



HYPERTENSION: FROM BENCH TO BEDSIDE

THS. BS. NGUYỄN NGỌC THANH VÂN

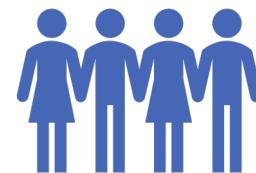
ĐẠI HỌC Y DƯỢC TPHCM



GLOBAL IMPACT OF ELEVATED BLOOD PRESSURE



Leading preventable cause
for premature death



10 million deaths
200 million DALYs



10 million IHD or
stroke

RECENT DATA

The state of hypertension care in 44 low-income and middle-income countries: a cross-sectional study of nationally representative individual-level data from 1·1 million adults



Pascal Geldsetzer, Jennifer Manne-Goehler, Maja-Emilia Marcus, Cara Ebert, Zhaxybay Zhumadil Supiyev, Lela Sturua, Silver K Bahendeka, Abla M Sibai, Sarah Quesnel-Crooks, Bolormaa Roy Wong-McClure, Mary T Mayige, Joao S Martins, Nuno Lunet, Demetre Labadarios, Khem Nahla C Hwalla, Dismand Houinato, Corine Houehanou, Mohamed Msaidié, David Guwatudde Maria Dorobantu, Albertino Damasceno, Pascal Bovet, Brice W Bicaba, Krishna K Aryal, Glenn Justine I Davies, Till Bärnighausen*, Rifat Atun*, Sebastian Vollmer*, Lindsay M Jaacks*

Lancet. 2019 Jul 18. pii: S0140-6736(19)30955-9

- 192,441 participants with hypertension
 - 29.9% received HTN treatment
 - 10.3% achieved HTN control

Long-term and recent trends in hypertension awareness, treatment, and control in 12 high-income countries: an analysis of 123 nationally representative surveys



NCD Risk Factor Collaboration (NCD-RisC)*

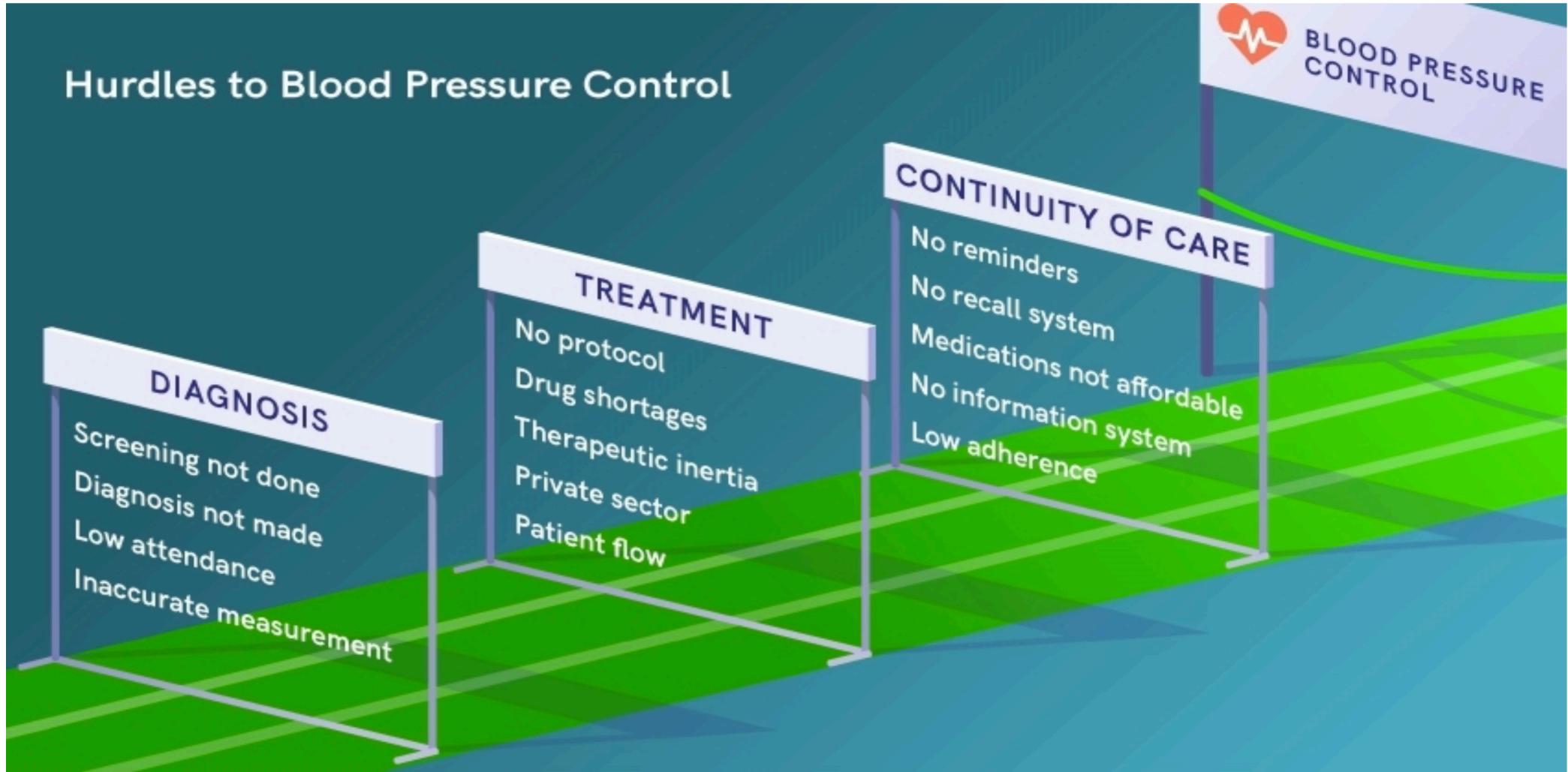
Summary

Background Antihypertensive medicines are effective in reducing adverse events associated with hypertension. This study aimed to compare hypertension awareness, treatment, and control, and how these have changed over time in 12 high-income countries.

Lancet. 2019 Jul 18. pii: S0140-6736(19)31145-6

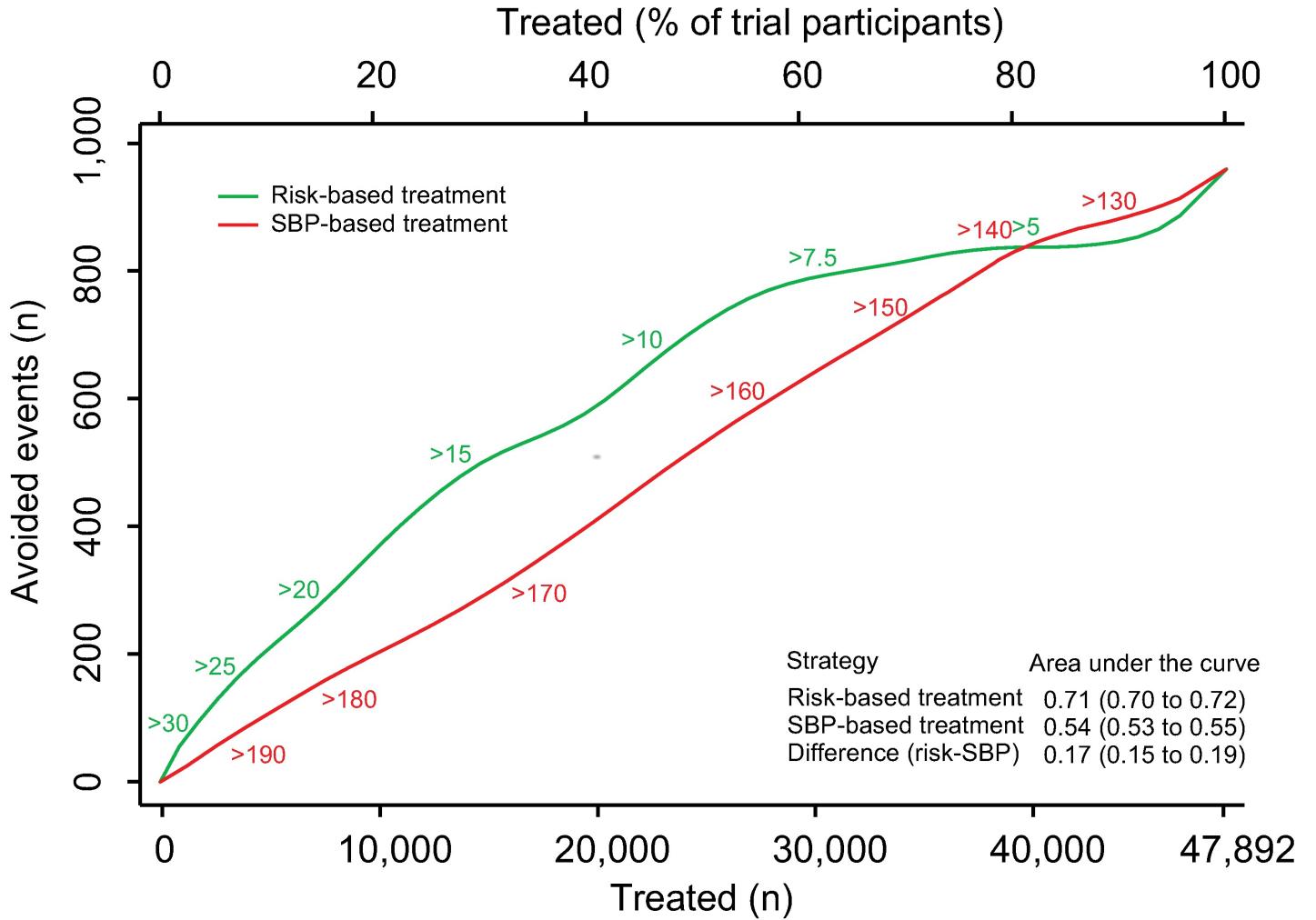
In the best performing countries, treatment coverage reached up to 80% and control rates were just less < 70%. But in some countries control was as low as < 30%

Together with
ESC Congress
World Congress
Paris 2019 of Cardiology



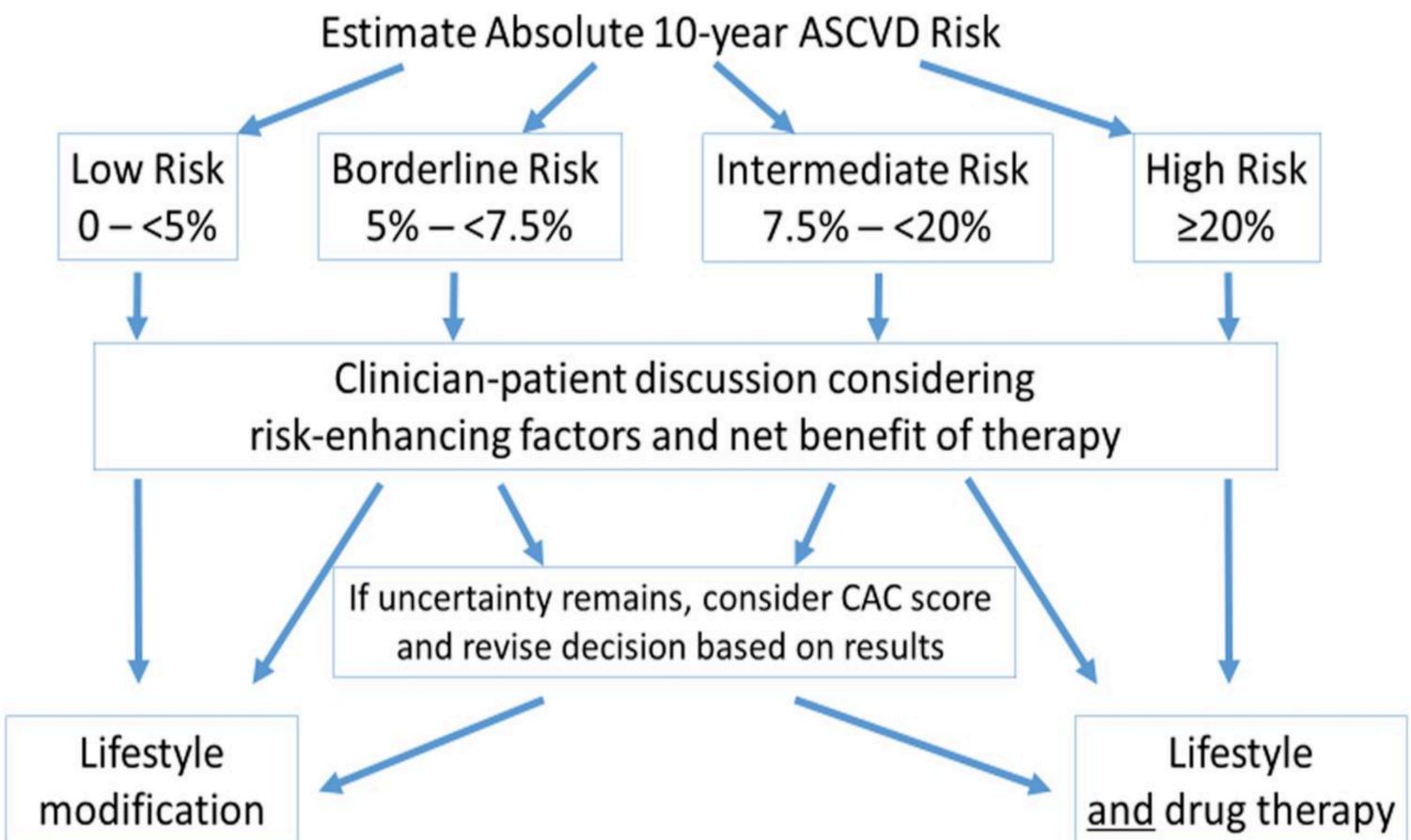
From Resolve to Save Lives

RISK-BASED TREATMENT

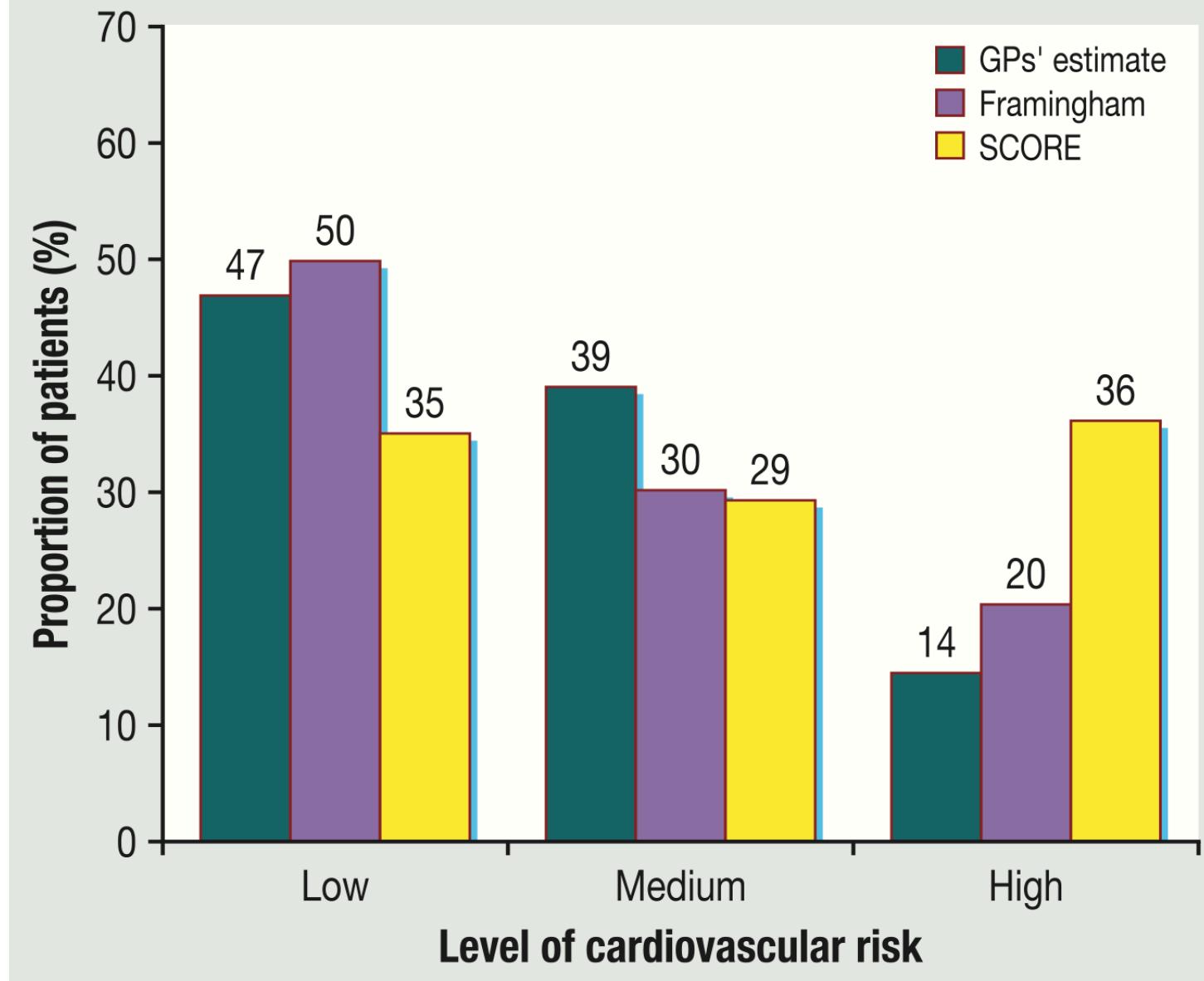


APPLICABILITY

- Availability
- Time-bound
- Add-on factors



ASSESSMENT



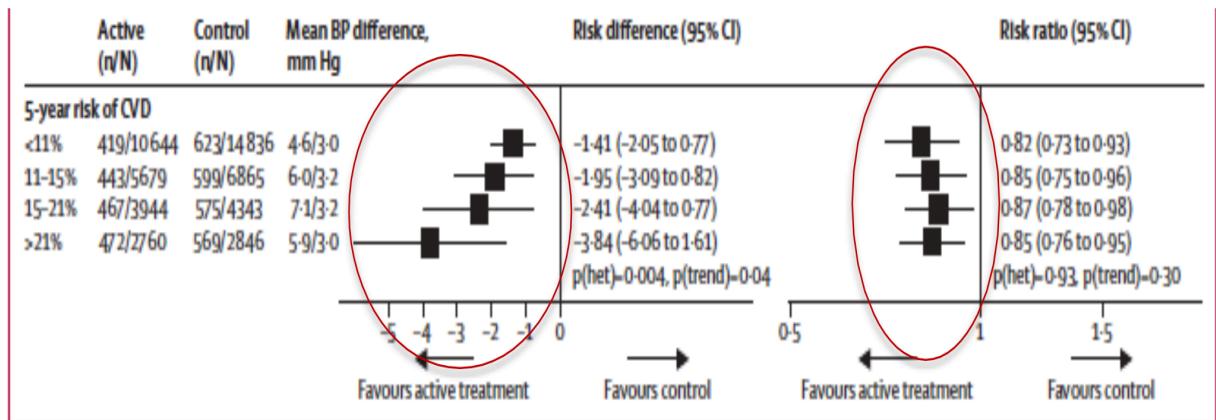
RISK-BASED TREATMENT

Blood pressure lowering in high-risk patients (including 13,000 patients with 5-y risk of major CVD event greater than 15%)

Blood pressure-lowering treatment based on cardiovascular risk: a meta-analysis of individual patient data



The Blood Pressure Lowering Treatment Trialists' Collaboration*



Lancet 2014; 384: 591–98

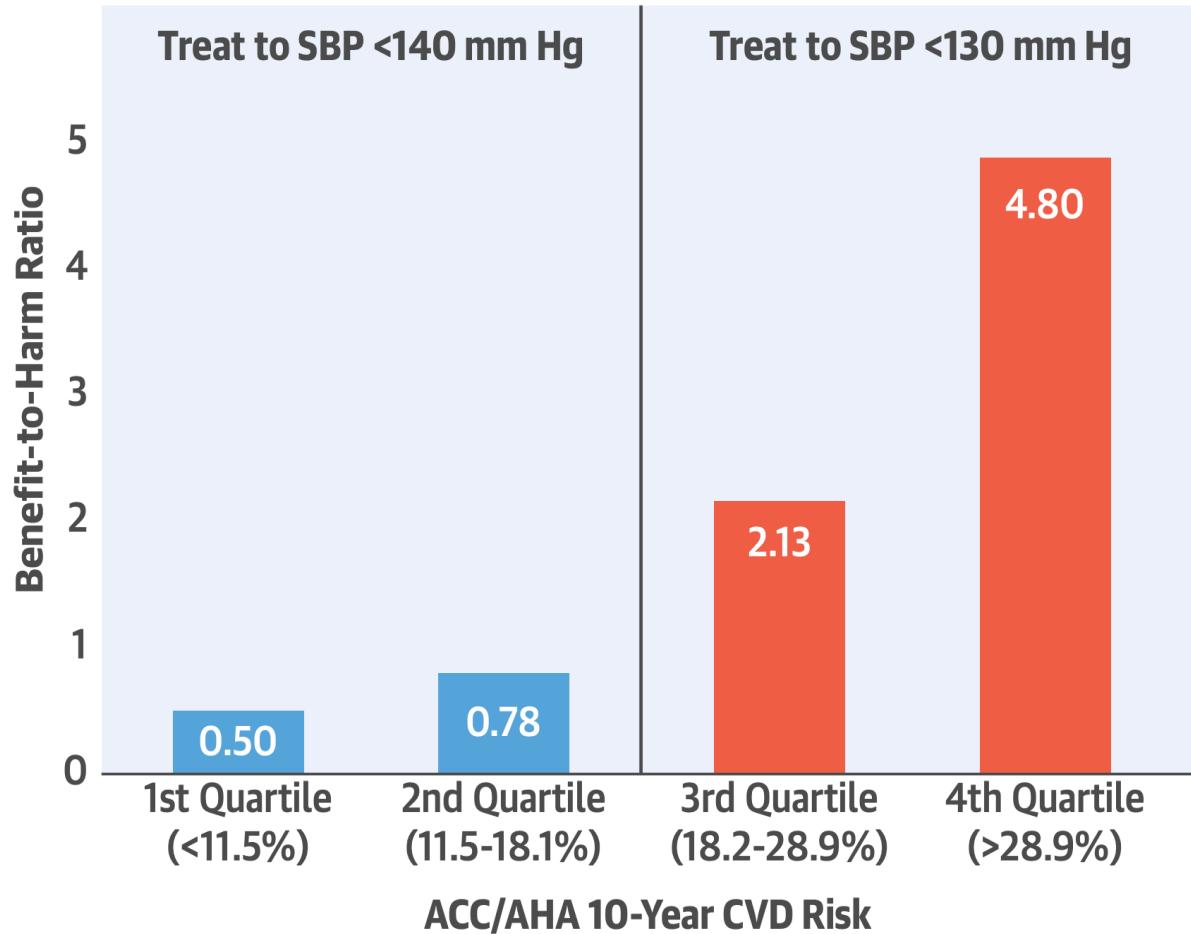
Greater absolute
benefits

Similar relative risks

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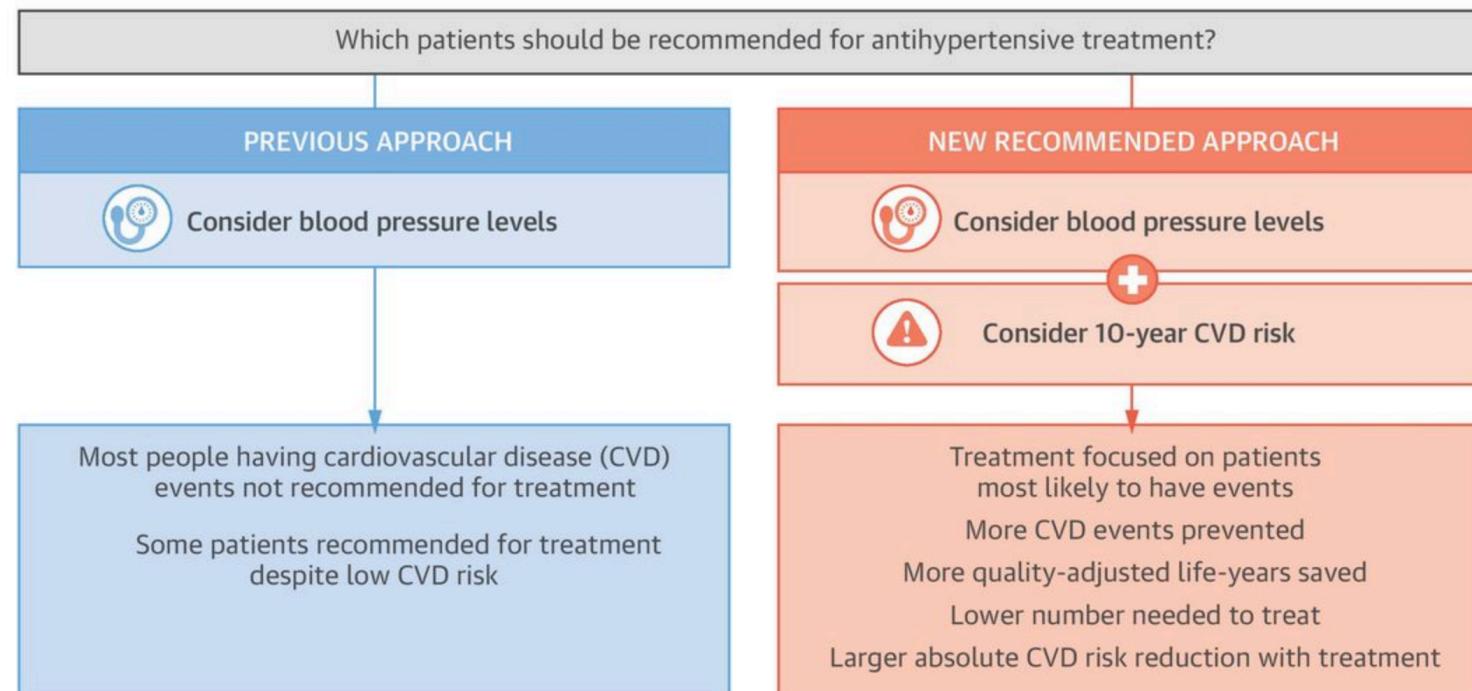
NET CLINICAL BENEFIT

CENTRAL ILLUSTRATION Treatment Recommendations Based on Benefit and Harm Experienced in SPRINT by 10-Year CVD Risk



RISK ASSESSMENT TO GUIDE DECISION-MAKING

CENTRAL ILLUSTRATION: Cardiovascular Risk and Antihypertensive Treatment



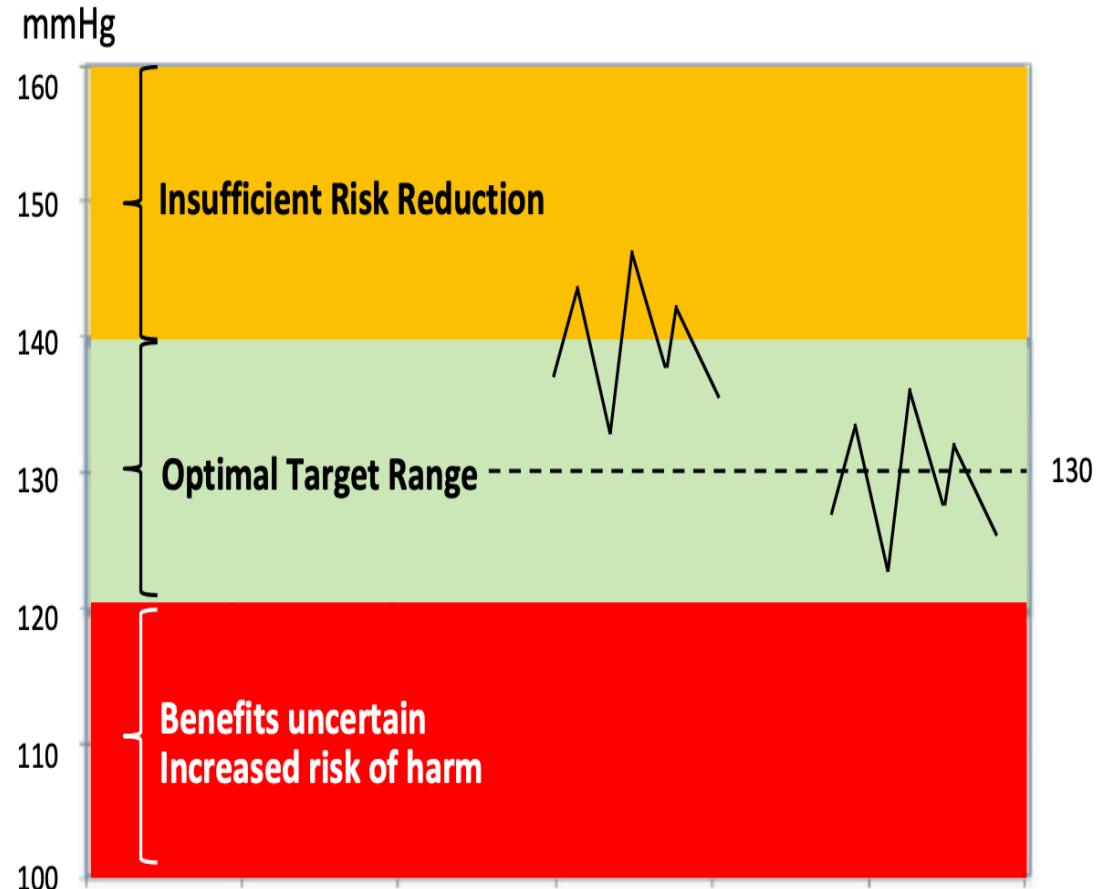
RISK ASSESSMENT TO GUIDE DECISION-MAKING

Hypertension disease staging	Other risk factors, HMOD, or disease	BP (mmHg) grading			
		High-normal SBP 130–139 DBP 85–89	Grade 1 SBP 140–159 DBP 90–99	Grade 2 SBP 160–179 DBP 100–109	Grade 3 SBP ≥ 180 DBP ≥ 110
Stage 1 (uncomplicated)	No other risk factors	Low-risk	Low-risk	Moderate Risk	High-risk
	1 or 2 risk factors	Low-risk	Moderate risk	Moderate – high risk	High-risk
	≥ 3 risk factors	Low – moderate risk	Moderate – high risk	High-risk	High-risk
Stage 2 (asymptomatic disease)	HMOD, CKD grade 3, or diabetes mellitus without organ damage	Moderate – high risk	High-risk	High-risk	High – very high-risk
Stage 3 (Established disease)	Established CVD, CKD grade ≥ 4, or diabetes mellitus with organ damage	Very high-risk	Very high-risk	Very high-risk	Very high-risk

Recommendations	Class	Level
CV risk assessment with the SCORE system is recommended for hypertensive patients who are not already at high or very high risk due to established CV or renal disease or diabetes or a markedly elevated single risk factor (e.g. cholesterol), or hypertensive LVH.	I	B

NEW TARGET RANGE

Principle of a BP Treatment Target Range



INTENSIVE BP LOWERING

Effects of intensive blood pressure lowering on cardiovascular and renal outcomes: updated systematic review and meta-analysis

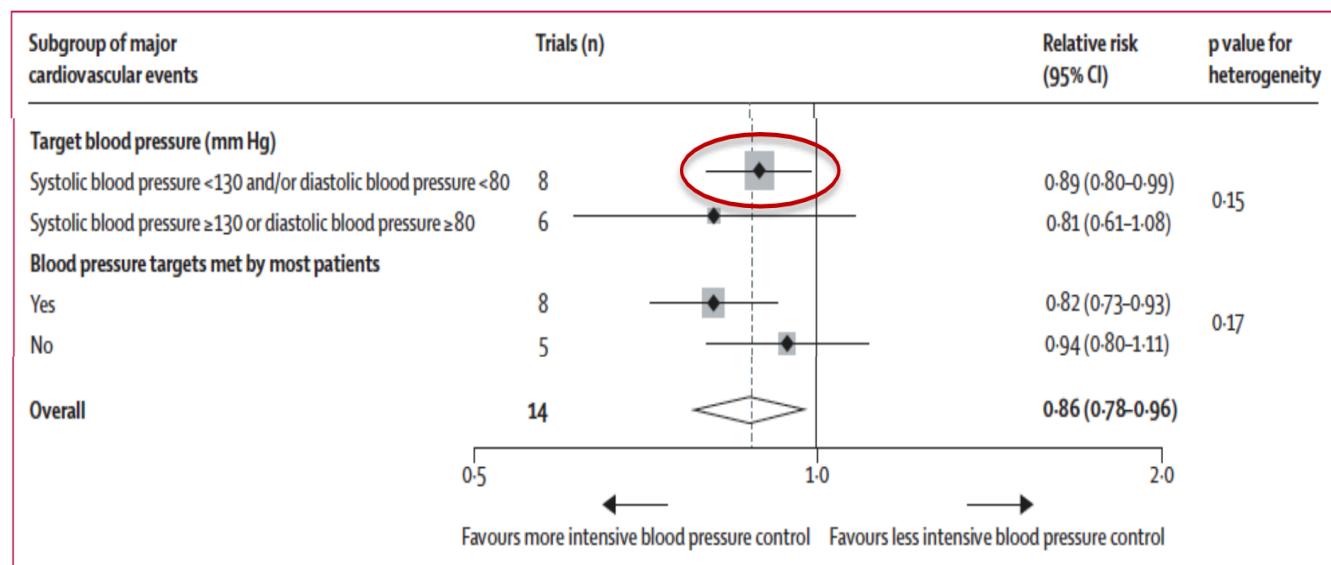


Figure 4: Effects of intensive blood pressure lowering on the risk of major cardiovascular events in subgroups of trials

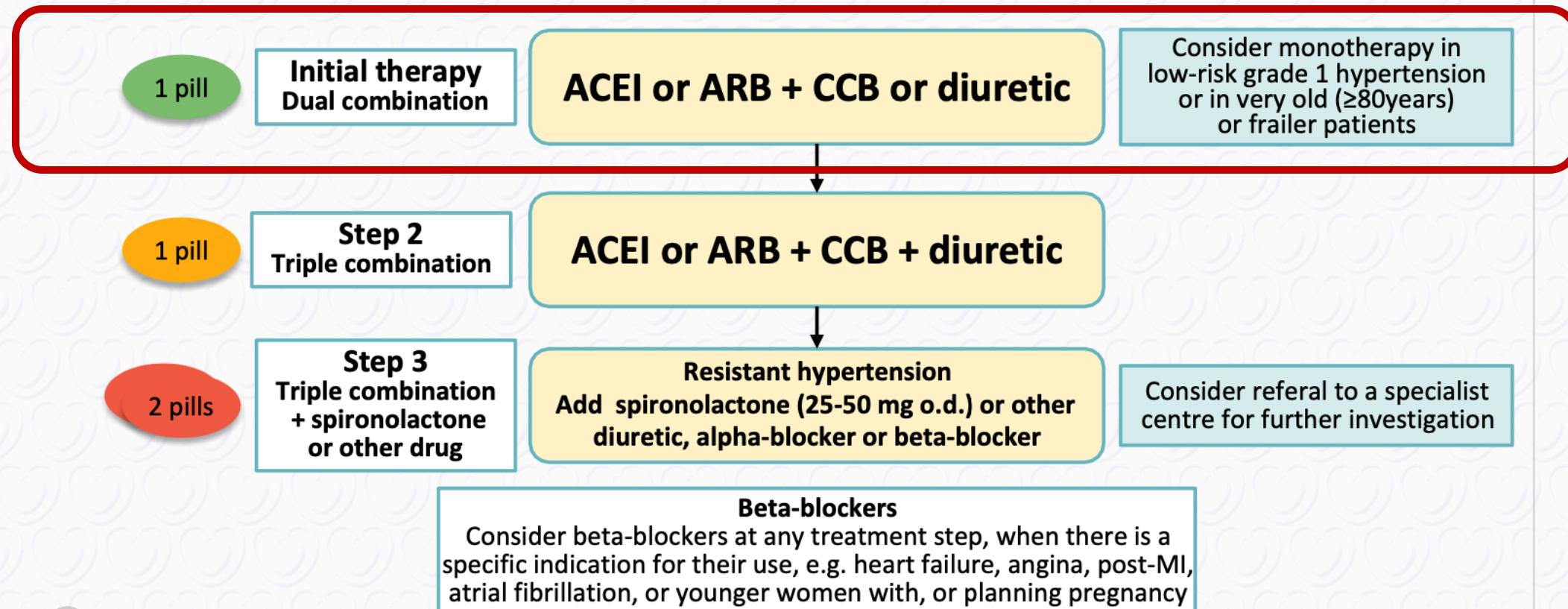
Lancet 2016; 387: 435–43

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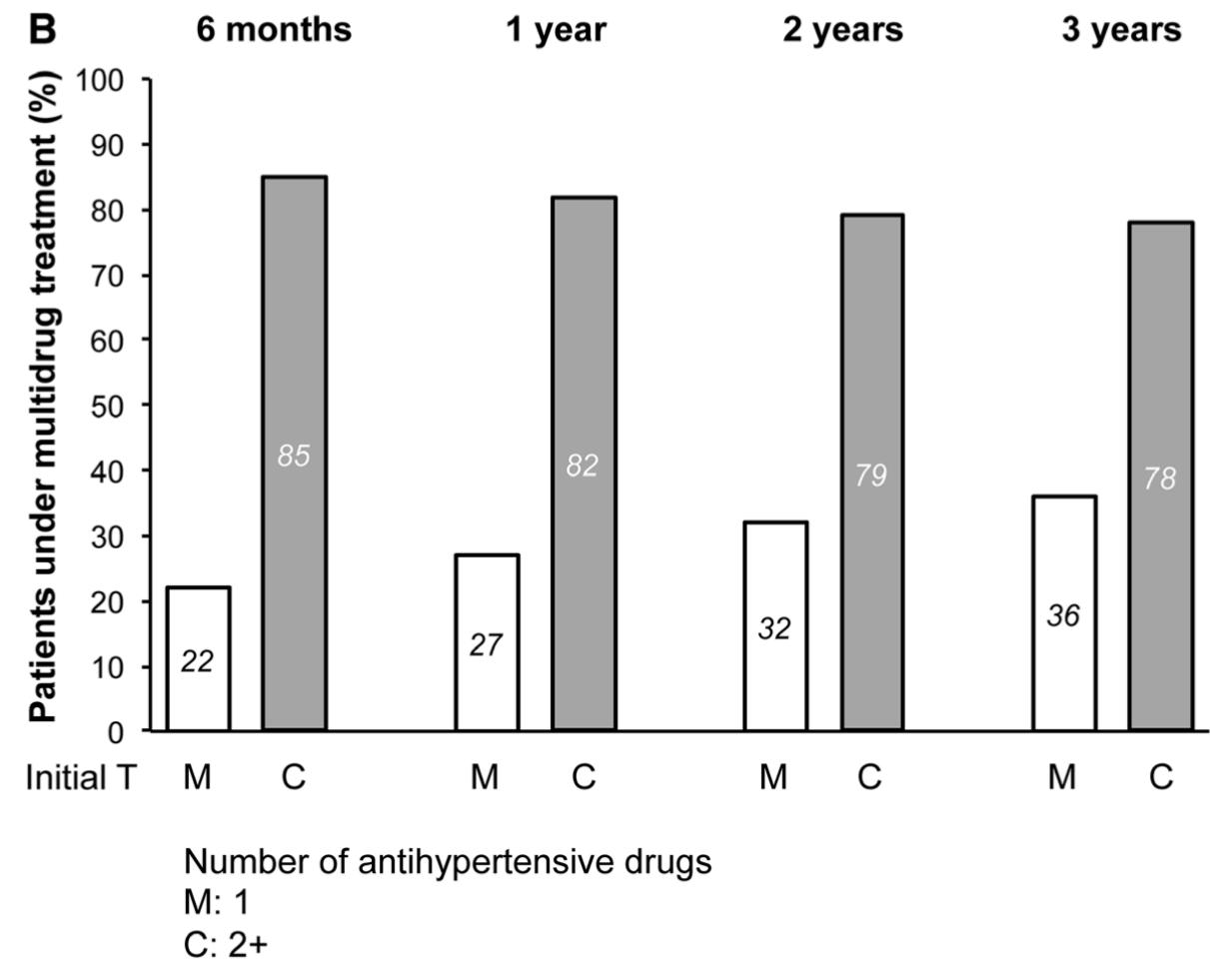


Core drug-treatment strategy for Hypertension

for uncomplicated hypertension and most patients
with HMOD, cerebrovascular disease, diabetes, or PAD



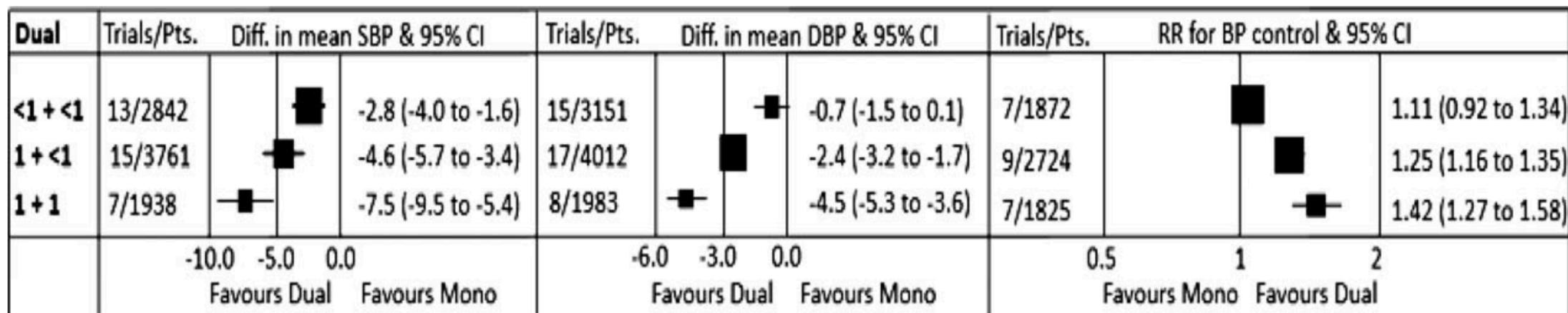
REAL-WORLD DATA



Efficacy and Safety of Dual Combination Therapy as Initial Treatment for Hypertension - A Systematic Review and Meta-Analysis

33 trials, 13,095 participants, mean baseline mean BP 155/100mmHg

Compared low-top standard dose dual combinations <1 + <1, 1 + <1, 1+1

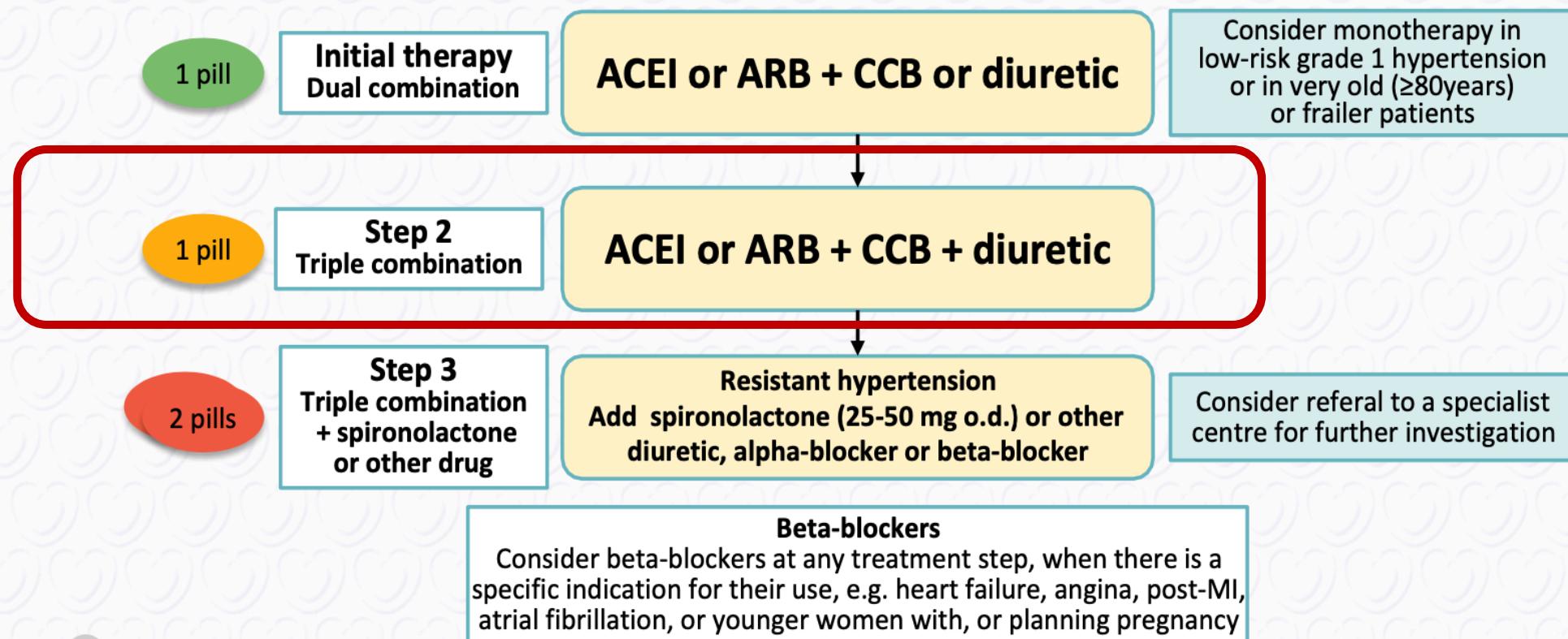


Conclusion: Compared with standard-dose monotherapy, initiating treatment with low-standard-dose dual combination therapy is more efficacious without increasing withdrawals for adverse events....these data support the ESC-ESH and US Hypertension guideline recommendations....

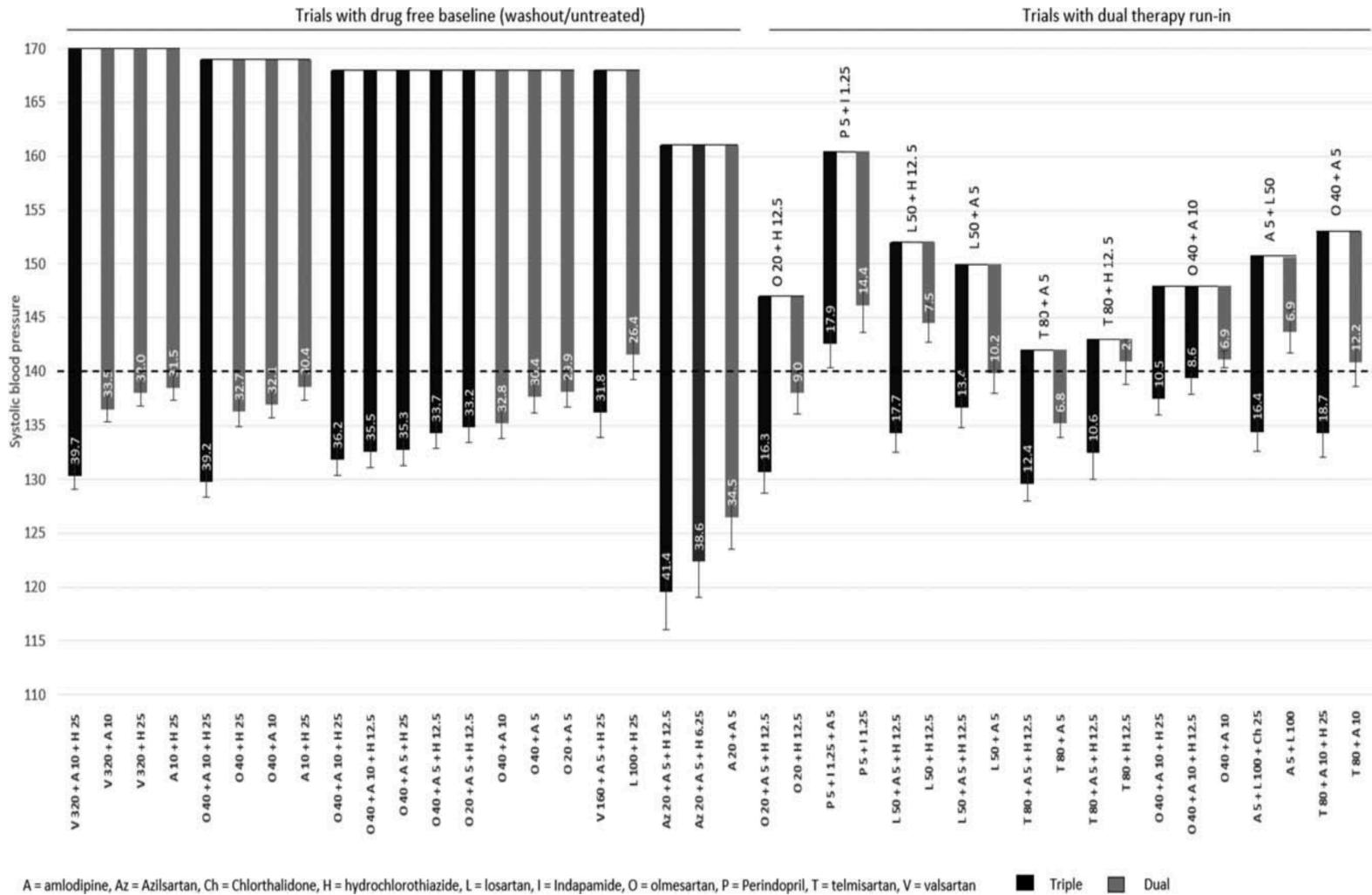
Salam A, et al. J Hypertens 2019

Core drug-treatment strategy for Hypertension

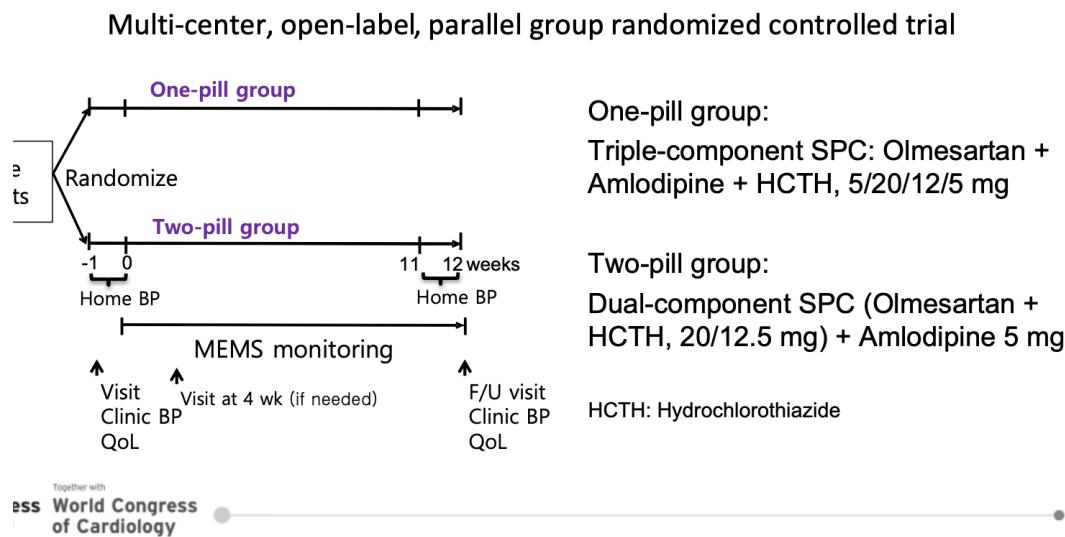
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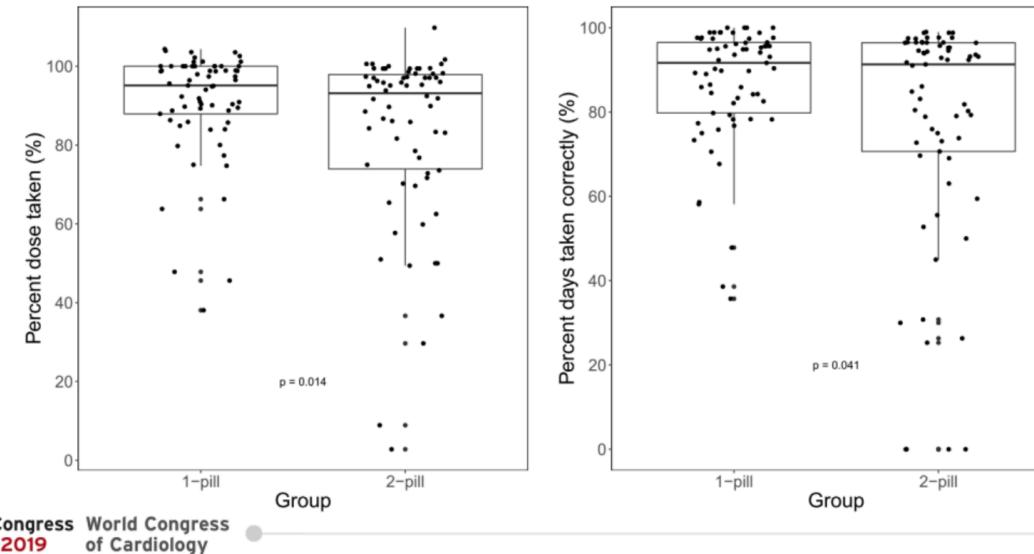
TRIPPLE THERAPY



Study design



PDT & PDTc

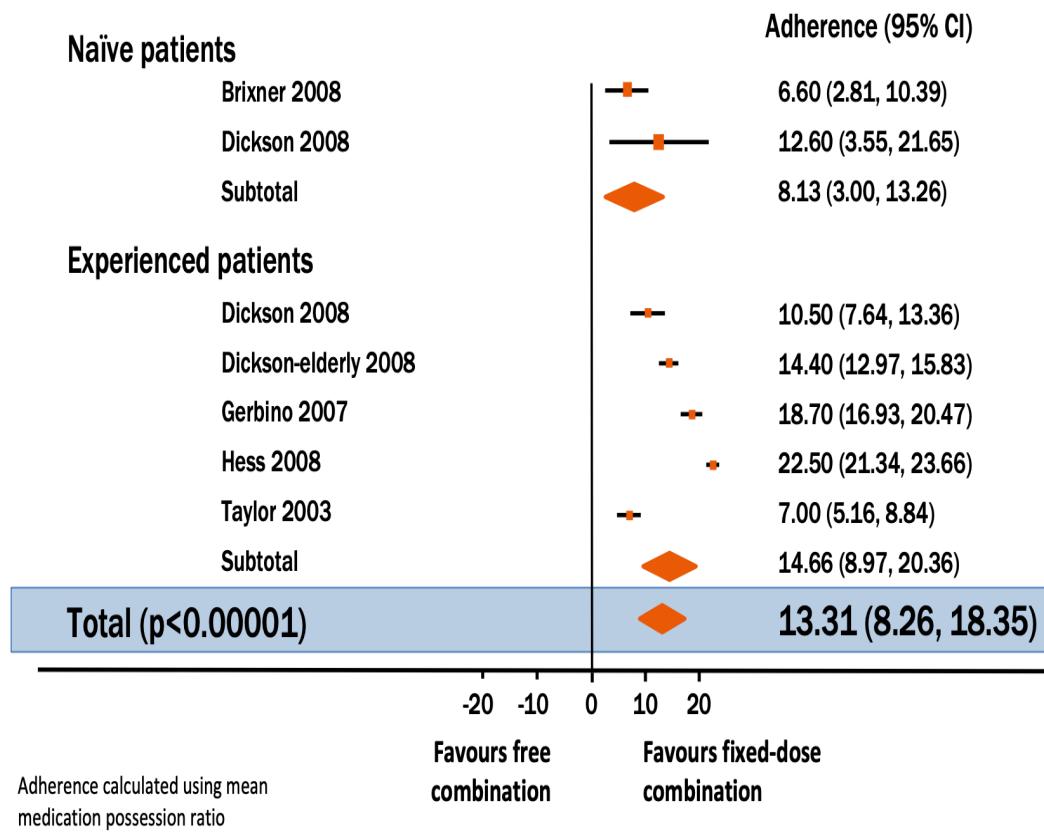


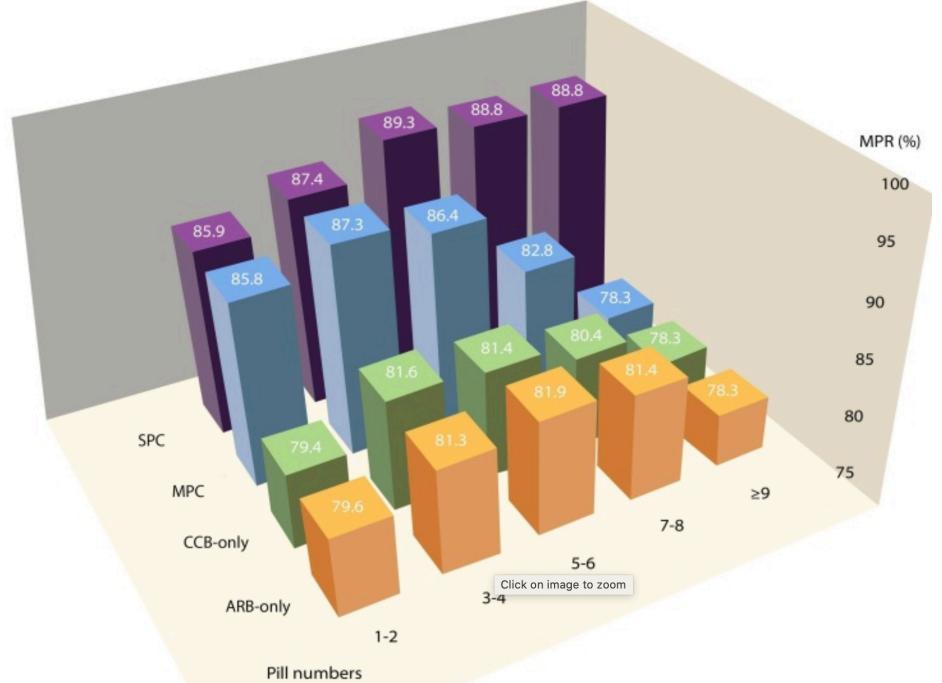
THE AMTRAC STUDY

ADHERENCE

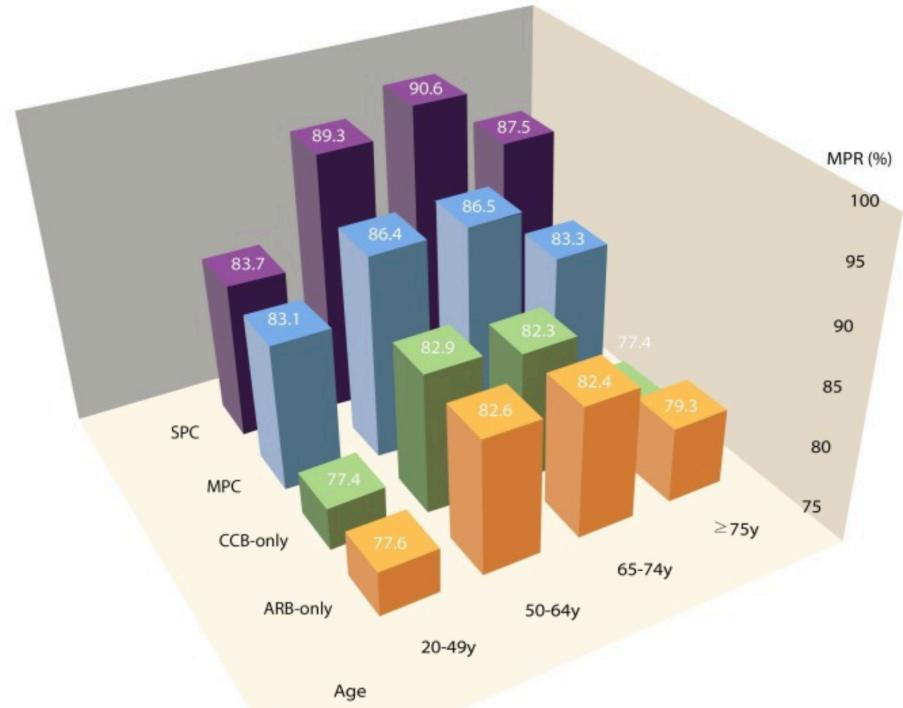
Combining drugs in a single pill combination can improve adherence vs the same drugs given as a free combination

Six studies with 20,763 patients





Adherence change according to the number of medications



Adherence change according to age group

COMBINATION REGIME & ADHERENCE

- Real-world Nationwide Korean Study
- 116 677 patients
- Age and pill burden

NARROWING THE GAP

Right assessment prior to treatment



Early protection with combination therapy



SPC: a simple solution to inertia and adherence

**THANK YOU
FOR
YOUR ATTENTION**

NGOC THANH VAN NGUYEN, MD
NTCC 2019, UMC