

# Better Rating : Health

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Technical Seminar: Improved Risk Rating

February 2009



**RGA**

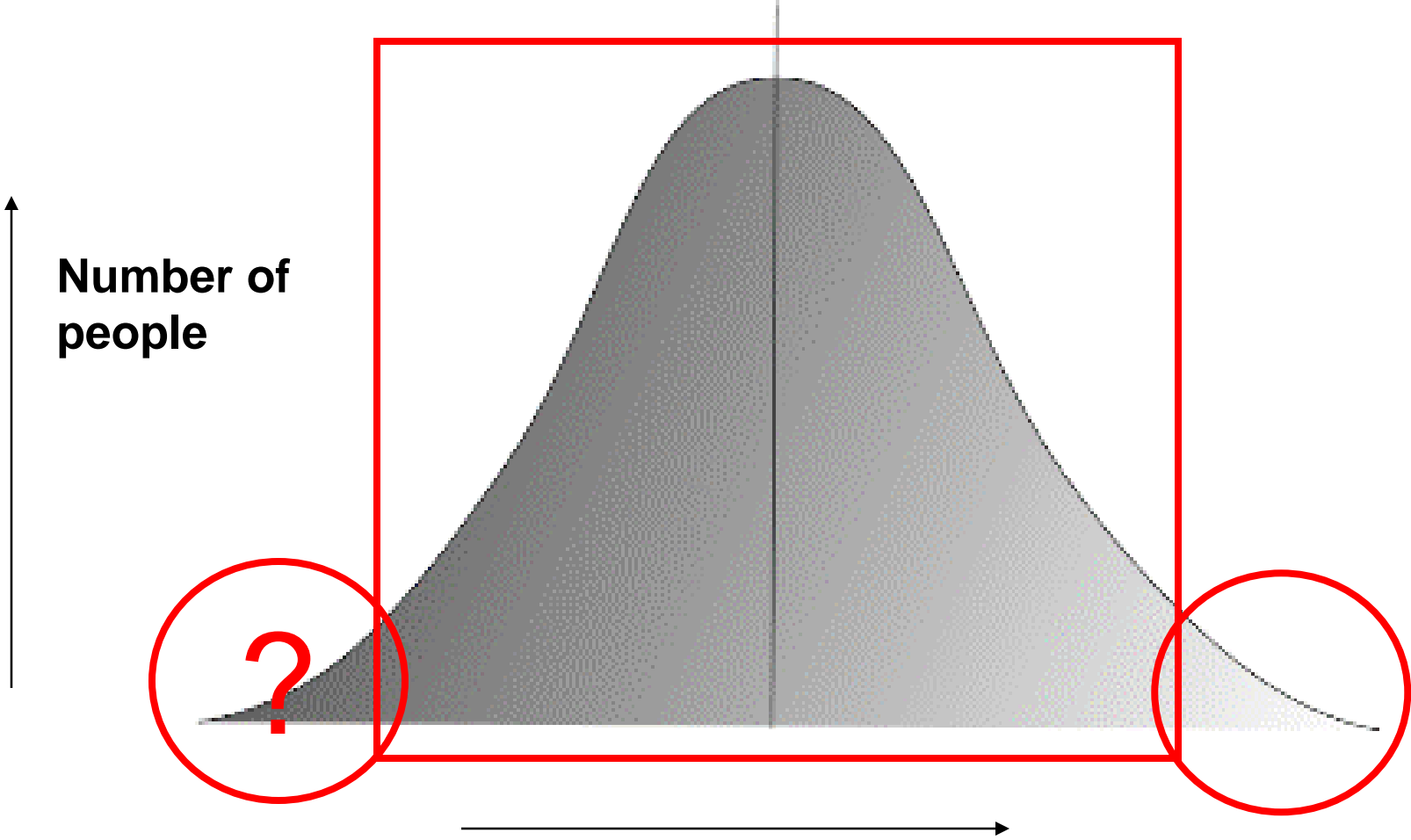
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# Agenda

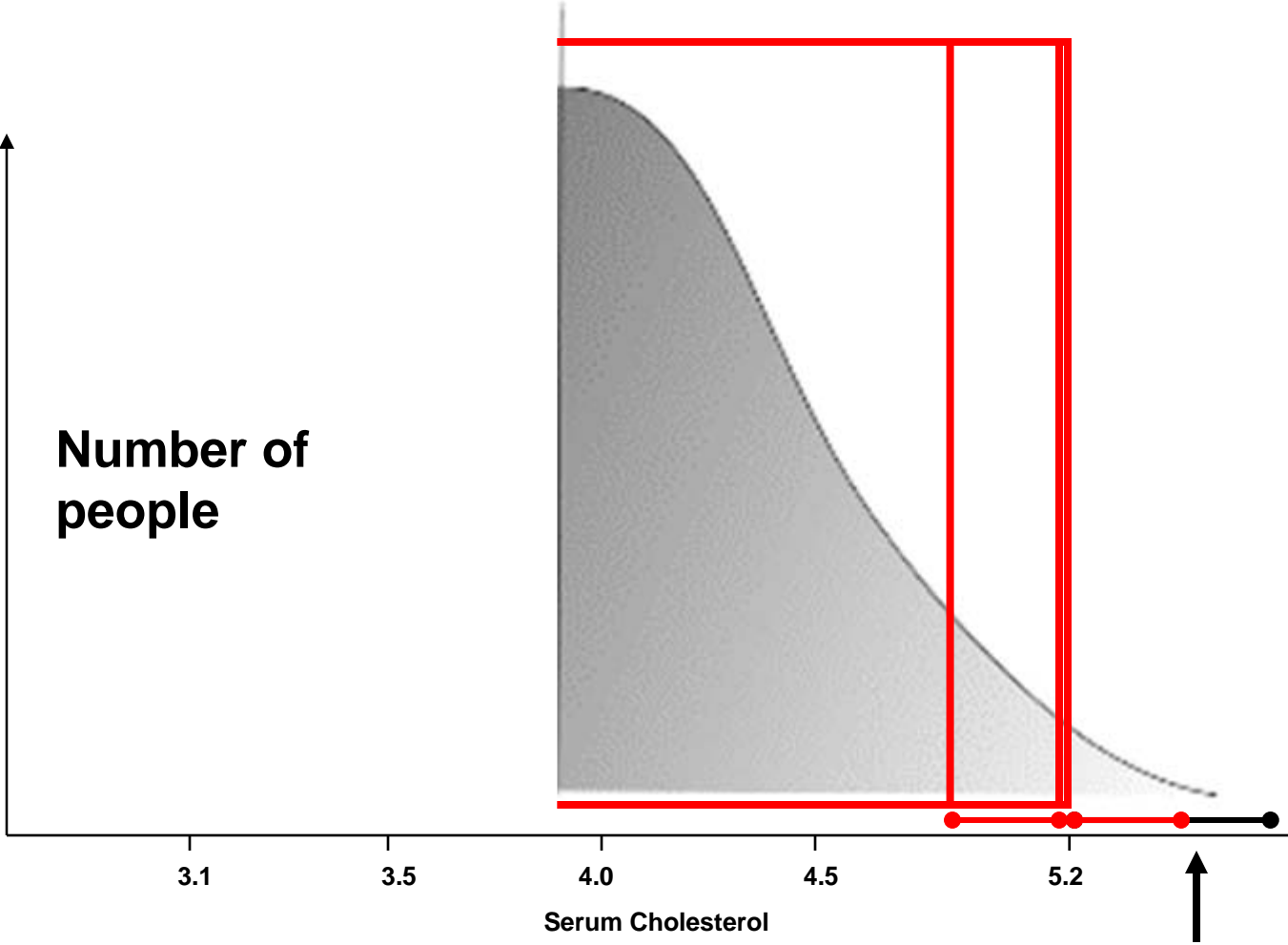
- **Standard pools, standard cut-offs**
- **Preferred Health Criteria**
- **Smokers vs. Non Smokers**

# Standard risk pool



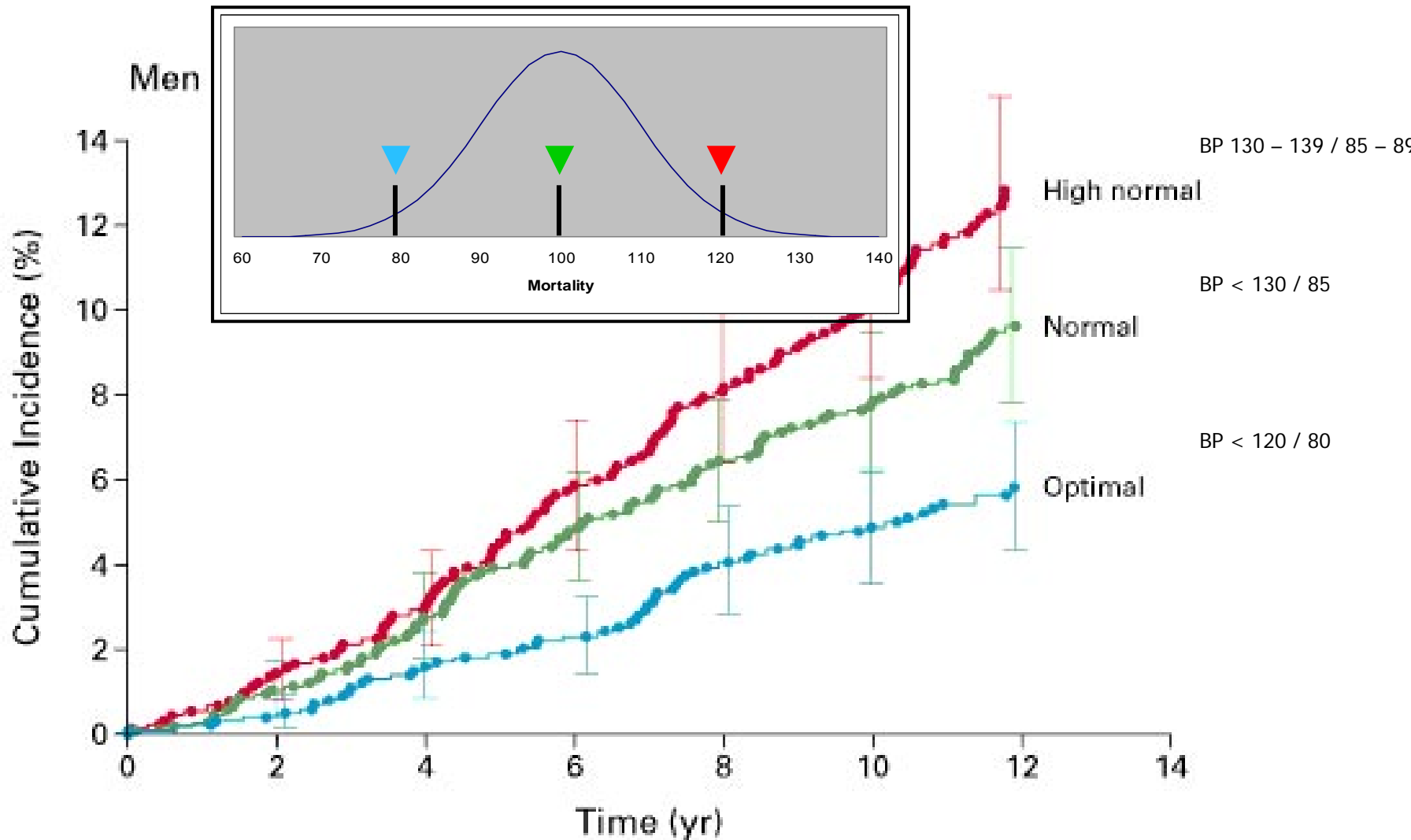
CHEMISTRY		Flags	Ref Ranges
P-Glucose Random	6.0 mmol/L		3.0 - 7.8
S-Gamma-Glutamyltransferase	80 IU/L	H	0 - 32
S-Cholesterol	4.96 mmol/L		3.10 - 5.20

# Standard risk pool

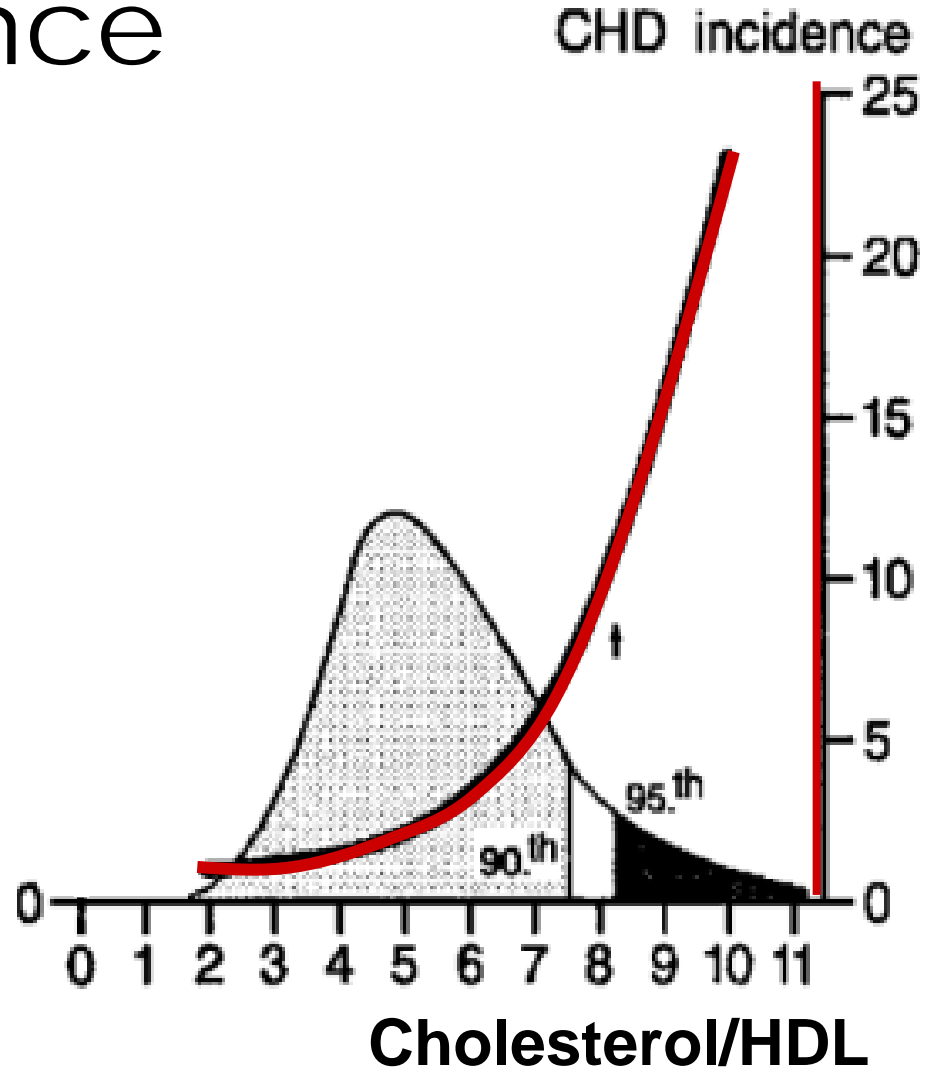


	Ref Ranges
S-Cholesterol	3.10 ~ 5.20

# Blood pressure

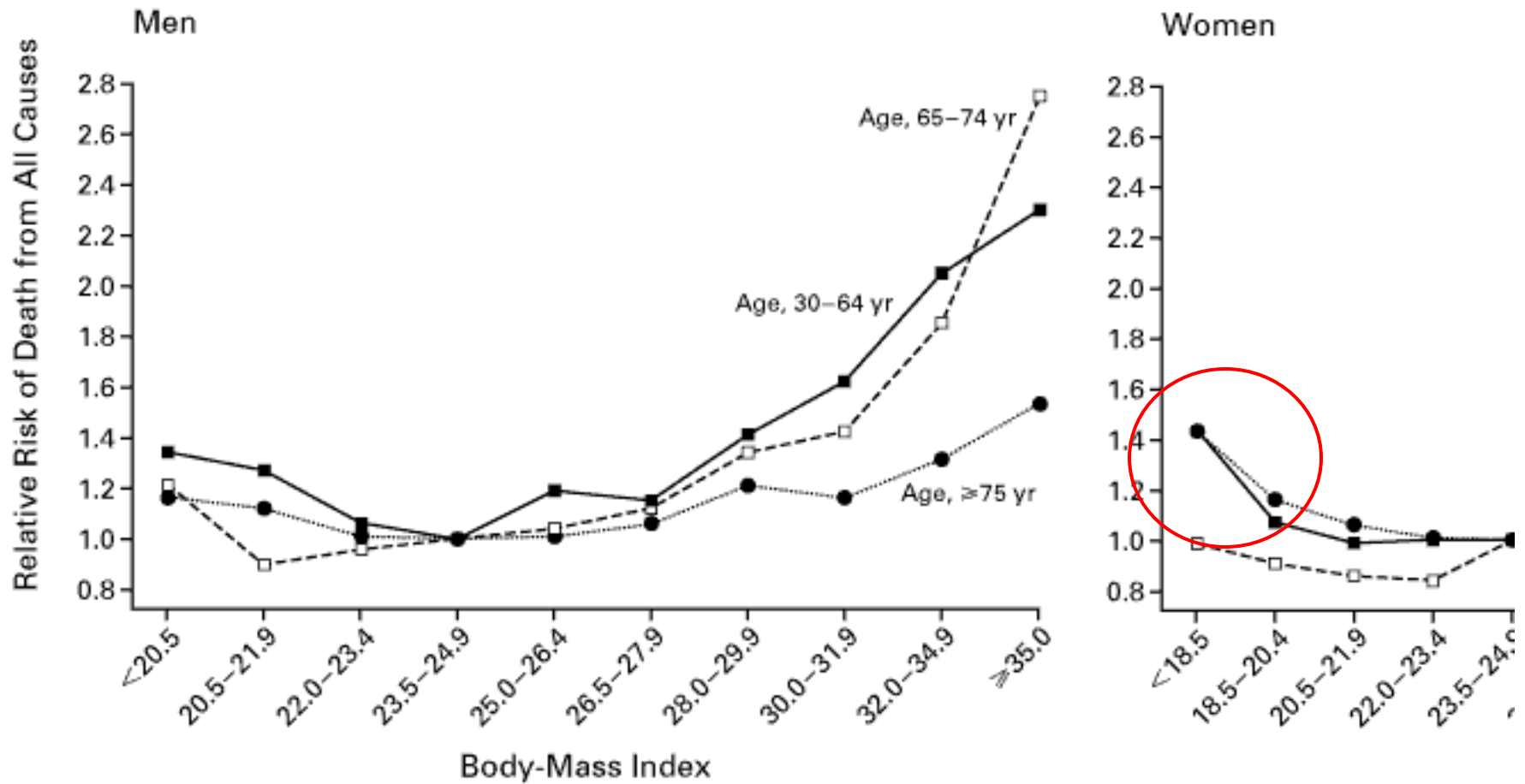


# Cholesterol/HDL Ratio & CHD Incidence



*International Task Force for Prevention of Coronary Heart Disease – (Article) Coronary Heart Disease: Reducing the Risk*

# BMI/Mortality

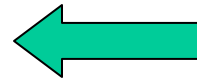


# International Preferred Criteria (SOA)

1. **Cholesterol**
2. **Blood Pressure**
3. **Build/BMI**
4. **Family History**
5. **Driving record**

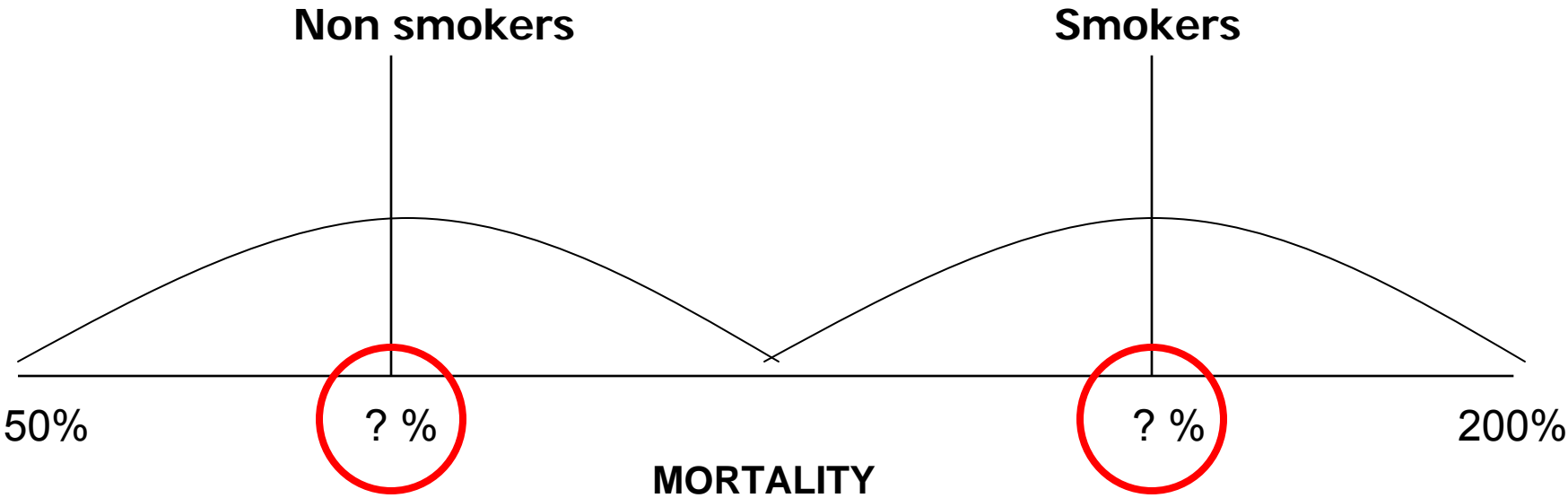
Non-Smokers:

Time since last tobacco used

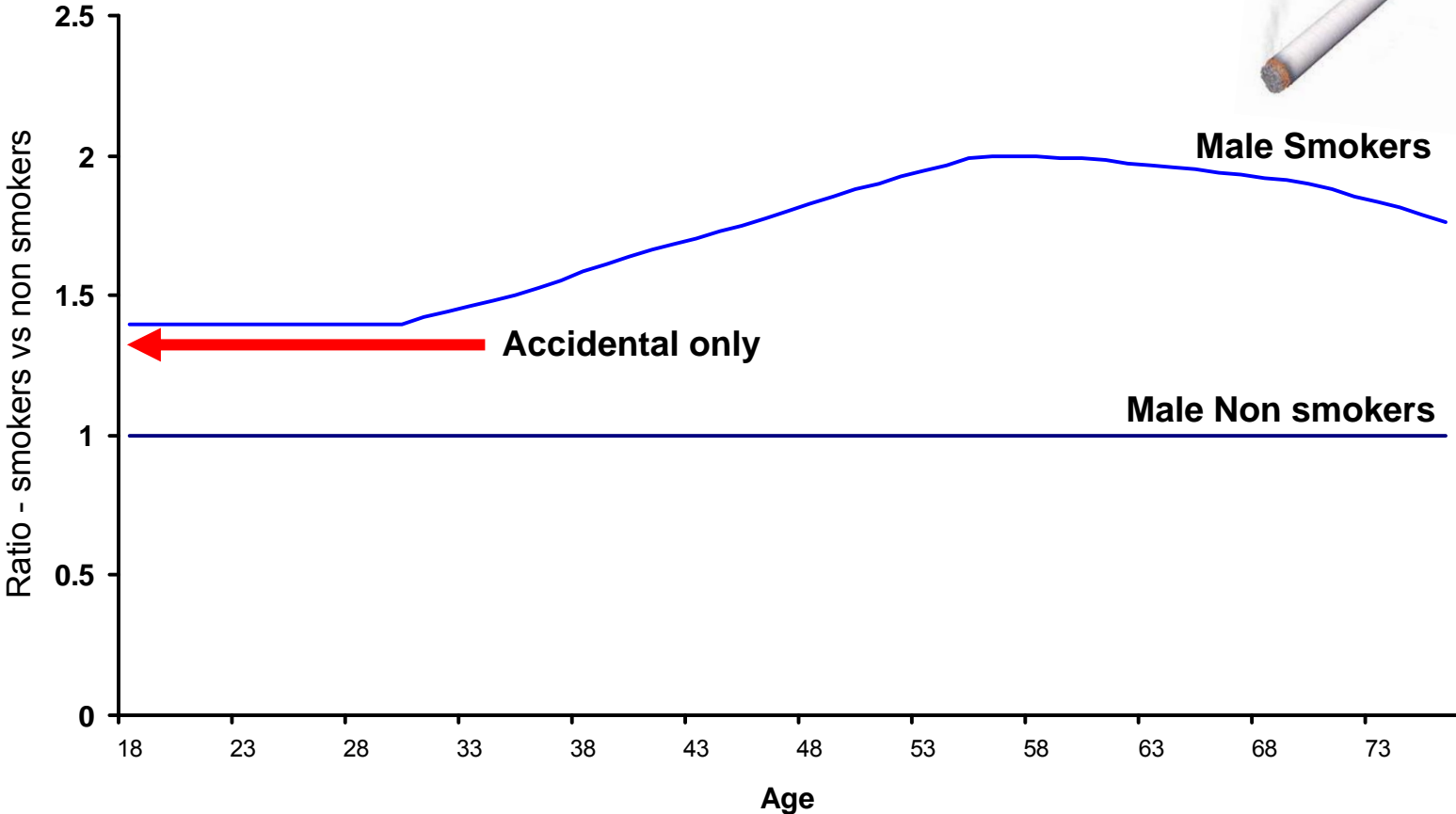




# Segmenting the Risk - Smokers vs. Non smokers



# Smoker death rates - all cause



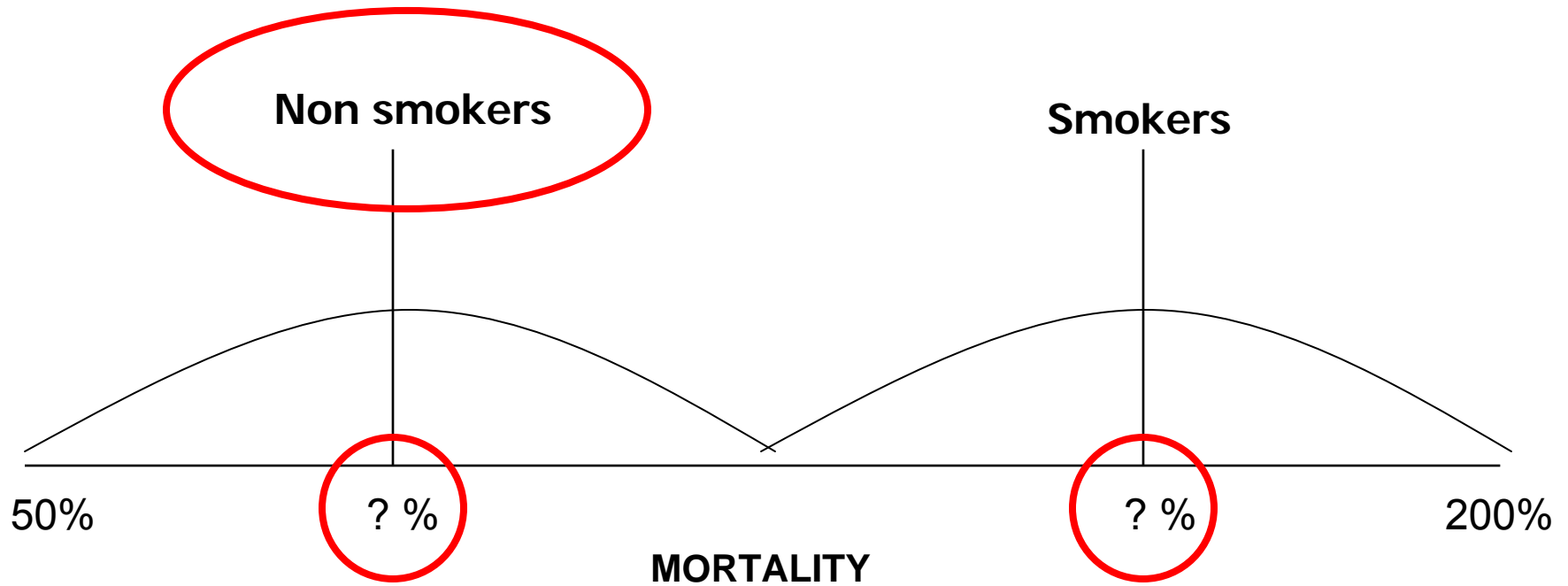
# “Older” Insurance Literature

- **1980 Transactions of the Society of Actuaries**
  - Mortality ratios of 70.3% for nonsmokers and 152.1% for smokers
- **Inter-company study by the Society of Actuaries in the USA on policies issued 1980 - 1989**
  - Mortality ratios of 66% in non-smokers and 148% in smokers.

# Smokers vs. non smokers : insurance vs. clinical

- The death rate ratios during 1971-91 (comparing continuing cigarette smokers with life-long non-smokers) were approximately threefold at ages 45-64

# Possible discrepancy

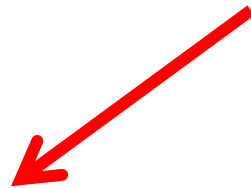


# What is a non smoker?

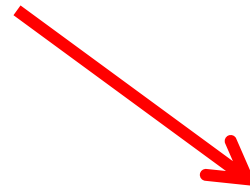
Have you smoked tobacco or any other substance in the last 12 months?

Yes  No

**Non smoker**



**“Never before”  
non smoker**

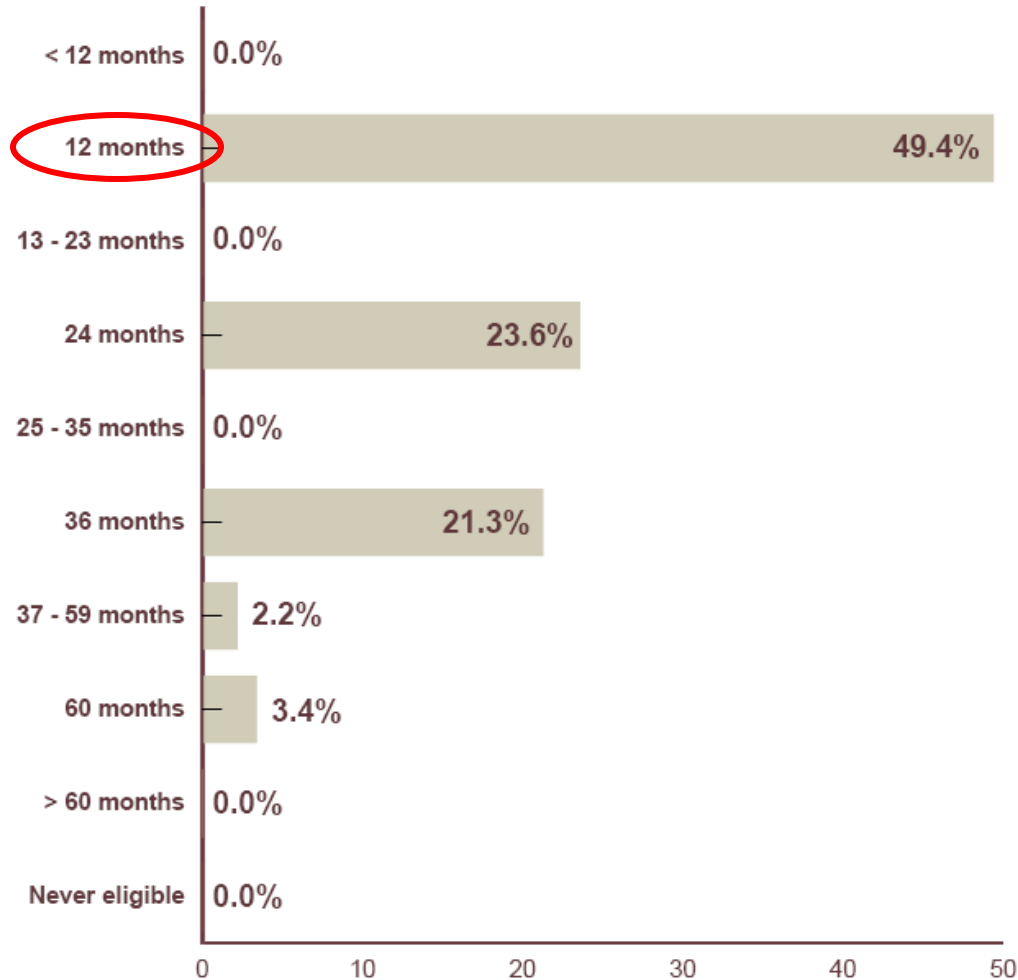


**Ex smoker**

# Segmenting Non Smoker Risk

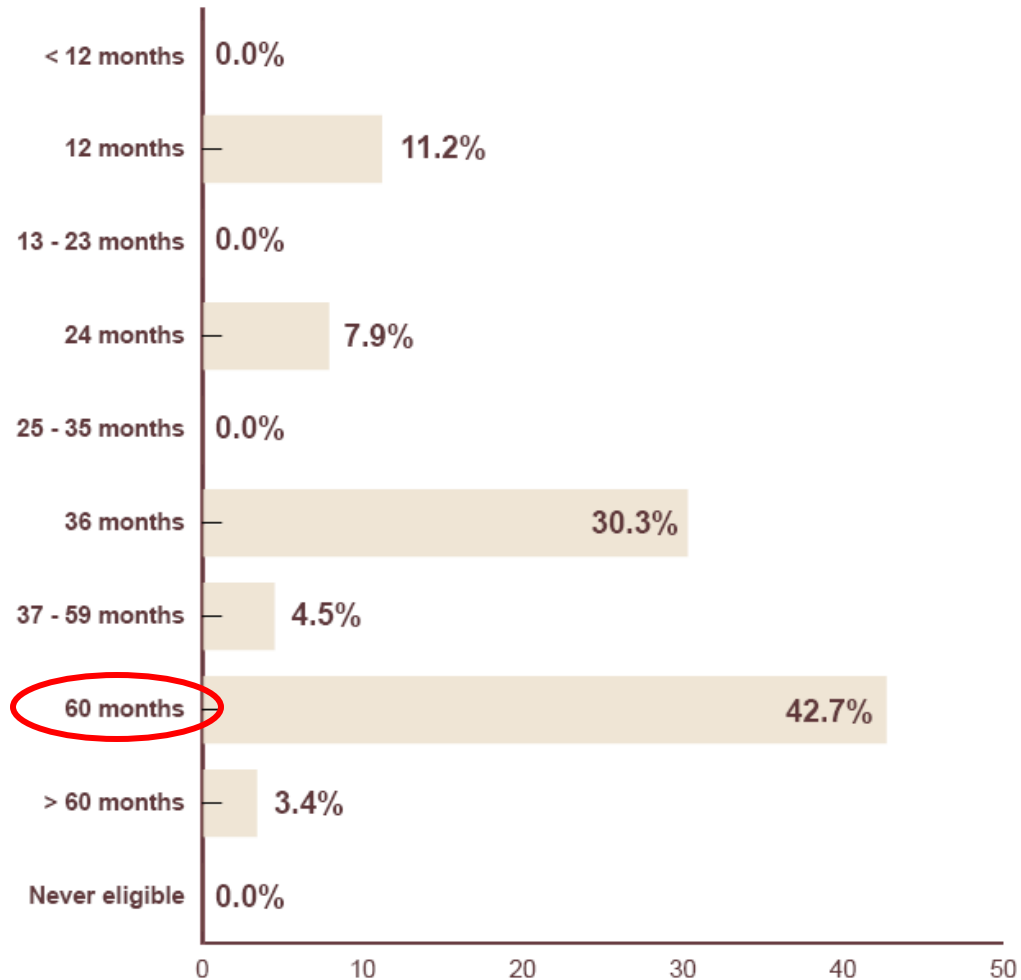


# "How long ... have quit to be in ANY preferred class?"





# "How long ... have quit to be in BEST preferred class?"



# Long term benefits of quitting

- **after 10 years**
  - The lung cancer death rate is about half that of a continuing smoker's.
- **after 15 years**
  - The risk of CHD is the same as a non-smoker's.

*(US Surgeon General's Report, 1990)*

# Smoking Relapse

- Ex smokers abstinent for at least two years
  - **risk of relapse of 2-4% each year within the second through sixth years**
  - **risk decreases to less than 1% annually after 10 years of abstinence**
- Among the ex-smokers who stayed away from cigarettes for two or more years, 19% eventually resumed smoking

*(Nicotine & Tobacco Research Feb 2002)*

# Smoking Cessation studies

- **Intervention Group**
  - Counselling of 5-8 min
  - Nicotine patches
  - Follow up counseling x3
- **The rate of continuous abstinence at 12 months was 20.2% for the intervention versus 8.7% for the control group**

*(Occupational and Environmental Medicine 2003;60:358-363)*

# Smoking Cessation studies



	<b>Nicotine spray</b>	<b>Placebo spray</b>
<b>% (No) who sustained abstinence to 1 year</b>	<b>28.4 (33)</b>	<b>12.6 (14)</b>
<b>Sustained abstinence to 3.5 years (%)</b>	<b>15.4</b>	<b>6.1</b>

*(BMJ. 1998 March 14; 316(7134): 830–831. )*

# Possible discrepancies – a dirty non smoker pool

- **Ex-smokers**
  - Relapse rates
    - Time
    - Method
- **Non Smokers**
  - Non disclosure
  - Claims dilemma

# Questions