Measuring Quality Outcome And Quality of Life in Cardiovascular Diseases

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Disclosure

- I have no conflict of interest for this presentation

Outline

- Stages of Epidemiologic Transition
- Risk factors and CVD in Indonesia
- Quality Outcome in CVD
- Quality of Life in CVD
- Summary

Stages of Epidemiologic Transition

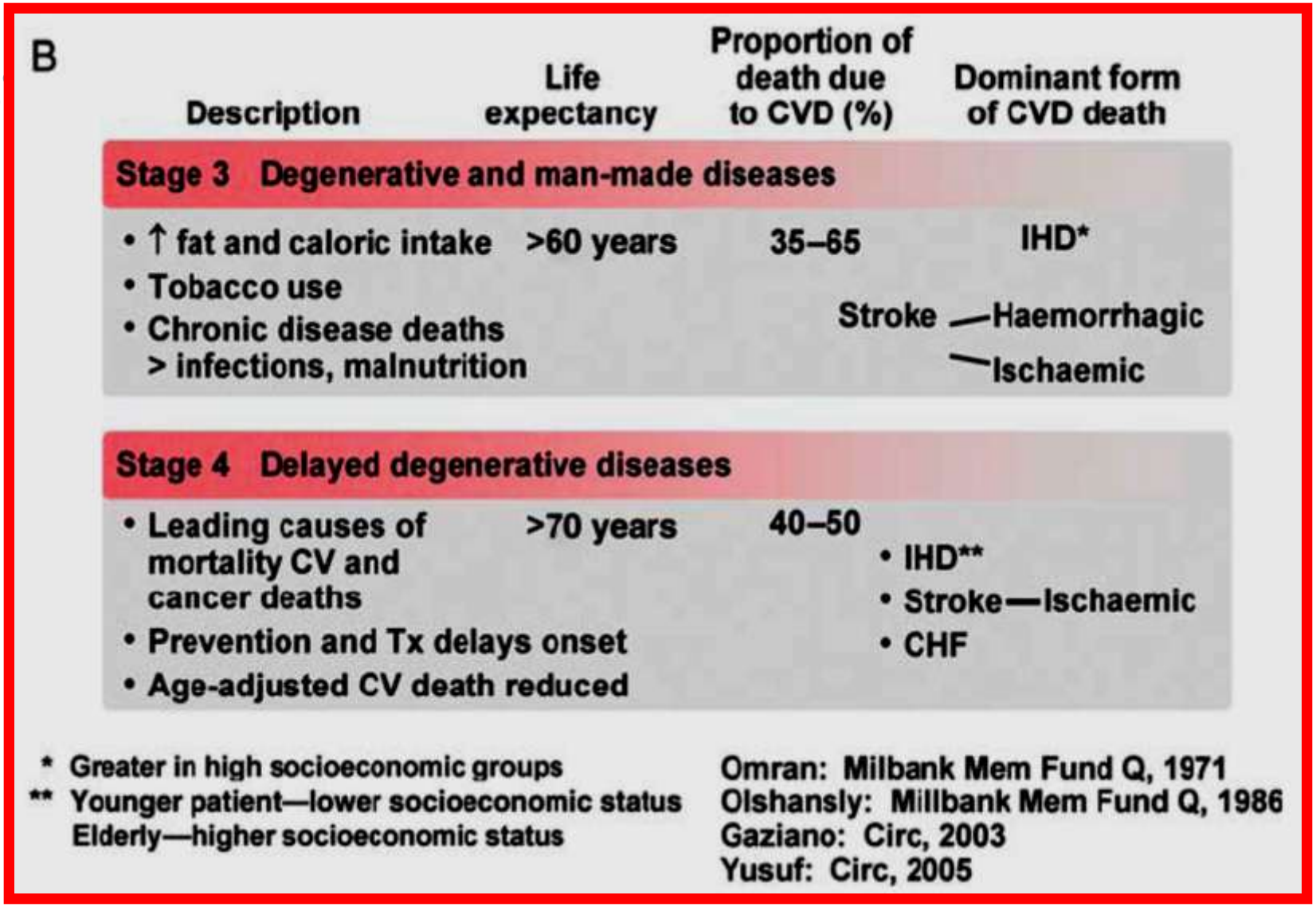
A

Description	Life expectancy	Proportion of death due to CVD (%)	Dominant form of CVD death
Stage 1 Pestilence and famine			
• Malnutrition	35 years	<10	Infectious (RHD)
• Infectious diseases			Nutritional
Stage 2 Receding pandemics			
• Improved nutrition and public health	50 years	10–35	Infectious (RHD)
• Chronic disease			Stroke—haemorrhagic
• Hypertension			

Omran: Milbank Mem Fund Q, 1971
Olshansly: Millbank Mem Fund Q, 1986
Gaziano: Circ, 2003
Yusuf: Circ, 2005

Gersch BJ, et. al. Eur Heart J 2010; 31: 642

Stages of Epidemiologic Transition



B

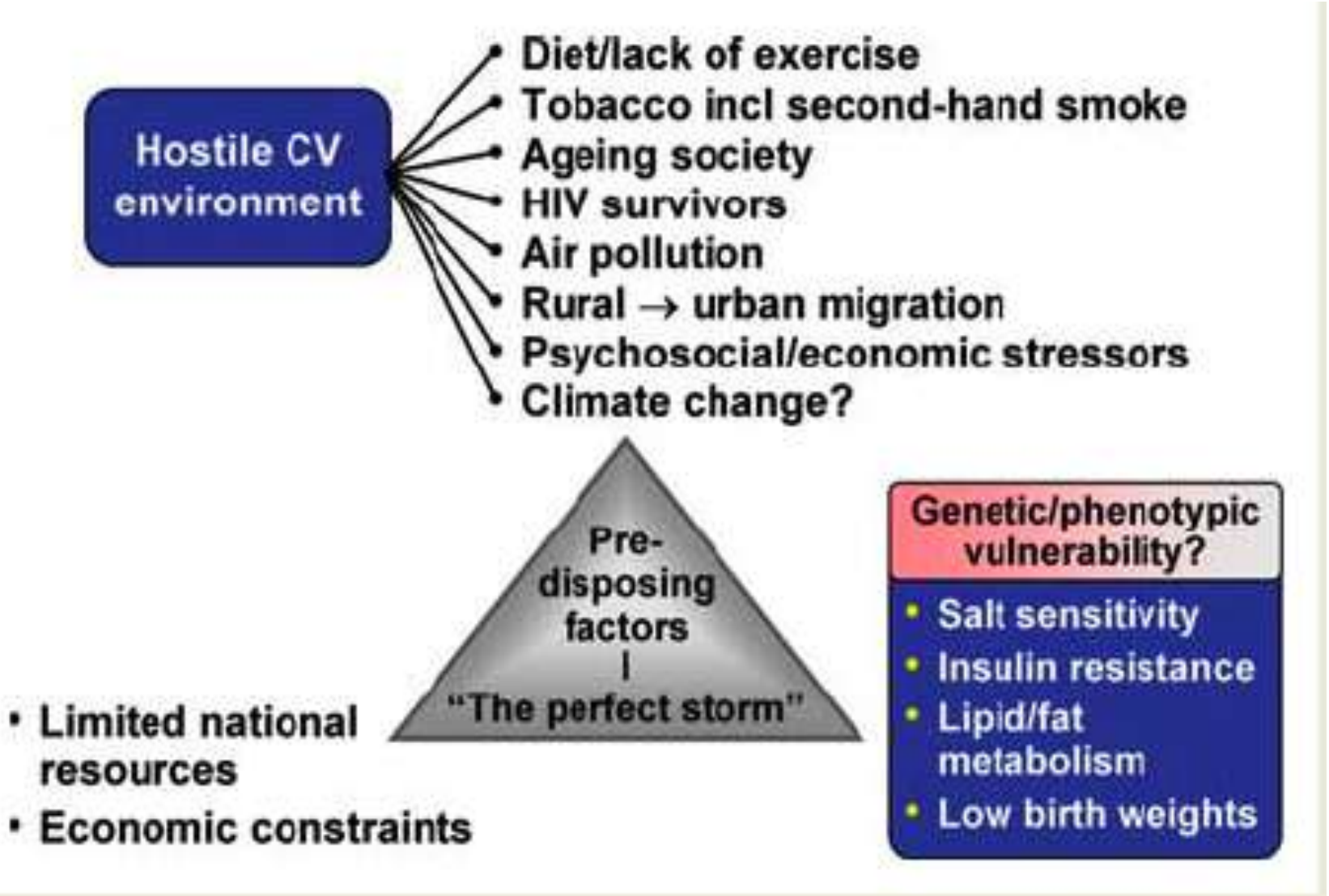
Description	Life expectancy	Proportion of death due to CVD (%)	Dominant form of CVD death
Stage 3 Degenerative and man-made diseases			
• ↑ fat and caloric intake • Tobacco use • Chronic disease deaths > infections, malnutrition	>60 years	35–65	IHD* Stroke — Haemorrhagic — Ischaemic
Stage 4 Delayed degenerative diseases			
• Leading causes of mortality CV and cancer deaths • Prevention and Tx delays onset • Age-adjusted CV death reduced	>70 years	40–50	• IHD** • Stroke—Ischaemic • CHF

* Greater in high socioeconomic groups
** Younger patient—lower socioeconomic status
Elderly—higher socioeconomic status

Omran: Milbank Mem Fund Q, 1971
Olshansly: Millbank Mem Fund Q, 1986
Gaziano: Circ, 2003
Yusuf: Circ, 2005

Gersch BJ, et. al. Eur Heart J 2010; 31: 642

Factors Contributing to Epidemics of CVD in Low-Middle Income Regions



Gersch BJ, et. al. Eur Heart J 2010; 31: 642

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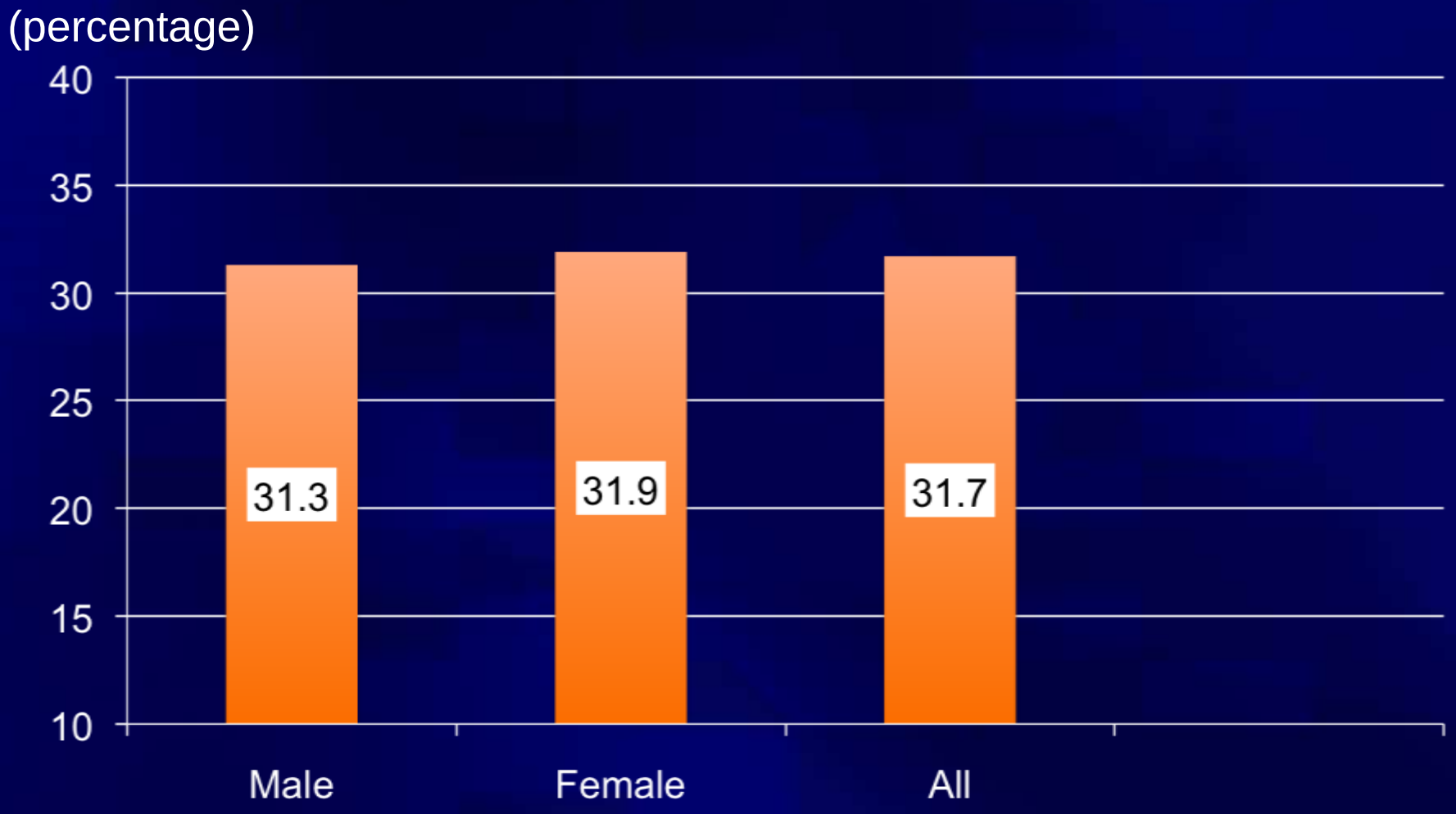
Prevalences of HTN in Indonesia

(Basic Health Research - 2007)

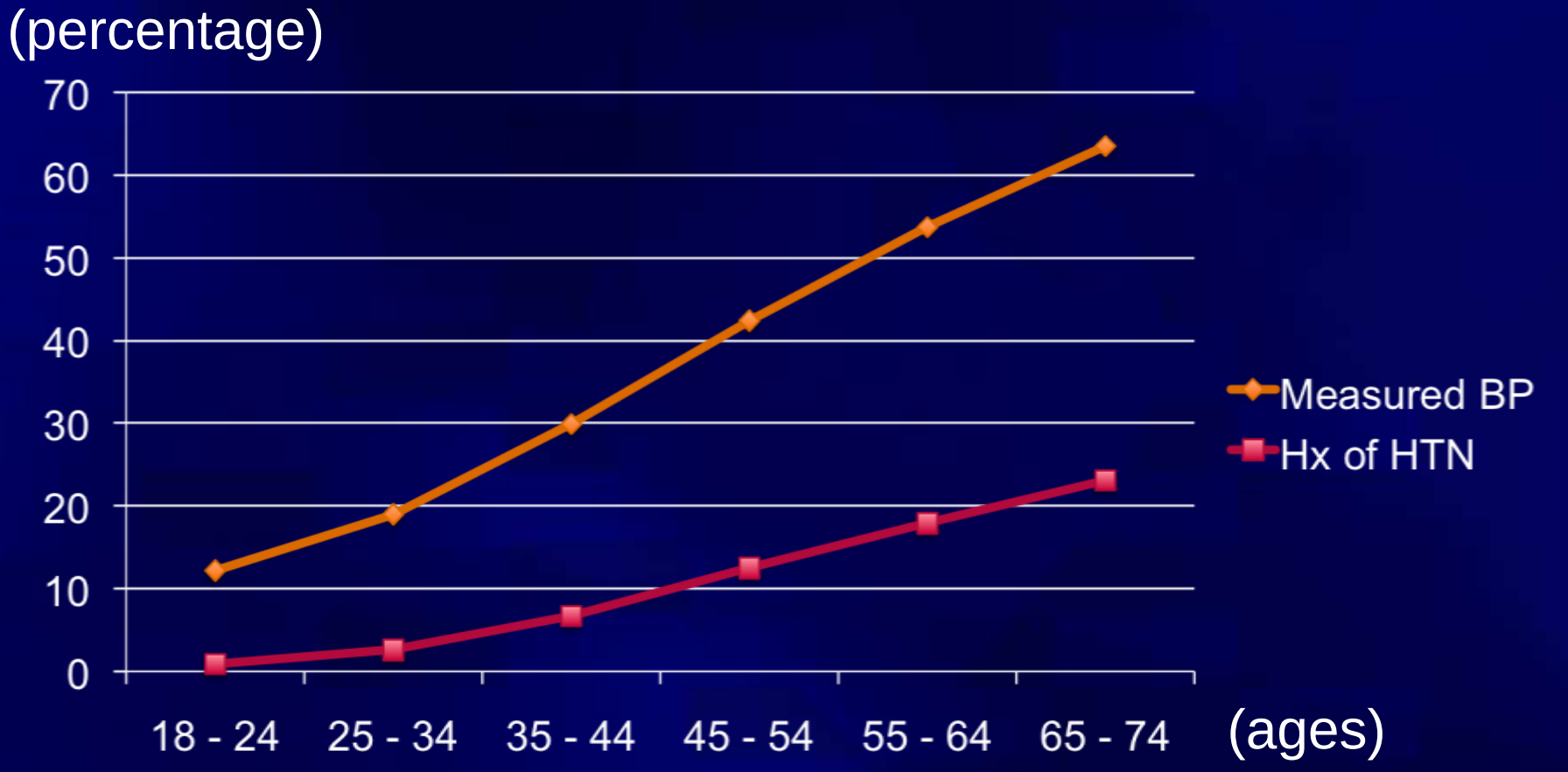
Recruited 19.114 person-across 438 districts



(Indonesia Ministry of Health Affair – 2007)

Prevalences of HTN across the ages in Indonesia (Basic Health Research - 2007)

Recruited 19.114 person-across 438 districts



(Indonesia Ministry of Health Affair– 2007)

Prevalences of Obesity (BMI) in Indonesia (Basic Health Research - 2007)

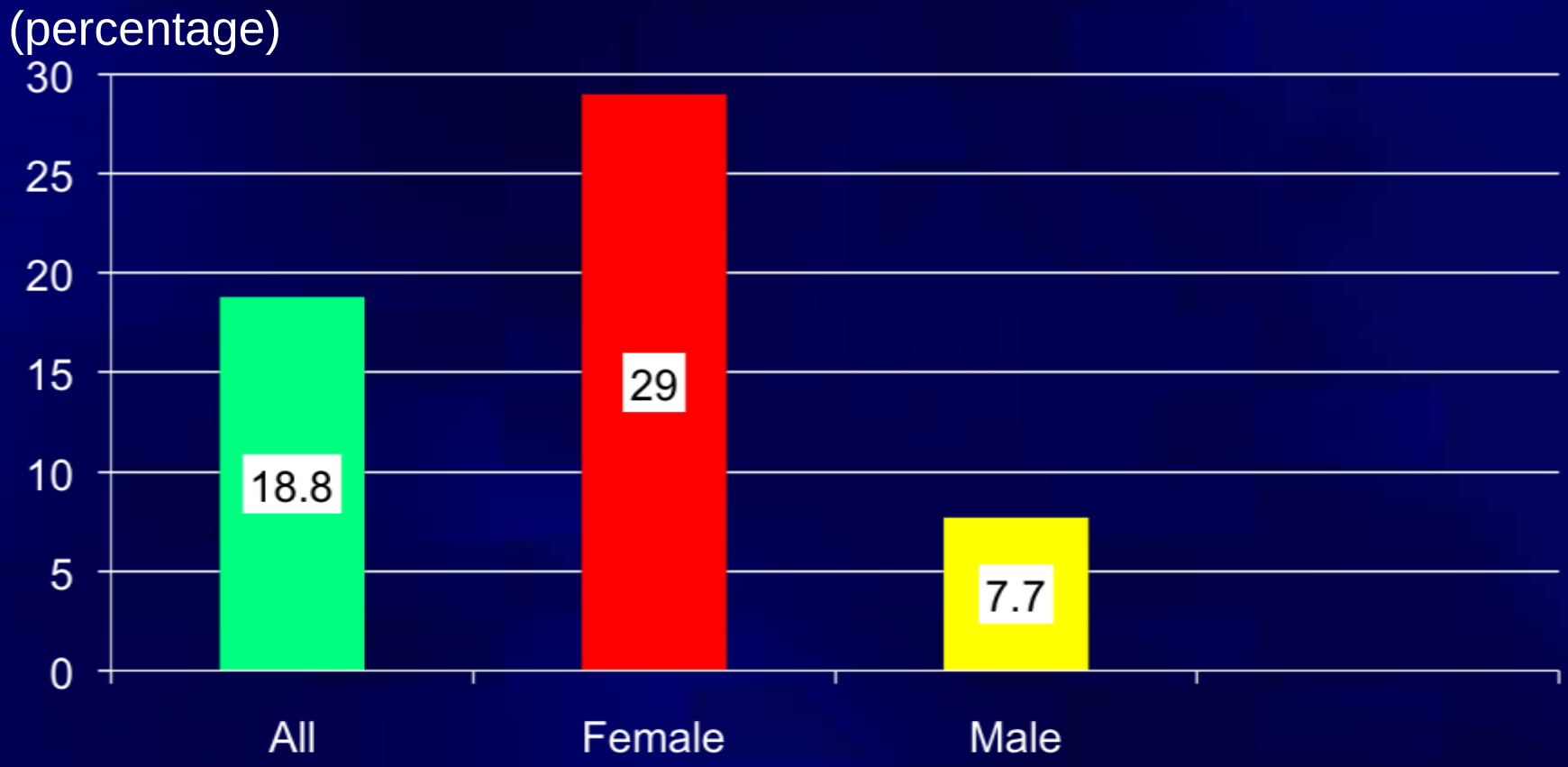
Recruited 19.114 person-across 438 districts

(percentage)

(Indonesia Ministry of Health Affair– 2007)

Prevalences of Central Obesity in Indonesia (Basic Health Research - 2007)

Recruited 19.114 person-across 438 districts

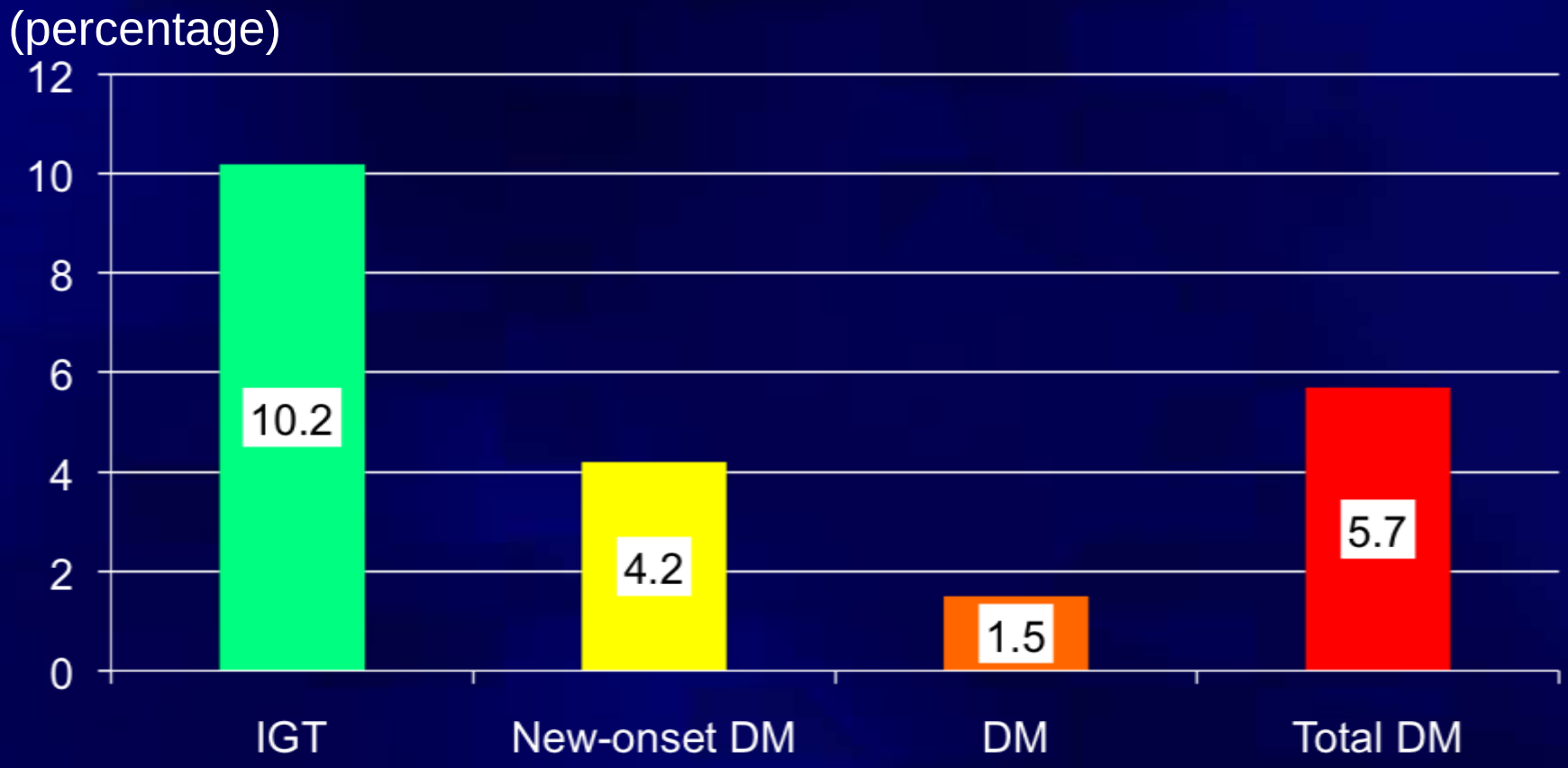


(Indonesia Ministry of Health Affair– 2007)

Prevalences of IGT and DM in Indonesia

(Basic Health Research – 2007)

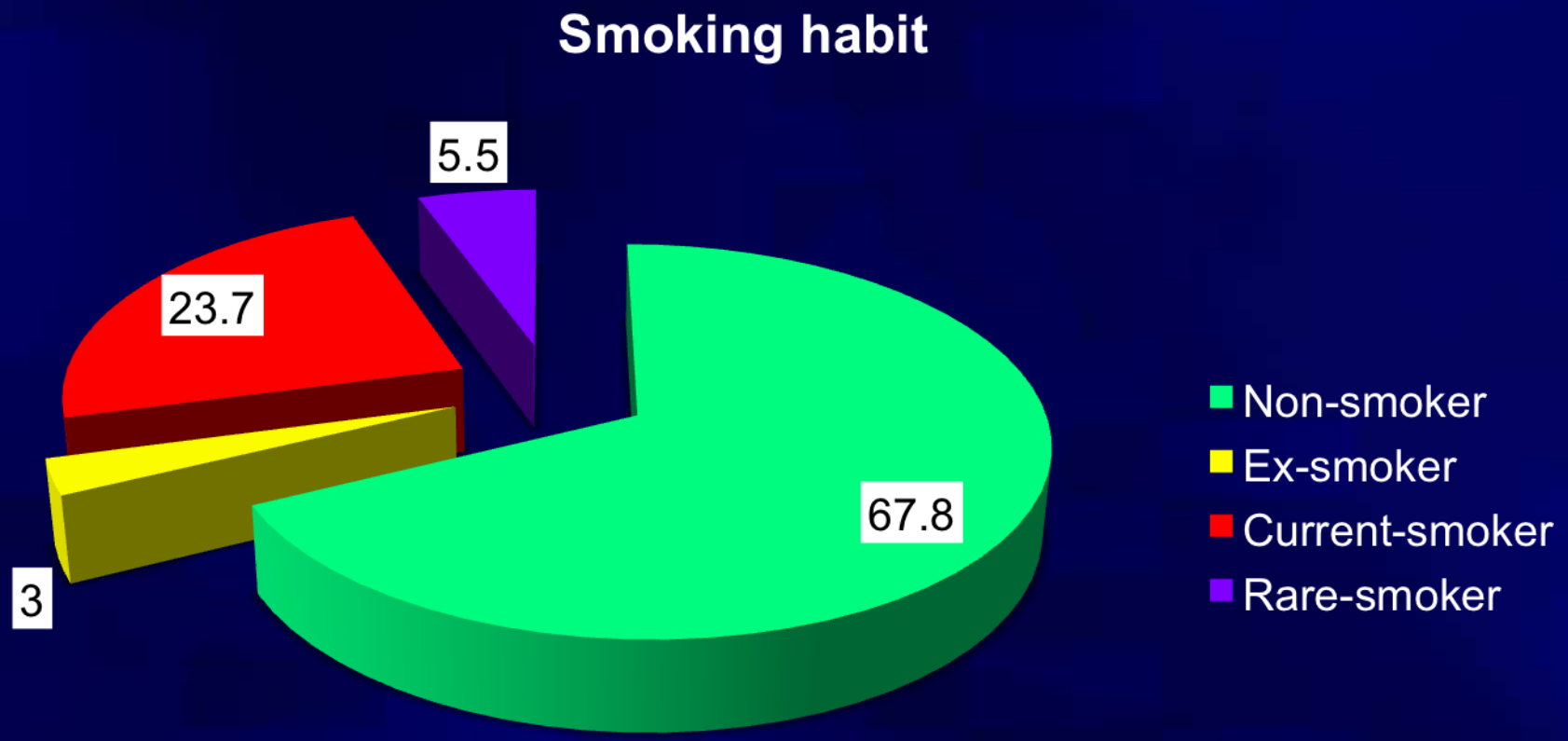
Recruited 24.417 person – across 438 districts



(Indonesia Ministry of Health Affair– 2007)

Proportions (%) of smoking habits in people > 10 years (Basic Health Research – 2007)

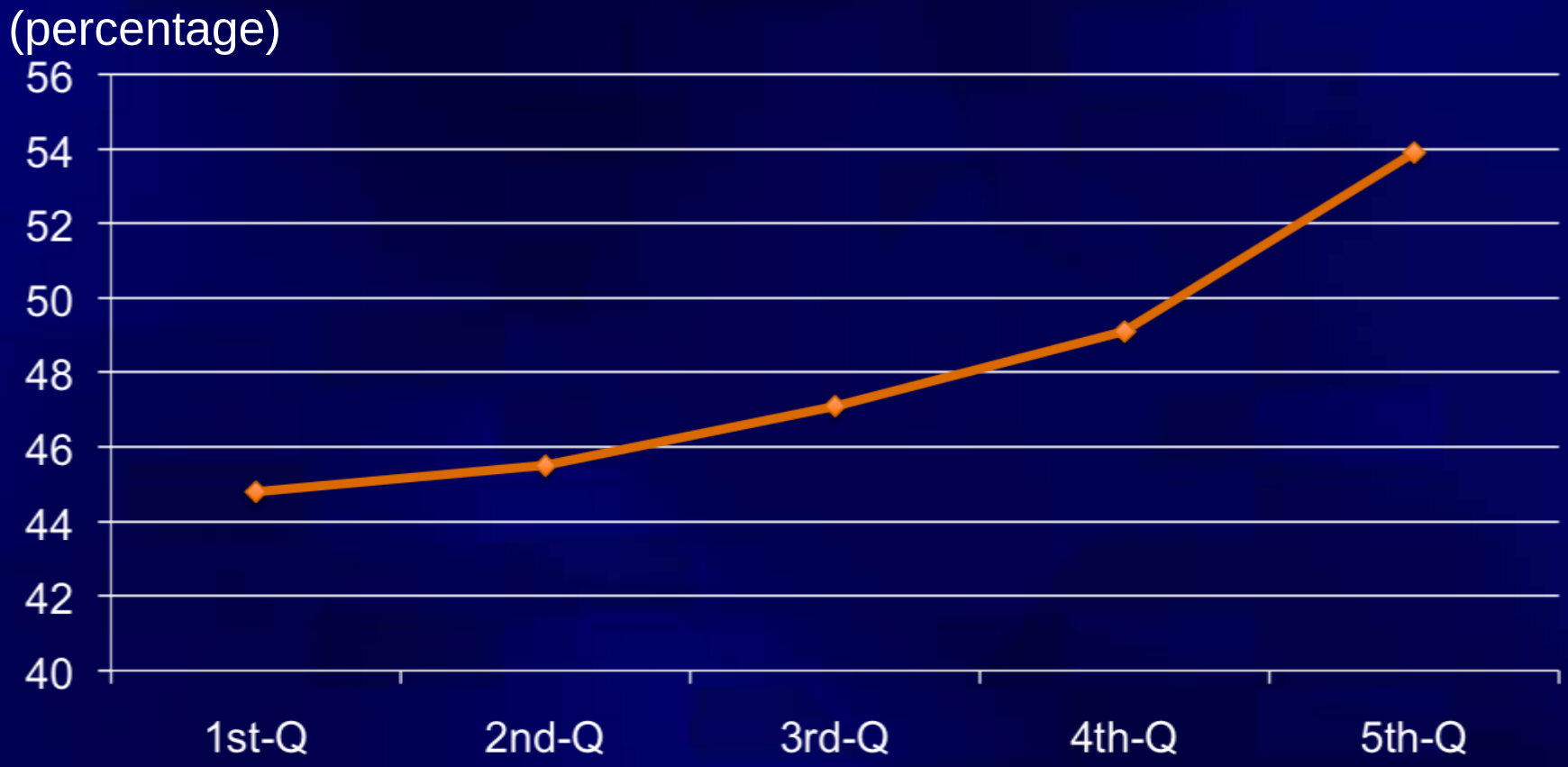
Recruited 972.989 person – across 438 districts



(Indonesia Ministry of Health Affair– 2007)

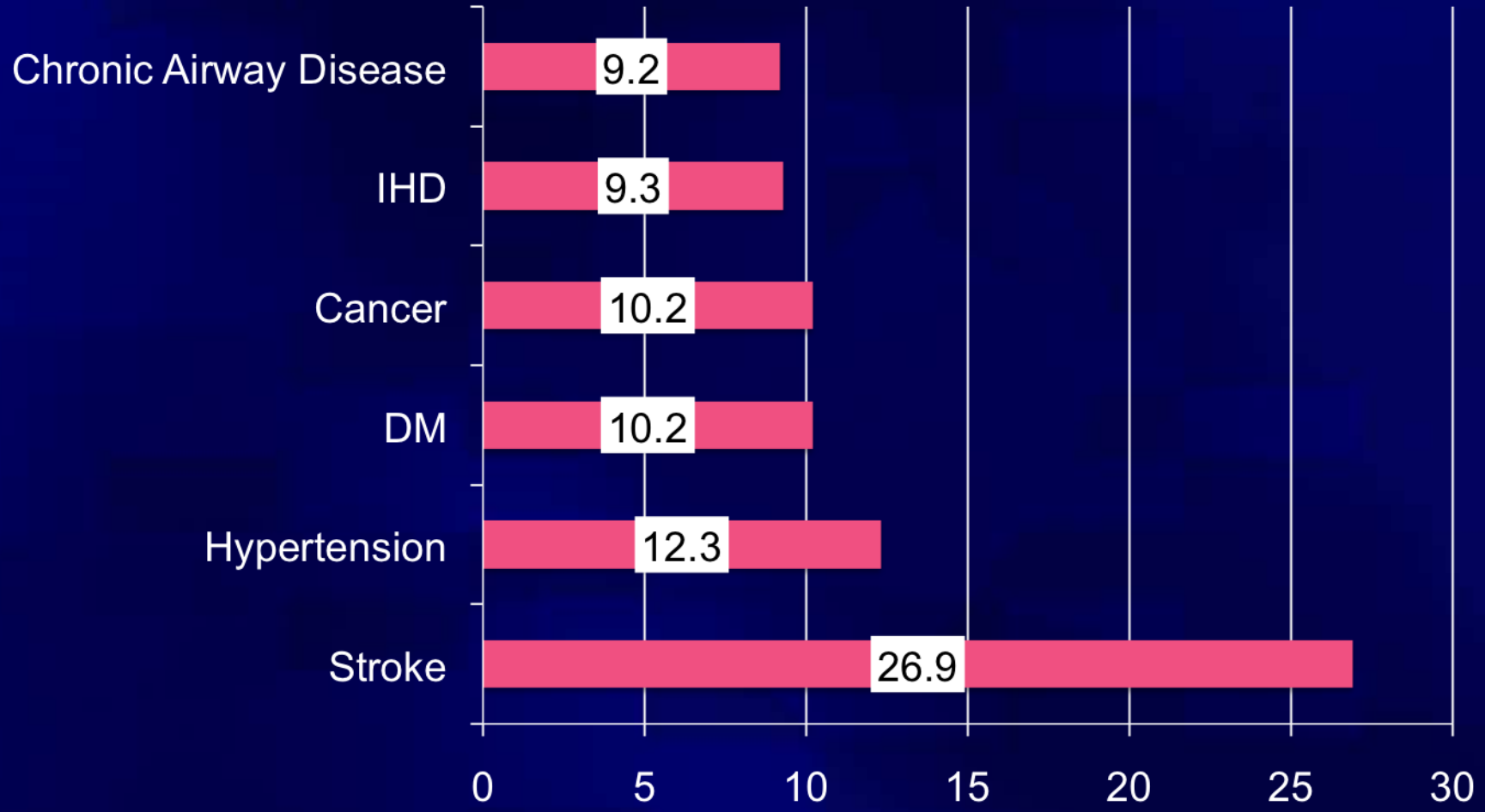
Prevalence of sedentary life-style versus house-hold expenditure per capita/month

(Recruited 19.114 person-across 438 districts)



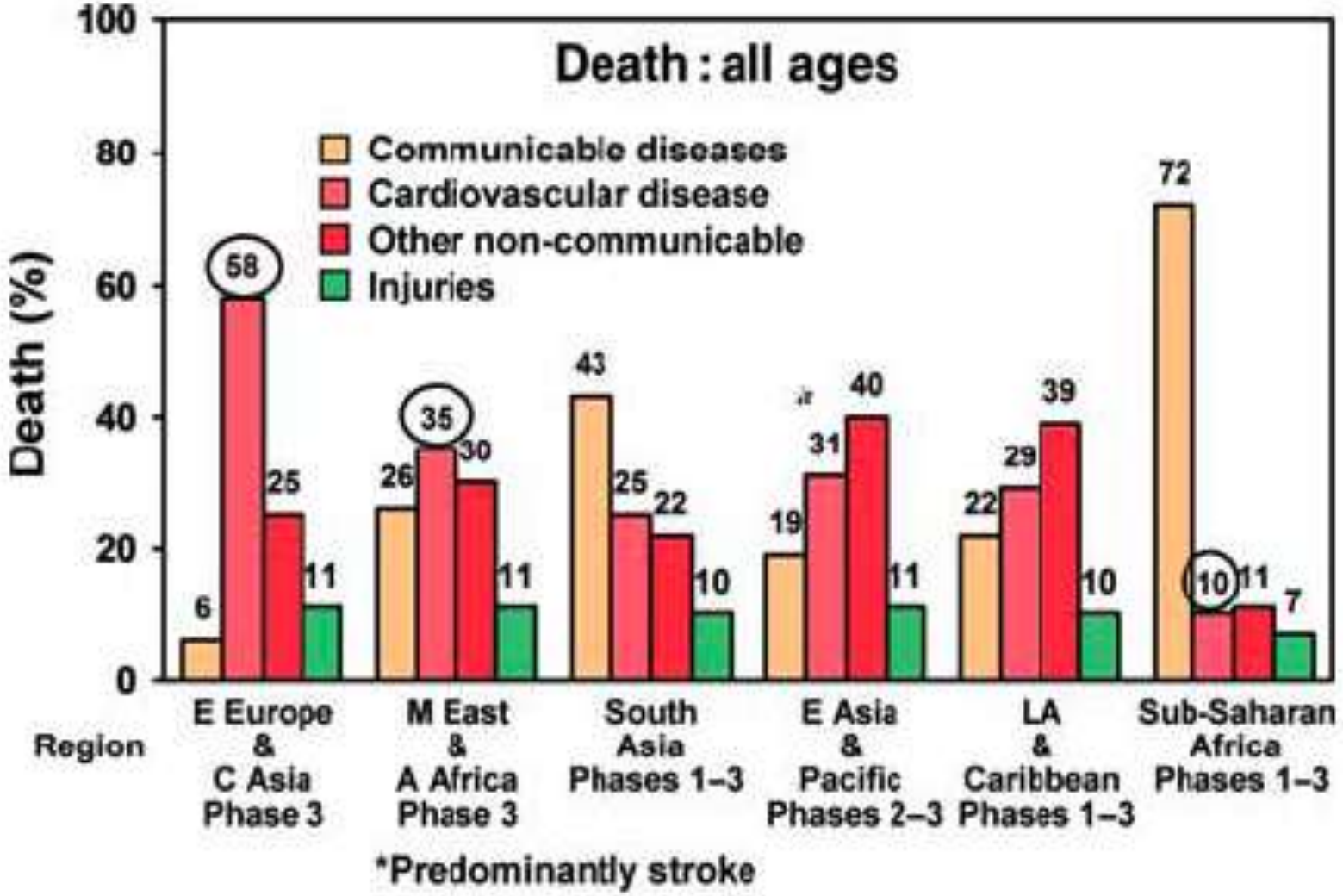
(Indonesia Ministry of Health Affair– 2007)

Proportion of Mortality Rate in Indonesia (Basic Health Research – 2007)



(Indonesia Ministry of Health Affair– 2007)

Major Causes of Mortality in Low-Middle Income Regions



Gersch BJ, et. al. Eur Heart J 2010; 31: 642

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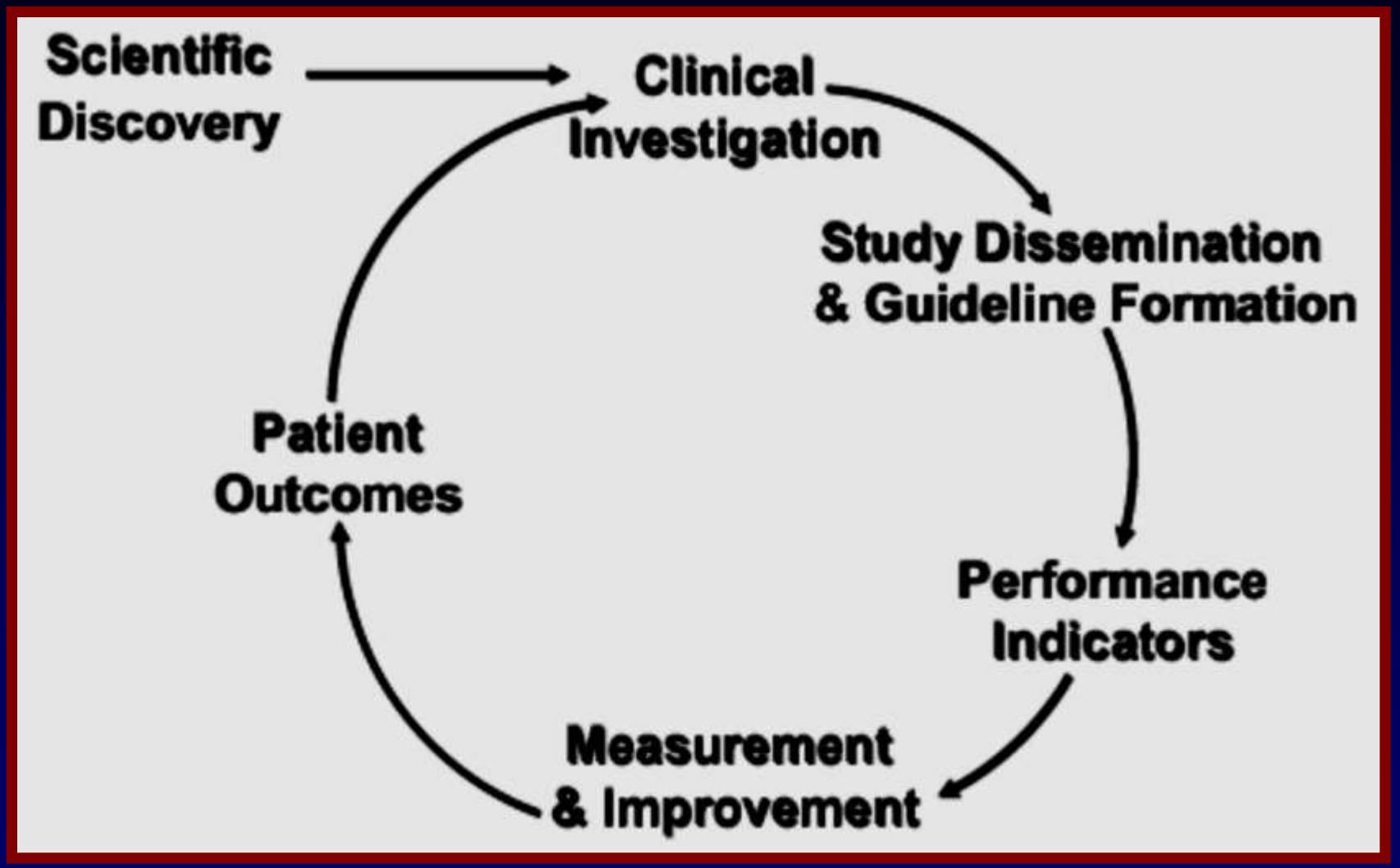
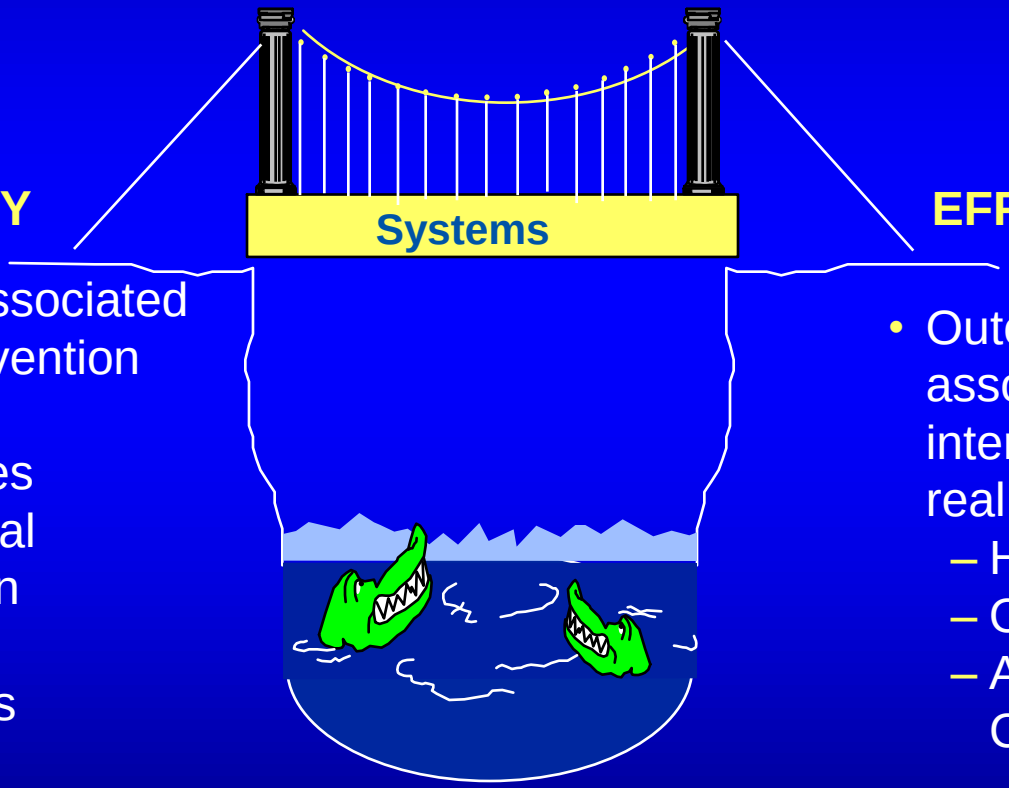
Improving Evidence Based Medicine



(Jones DW, et. al. Circulation 2008; 118: 687)

Bridging the Gap: Leadership Culture, and Systems



EFFICACY

- Outcomes associated with an intervention under ideal circumstances
  - Clinical trial reported in literature
  - Guidelines

EFFECTIVENESS

- Outcomes associated with an intervention in the real world
  - Hospital
  - Outpatient
  - Across Continuum

- Systems to Translate Efficacy ⟶ Effectiveness

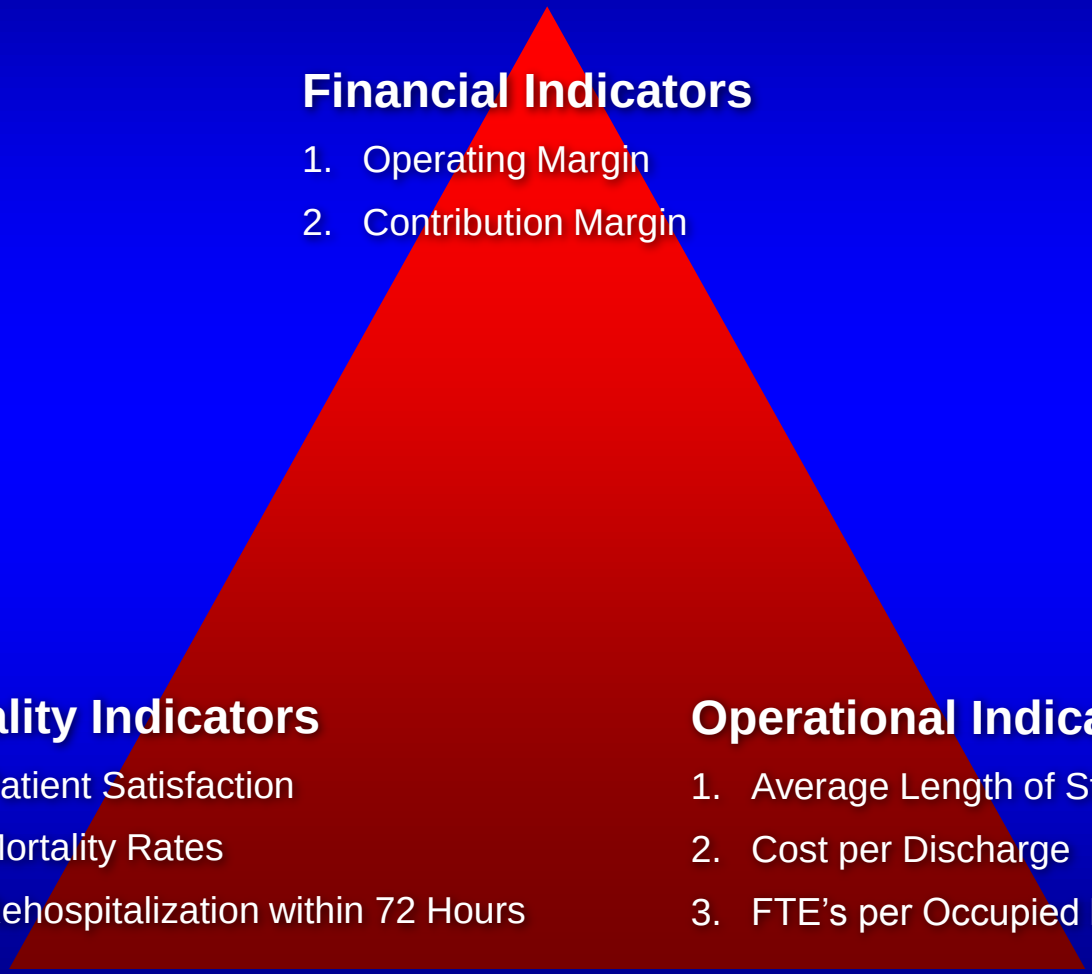
Financial Value Propositions associated with Get With The Guidelines

Clinical Strings

The direct link between quality outcomes and improved financial performance.

Quality Indicator	Operational Indicator	Financial Indicator
Patient Satisfaction ↑	Average Length of Stay ↓ Cost per Discharge ↓	Operating Margin ↑ Contribution Margin ↑
Mortality Rates ↓	Average Length of Stay ↓ Cost per Discharge ↓	Operating Margin ↑ Contribution Margin ↑
Reduced Operator Variability in Treatment ↓	Average Length of Stay ↓ Cost per Discharge ↓ Mortality ↓	Utilization of Medical Resources, Staff, and Supplies ↑
Improved Outcomes ↑	Improved CMS and Commercial payer compliance ↑	Operating Margin ↑ Contribution Margin ↑

Value Propositions



Financial Indicators

1. Operating Margin
2. Contribution Margin

Quality Indicators

1. Patient Satisfaction
2. Mortality Rates
3. Rehospitalization within 72 Hours

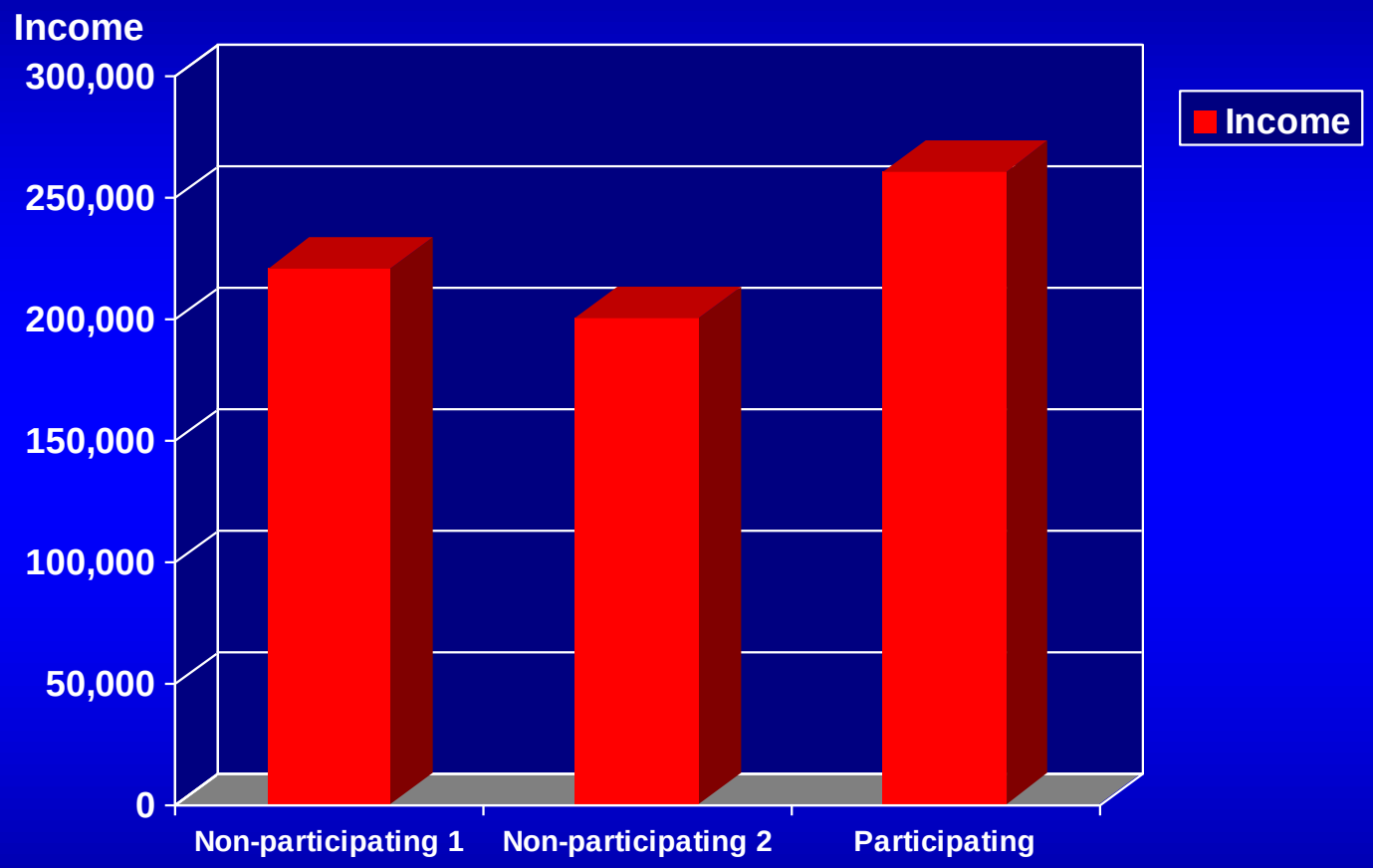
Operational Indicators

1. Average Length of Stay
2. Cost per Discharge
3. FTE's per Occupied Bed

Clinical String – Increased Volume

- Link between quality outcomes (patient satisfaction) and improved financial performance.

Calculated Cardiac and Stroke Baseline Net Income for each Hospital



Clinical String – Increased Volume

- Link between quality outcomes (patient satisfaction) and improved financial performance.

Clinical String- Reduced ALOS

- Link between quality outcomes (quality means that a better and standardized process of care often leads to shorter average length of stay) and improved financial performance.

Clinical String- Improved Reimbursement (Pay-for-Quality)

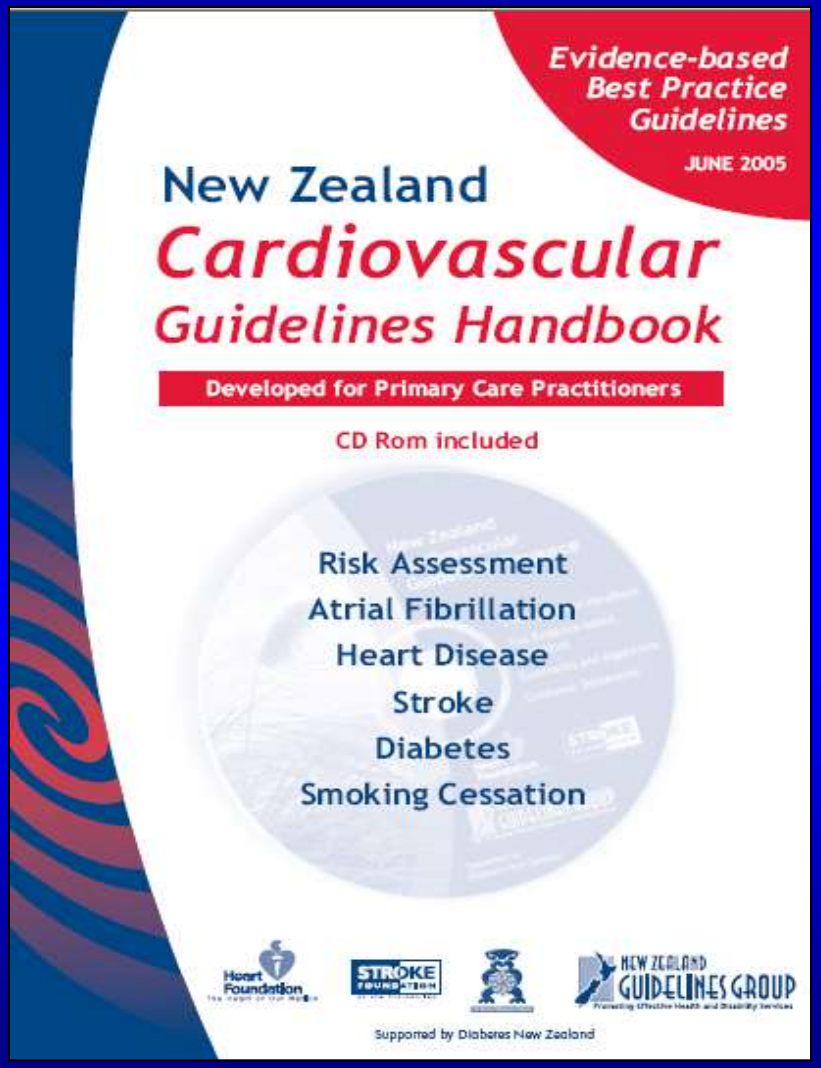
- Clinical String: Link between quality outcomes (patient satisfaction, reduced mortality and rehospitalization) and improved financial performance.

Get With The Gudielines as a Culture

GWTG is about improved communication and developing better processes. Be sure to include all staff positions both directly and indirectly involved in these patient care. Examples of these positions are:

- Administrators
- Physicians
- Nurses
- Cardiology/Neurology Unit Coordinators
- QI Staff
- Pharmacists
- Discharge Planners
- Patient Education
- Case Managers
- Nurse Practitioners
- Cardiac Rehab Staff

GWTG as a Culture



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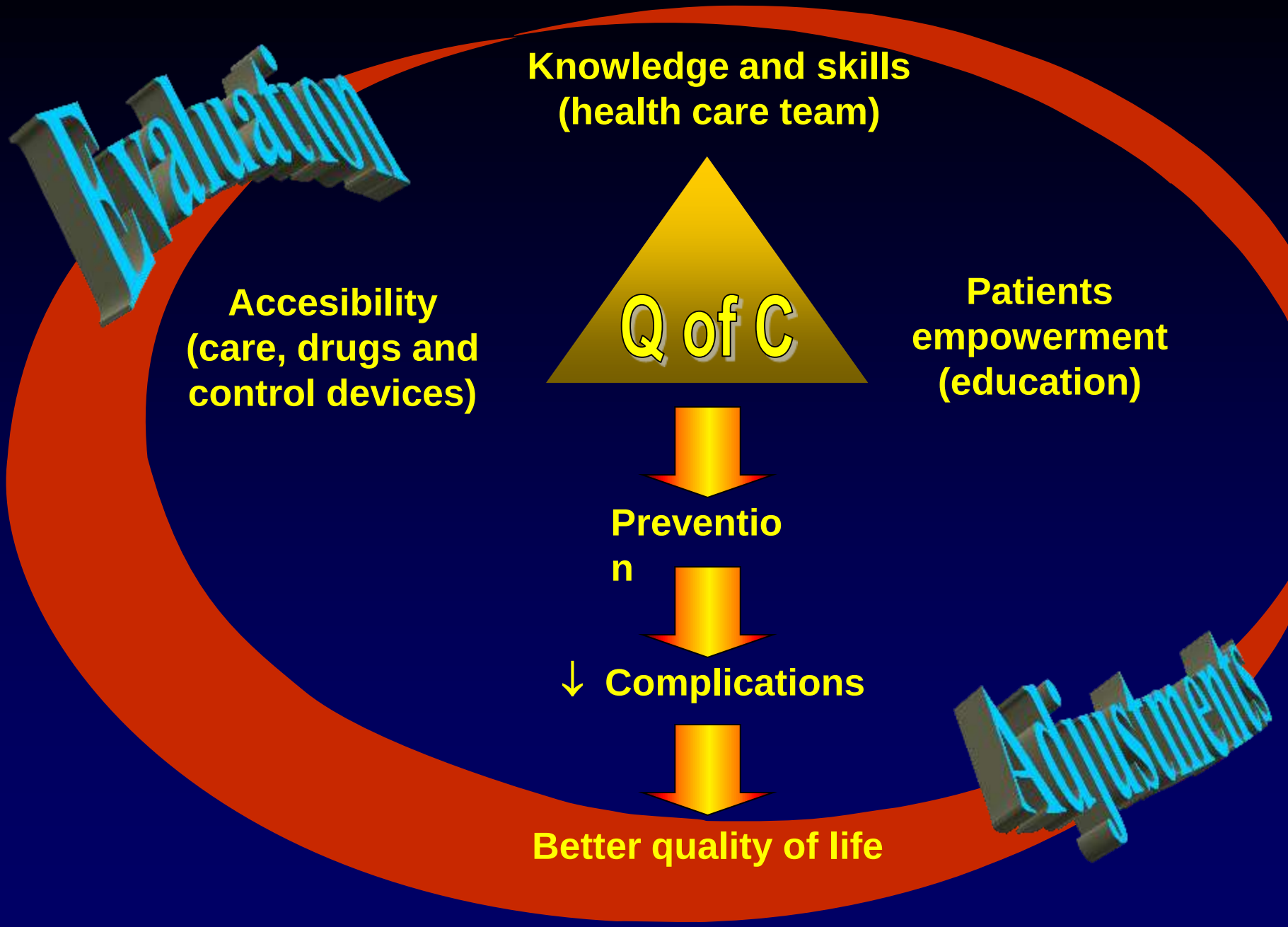
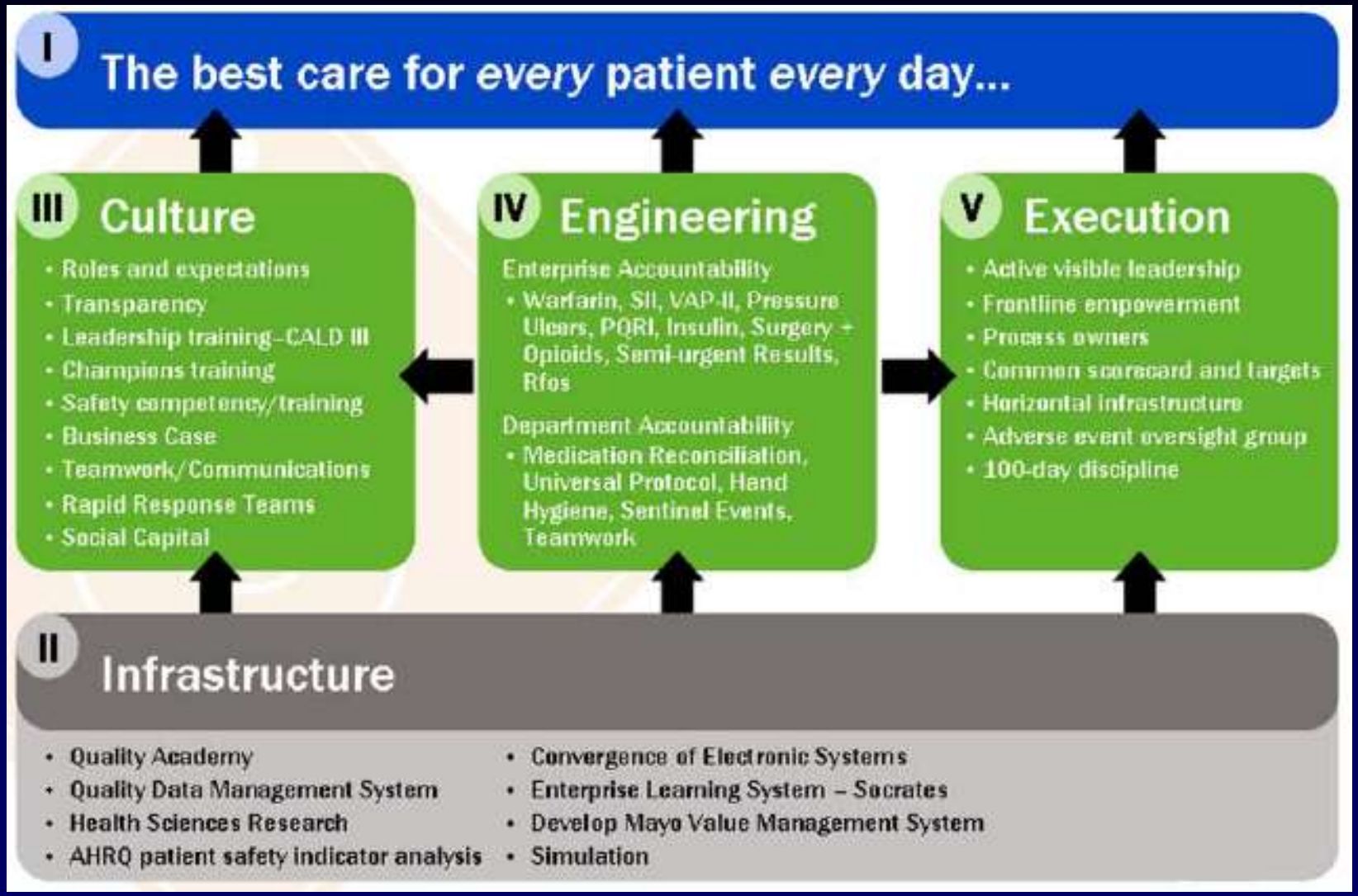


J.J. Gagliardino

Quality Construct



(Swensen SJ, et. al. Am J Med Qual 2009; 24: 428)

Exercise Tolerance and Quality of Life in Elderly Patients with Chronic Atrial Fibrillation

Christopher J. Howes, MD,*† M. Carrington Reid, MD,*† Cynthia Brandt, MD,*
Bernice Ruo, MD,† Michael W. Yerkey, MD, Bhargavi Prasad, MD,† Carol Lin, MS,*
Peter Peduzzi, PhD,*† and Michael D. Ezekowitz, MD, PhD*†

Conclusions: Despite a higher level of comorbidity, elderly, ambulatory patients with chronic atrial fibrillation demonstrate similar exercise tolerance and report similar quality of life to a group of age-matched control patients in sinus rhythm. There is a cohort of patients in chronic atrial fibrillation in whom a strategy of rate control and anticoagulation may be appropriate.

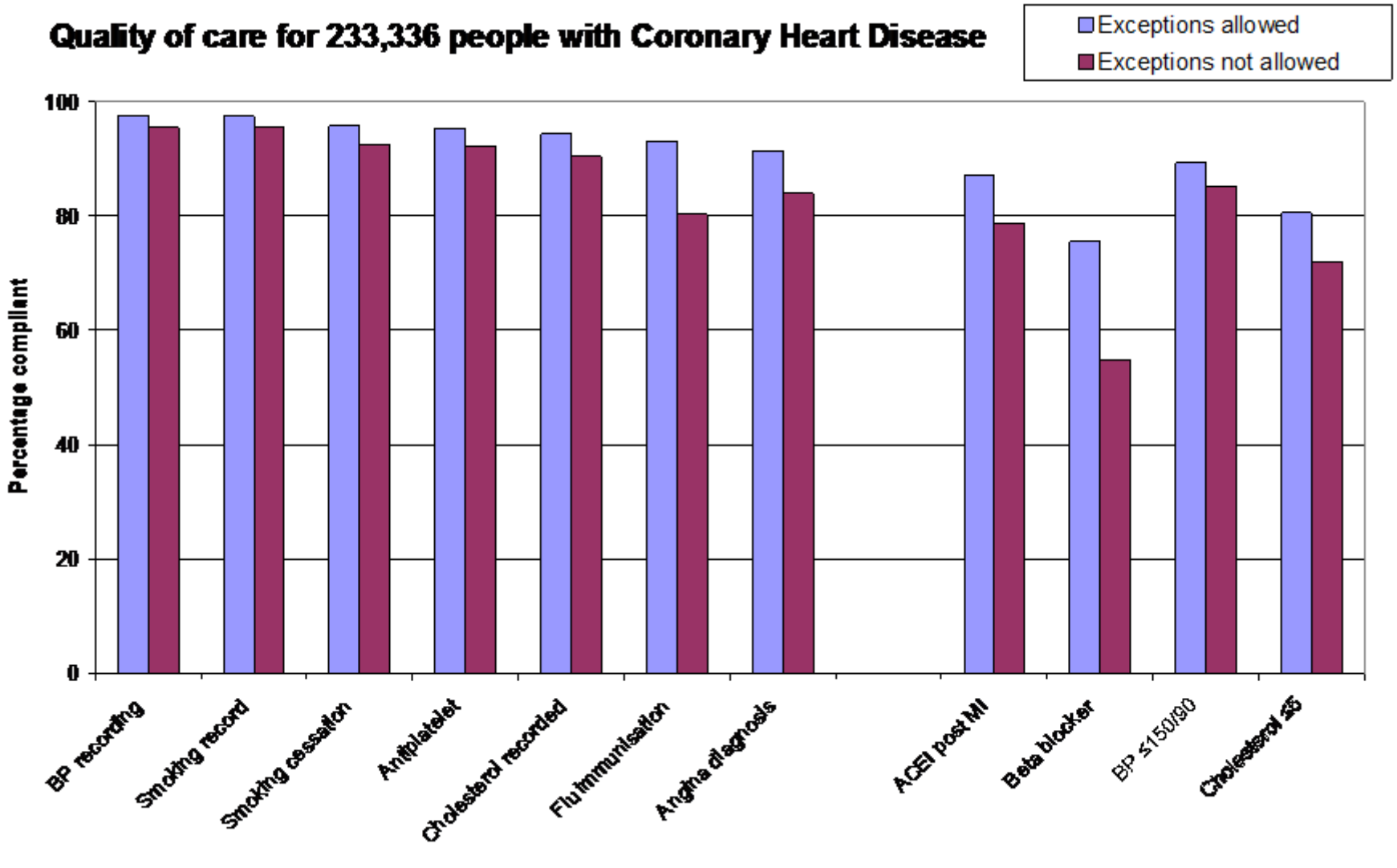
Key words: atrial fibrillation, chronic atrial fibrillation, elderly, exercise tolerance, quality of life.

(Howes CJ, et. al. J Cardiovasc Pharmacol Therapeut 2001; 6 (1): 23)

Core Measures of Quality for Acute Myocardial Infarction

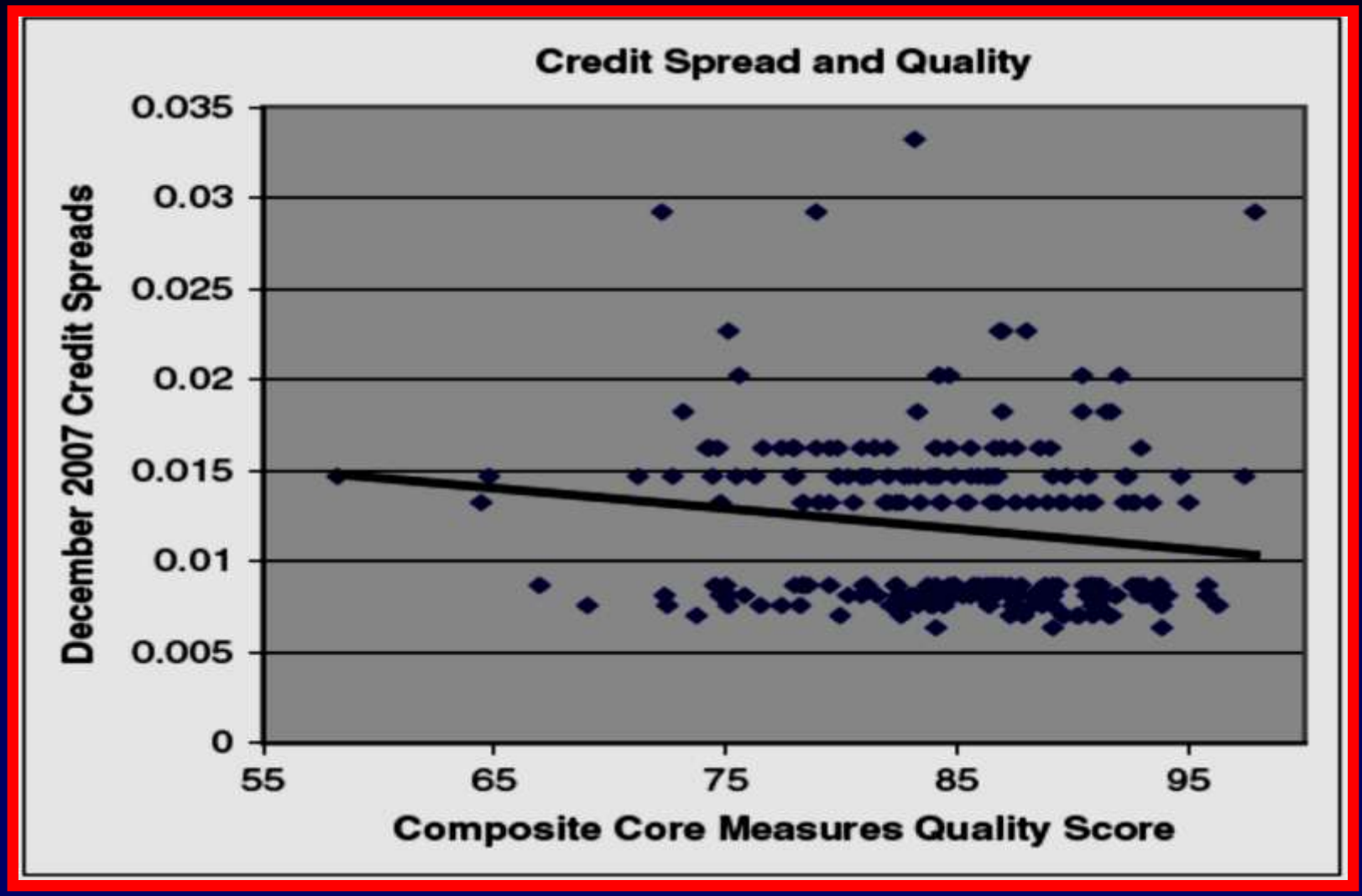
Indicator
Acute myocardial infarction process-of-care measures
• Percentage of heart attack patients given aspirin at arrival
• Percentage of heart attack patients given aspirin at discharge
• Percentage of heart attack patients given angiotensin-converting enzyme inhibitor or angiotensin receptor blocker for left ventricular systolic dysfunction
• Percentage of heart attack patients given smoking cessation advice/counseling
• Percentage of heart attack patients given β-blocker at discharge
• Percentage of heart attack patients given β-blocker at arrival
• Percentage of heart attack patients given fibrinolytic medication within 30 minutes of arrival
• Percentage of heart attack patients given percutaneous coronary intervention within 90 minutes of arrival

(Haidar Z, et. al. Am J Med Qual 2010; 25 (3): 181)



Guthrie et al 2007

Correlation between credit spread of 20-year bonds and composite core measure scores



(Haidar Z, et. al. Am J Med Qual 2010; 25 (3): 181)

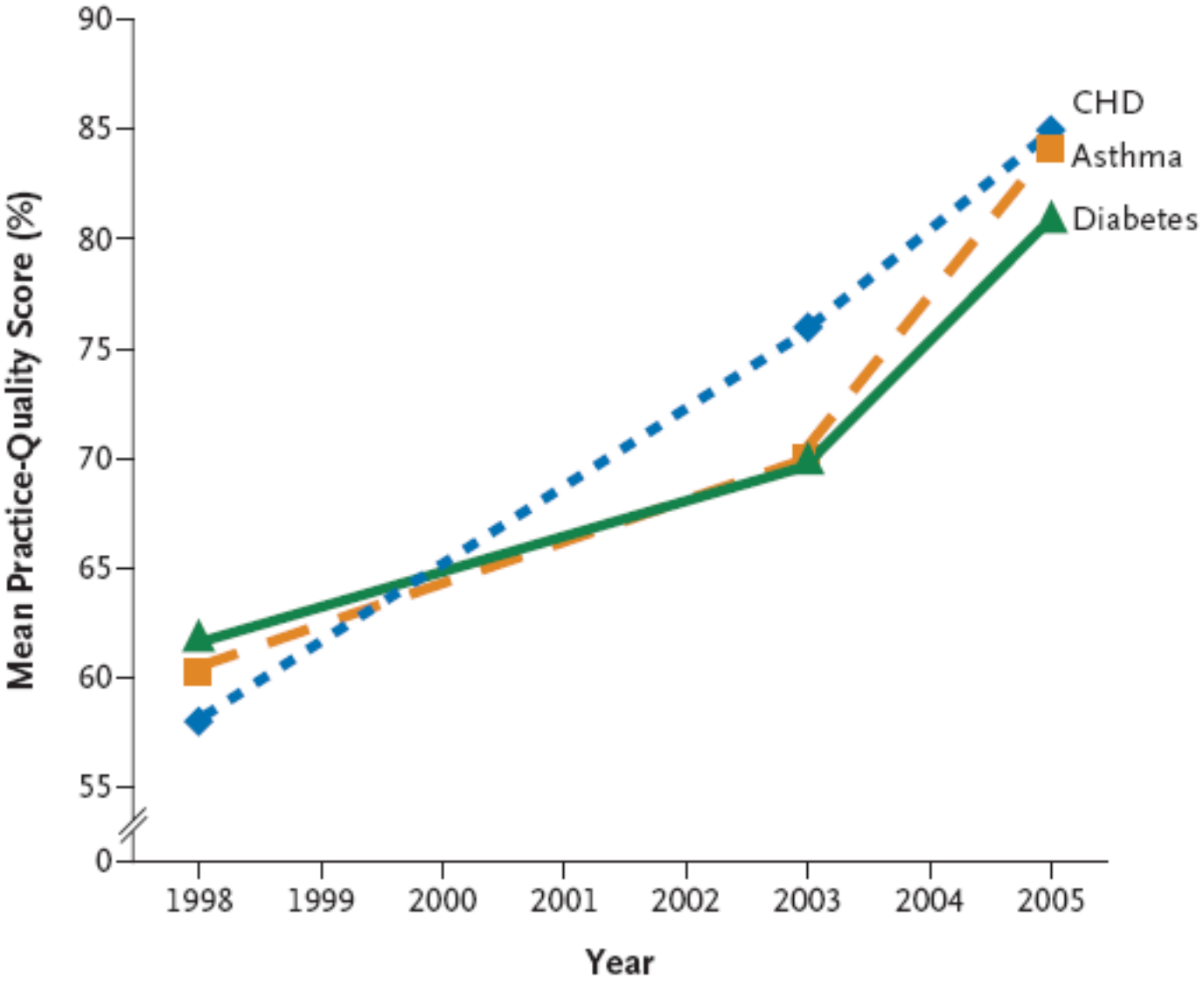
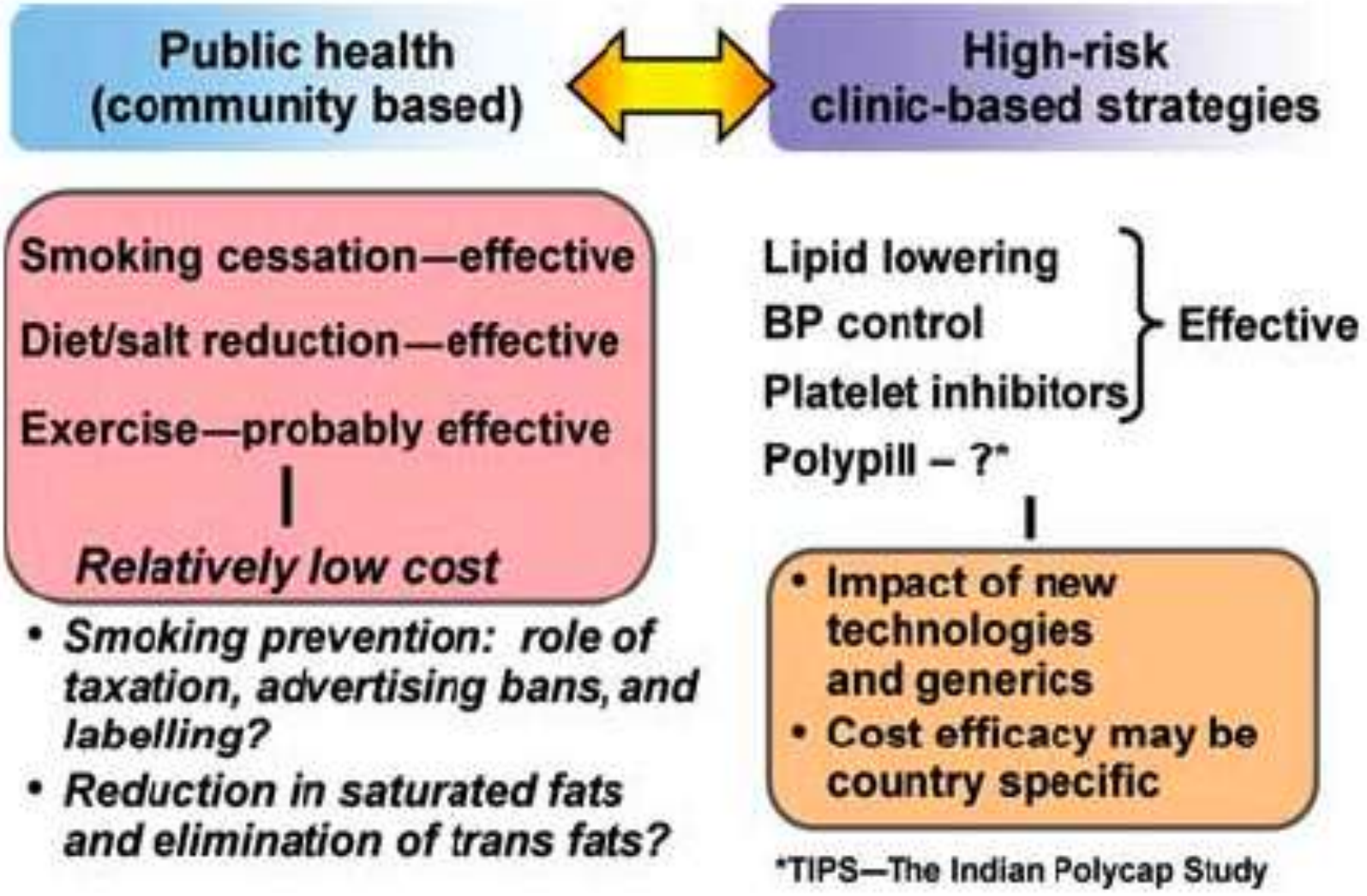


Figure 1. Mean Scores for Clinical Quality at the Practice Level for Coronary Heart Disease, Asthma, and Type 2 Diabetes, 1998 to 2005.

Shepherd et al NEJM 2007

Strategies for Prevention of CVD



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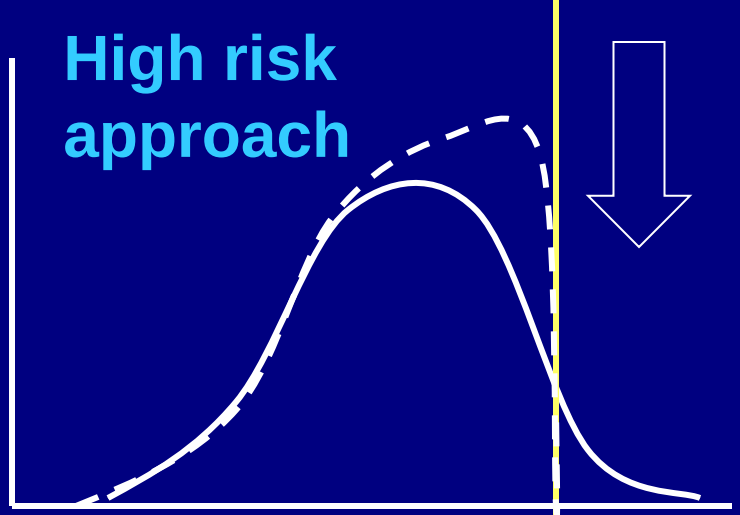

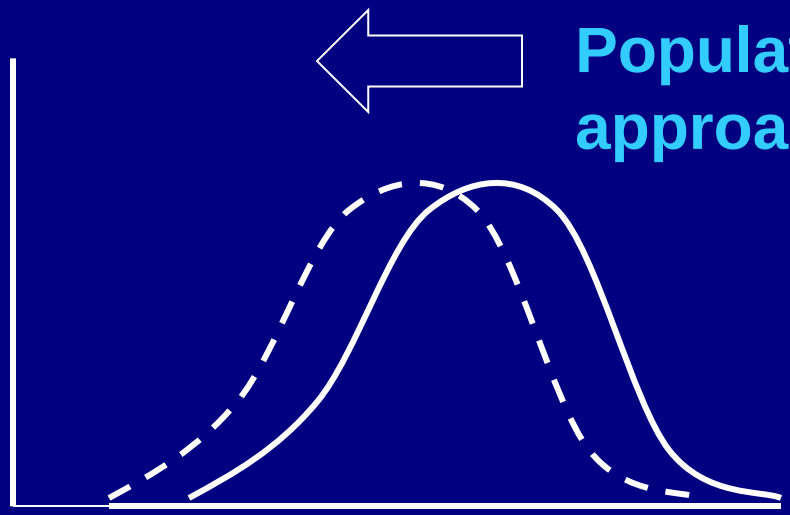

Identify and treat those beyond a threshold for risk factor

- Resource intensive
- Provable in RCT
- Large effect in small number of people

Shift the whole population distribution of risk factor lower

- ? Less resource intensive
- Less amenable to RCT
- Small effect in large number of people

SUMMARY

- Indonesia has been on the stage-3 (degenerative & man-made diseases) in epidemiologic transition
- Prevalence of hypertension, obesity, DM in Asia (Indonesia) have been significantly increasing across the region
- Quality Outcome and Quality of Life measures should be implemented in hospital and primary health care
- Prevention against CVD should be based on community based and clinic-based strategy