



PLATFORM OF LABORATORIES FOR ADVANCES IN CARDIAC EXPERIENCE

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Auditorium
della Tecnica

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2022



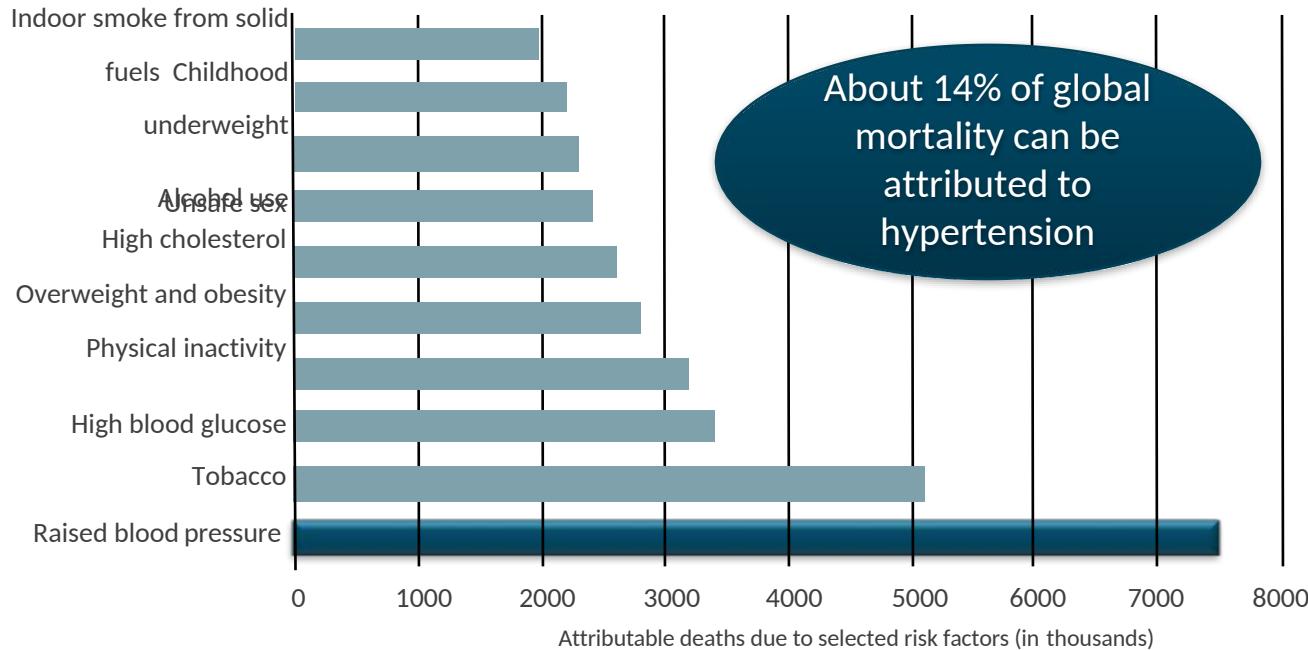
Ipertensione arteriosa: terapia personalizzata

**IPERTENSIONE NON CONTROLLATA:
EPIDEMIOLOGIA E RISCHI**

ASSOCIAZI
Stefano Taddei



Hypertension is the number one risk factor for global mortality



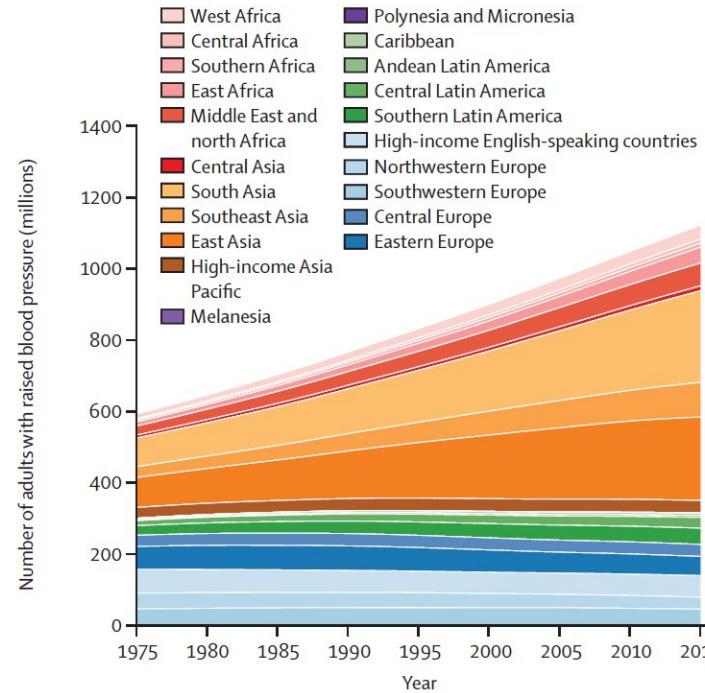
World Health Organisation. Global atlas on cardiovascular disease prevention and control. 2011.

Available at:

http://www.who.int/cardiovascular_diseases/publications/atlas_cvd/en/index.html



Global Burden of Hypertension Number of Adults With Raised Blood Pressure Has Increased From 1975 to 2015

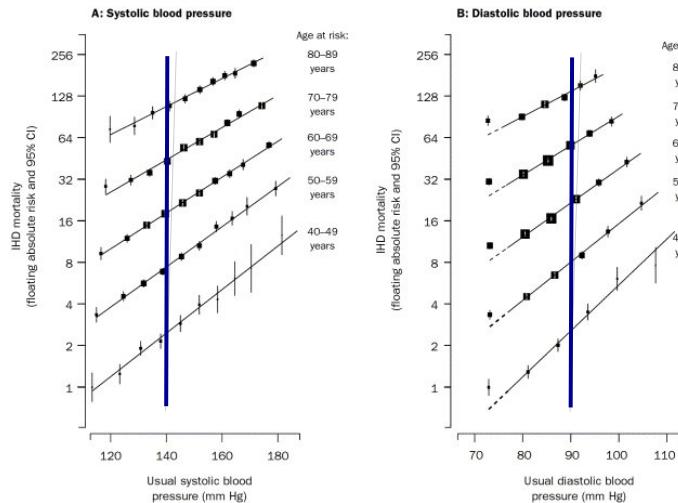


NCD Risk Factor Collaboration (NCD-RisC). Lancet 2017;389:37-55.

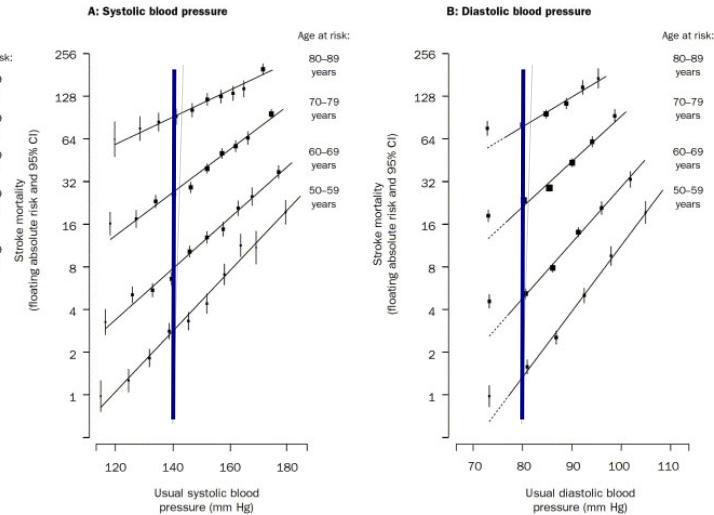


Cardiovascular mortality related to age

Ischaemic heart disease



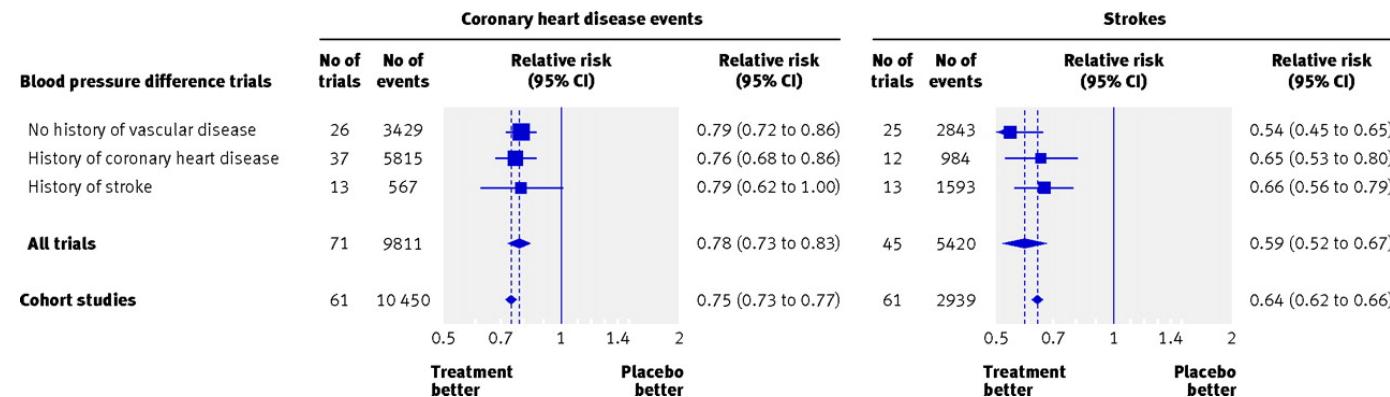
Stroke



Prospective Studies Collaboration, *Lancet* 2002



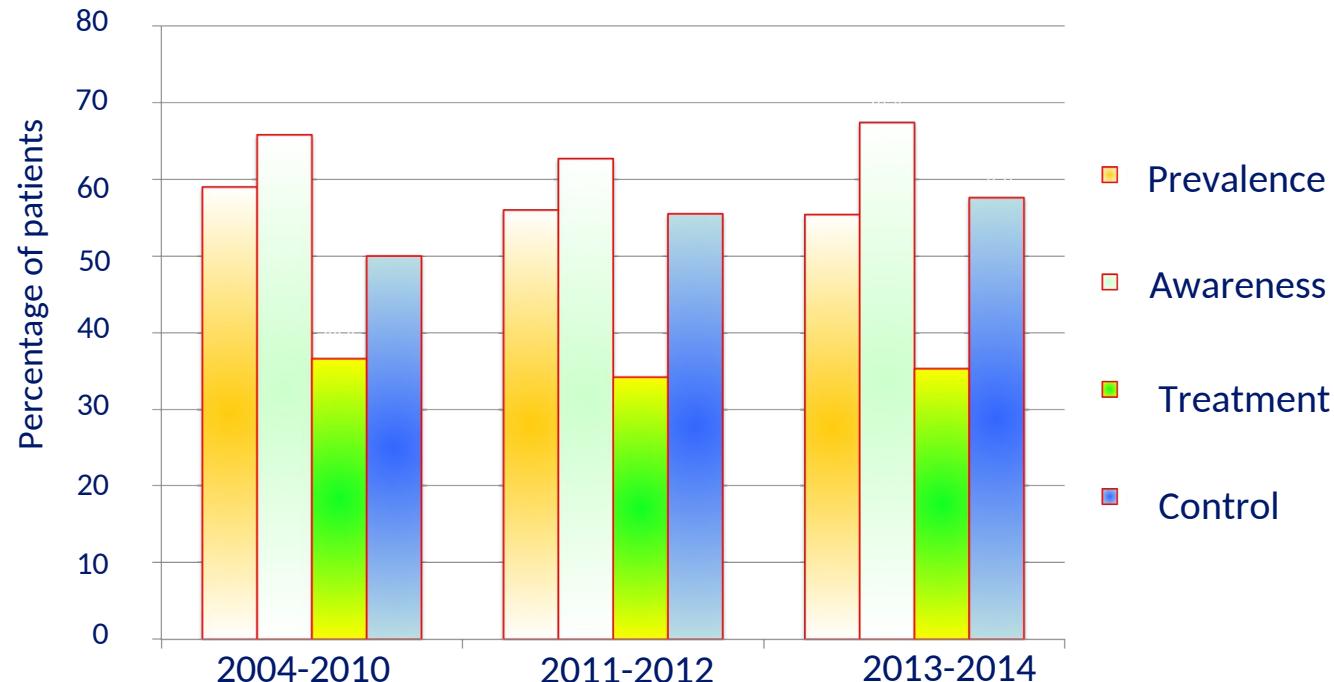
Relative risk estimates of coronary heart disease events and stroke for a BP reduction of 10 mm Hg systolic or 5 mm Hg diastolic in the BP difference trials and in epidemiological cohort studies.



Law, M R et al. BMJ 2009;338:b1665

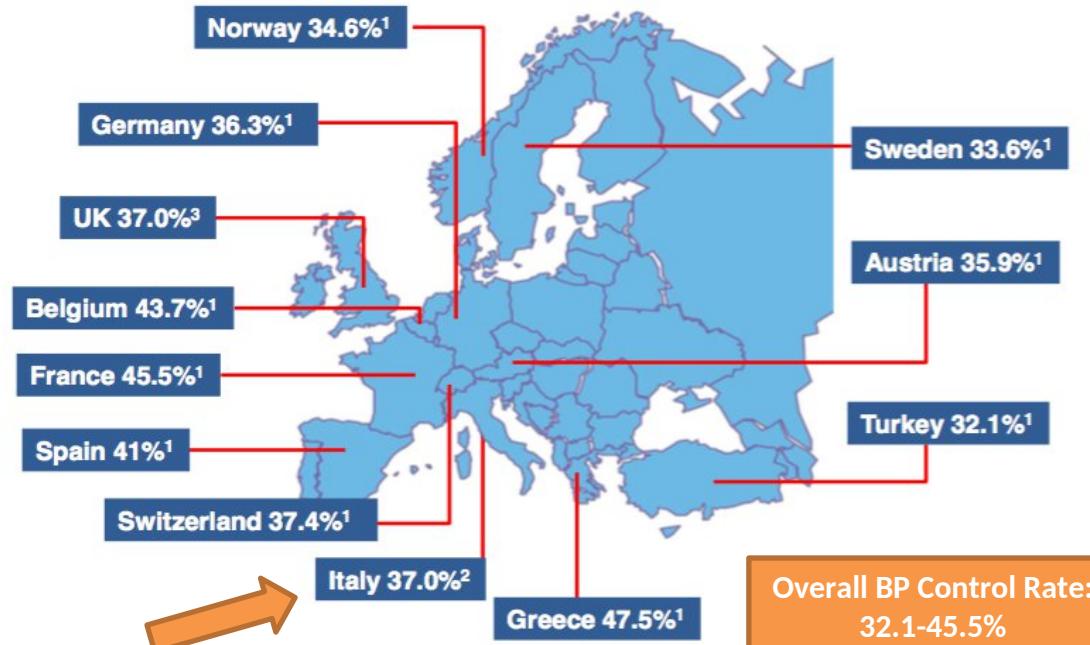


Iipertensione arteriosa: Dalle Linee Guida ai problemi della vita reale in Italia





Controllo dell'Iipertensione in Europa



1. Proportion (%) of primary care patients with SBP/DBP <140/90 mmHg (<130/80 mmHg for diabetics)
2. Proportion (%) of patients (mainly in primary care) with SBP/DBP <140/90 mmHg

1. Banegas et al. *Eur Heart J* 2011;32:2143-522.
2. Tocci et al. *J Hypertens* 2012;30:1065-74,
3. Falaschetti et al. *Lancet* 2014;383:1912-19



Iipertensione arteriosa non controllata:

- Iipertensione resistente
- Iipertensione di difficile controllo



Iipertensione arteriosa non controllata:

- Ipertensione resistente
- Ipertensione di difficile controllo

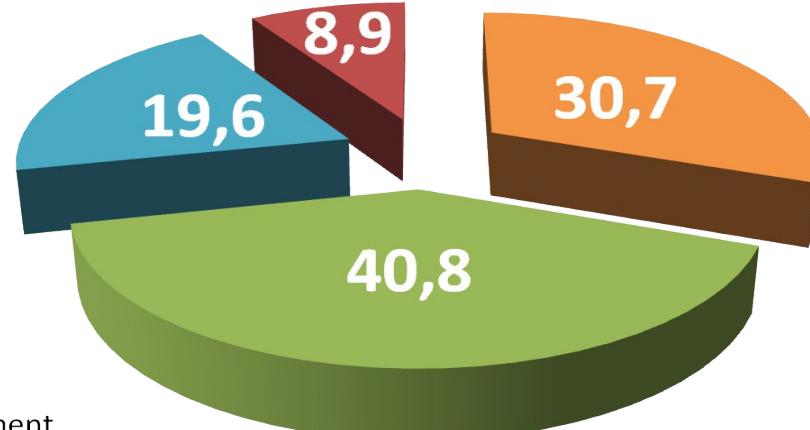


Iipertensione resistente -2018 ESH Guidelines

Recommendations	Class	Level
<p>It is recommended that hypertension be defined as resistant to treatment (i.e. resistant hypertension) when:</p> <ul style="list-style-type: none"> Optimal doses (or best-tolerated doses) of an appropriate therapeutic strategy, which should include a diuretic (typically an ACE inhibitor or ARB + CCB + thiazide/thiazide-type diuretic), fails to lower clinic SBP and DBP values to < 140 mmHg and/or 90 mmHg, respectively; and The inadequate control of BP has been confirmed by ABPM or HBPM; and After exclusion of various causes of pseudo-resistant hypertension (especially poor medication adherence) and secondary hypertension. 	I	C
Recommended treatment of resistant hypertension is:		
Reinforcement of lifestyle measures, especially sodium restriction.	I	B
Addition of low-dose spironolactone to existing treatment.	I	A
Or the addition of further diuretic therapy if intolerant to spironolactone, with either eplerenone, amiloride, higher dose thiazide/thiazide-like diuretic, or a loop diuretic.	I	B
Or the addition of bisoprolol or doxazosin.	I	B



Resistant hypertension: prevalence in the NHANES hypertensive population (n=5230)

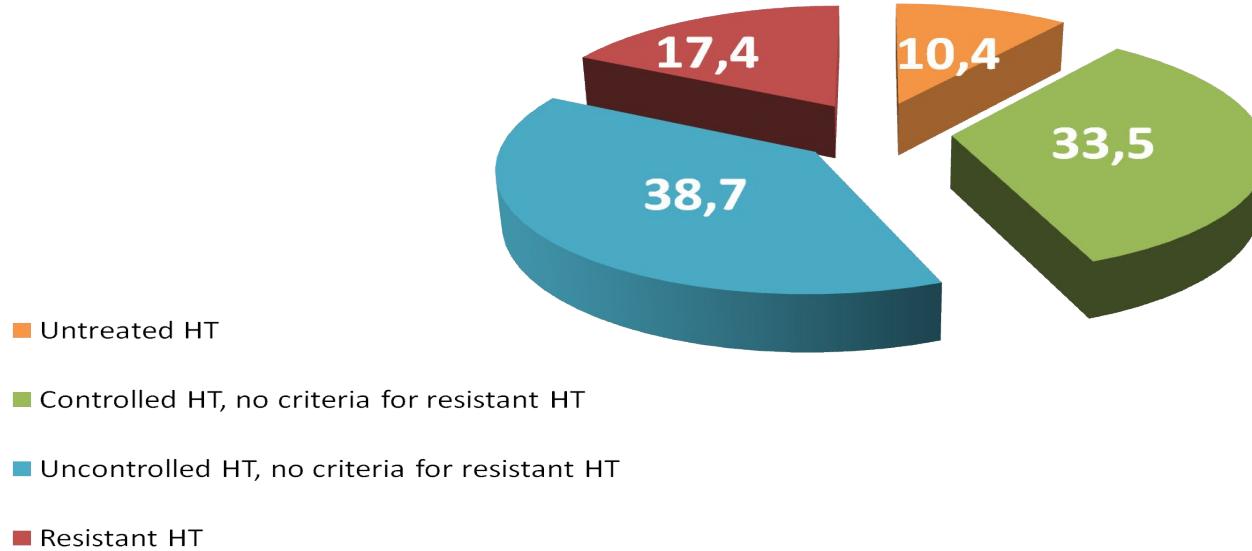


- Uncontrolled HT, no drug treatment
- Controlled HT, 1-3 drugs
- Uncontrolled HT, 1-2 drugs
- Resistant HT (controlled HT, >3 drugs; uncontrolled HT, 3 or more drugs)

Persell SD, Hypertension 2011



Prevalence of resistant hypertension at the Hypertension Unit of the AOUP





Cause di ipertensione resistente

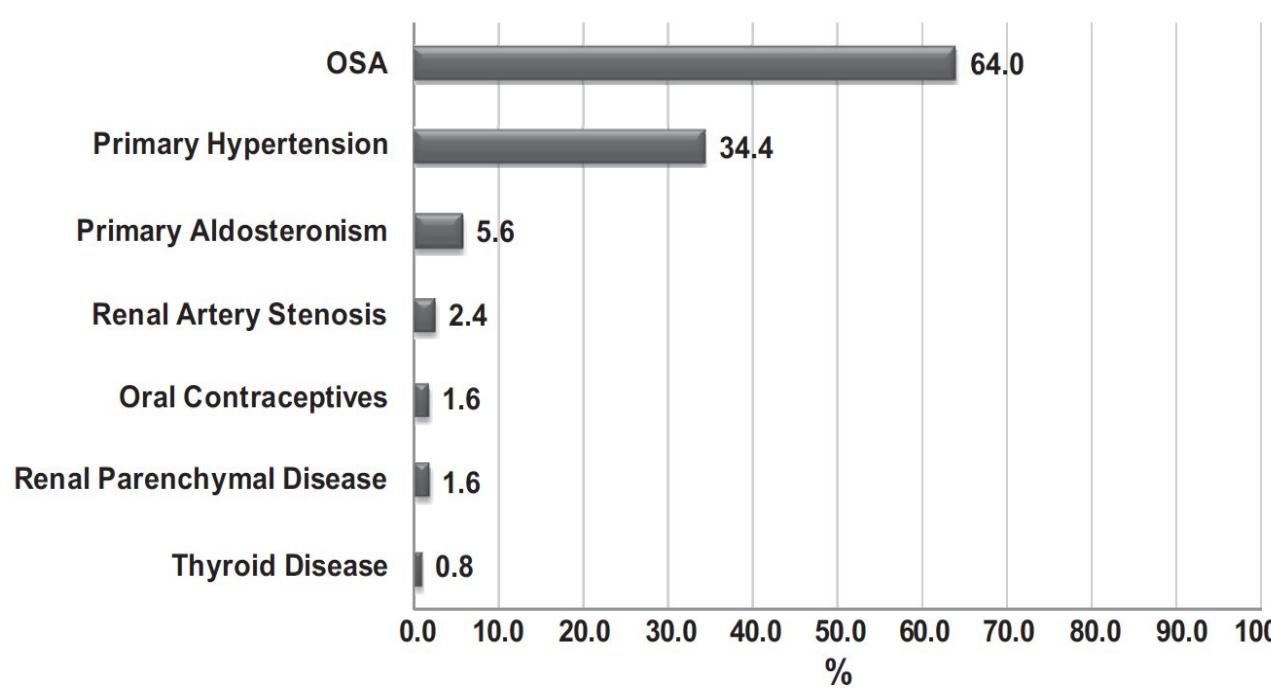
- Ipertensione secondaria non diagnosticata
- Assunzione di farmaci che aumentano la pressione
- Incapacità di modificare lo stile di vita
 - incremento ponderale
 - elevato consumo di bevande alcoliche
- Ipervolemia plasmatica
 - terapia diuretica inadeguata
 - insufficienza renale progressiva
 - elevato introito alimentare di sodio

ESH-ESC Guidelines, J Hypertens 2013

JNC-8 Report, JAMA 2014



Sleep apnea the most common disease in resistant hypertension patients

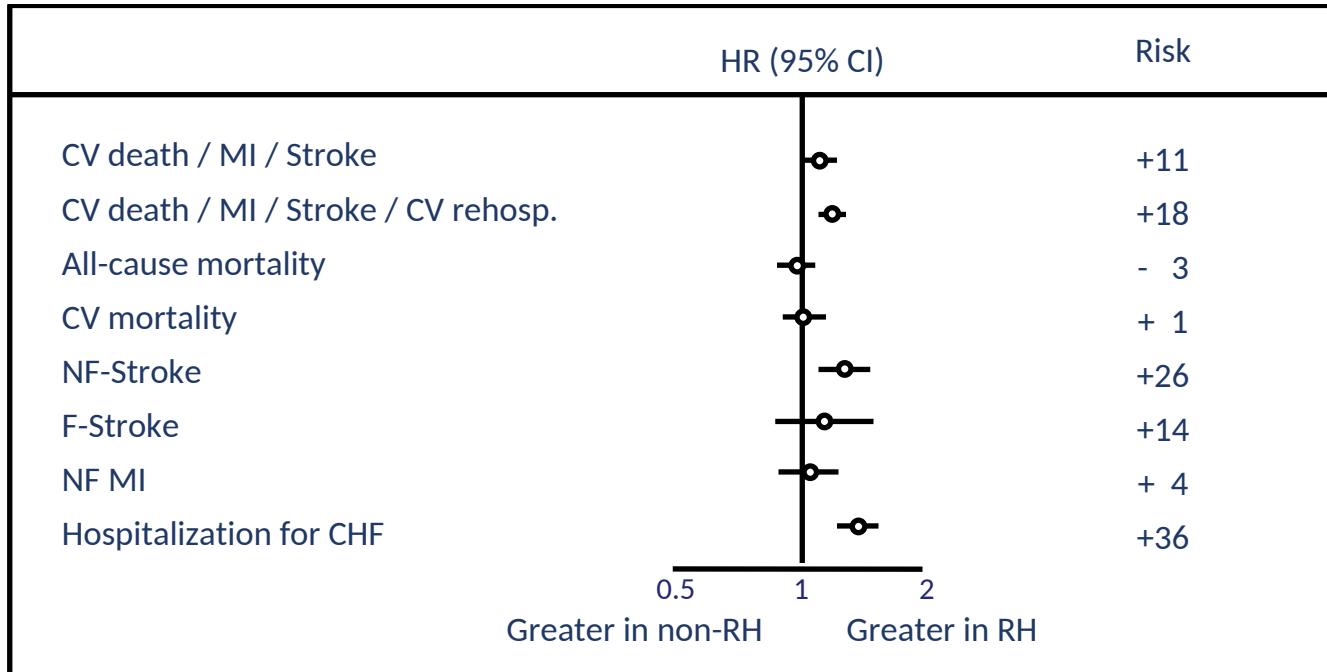


Pedrosa et al, Hypertension 2011;58:811-817.



Patients with resistant hypertension have a greater CV Risk!

Adjusted Multivariate Hazard Ratio of Events in RH (n = 6790) vs Non-RH (n = 46740)



Kumbhani DJ et al., Eur Heart J 2013



Iipertensione arteriosa non controllata:

- Iipertensione resistente
- Iipertensione di difficile controllo



SIIA position paper on the role of renal denervation in the management of the difficult-to-treat hypertensive patient

Tavola dei contenuti

- Epidemiologia dell'ipertensione e suo impatto sulla salute globale.
- Aderenza e persistenza nel trattamento.
- Denervazione renale: riassunto delle evidenze attuali dai trials clinici
- Denervazione renale: dati di sicurezza
- Quando eseguire la denervazione renale? Dall'ipertensione resistente al paziente difficult-to-treat.
- Algoritmo di gestione del paziente.

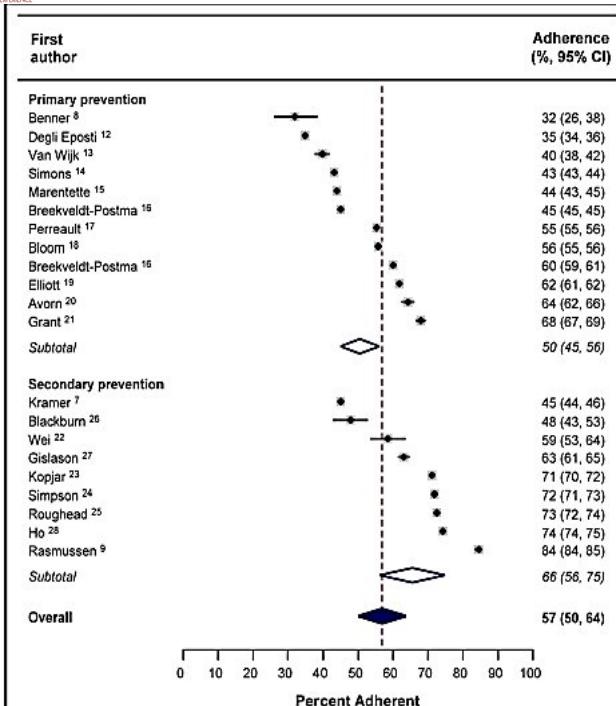


Figure 1 Percent adherence to all classes of drug in each study, stratified according to their use in primary or secondary prevention. CI = confidence interval.

LA DIMENSIONE DEL PROBLEMA.....

Percentuale di aderenza dei pazienti a tutti i farmaci prescritti in prevenzione cardiovascolare primaria e secondaria

Metaanalisi che includeva 376,162 pazienti:

- 11 studi condotti su pazienti in terapia per prevenzione primaria
- 9 studi condotti su pazienti con pregresso evento CV in terapia per prevenzione di recidive

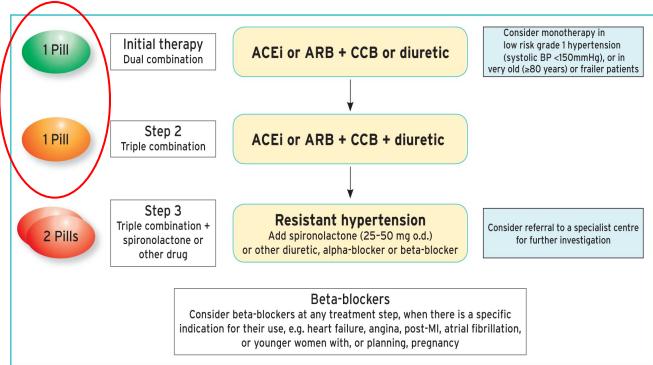
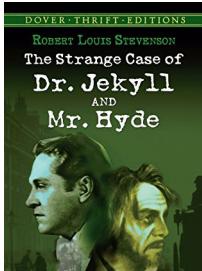
Aderenza a statine, antipertensivi e aspirina limitata a circa il:

- 50% dei pazienti in prevenzione primaria
- 66% dei pazienti in prevenzione secondaria

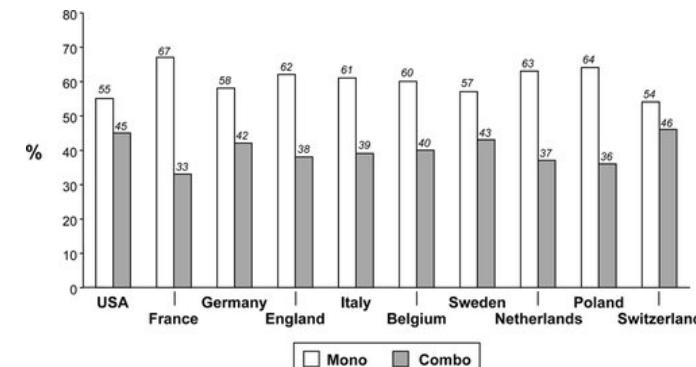
The American Journal of Medicine, 2012;125(9).



La doppia faccia della non aderenza - Il contributo del medico



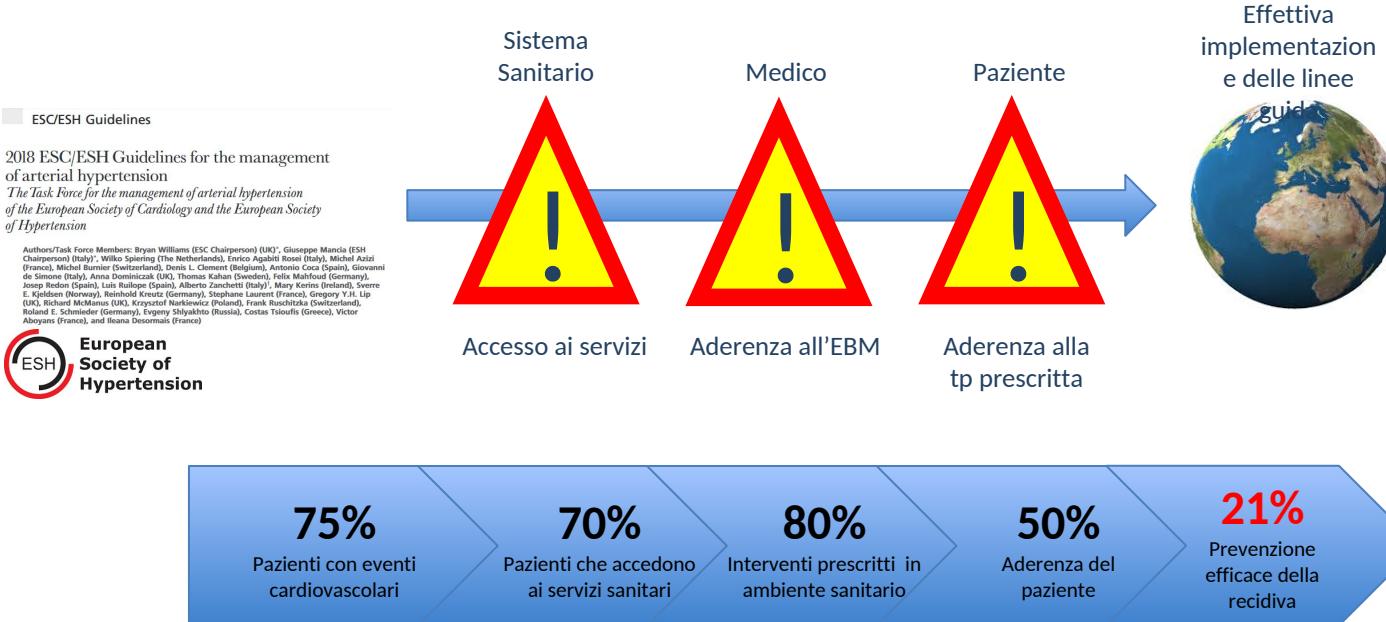
J Hypertens. 2018;36:1953-2041



Rea et al. Circ Res 2019



La catena della non aderenza



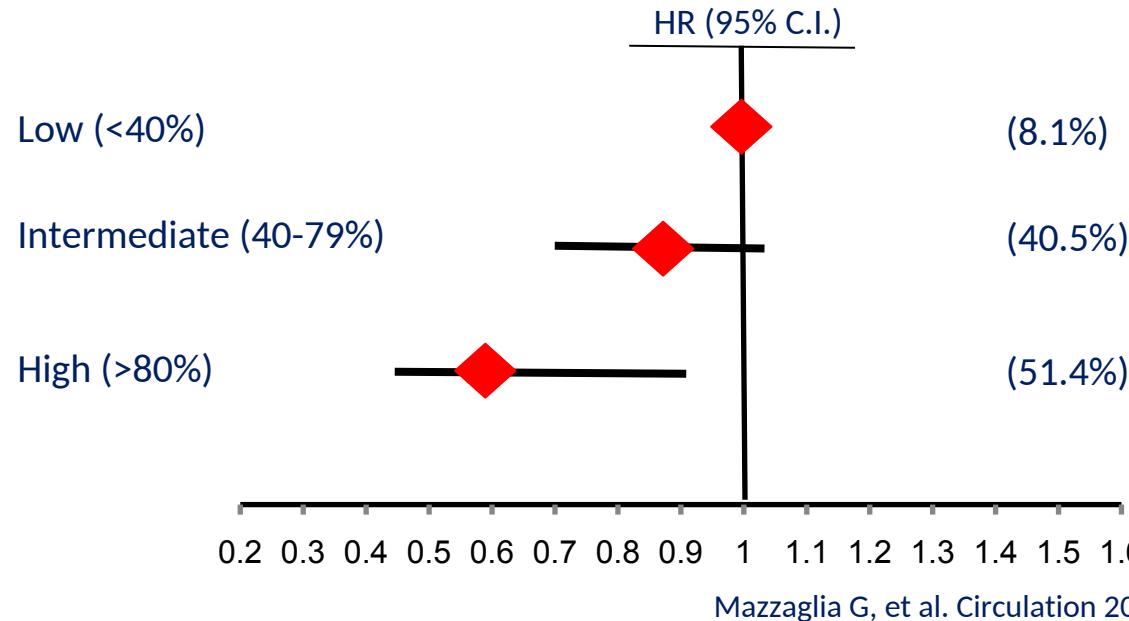
Perel et al. Global Heart 2015



Adherence to Antihypertensive Medications and CV Morbidity Among Newly Diagnosed Hypertensive Patients

18 806 newly diagnosed hypertensives, newly treated for hypertension and initially free of cardiovascular diseases

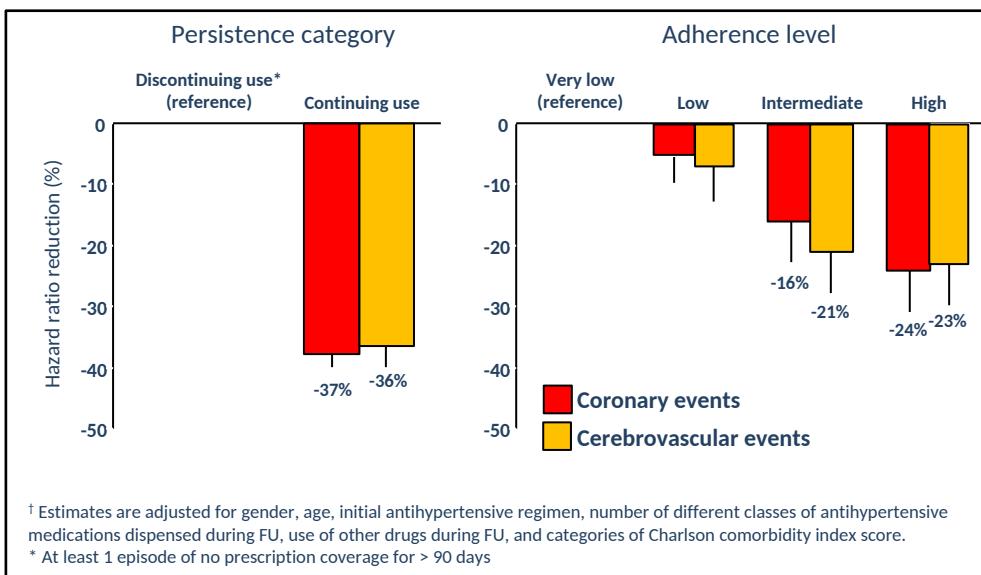
Adherence to AHT (6 months) and CV events (PDC)





Ed in Italia....

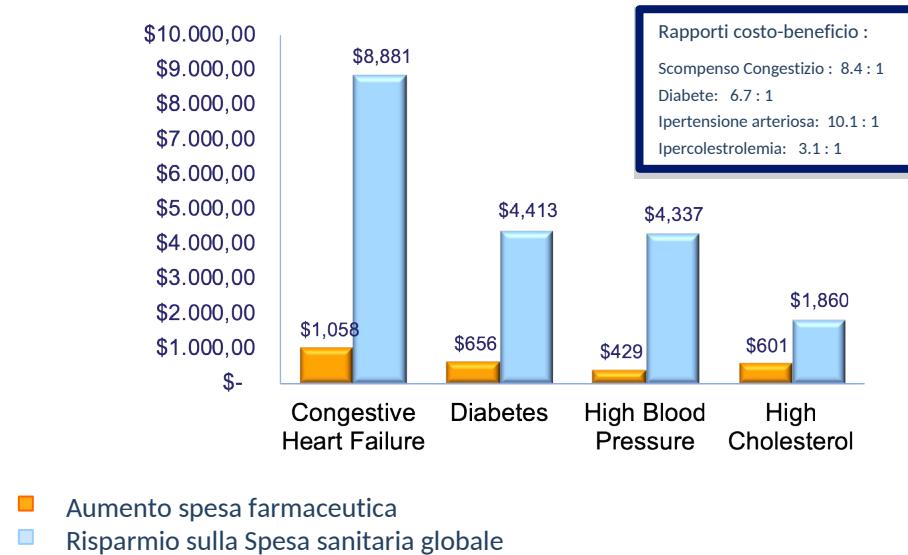
Effetti della persistenza o aderenza a farmaci antiipertensivi sulla riduzione del rischio di eventi coronarici (n = 6665) o cerebrovascolari (n = 5351) in 242.594 pazienti



Corrao et al. J Hypert 2011; 29: 610-618



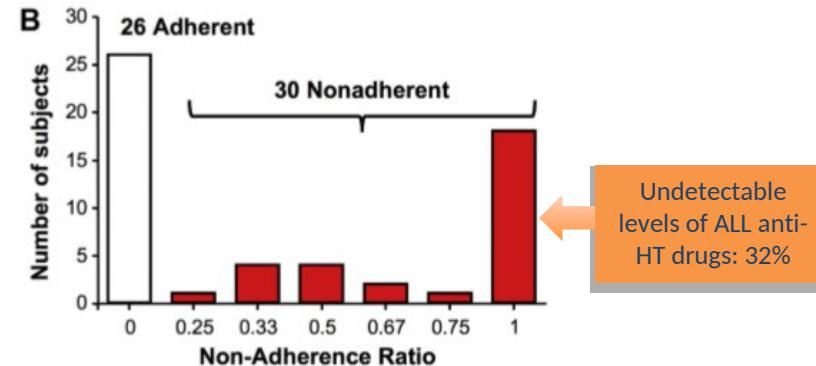
La non aderenza – Un bilancio economico sfavorevole



Roebuck MC, et al. Health Affairs 2011;30(1):91-99.



Non-adherence to treatment: the most prevalent cause of resistant hypertension?



Non-adherence ratio = ratio of numbers of undetectable antihypertensive drugs to the total number of antihypertensive drugs tested among RH patients undergoing therapeutic drug monitoring

Brinker S et al., JACC 2014



SCIENCE VOLUNTEER

WARNING SIGNS

Search

Hypertension

Brief Review

Evaluation of Adherence Should Become an Integral Part of Assessment of Patients With Apparently Treatment-Resistant Hypertension

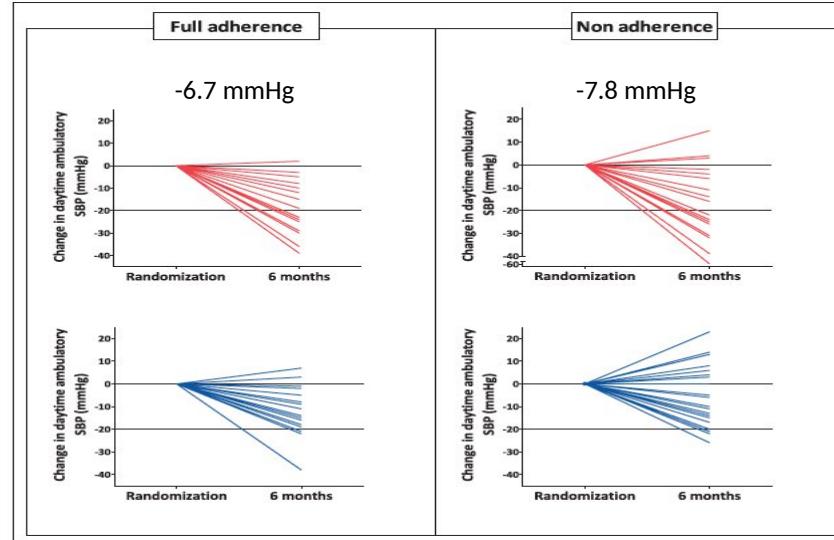
Elena Berra, Michel Azizi, Arnaud Capron, Aud Høiegen, Franco Rabbia, Sverre E. Kjeldsen,
Jan A. Staessen, Pierre Wallemacq, Alexandre Persu



La RDN è l'unico trattamento con efficacia provata in pazienti non aderenti!

RDN

Controlli



DenerHTN Study: Azizi M et al, Circulation 2016;134(12):847-57



Conclusioni

- Nonostante che l'ipertensione arteriosa sia il principale fattore di rischio cardiovascolare, il controllo dei valori ottimali è ancora molto difficile da raggiungere nella pratica clinica
- I meccanismi responsabili del mancato raggiungimento degli obiettivi terapeutici sono molti. Tuttavia accanto a forme di ipertensione resistente, la maggior parte dei pazienti con pressione arteriosa non controllata presenta problematiche diverse con un ruolo fondamentale rappresentato dalla inerzia e/o non aderenza terapeutica
- Nell'ipertensione strategie terapeutiche quali la denervazione renale potrebbero avere un impatto significativo sulla salute pubblica, considerando che questa terapia, oltre ad essere efficace nell'ipertensione resistente, ovviamente non risente delle problematiche relative alla inerzia/aderenza terapeutica



Grazie per l'attenzione!

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