

Stroke & Heart Attack Prevention Centers

Fred Callahan



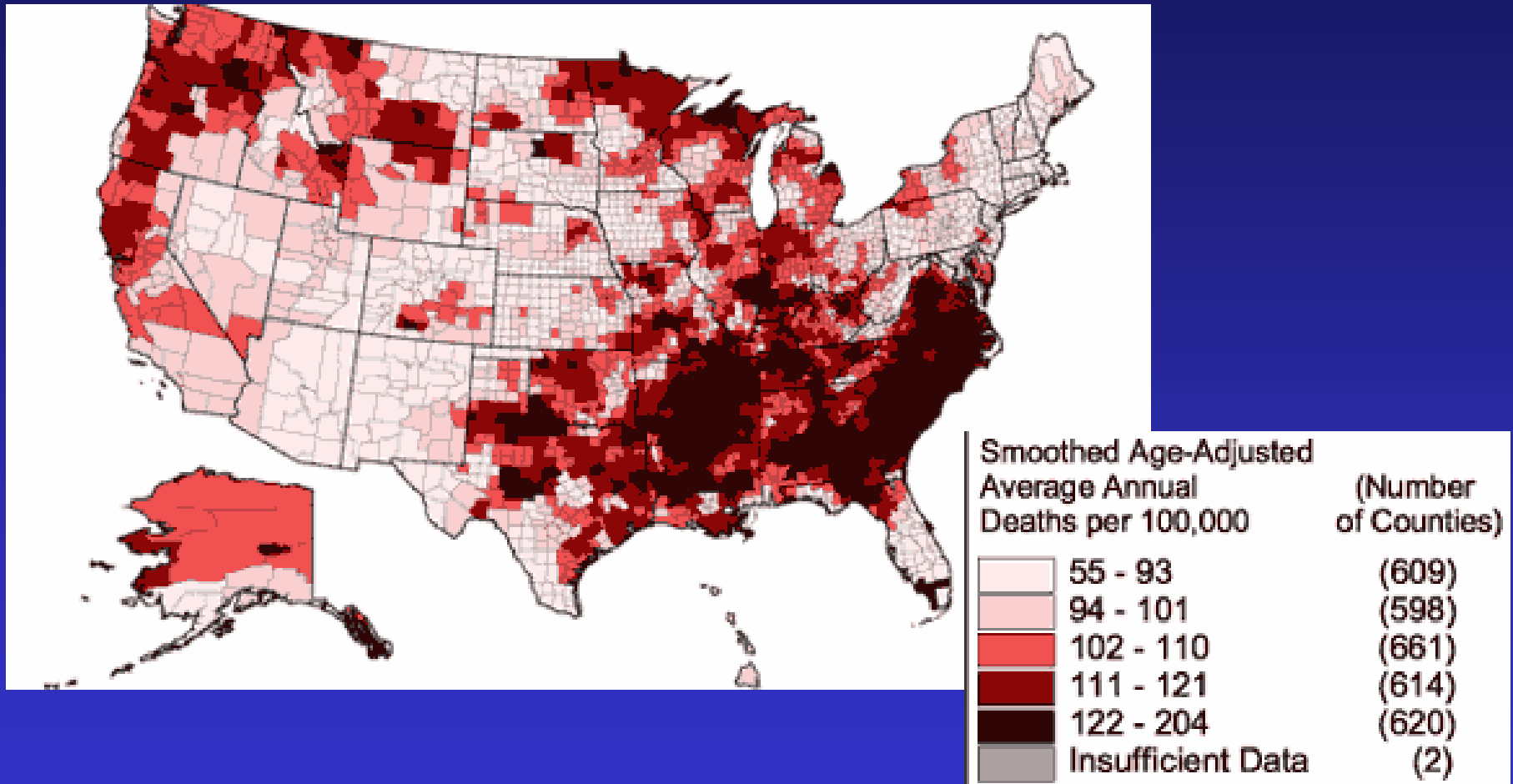
The Stroke Pandemic



WHO, Japanese MHW, Mattson Jack, *American Heart Association.*



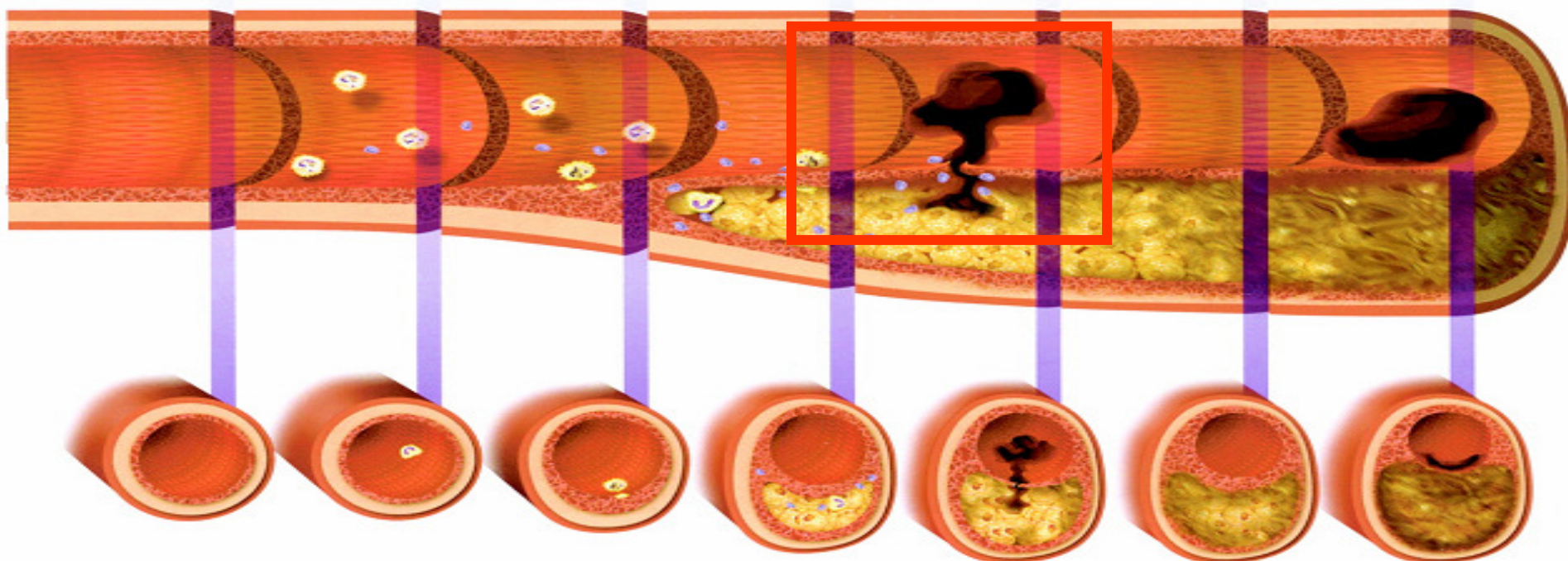
The Stroke Belt



Stroke death rates, 1991-1995, adults aged 35 years or older, by county.

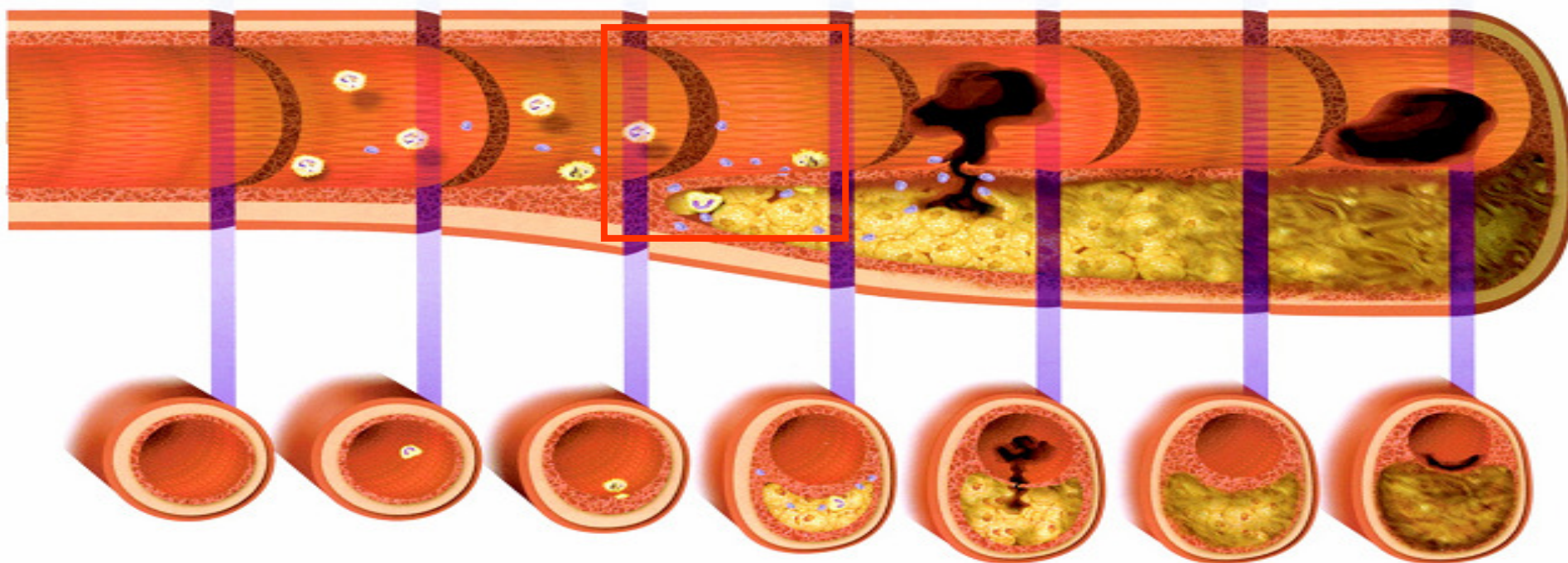
Data Source: U.S. Census Bureau Postcensal Population Estimates and National Center for Health Statistics National Vital Statistics System (ICD9 Codes 430-438.9).





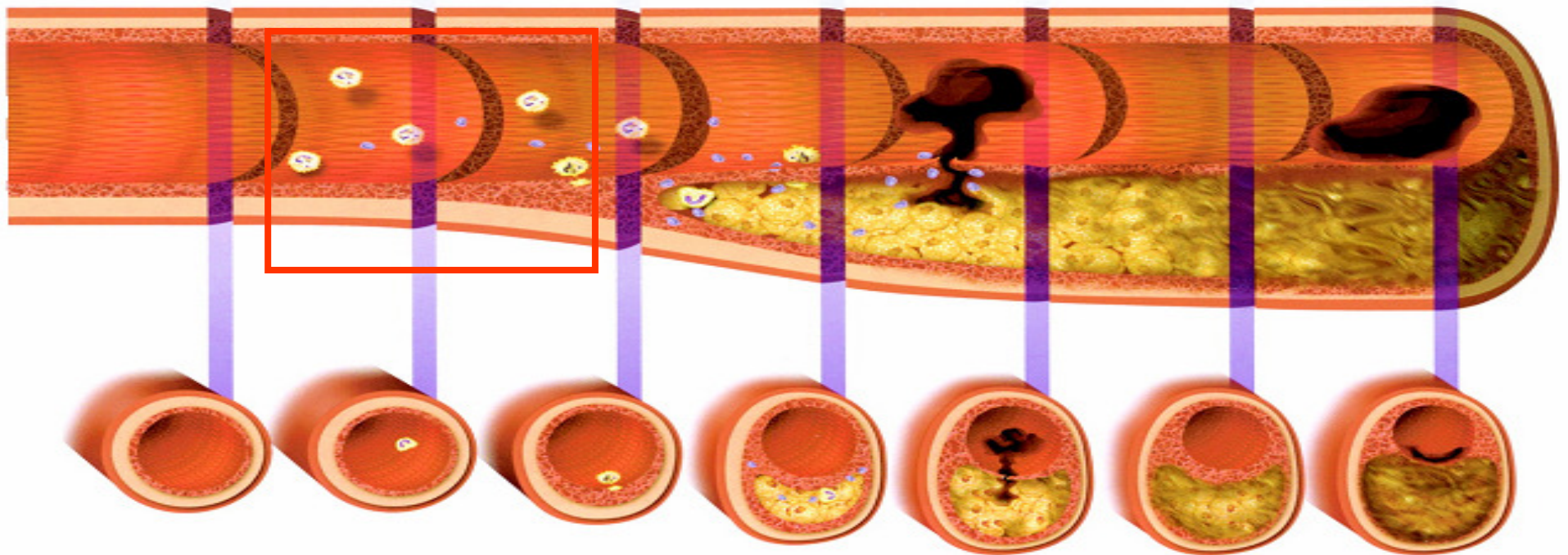
Rescue

- Resource intensive
- Limited subsequent benefit



Framingham (10 yr event horizon)

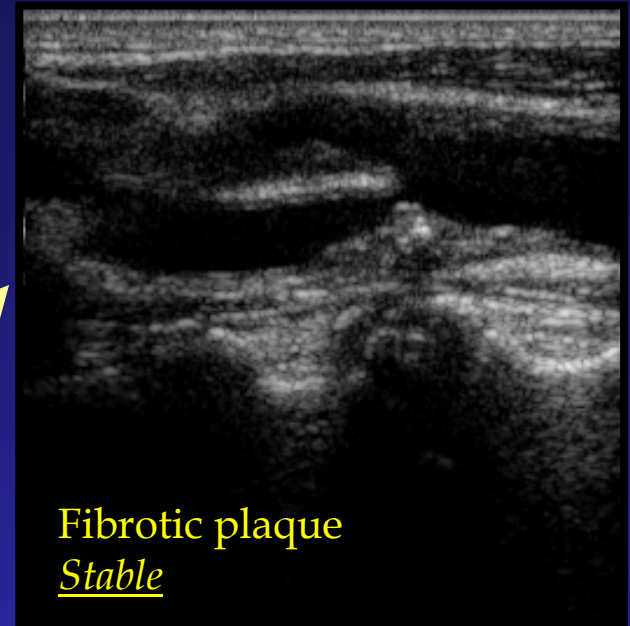
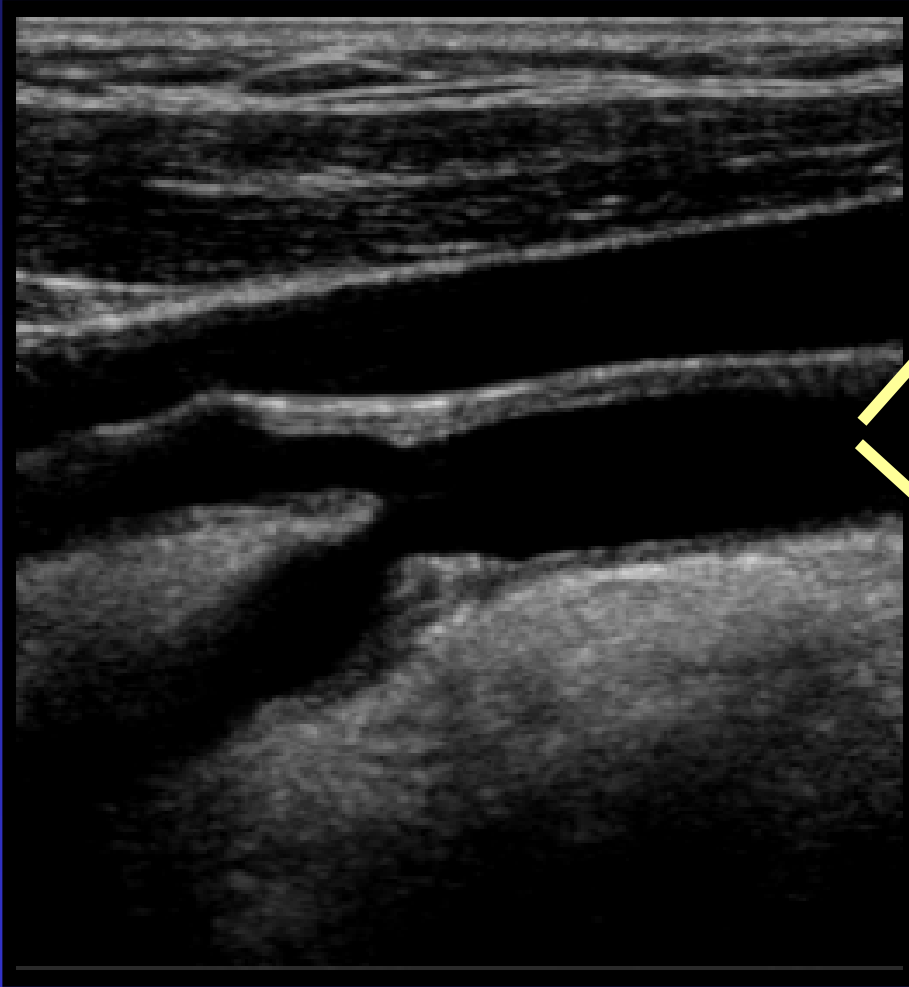
- Average
- Intermediate
- High risk (>20% 10 yr chance of MI, Stroke, Vascular Death)



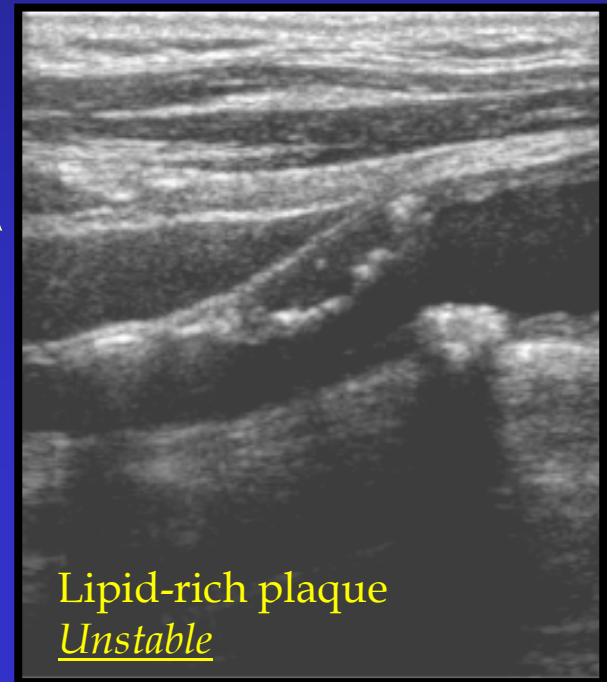
Lifetime Risk (> 10 yr event horizon)

- If half of all will have an event, than at any age half of all will be high/very high risk

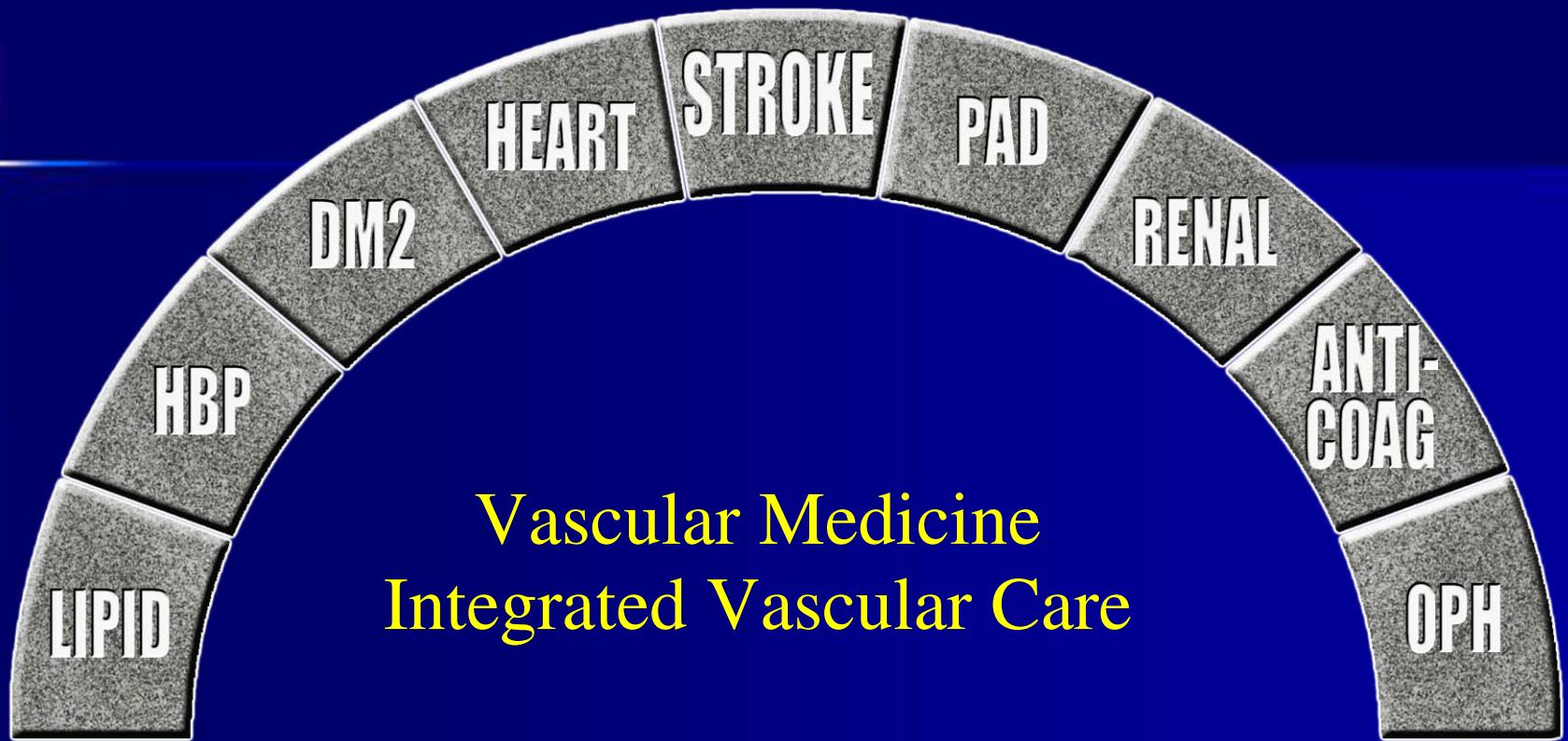
Early Years



Fibrotic plaque
Stable



Lipid-rich plaque
Unstable



L I F E S T Y L E

Stress Reduction

Exercise

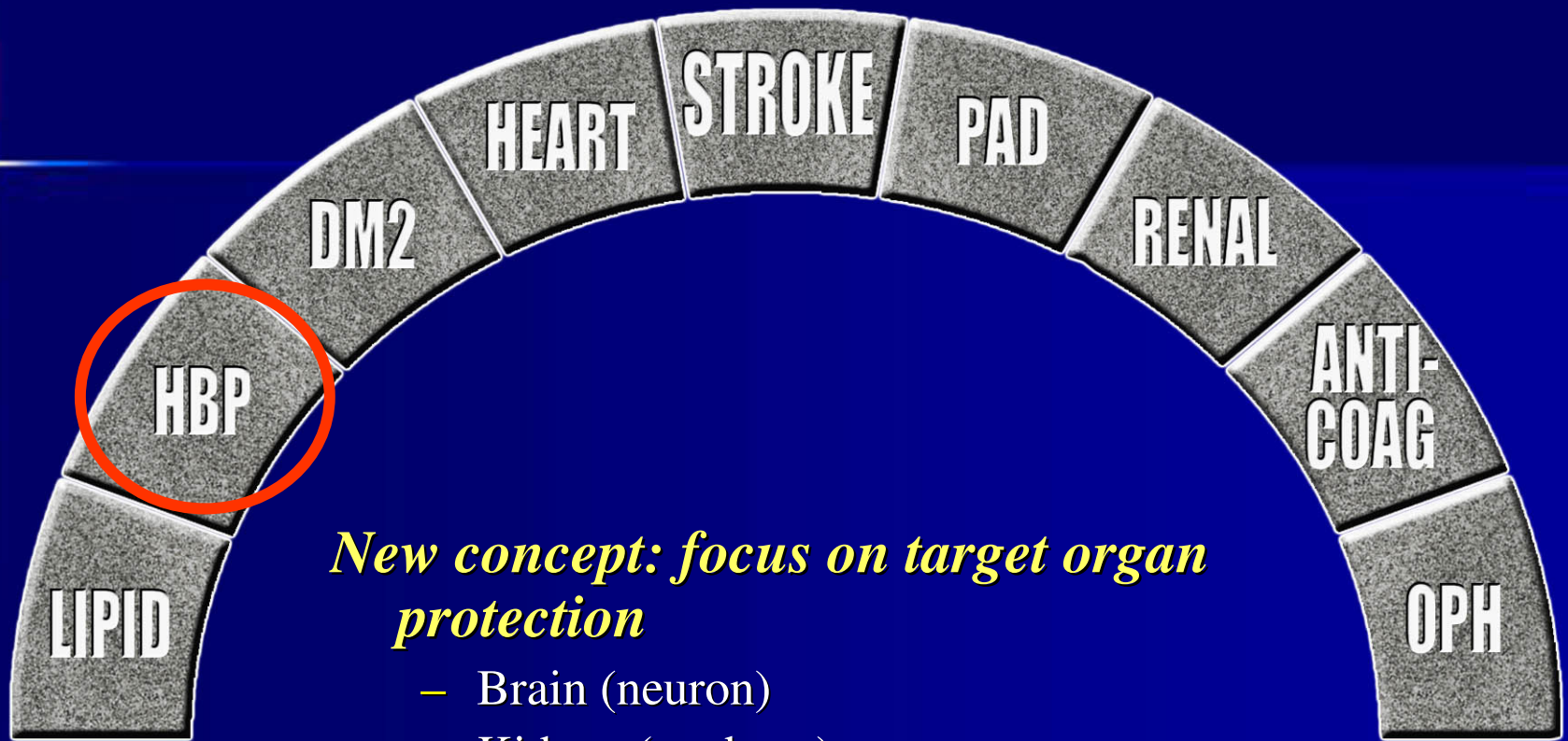
Diet

Weight Loss

Smoking Cessation

Personal
Responsibility

Compliance



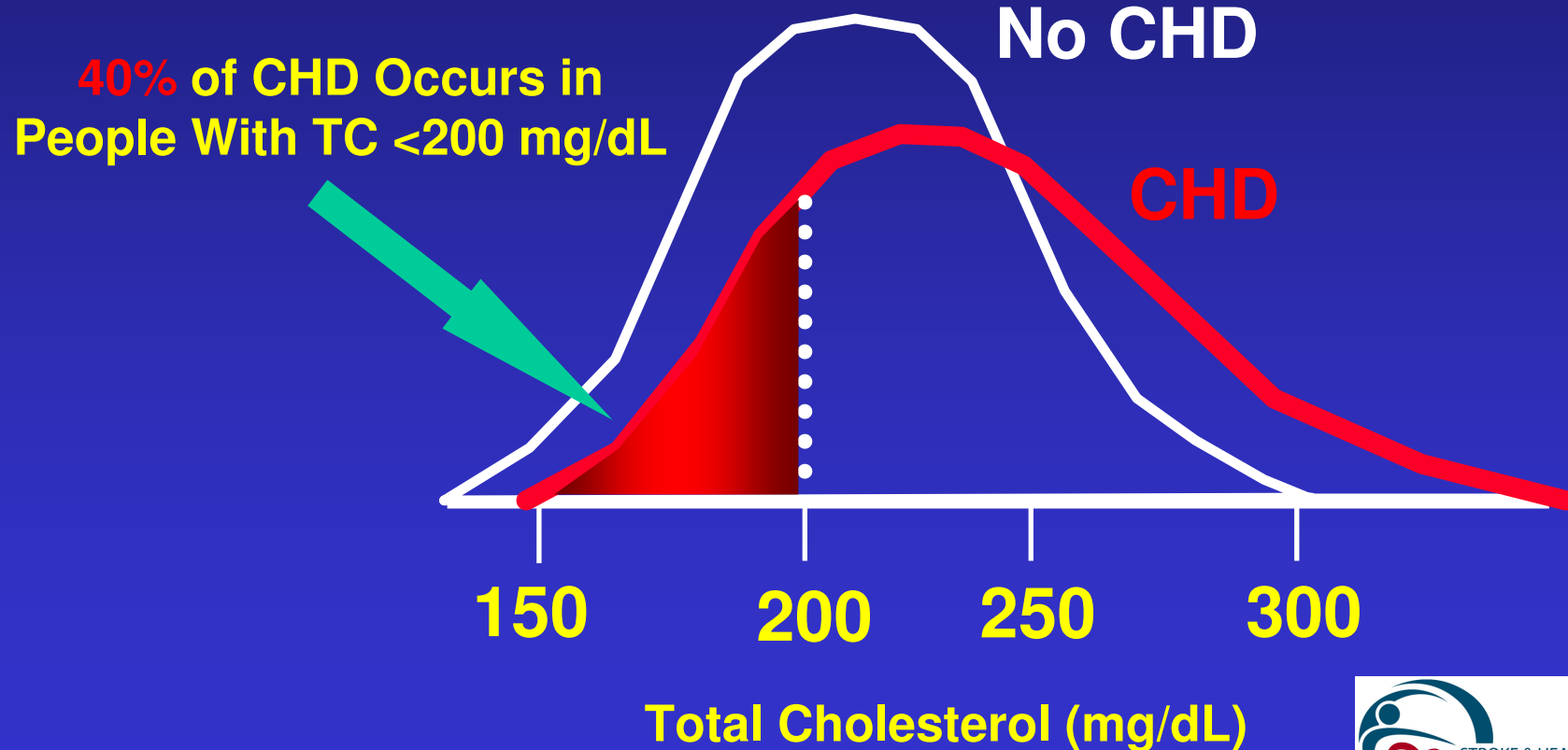
New concept: focus on target organ protection

- Brain (neuron)
- Kidney (nephron)
- Heart
- Pancreas (DM2 risk reduction)



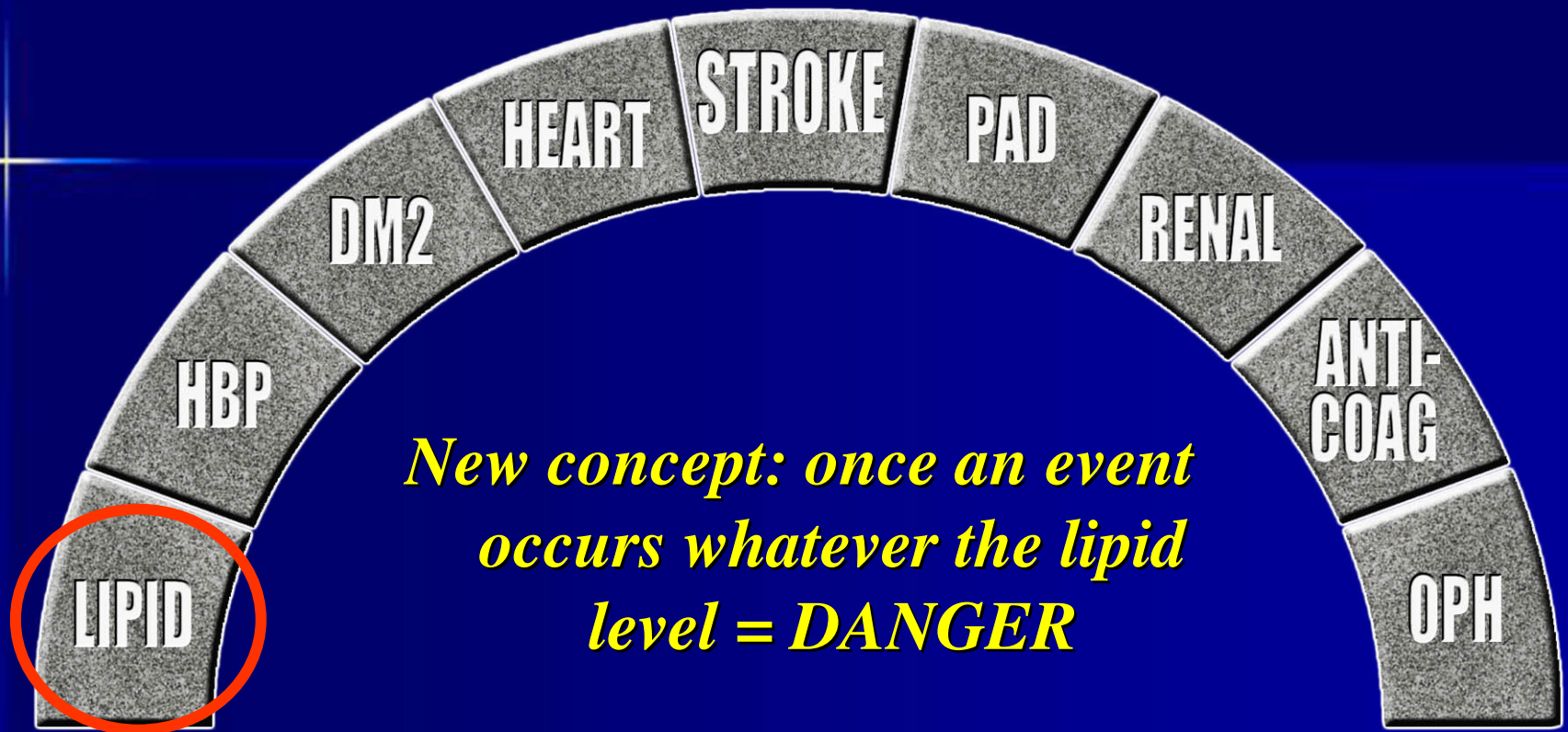
Total Cholesterol Distribution: CHD vs Non-CHD Patients

Framingham Heart Study—26-Year Follow-up



Adapted from Castelli. *Atherosclerosis*. 1996;124(suppl):S1-S9.



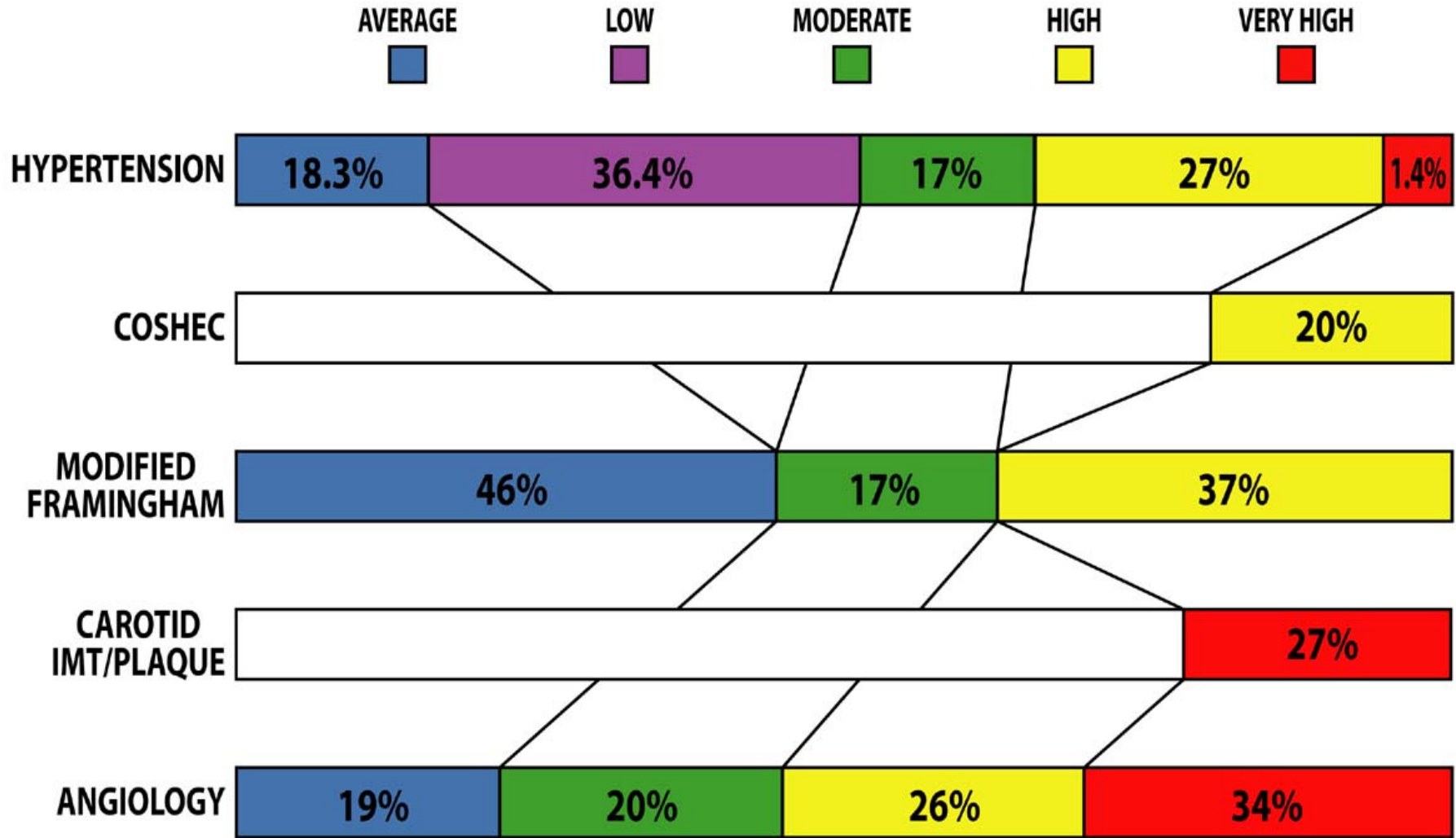


New concept: once an event occurs whatever the lipid level = DANGER

- Endpoint a surrogate for unstable plaque development
- Risk reduction: VH > 50%, High > 33%

New concept: lifetime risk

Concordance of Risk Engines



6-Month Population Results

n > 650

IMT >0.9 mm 19%

MAU + 5%

IGT 19%

% lipid reduction to get to target	NL	<10	11-30	31-40	41-50	>50%
	38	9	19.4	9.4	6	8

Slotted Risk	Average	Intermediate	High	Very High
	17	21	37	24



Results of Care

Hypertension

	Known HBP (%)	New Dx	Total HBP	NL BP NV	BP<4 mm
GH	14	25	39		
MZ	21	42	63	29%	41%



Results of Care

Lipids

	Goal (%)	<10	11-30%	31-40	41-50	>50	Goal NV	<9 mg
GH	35	9	24	11	8	11	40%	30%
MZ	32	8	19	28	2	11		

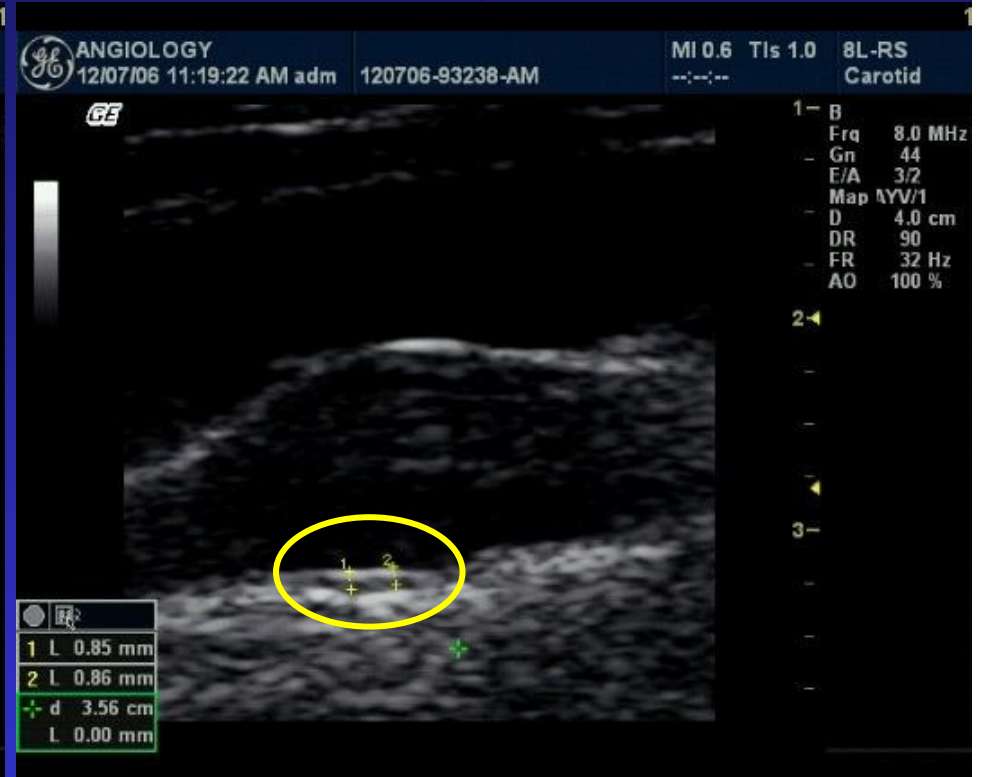
Results of Care

Before



*LDL 160
IGT*

After

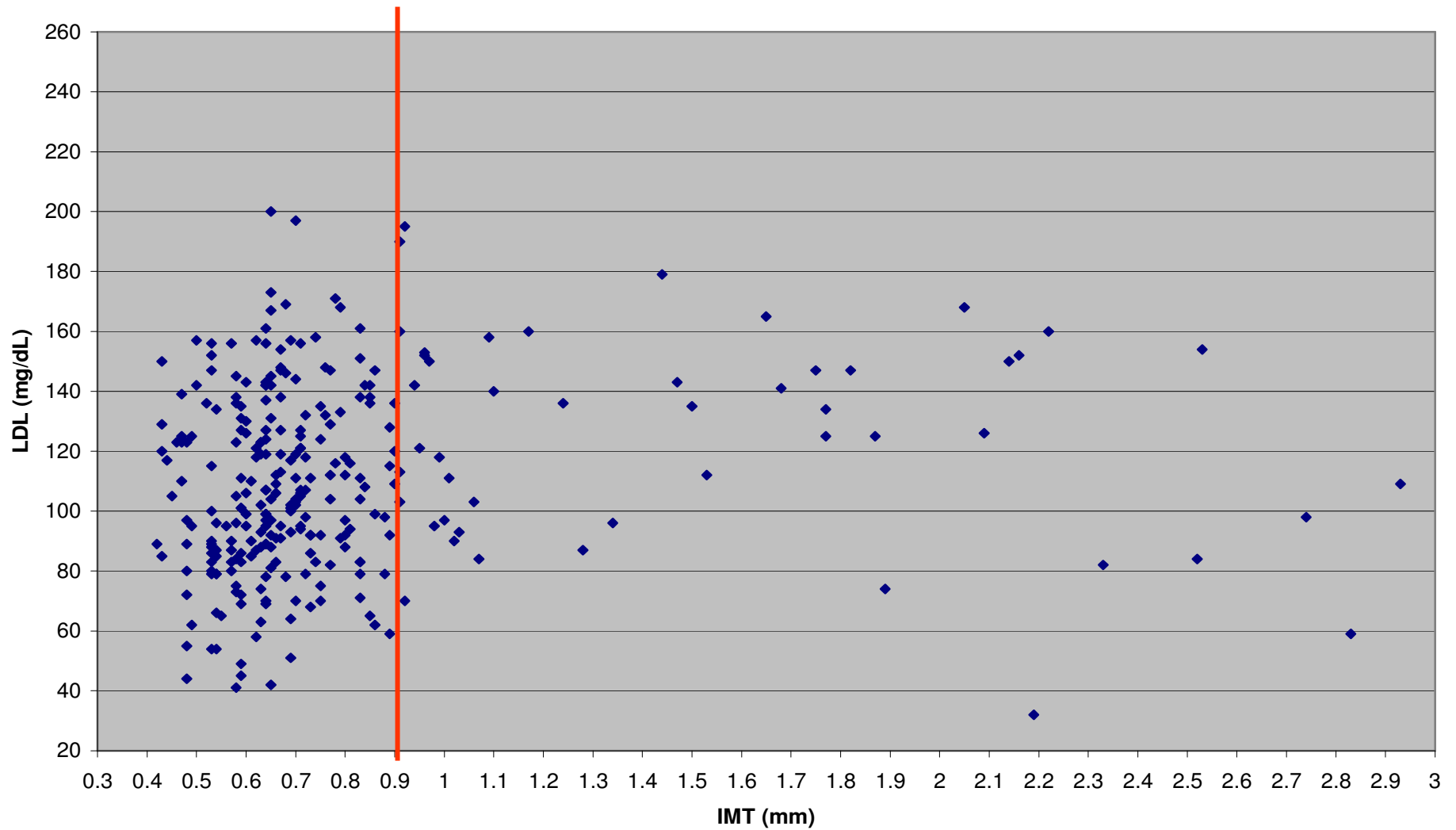


*LDL 58
Wt ↓ 16 kg*

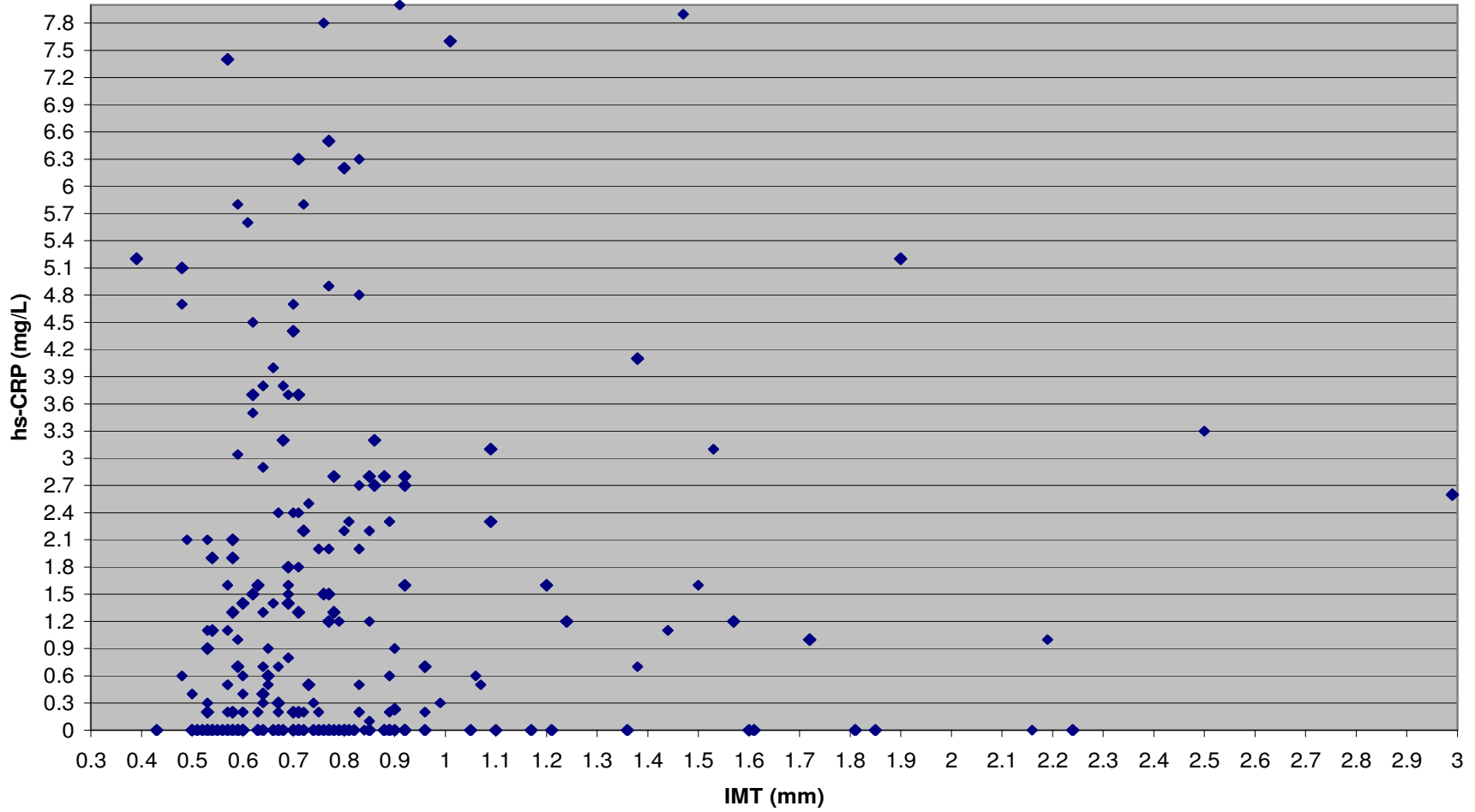


Unique Populations

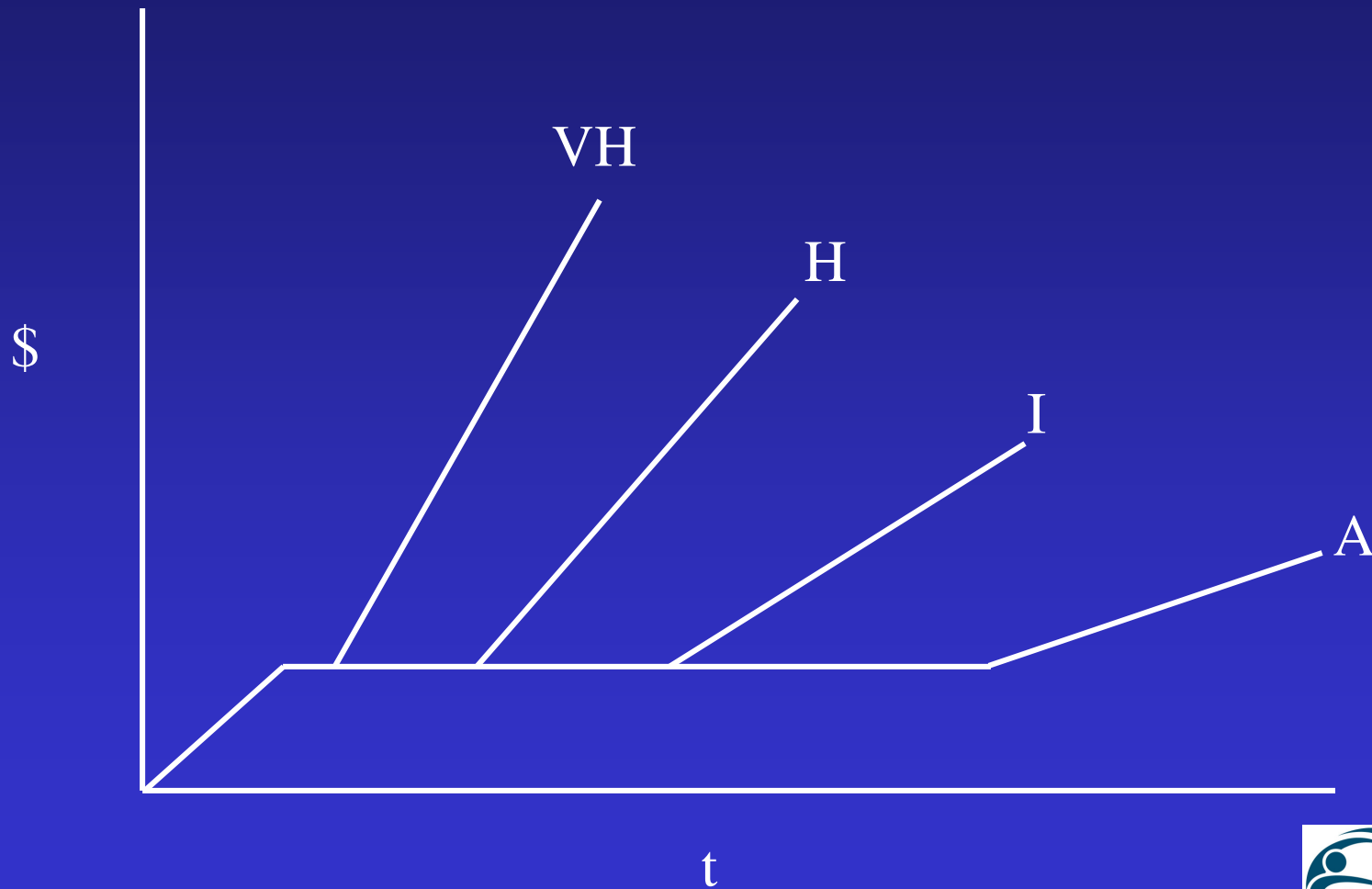
IMT vs Baseline LDL
n=644



IMT vs. hs-CRP
N=454



Value Model



State of Tennessee Proposal

Cost of Event

RR	50K	100K	150K
30%	35K	70K	100K
50%	25K	50K	75K
66%	16K	33K	50K

Dollars Avoided/ Event

30%	15K	30K	50K
50%	25K	50K	75K
66%	34K	33k	100K

If care can be provided for \$1/day, then

Care Box in Millions

30%	85	170	255
50%	126	250	375
66%	187	374	561

Patients Care for Per Year/ Event Dollars Avoided

30%	50K	100K	160K
50%	80K	160K	250K
66%	110K	220K	330K

For ACS+CVD volume = 1.7 mm/yr

New View

GENES + LIFESTYLE + CARE = RISK

Adherence
Personal responsibility



Clinic Model

Extender Insure standard outputs

Vascular physical Stratify risk – 4 slots

MACDOC Standardized care using evidence

