes anteriores, apresentaram redução de mortalidade com metas mais rigorosas, contudo com maior probabilidade de eventos adversos; esta conduta, portanto, deve ser individualizada;
- ▶ Em diabéticos aparentemente não há benefício em reduzir a PAS < 130 e PAD < 80mmHg.