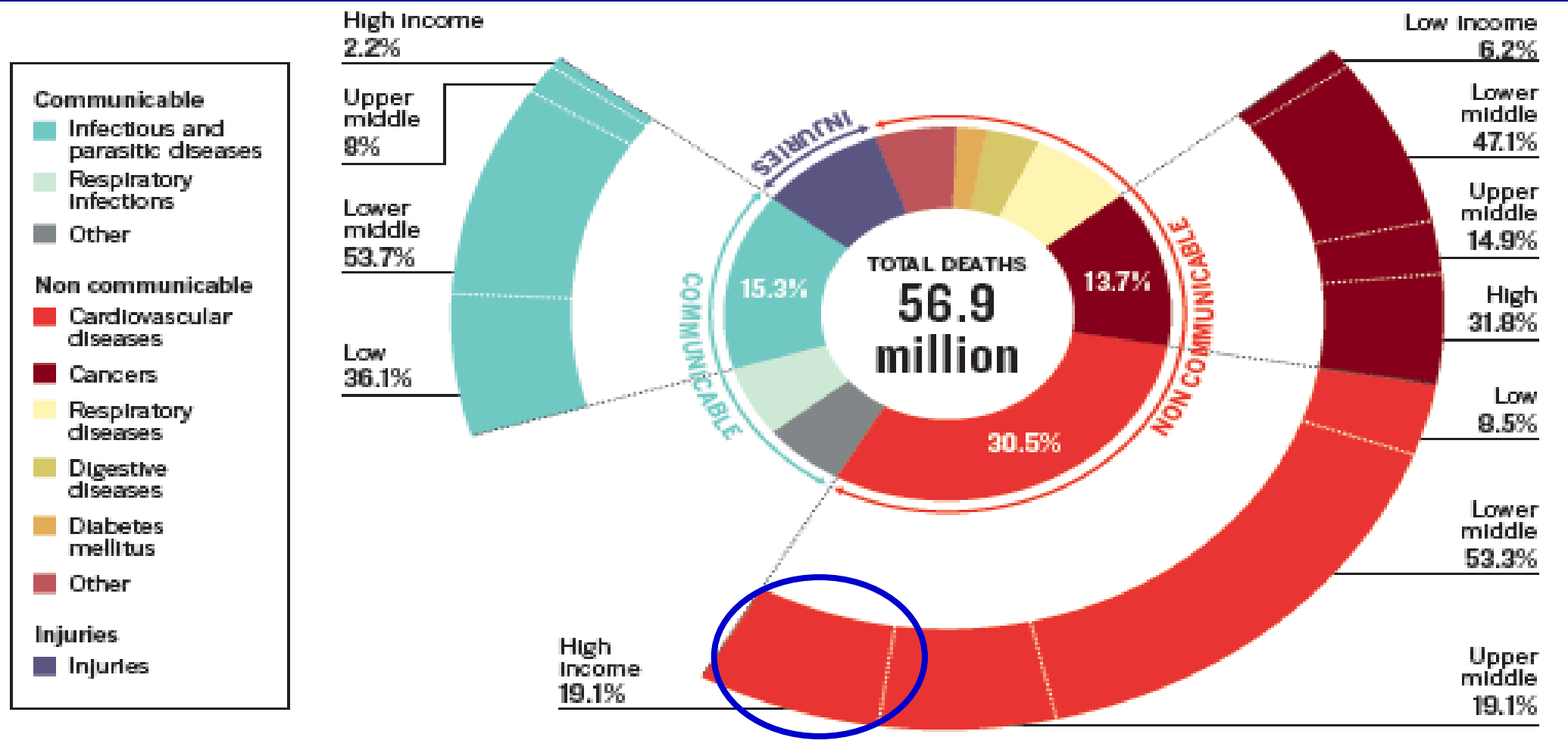


The Integration of Health (Si) - 2013

The Leadership

Madrid, Nov. 5, 2013 – Convention NAOs

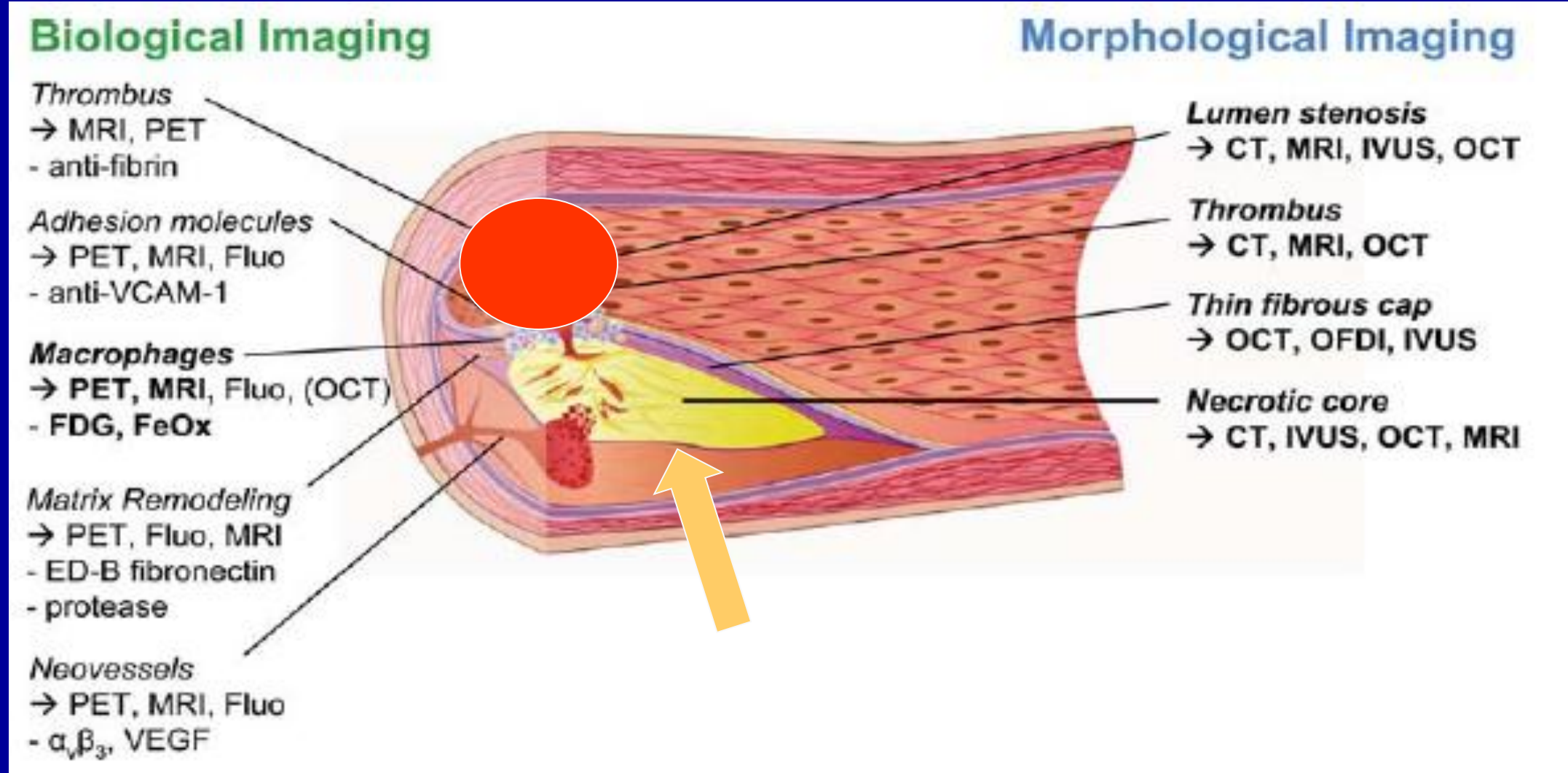
1. CVD - Heart & Brain / UN Top Killer



D Butler. Nature. 2011;477:261 (UN. NCD). At Present

R. Beaglehole et. al. Lancet 2008;372:1988 - > 30% Across, 2030

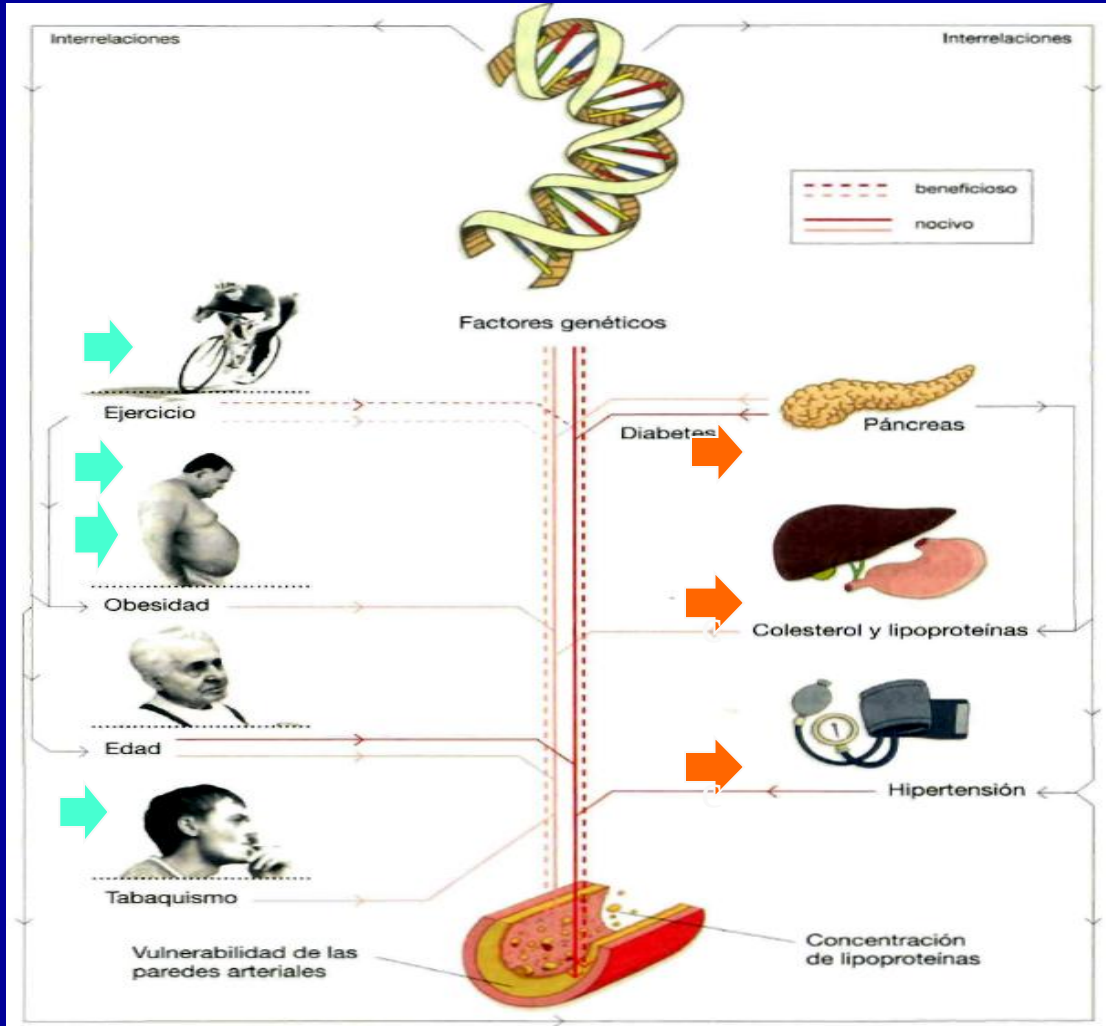
2. Cardiovascular Disease - Infarction



R Corti, V Fuster EHG. 2011 (April 19)

A Arbab-Zadeh, M Nakano, R Virmani, V Fuster, Circ. 2012;125:1147

3. Cardiovascular Risk Factors (7) & Life Style



>2 Risk Factors

1. MI & Stroke

25% in 10 Yrs

75% in 30 Yrs

2. DBD & AD

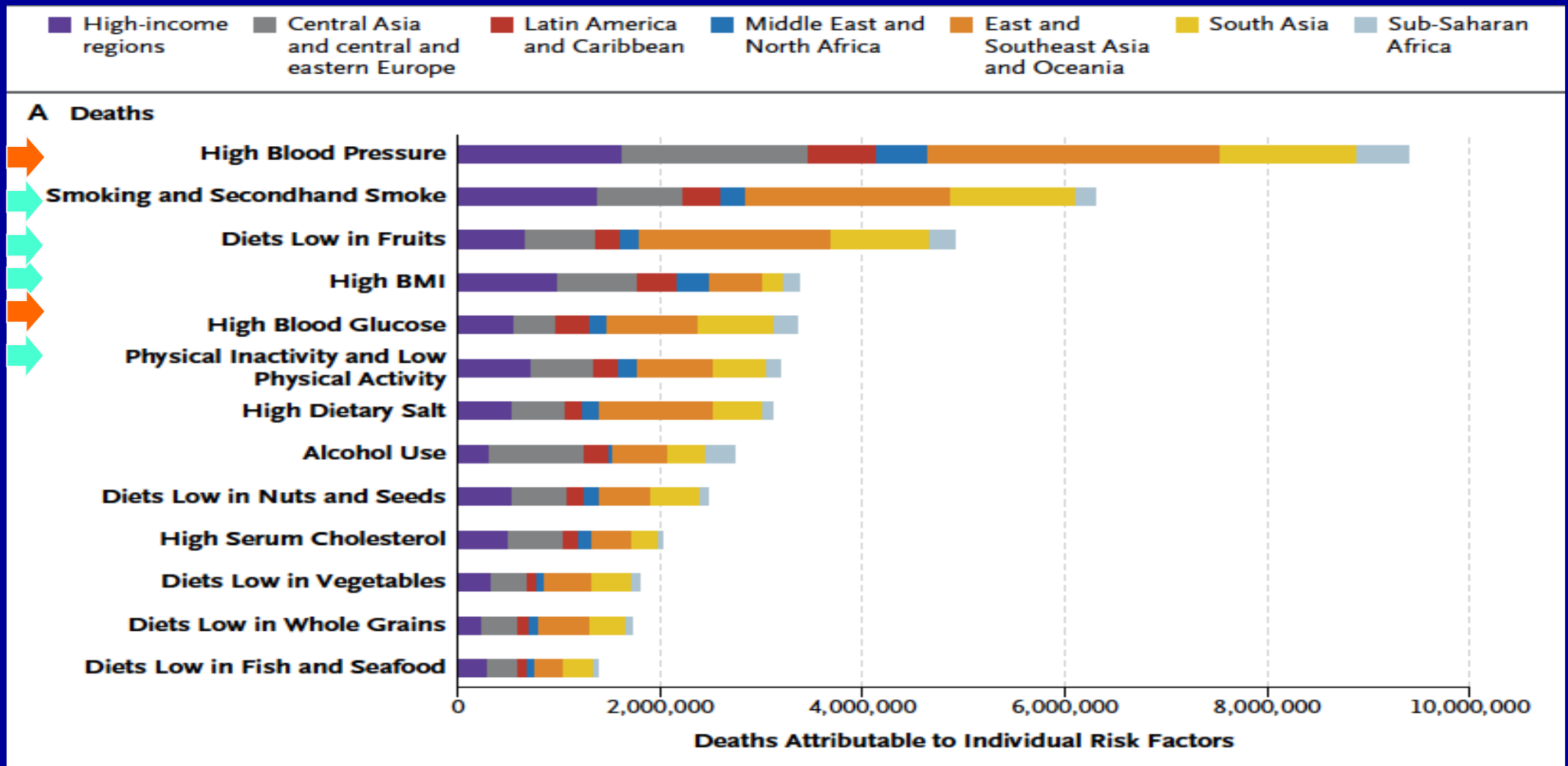
Quality

3. Aging

Frailty

*Framingham (2010)5,
Interheart (2004)2:Obesity, Sedentary(Diet)*

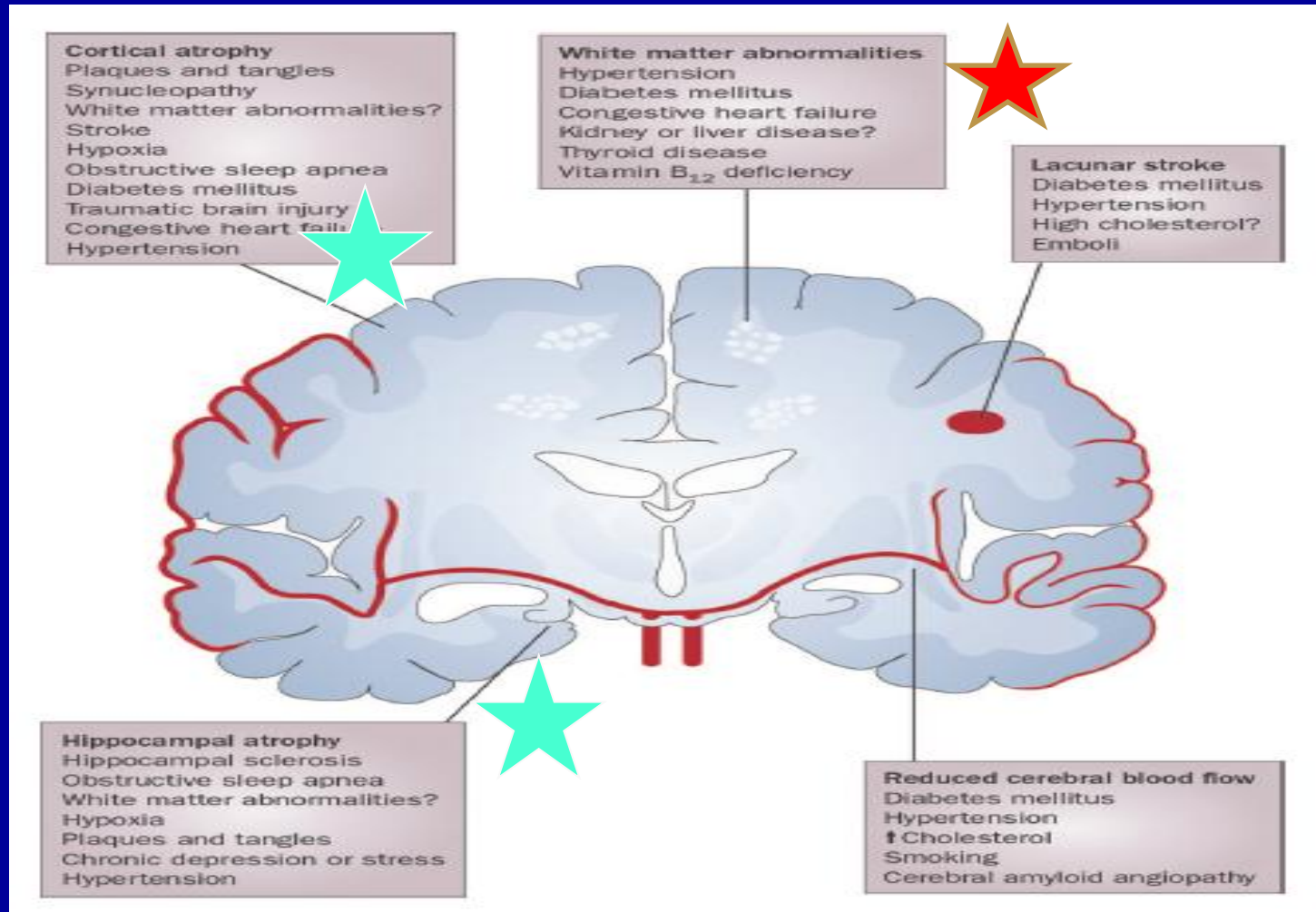
3.1. Deaths Attributable to Selected Behavioral Risk Factors in 2010



M Ezzati et. al. N Engl J Med 2013;369:954 – Disability: Depression

SS Lim et. al. Lancet 2012;380:2224

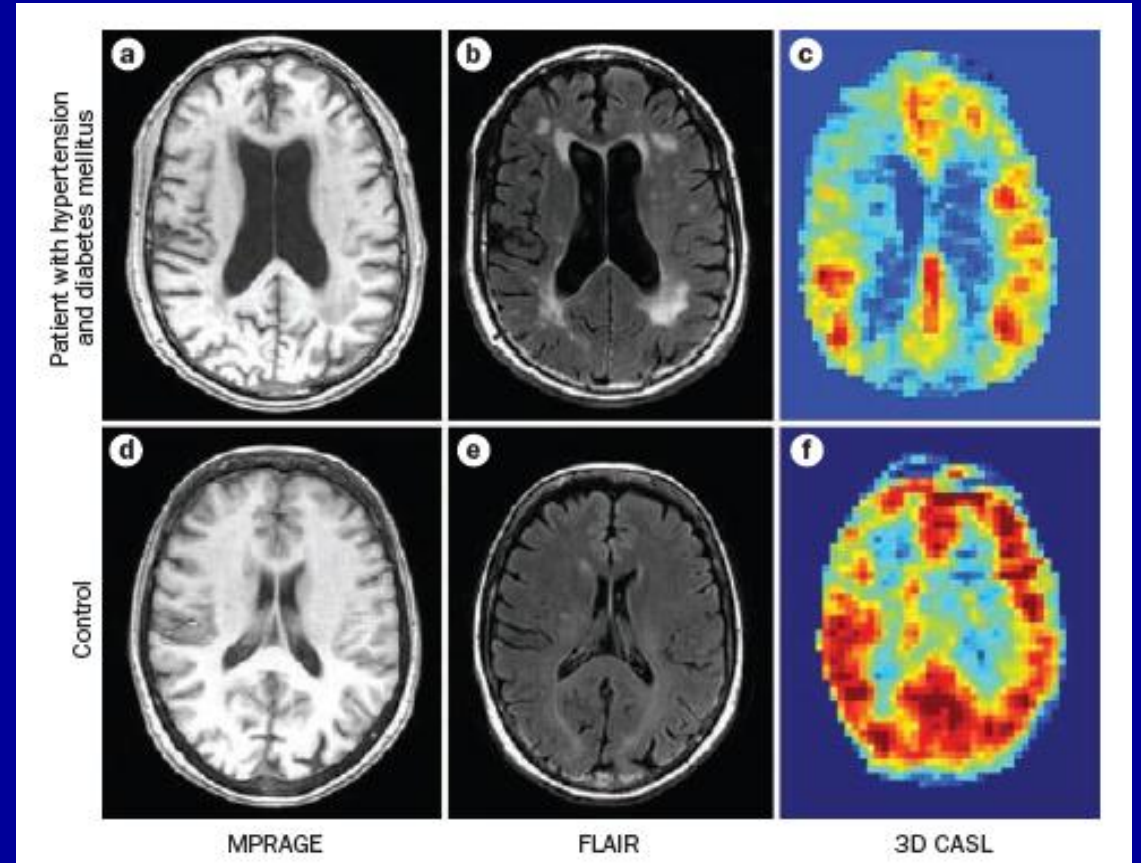
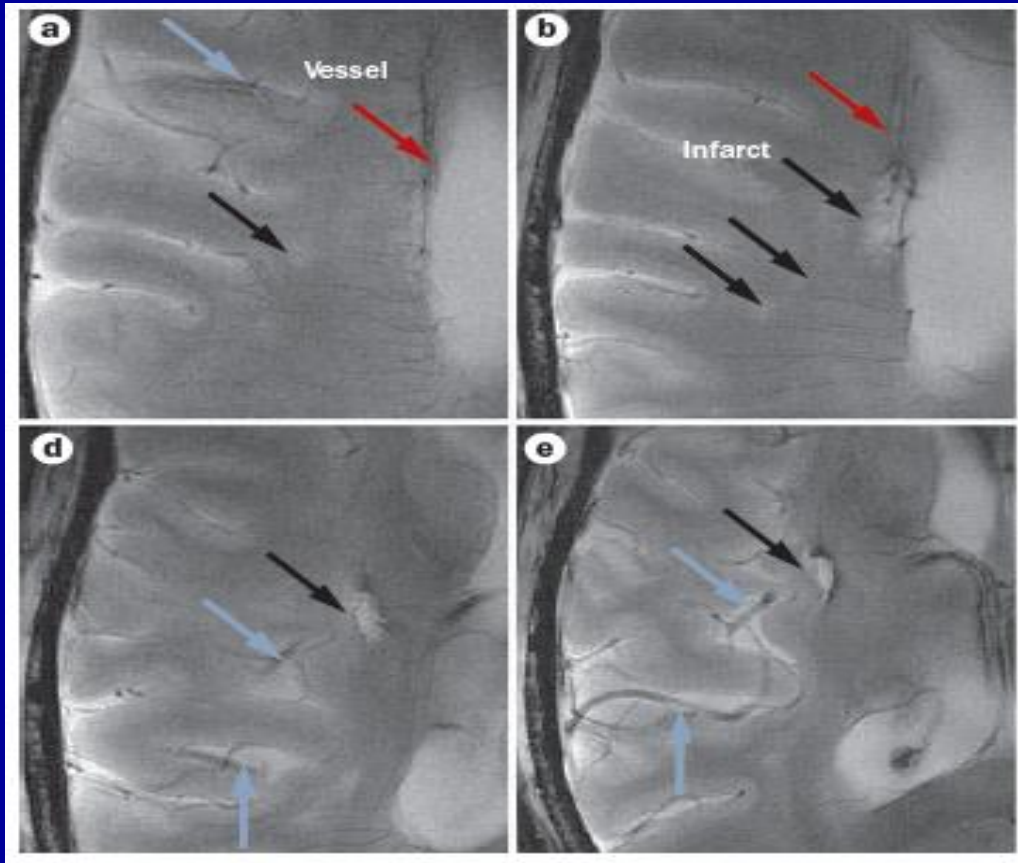
3. 2. Cortical Atrophy (Alzheimer's), White Matter Abnormalities & Lacunar Stroke



JC Kovacic, V Fuster et. al. *Circulation*. 2011;123:1900

MA Lim et. al. *Clin Geriatr Med*. 2009;25:191.

3. 2. DBD / Alzheimer's - MRI - Perfusion



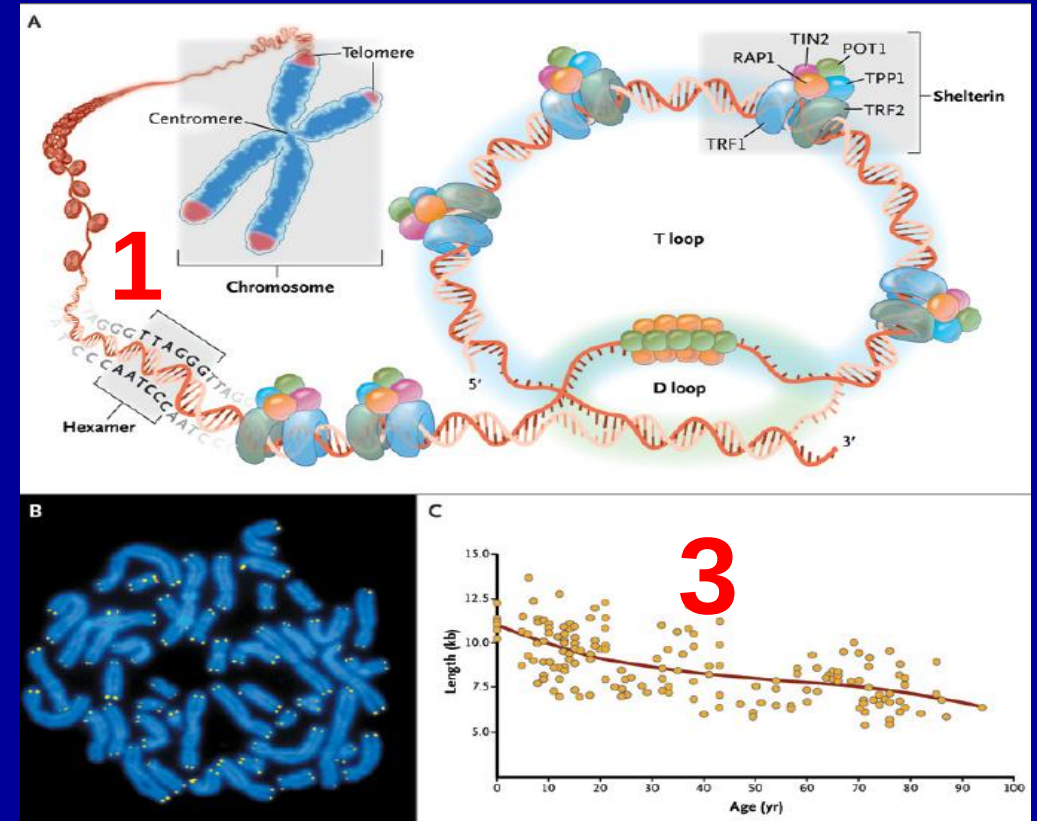
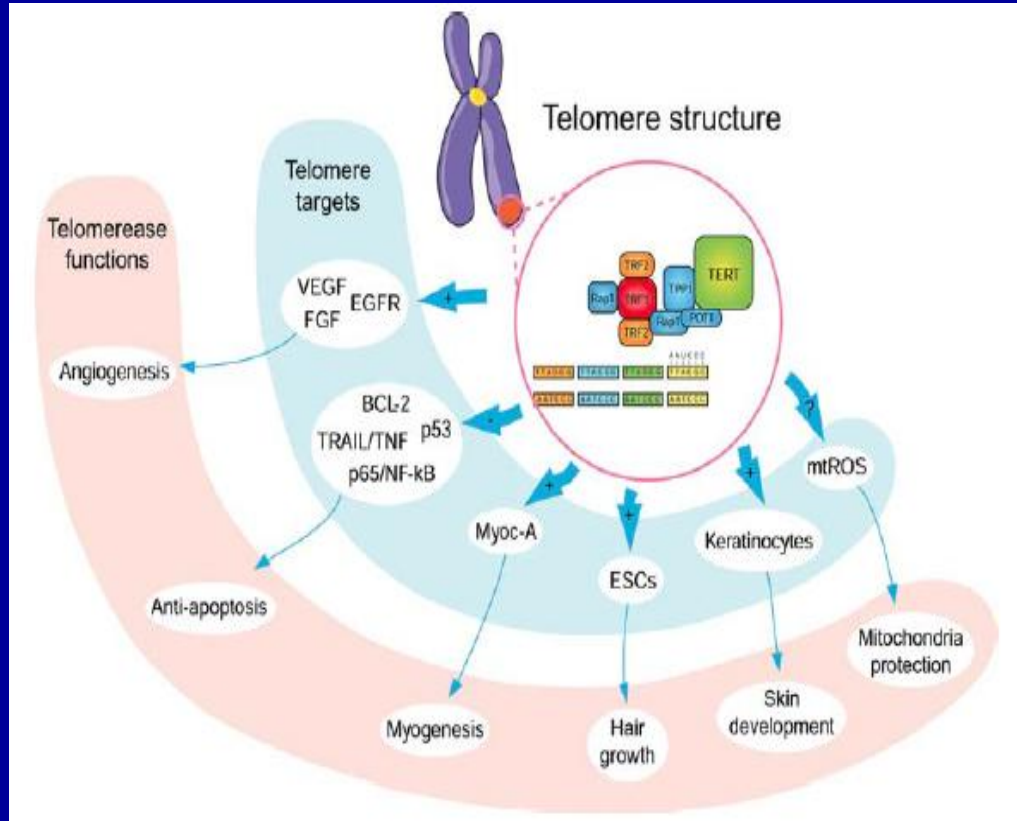
1. V Novak, I Hajjar. *Nat. Rev. Cardiol.* **2010**;7:686(HMS)
 2. HW Querfurth, FM LaFerla. *NEJM* **2010**; 362:329
 3. C Russo et. al. *Circ.* **2013**;128:1105 - JR Kizer *Circ* **2013**;128:1045
- Ischemia affects 60 to 90% of patients with Alzheimer's**

3. 3. The Hallmarks of Aging

*Aging is characterized by a **progressive loss of physiological integrity**, leading to impaired function and increased vulnerability to death. This deterioration is the primary risk factor **for major human pathologies**, including cancer, diabetes, cardiovascular disorders, and neurodegenerative diseases*

3. 3. Aging / Senescence

Cellular Telomere & Telomerase

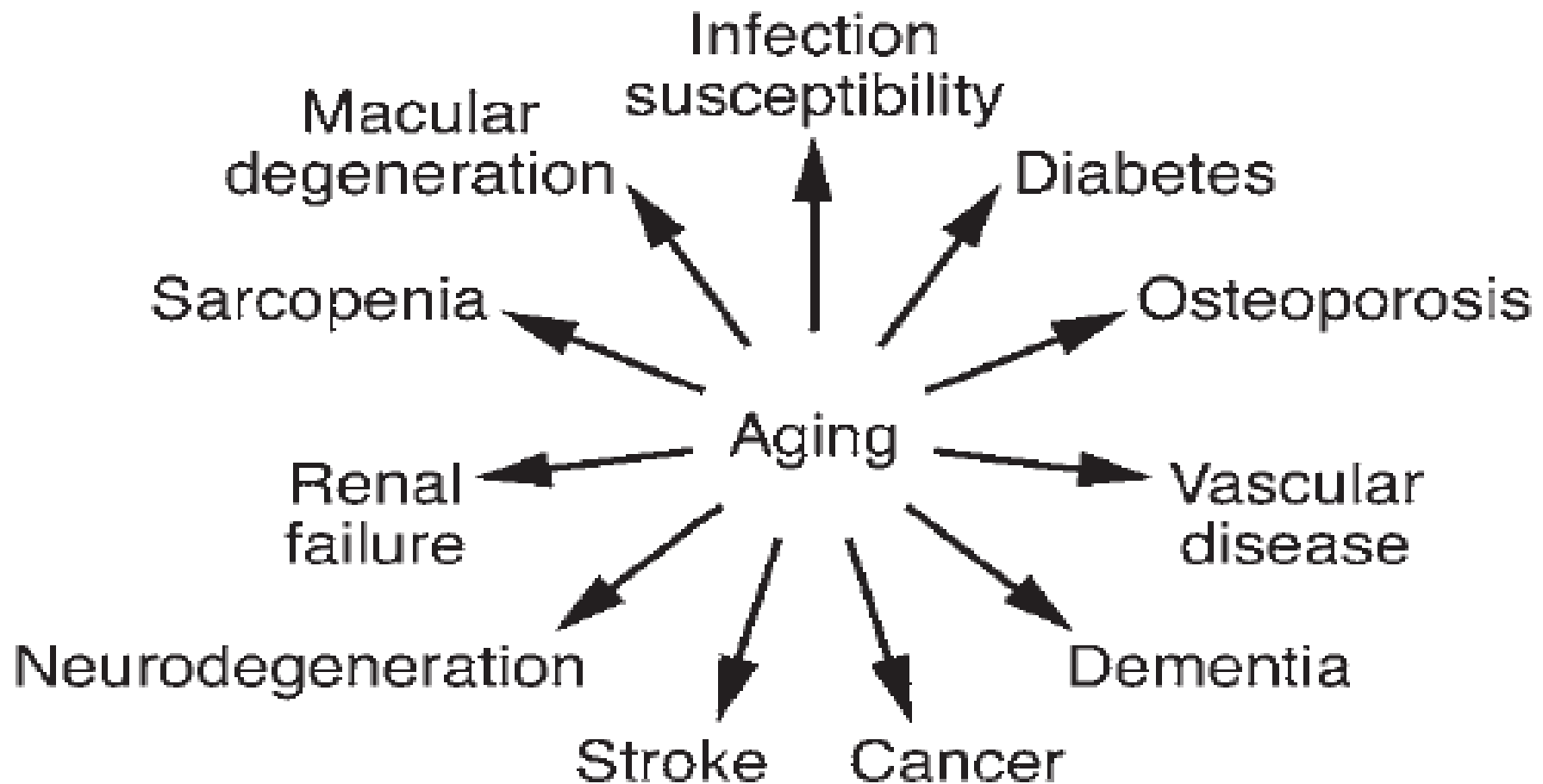


B Niemann et. al. JACC 2011; 57: 577.

R Madonna, R De Caterina et. al EHJ 2011;32:1190 (Houston & Chieti, Italy)

JC Kovacic, EG Nabel, V Fuster – Circ. 2011;123:1650

3. 3. Aging Is The Leading Risk Factor For Most Serious Chronic Disabilities



3. 3. ENVIRONMENTAL OXIDATIVE STRESS

Induction of telomere shortening

Smoking

Alcohol abuse

Obesity

Sedentary lifestyle

Mental stress

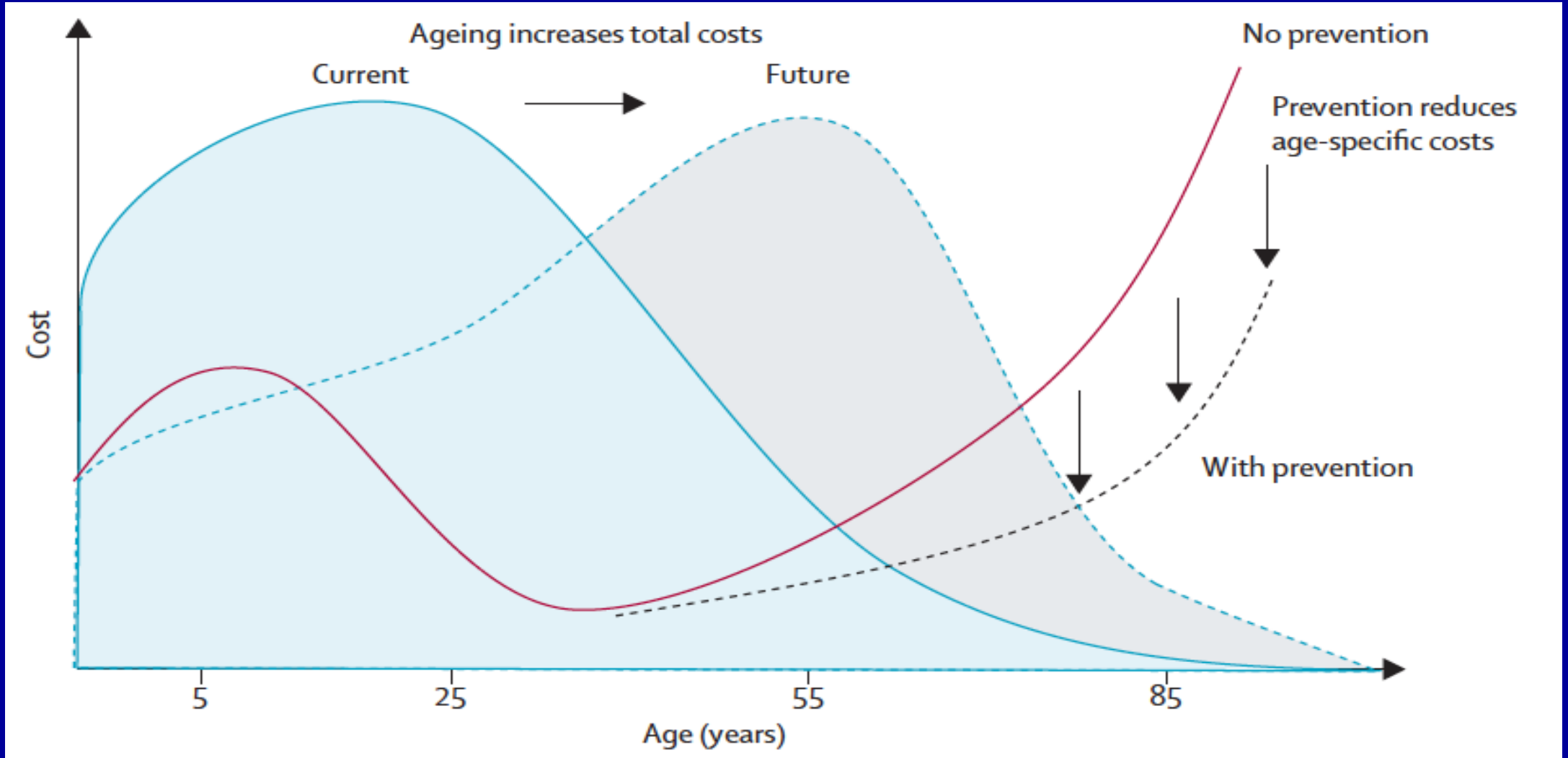
Inhibition of telomere shortening

Healthy lifestyle

3. 3. Promoting Health and Improving Survival Into Very Old Age

The identification of strategies that can promote health and productivity into old age is one of the most important challenges facing public health. The current study's findings, which suggest that modifiable social and behavioral factors increase survival among older people, but only when achieved early in life, preferably in childhood

4. The Cost of Aging, The Cost Of NCD vs Prevention



The Lancet NCD Action (G Alleyne et. al.) *Lancet*. 2013;381:566

5. Science, Health, Education (SHE)

The Integration of Health (Si)



1-2

Research / Health



3-4

LICs / HICs



5-6

Heart / Brain

***“Extended healthy lives” in part due to medical research
generates dramatic returns - Albert & Mary Lasker Found.- 2002***

5. 2. Childhood Obesity & Opportunity



1. Childhood obesity increases BP & risk for stroke “substantially” in adulthood.
2. It predicts obesity in adulthood

The Finish Study (S Mayor. BMJ) 2012;344:e3065

5. 2. Si – Progres & Disseminación



HOW YOUR BODY
& HEART WORK



HEALTHY FOOD
HABITS



PHYSICAL
ACTIVITY



EMOTIONAL
HABITS TO
AVOID
ADDICTIONS

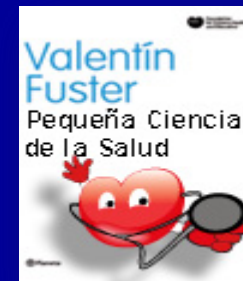
EDUCATIVE GOAL: HEALTHY HABITS FOR CHILDREN BETWEEN 3 & 5 YRS

CHILDREN

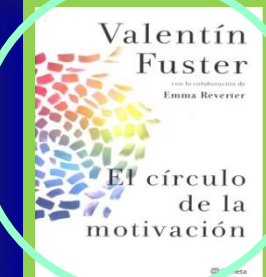
3-5

6-8

9-14

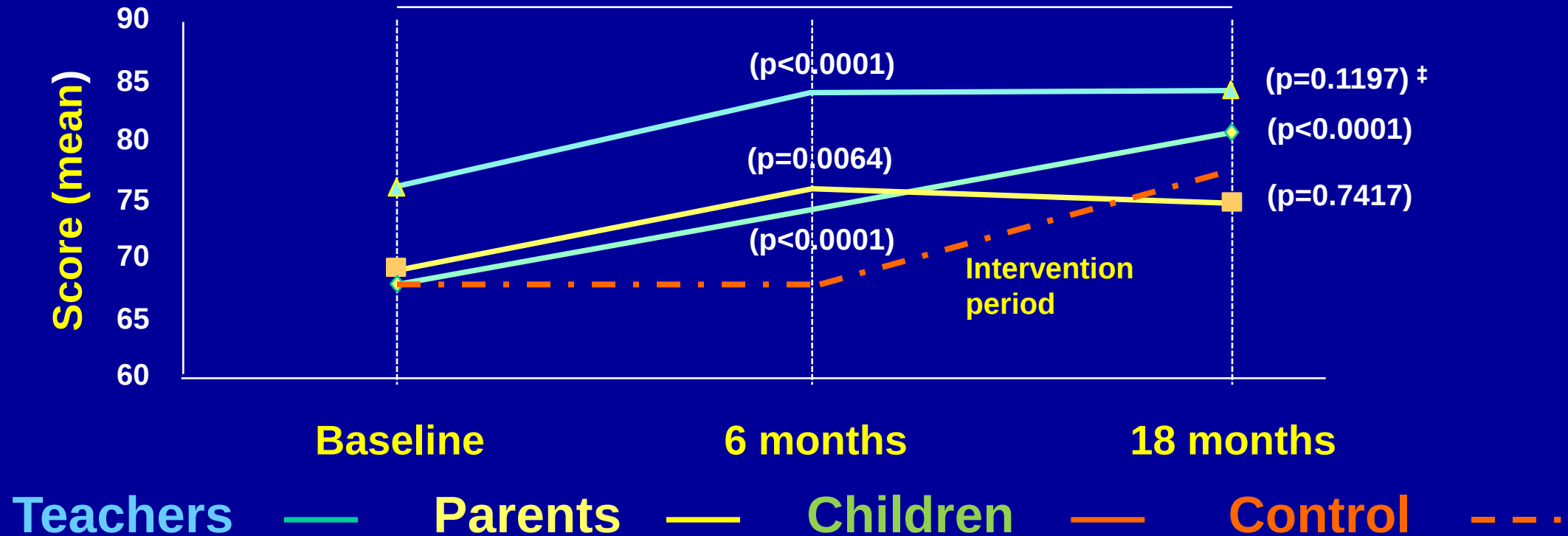


GENERAL
PUBLIC



5. 2. SESAME PROJECT

KNOWLEDGE (70), ATTITUDES (20) & HABITS (10)



Céspedes J, Briceño G, Farkouh ME, Vedanthan R, Baxter J, Leal M, Boffetta P, Woodward M, Hunn M, Dennis R, Fuster V.

The American Journal of Medicine 2013; 126, 27-35

Colombia – 25,000 Children, Spain 64 Schools – 20,000, US.....

Hoja de ruta vigente

	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26
SII(1) 3-5 y.	D	Q	R	R	R												
SII(2) 6-7 y.		D	Q	T	T	R											
SII(3) 8-9 y.			D	Q	Q	T		R									
SII(4) 10-11 y.					D	Q		T		R							
SII(5) 12-16 y					D	D	D	Q		T							
Number of schools																	
TOTAL	4	20	61	98	98	122	122	151	151	175	175	199	199	199	199	199	0

5. 2. 36 Month Follow-up

*Jaime Céspedes,
German Briceño,
Michael E. Farkouh,
Rajesh Vedanthan,
Jorge Baxter,
Martha Leal,
Paolo Boffetta,
Marilyn Hunn,
Rodolfo Dennis,
Valentin Fuster.*

Promotion of Cardiovascular Health in Preschool Children: 36-Month Cohort Follow-up

Jaime Céspedes, German Briceño,
Michael E. Farkouh, Rajesh Vedanthan,
Jorge Baxter, Martha Leal, Paolo Boffetta, Marilyn
Hunn, Rodolfo Dennis,
Valentin Fuster.

Presenting author:
Jaime A. Céspedes L.
No disclosures



Salud Integral
COLOMBIA



**Mount
Sinai**
Heart



The setting



**Multicomponent
Pedagogical strategy
focused
on key messages**



Low SES

Parents : 30.7 years

M/F: 0.19

Preschool

Children: 6 – 8 years

M/F: 1.13

**Heart & Body
awareness**

**Diverse & balanced
nutrition**

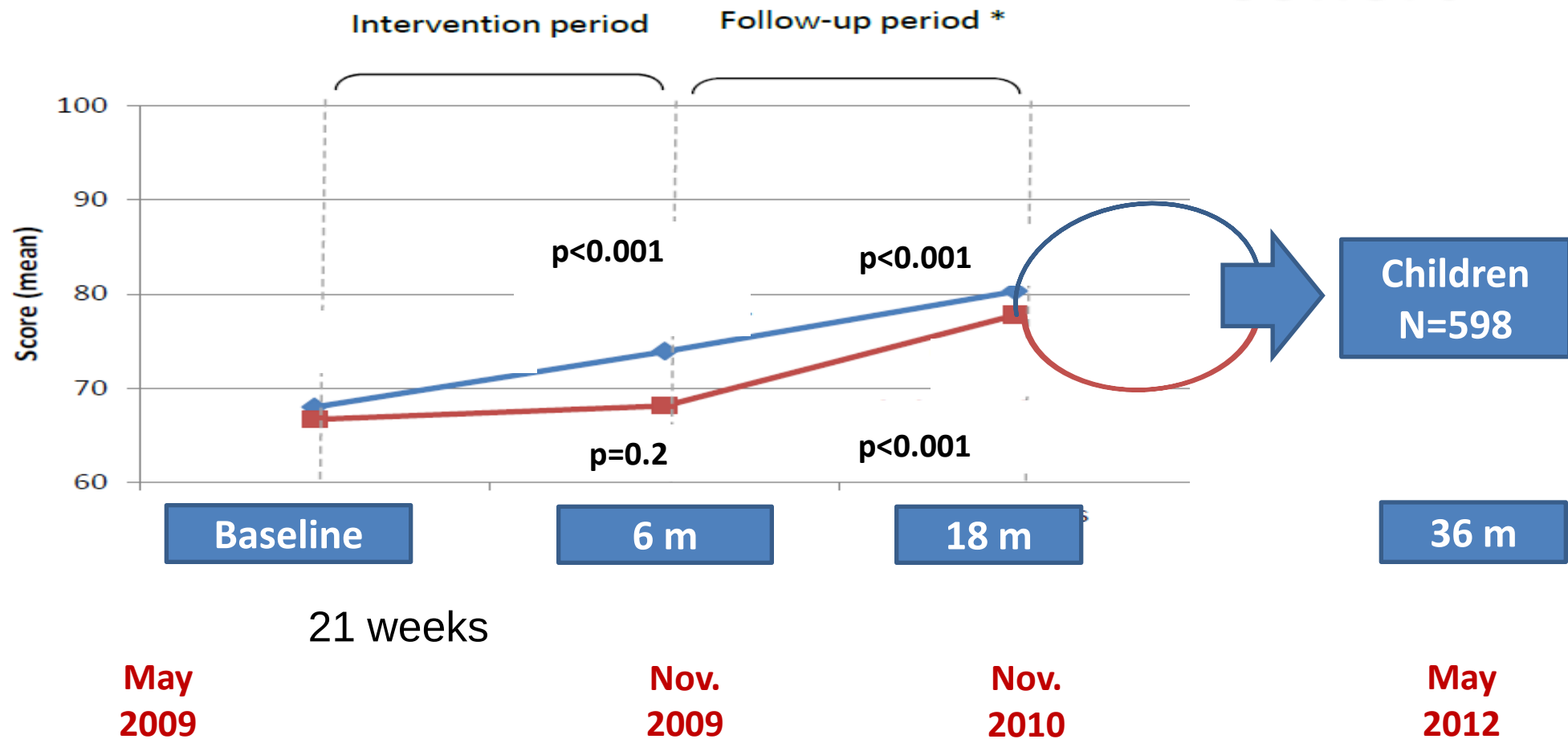
Physical activity

Combined RCT - Cohort follow up

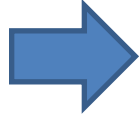
14 → 305 school facilities

Cluster RCT

Cohort



Study measurements - Outcomes



Educational areas:

- 1- Heart and Body
- 2- Nutrition
- 3- Physical activity



Evaluation areas

- 1- Knowledge
- 2- Attitudes
- 3- Habits

- **Mean change on children's KAH scores over time**
- **Change in children's nutritional status.**

K: Cumulated sum of information acquired overtime.

A: A learned predisposition to behave in a consistent way.

H: Learned responses which are regularly manifested. (physical activity etc).



The Circle of Motivation



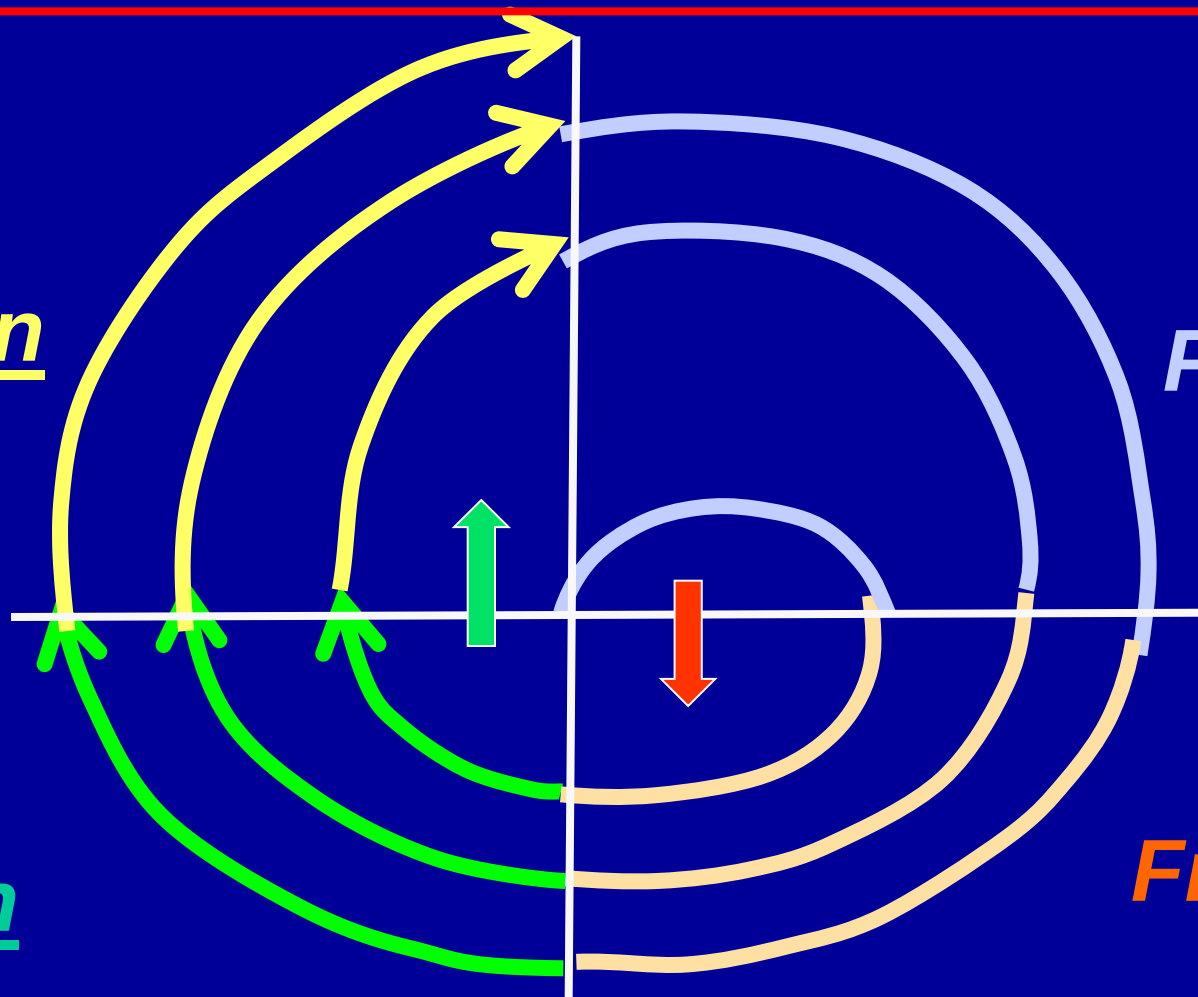
Satisfaction

Passivation



Motivation

Frustration



4 T's – Mental - Time, Talent, Transmit, Tutoring
4 A's - Society - Attitude, Accept, Authenticity, Altruism

5. 3. AMPATH Centers In Kenya

BP Control / Non MD / High Technology



R Vedanthan, V Fuster, et al **NHLBI / Kenia Project, 2012-2015**

5. 4. CARDONA INTEGRAL – “FIFTY-FIFTY” PROJECT – 1 YEAR

SMOKING	0	1 ¹	2	--	--	2
OVERWEIGHT	0	1 ²	2	--	--	2
SEDENTARISM	0	1 ³	2	--	--	2
HYPERTENSION	0	1 ⁴	2 [†]	--	--	2
TOTAL HABIT SCORE			—————→			8



HEALTHY COMMUNITIES:

CARDONA AS A MODEL FOR THE
DEVELOPMENT OF HEALTHY COMMUNITIES

VALENTIN FUSTER, MD, PhD, et al.



**Programa
de Salud
Integral**



**Programa
Fifty-Fifty**

- **Valentin Fuster**
- **José Luis Peñalvo**
- **Isabel Carvajal**
- **Domènech Haro**
- **Ramona Martínez**
- **Mercedes Soto**
- **Gloria Santos**
- **Patricia Bodega**
- **Xavier Orrit**
- **Carla Rodríguez**
- **Yolanda Sánchez**
- **Vanessa Carral**
- **Elena Roura**
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- **Iñaki Marina**
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- **Maria Bautista**
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- **Silvia Font**
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- **Rafael Badía**
- **Carlos Peyra**

- **Valentín Fuster**
- **Emilia Gómez Pardo**
- **José Luís Peñalvo**
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- **Ramona Martinez**
- **Marta Vilanova**
- **Iñaki Marina**
- **Patricia Anguera**
- **Rafael Badía**
- **Stuart Pocock**
- **Julia Redondo**
- **Fátima Lois**
- **Carlos Peyra**



**Foundation
for Science, Health
and Education**

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Observatorio de la Nutrición y Obesidad



observatorio de la
nutrición
y de estudio de la
obesidad



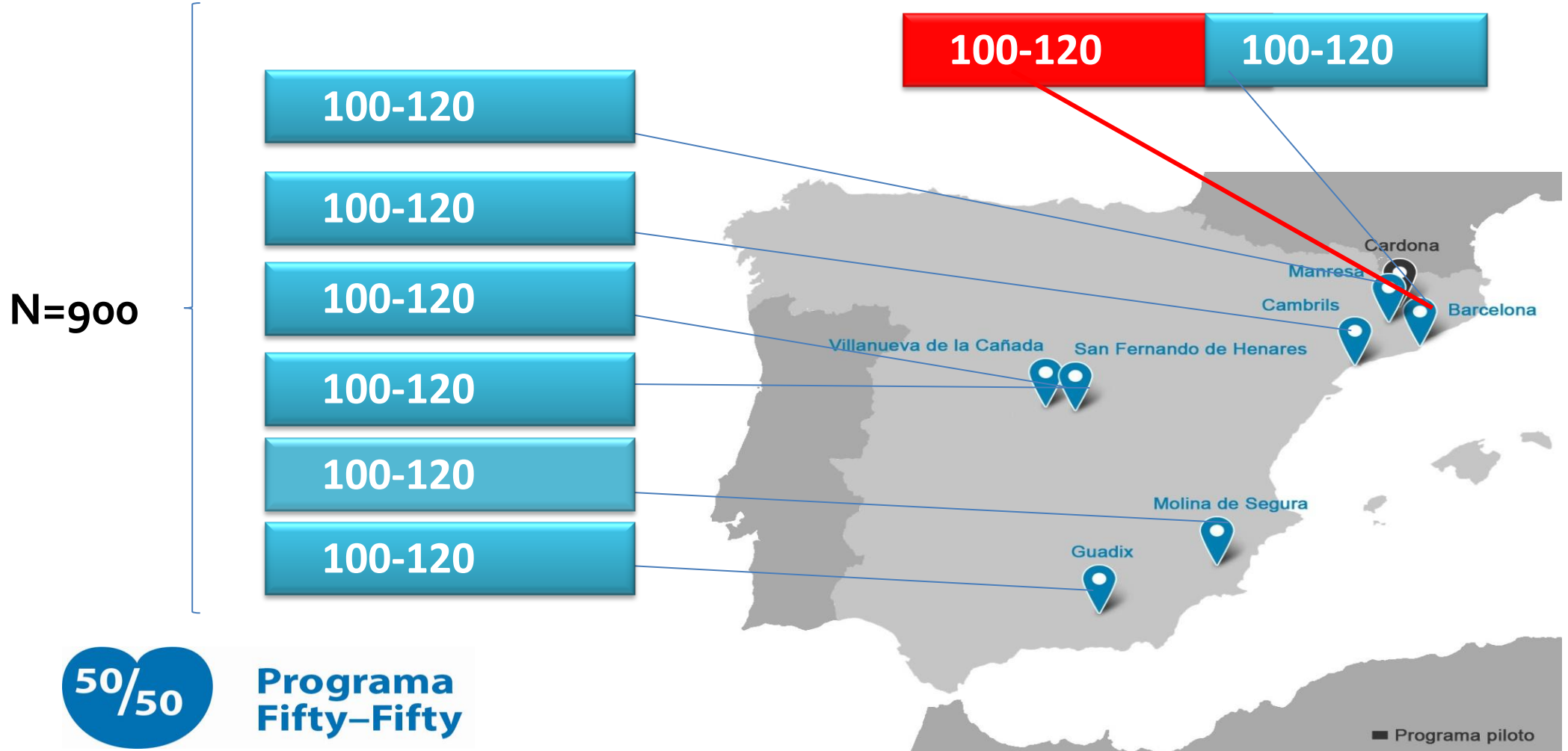
Pilar Farjas
Presidenta AESAN



Teresa Robledo
NAOS

February 12, 2013

Healthy Communities



The Integration of Health (Si) - 2013

The Leadership

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 - 2. CVD – Infarction***
 - 3. CVD - Risk Factors (7) & Life Style***
 - 4. The Cost Of NCD vs Prevention***
 - 5. Science, Health, Education***
-

Madrid, Nov. 5, 2013 – Convention NAOs