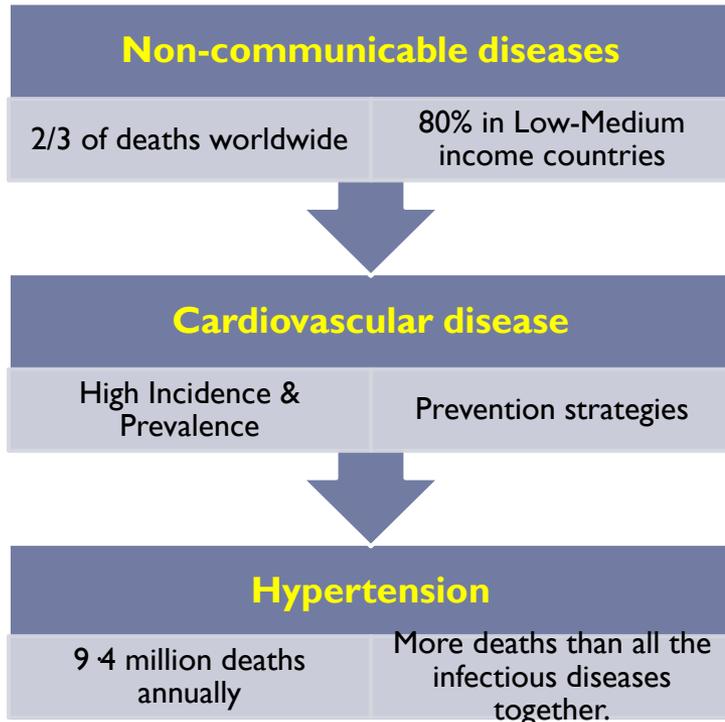


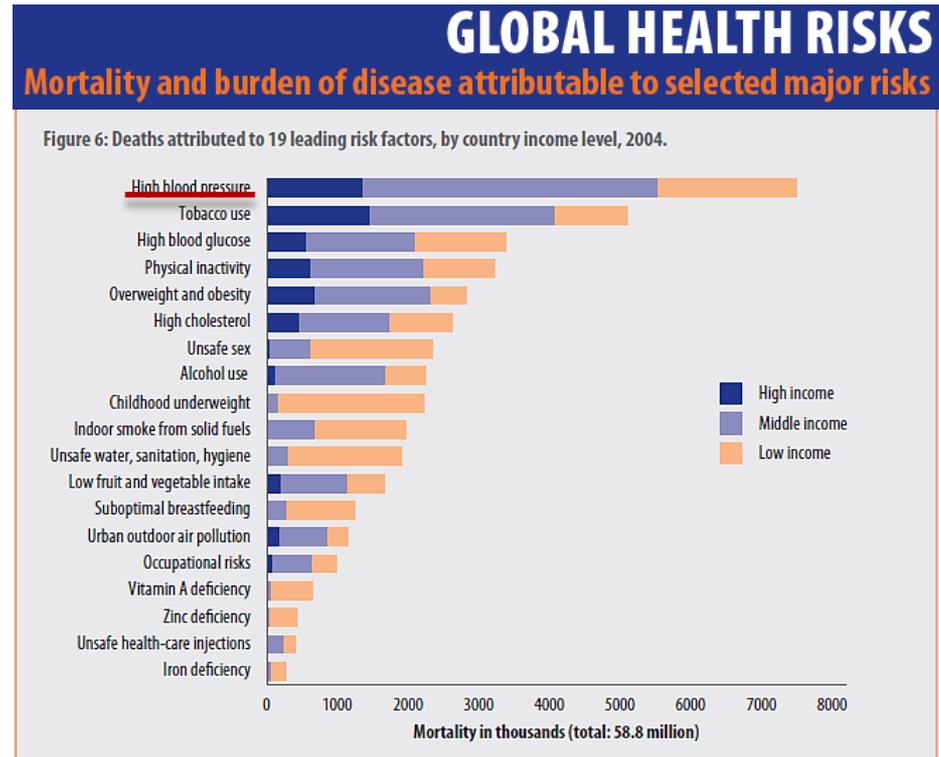
# A public health approach to global management of hypertension

Department of Non-communicable Diseases and Mental Health  
Pan American Health Organization/World Health Organization

# Knowing numbers, knowing the problem



Is HTN the easiest NCD to treat?



# Knowing numbers, knowing the problem

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Is HTN the easiest non-communicable to treat?

- 1) The measurement of the blood pressure is an easy technique.
- 2) There are a large and inexpensive variety of drugs available.
- 3) There are simple drug regimens administered once daily.
- 4) Many drugs do not need laboratory monitoring.

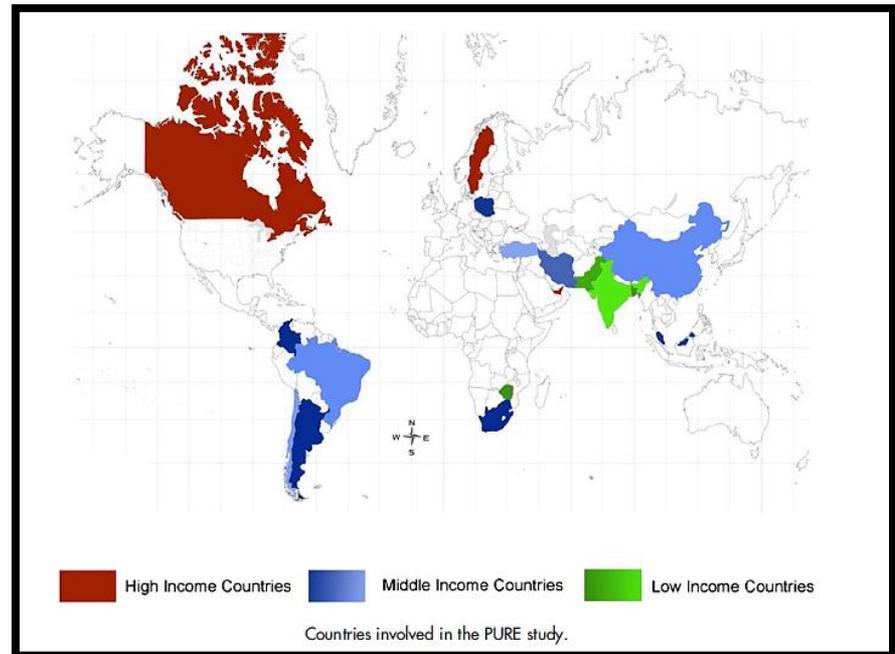
# The Prospective Urban Rural Epidemiology (PURE) study: Examining the impact of societal influences on chronic noncommunicable diseases in low-, middle-, and high-income countries

Koon Teo, PhD,<sup>a</sup> Clara K. Chow, PhD,<sup>a</sup> Mario Vaz, MD,<sup>b</sup> Sumathy Rangarajan, MSc,<sup>a</sup> and Salim Yusuf, DPhil<sup>a</sup>, The PURE Investigators-Writing group *Hamilton, Ontario, Canada; and Bangalore, India*

**Background** Marked changes in the prevalence of noncommunicable diseases such as obesity, diabetes, and cardiovascular disease have occurred in developed and developing countries in recent decades. The overarching aim of the study is to examine the relationship of societal influences on human lifestyle behaviors, cardiovascular risk factors, and incidence of chronic noncommunicable diseases.

**Conclusions** The PURE study builds on the work and experience design and extensive data collection are geared toward addressing underlying determinants of cardiovascular disease in populations at (2009;158:1-7.e1.)

**Results** This report describes the design, justification, and methodology of the PURE study. The PURE study has been recruiting since 2002 and has enrolled 139,506 individuals by March 31, 2009.



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

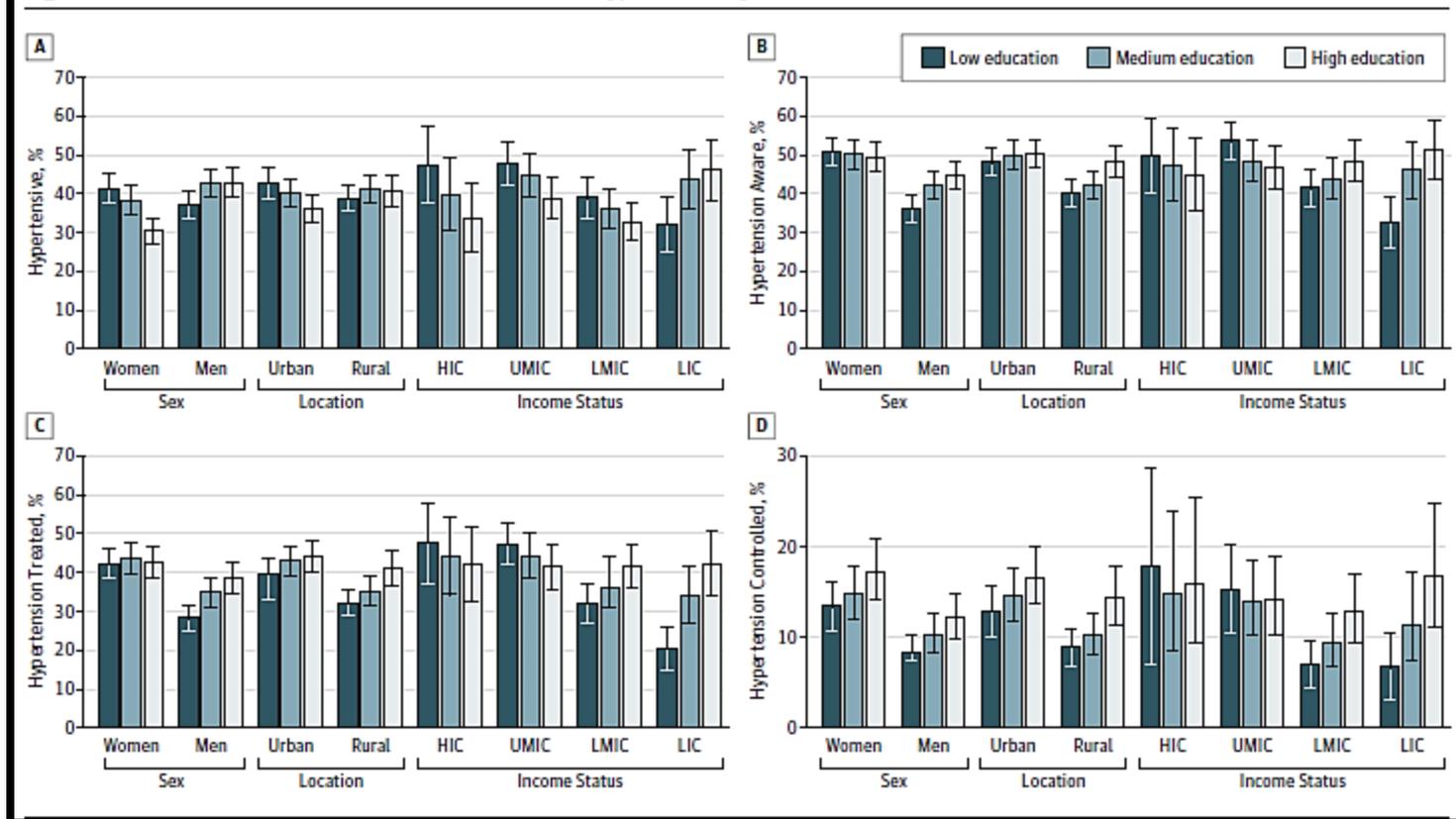
13%

Table 2. Prevalence of Awareness, Treatment, and Control Among the Hypertensive Population in PURE According to 2 Definitions

Variables	No. (%) of Participants				Proportion With BP <140/90 mm Hg Among Those Receiving Treatment
	Overall	Aware	Treated	Controlled	
Self-reported hypertension with treatment or BP $\geq$ 140/90 mm Hg					
<u>Income level</u>					
HIC	6263	3070 (49.0)	2924 (46.7)	1189 (19.0)	1189 (40.7)
UMIC	18 123	9516 (52.5)	8761 (48.3)	2833 (15.6)	2833 (32.3)
LMIC	23 269	10 134 (43.6)	8595 (36.9)	2314 (9.9)	2314 (26.9)
LIC	10 185	4157 (40.8)	3230 (31.7)	1298 (12.7)	1298 (40.2)
<u>Sex</u>					
Women	32 649	16 440 (50.4)	14 491 (44.4)	4891 (15.0)	4891 (33.8)
Men	25 191	10 437 (41.4)	9019 (35.8)	2743 (10.9)	2743 (30.4)
<u>Region<sup>a</sup></u>					
South Asia	9751	3942 (40.4)	3113 (31.9)	1264 (13.0)	1264 (40.6)
China	18 915	7866 (41.6)	6503 (34.4)	1545 (8.2)	1545 (23.8)
Malaysia	5321	2568 (48.3)	2226 (41.8)	680 (12.8)	680 (30.5)
Africa	2160	743 (34.4)	677 (31.3)	140 (6.5)	140 (20.7)
North America and Europe	8682	4428 (51.0)	4158 (47.9)	1599 (18.4)	1599 (38.5)
Middle East	2074	1088 (52.5)	1054 (50.8)	354 (17.1)	354 (33.6)
South America	10 937	6242 (57.1)	5779 (52.8)	2052 (18.8)	2052 (35.5)
All included continents, countries, or regions	57 840	26 877 (46.5)	23 510 (40.6)	7634 (13.2)	7634 (32.5)

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

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



# HIPERTENSION: Global Economic Burden

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- ▶ In the USA, achievement of control rates of HTA about 65% could avert tens of thousands of deaths per year.
- ▶ Direct health-care costs and productivity losses could amount to as much as US\$20 trillion globally over two decades.

***How treatment  
of HTN should  
be done***



# Global Standardized Hypertension Treatment (GSHT) Project



**World Health  
Organization**



# Ability Of LMICs To Implement Programs To Treat Chronic Disorders

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1. Antiretroviral treatment for HIV/AIDS has been successfully scaled up to reach at least 37% of HIV-infected and eligible people.
2. The tuberculosis control program is accountable for every person diagnosed and measures quality by assessing outcomes through cohort analysis of all people diagnosed.

***HTN: the benefits would be substantial.***



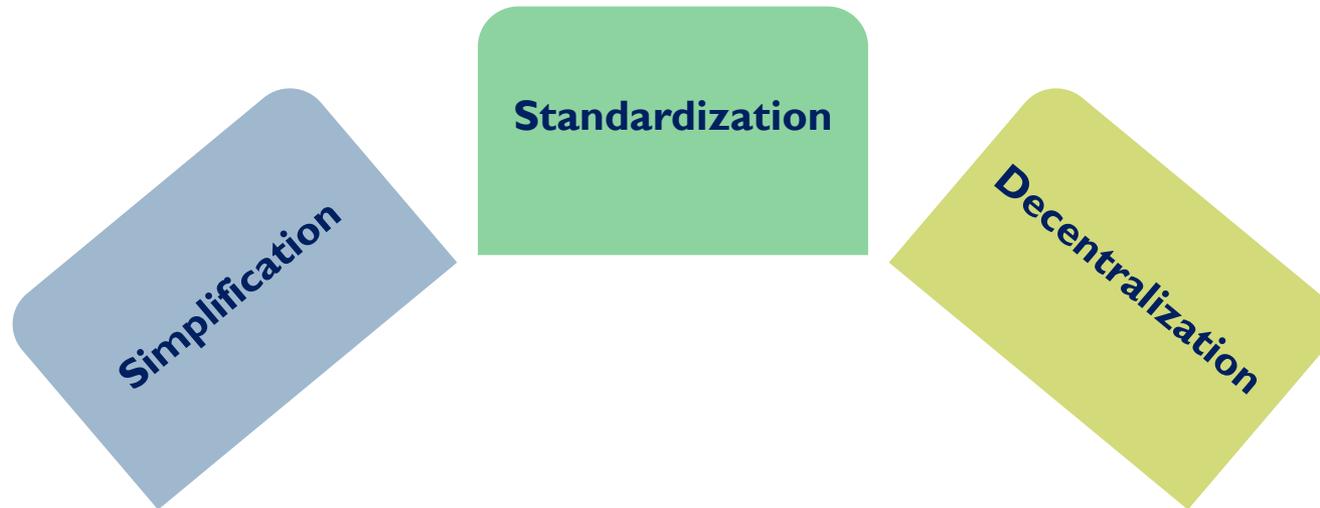
Pan American  
Health  
Organization



World Health  
Organization

# Coping programs...

Philosophical and practical approaches



- ✓ Minimization of lab monitoring requirements.
- ✓ Monitoring to appropriately track patients and outcomes, including assuring treatment effectiveness.
- ✓ Decrease costs.
- ✓ Program assessment.

# Reducing Cardiovascular Disease Through Treatment Of Hypertension

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**Define HTN according to guidelines**

**Increased access to diagnosis and treatment**

**Improved treatment quality**

# Reducing Cardiovascular Disease Through Treatment Of Hypertension

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- ▶ Effective blood pressure drugs including **generic versions**.
- ▶ Standardization of **regimens** and care.
- ▶ Core set of drugs.
- ▶ Facilitate acquisition of the drugs in all the countries.
- ▶ **Simplification** of treatment protocols.
- ▶ Specification of drugs and **dosages**.



**May, 2013 World Health Assembly:**  
Global voluntary target 25% reduction in the prevalence of high blood pressure by 2025.

Treating half of people with uncontrolled HTN, would avert  
***10 million cardiovascular events  
worldwide/10 years.***