

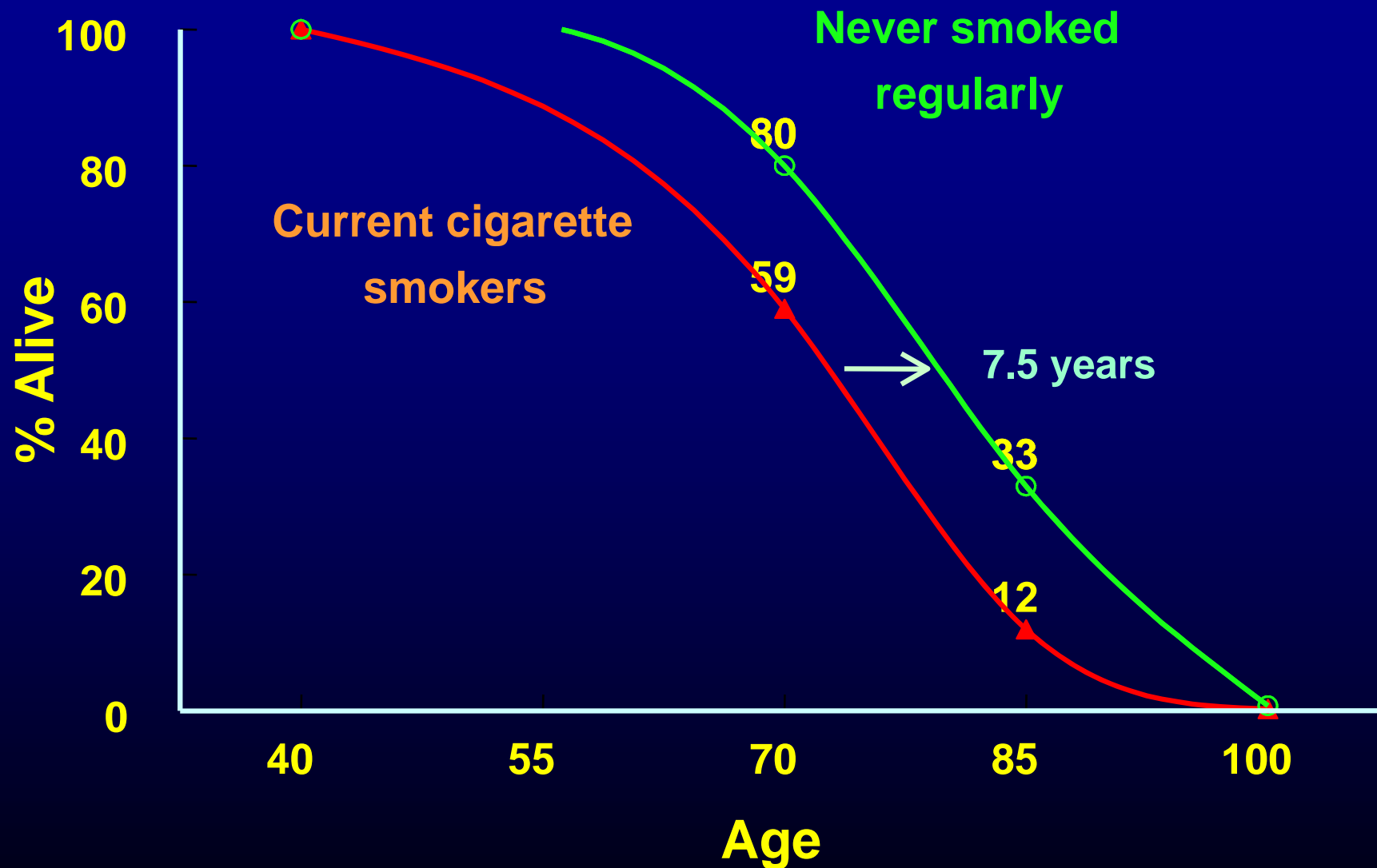
Health risks of smoking

- **Principal fatal diseases caused by smoking are cancer, COPD and CVD**
- **In addition, smoking is an important cause of morbidity**
- **Risks are dose and duration dependent**
- **On average, cigarette smokers lose 7.5 years of life**

Diseases Caused by Smoking: CPSII Study: Men

	<i>Standardised mortality per 100,000 per year</i>			
	<i>Life-long nonsmoker</i>	<i>Current cigarette smoker</i>	<i>Relative risk</i>	<i>Attributable %</i>
Cancer				
Lung	24	537	22.4	87
Upper respiratory	1	27	24.5	89
Bladder	18	53	2.9	36
Pancreas	18	38	2.1	25
Oesophagus	9	68	7.6	66
Kidney	8	23	3.0	37
Ischaemic heart	500	970	1.9	22
Aortic aneurysm	24	98	4.1	48
Stroke	147	328	2.2	27
COPD	39	378	9.7	72
All diseases	788	2520	3.2	40

Overall risk to smokers and never-smokers



Doll et al BMJ 1994

Health benefits of smoking cessation

- Increased longevity
- Stabilisation of lung cancer risk (but not absolute decline)
- Heart disease risk declines towards non-smoker level over 10 years
- Accelerated decline in lung function reduced
- Improved reproductive health
- Improved recovery from surgery

Effects of quitting

- 20 mins: blood pressure and pulse rate return to normal
- 8 hours: blood nicotine & CO halved, oxygen back to normal
- 24 hours: CO eliminated; lungs start to clear mucus etc.
- 48 hours: nicotine eliminated; senses of taste & smell much improved.
- 72 hours: breathing easier; bronchial tubes begin to relax; energy levels increase

Source: Health Education Authority

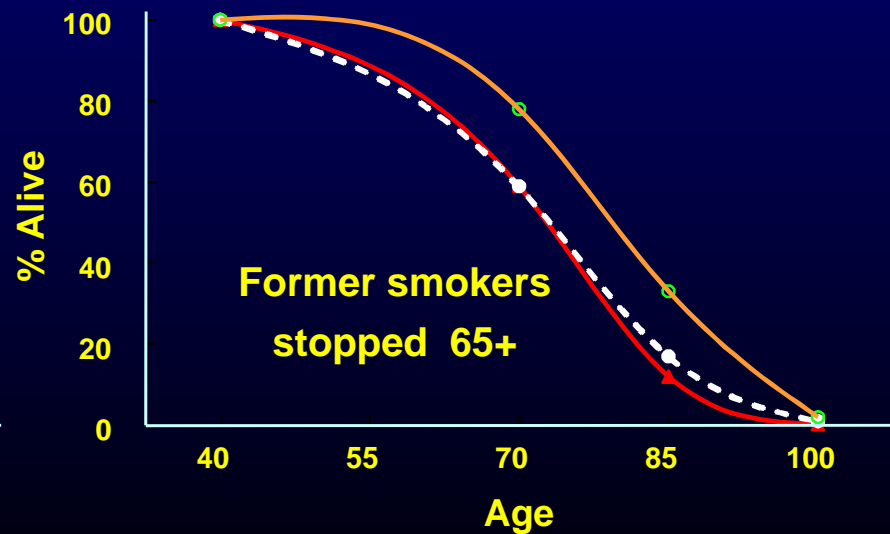
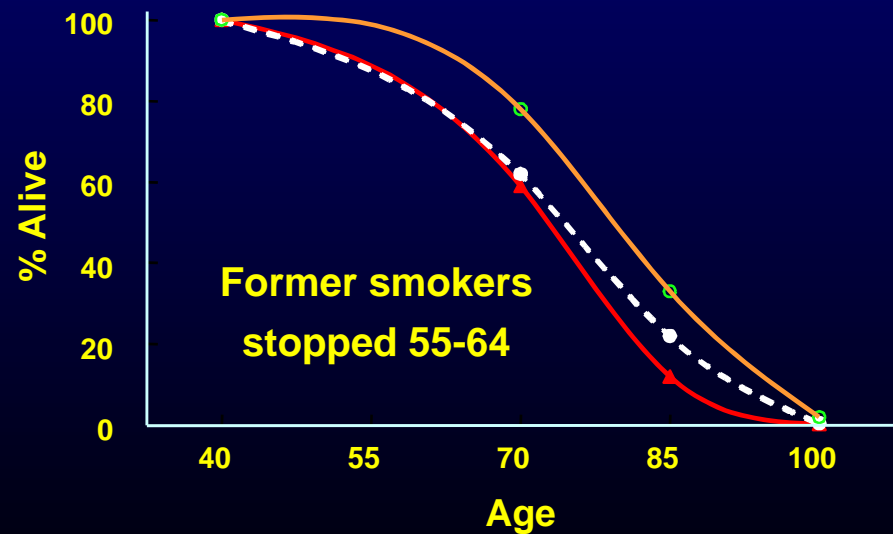
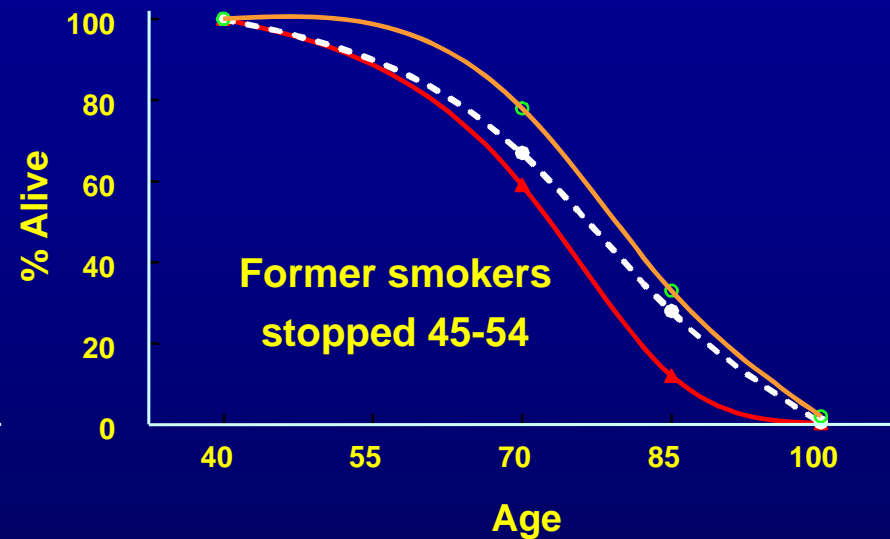
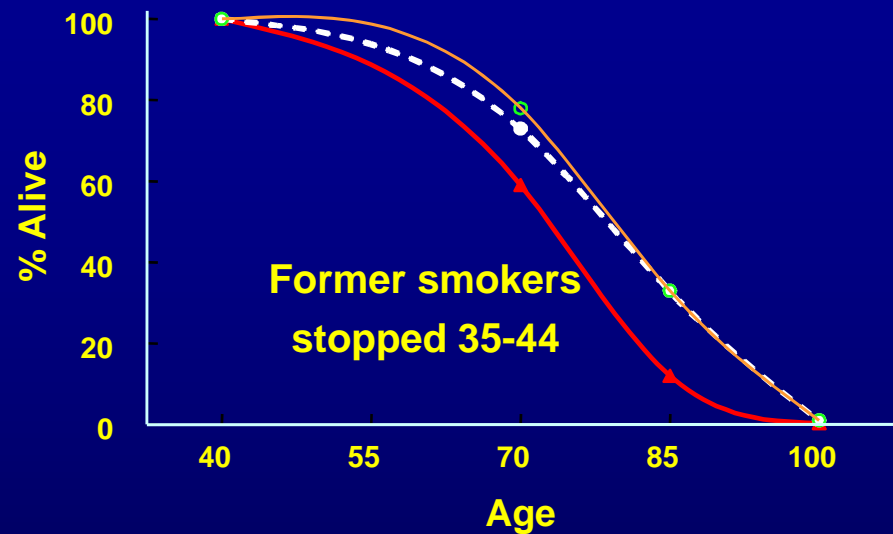
Effects of quitting

- 2-12 weeks: circulation improves.
- 3-9 months: lung function increased by <10%; coughs, wheezing decrease
- 5 years: risk of heart attack halved. :
- 10 years: risk of lung cancer halved compared to continued smoking; risk of heart attack equal to never-smoker's.

Effects of cessation on total mortality

- One half of all cigarette smokers will be killed by smoking (BMJ 1994;309:901-11)
- Those who stop smoking before 35 years of age avoid almost all of the excess risk
- Between the ages of 35 and 69, 41% of smokers will die compared with 20% of non-smokers
- For every five smokers that quit before middle age, one avoids premature death

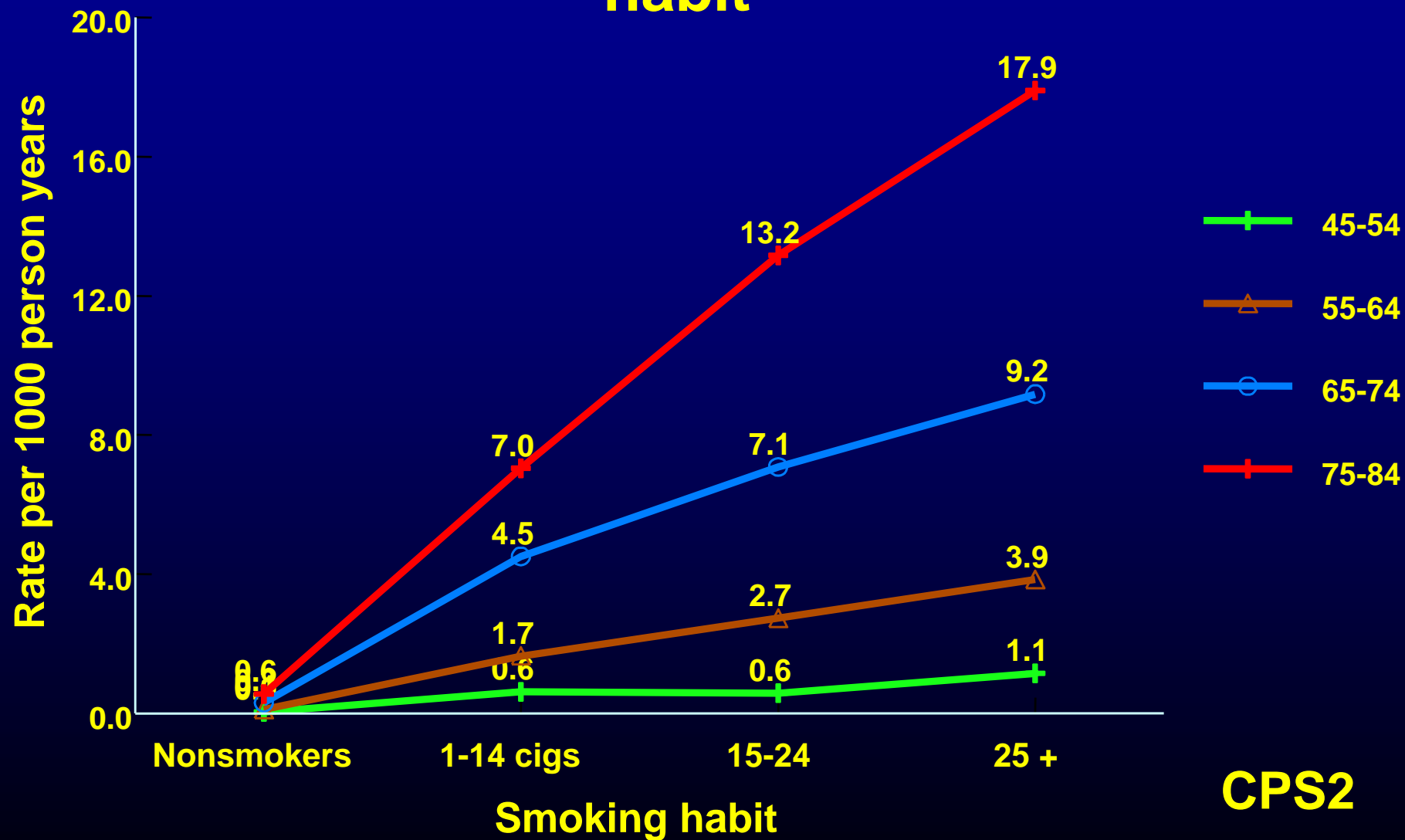
Effects on survival after ages 45, 55, 65 & 75 of stopping smoking in previous decade



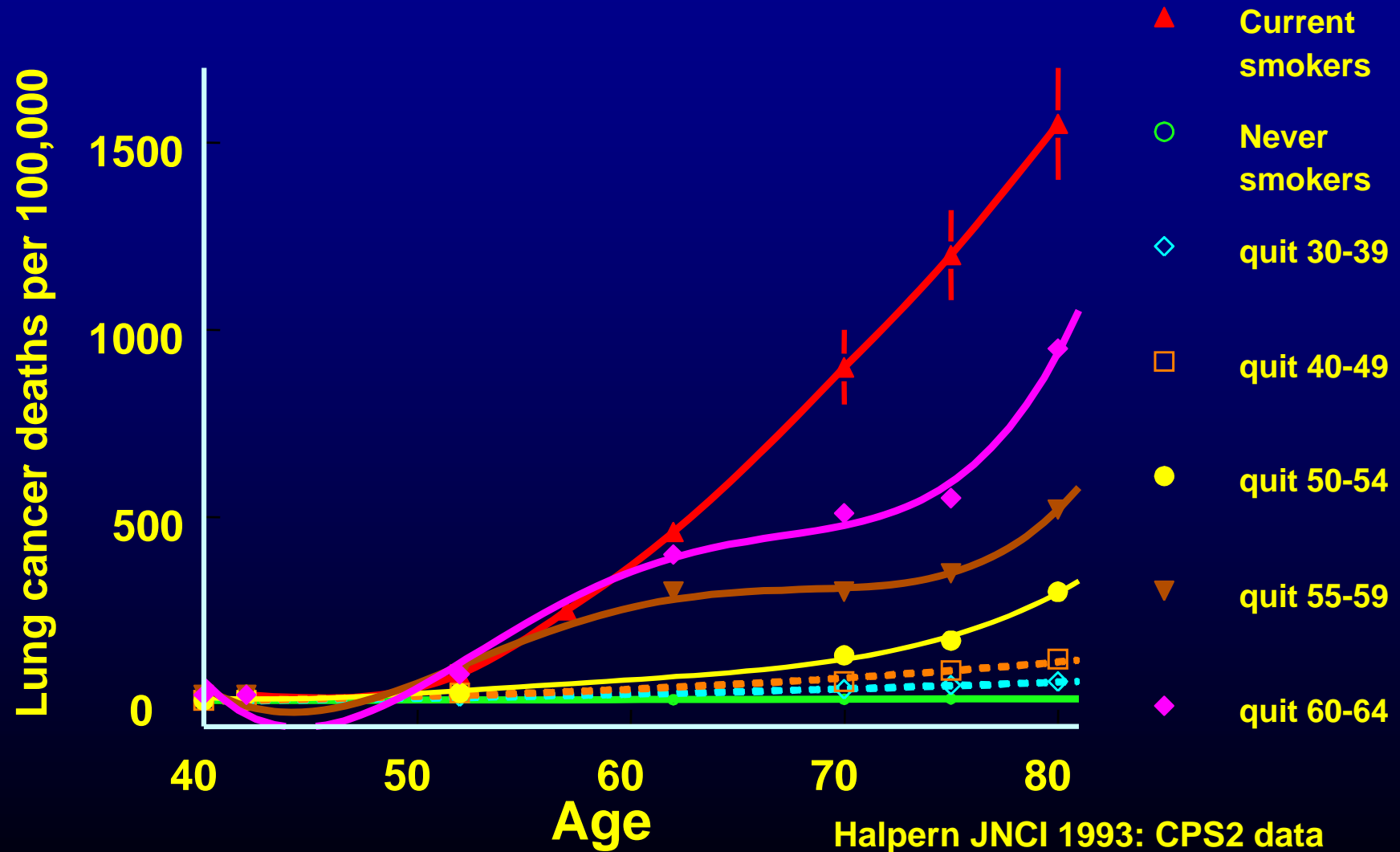
Effects of cessation on cancer

- At age 60, 1 in 17 men or 1 in 24 women that stop smoking may avoid lung cancer
(BMJ 2000;321:323-9)
- At age 50, 1 in 10 men or 1 in 14 women that stop smoking avoid lung cancer
- At age 40, 1 in 8 men; at age 30, 1 in 7 men that stop smoking avoid lung cancer
- Former smokers reduce their incidence of laryngeal, oral cavity & oesophagus, pancreatic, colorectal, and urinary tract cancer

Lung cancer risk by age and smoking habit



Lung cancer risk by age of quitting



Smoking cessation and CHD

“Healthy” smokers

- Mortality risk may take up to 10 years after cessation to reach that of non-smoker;
- Acute myocardial infarction (heart attack) risk declines in only 3-4 years

Smokers with CHD

- Cessation halves risk during 1-13 years of follow-up (Eur Heart J 1999;20:1773)
- One of every five smokers that quits avoids CHD event during 10 years

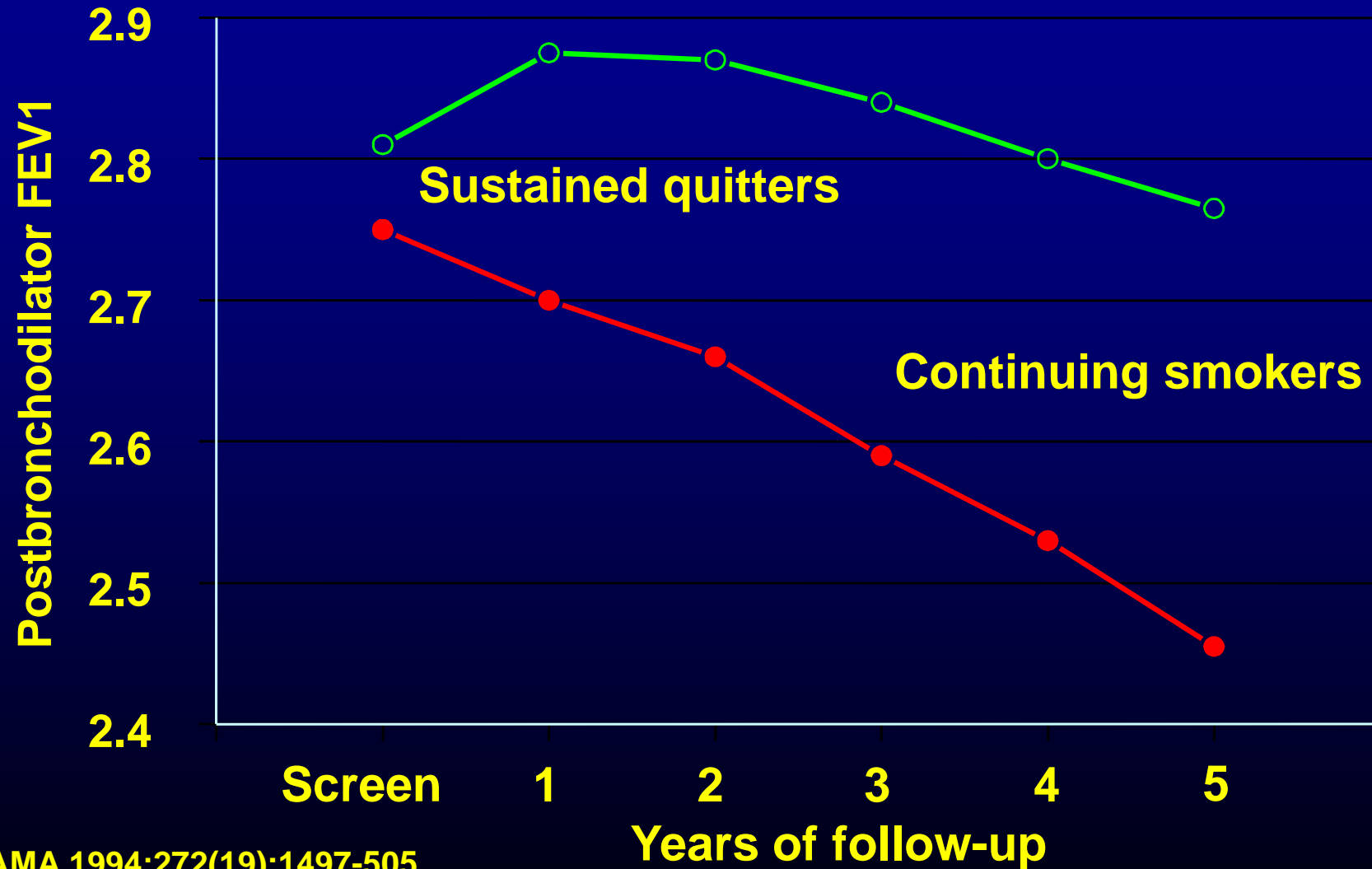
Blood pressure, stroke, renal function

- Blood pressure increased (independently of body weight) after cessation in several long-term studies
- 24-hour BP monitoring showed daytime lowering of BP after 1 week of cessation (Hypertension 1999;33:586)
- Former smokers have decreased carotid artery stenosis compared to current smokers
- Cessation reduces risk of stroke to non-smoker level after 5 years
- Drug treatment of hypertension is less effective in smokers
- Former smokers have less renal function abnormalities than continuing smokers

Pulmonary function

- **Lung health study** (JAMA 1994;272:1497)
 - Randomised
 - Slower decline in pulmonary function in intervention group
 - Fewer respiratory symptoms

CHANGE IN FEV1 BY SMOKING STATUS



JAMA 1994;272(19):1497-505

Effects of cessation on reproductive health

- Women who stop before pregnancy: no adverse effects of smoking on infants
- Stopping between the 1st prenatal care visit and week 32 prevents deficits in infant birth weight, head circumference and brain:body weight ratio but does not completely prevent deficits in crown-heel length or increased ponderal index (Am J Epidemiol 2000;152:219)
- Former smokers have the same prevalence of erectile dysfunction (impotence) as non-smokers

Postoperative complications

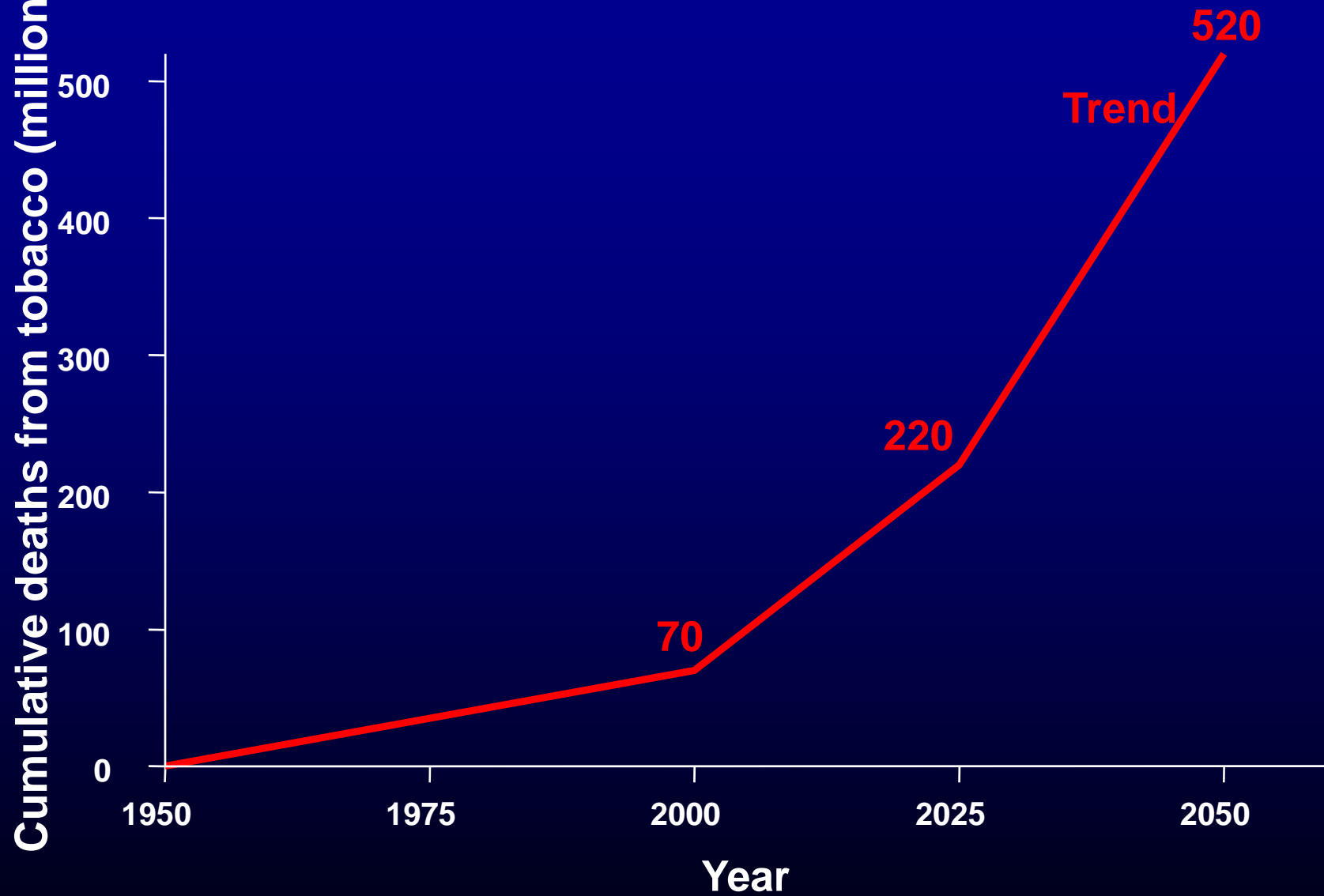
- **Danish study** (Lancet 2002;359:114)
 - Randomised
 - Cessation 6-8 weeks before surgery
 - Fewer wound-related complications, reduced cardiovascular complications and secondary surgery
 - Overall complication rate was 18% in the smoking intervention group and 52% in controls
 - Shorter hospital stay

Other benefits of cessation

- Risk of bone loss, hip fracture and periodontal disease minimised by cessation
- Rheumatoid arthritis risk reduced
- Cataract risk reduced
- Aortic aneurysm
- Peripheral arterial disease
- Others

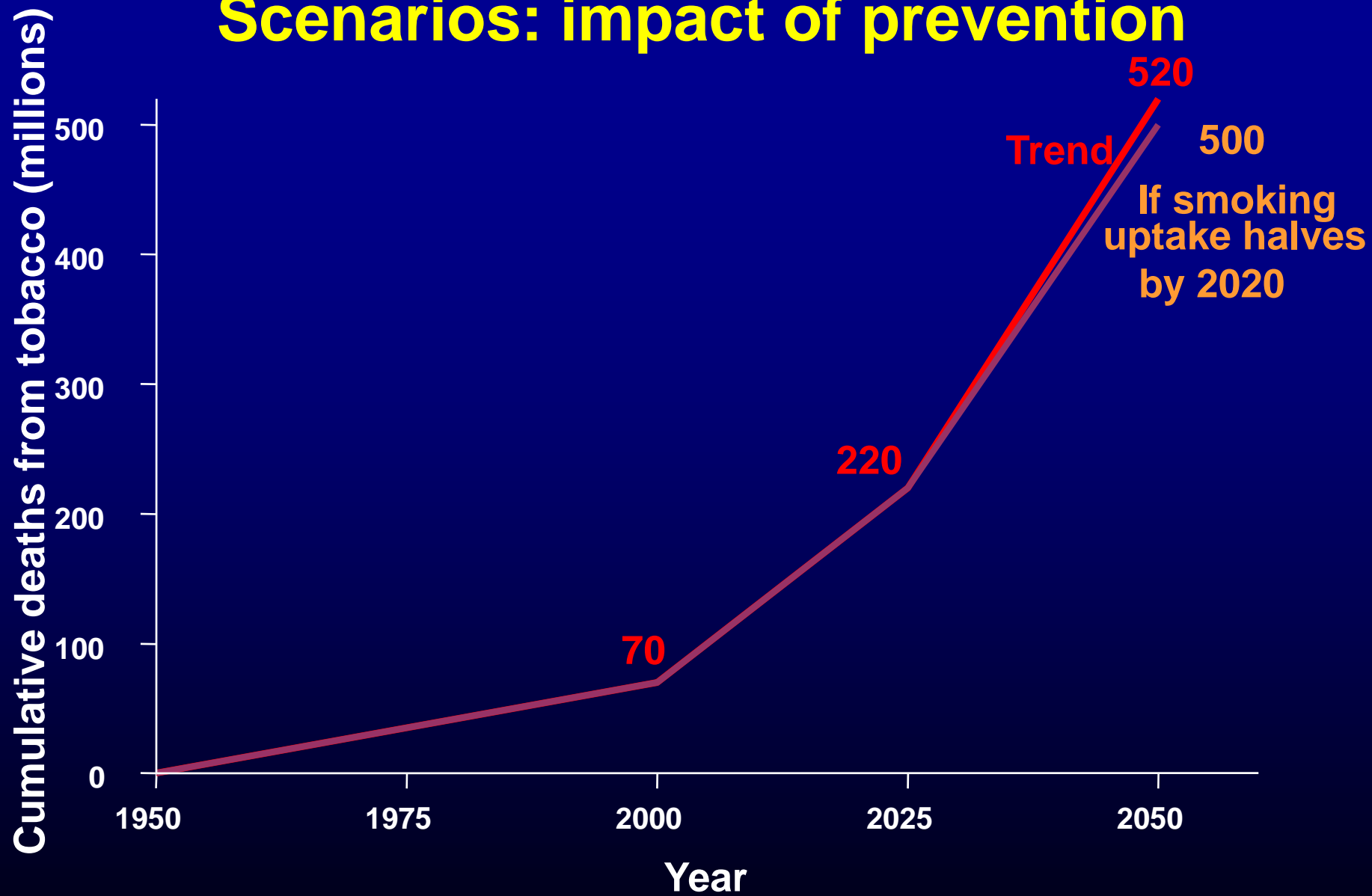
The central role of smoking cessation
in limiting global smoking-attributable
mortality over the next 50 years

Scenarios for future deaths from tobacco



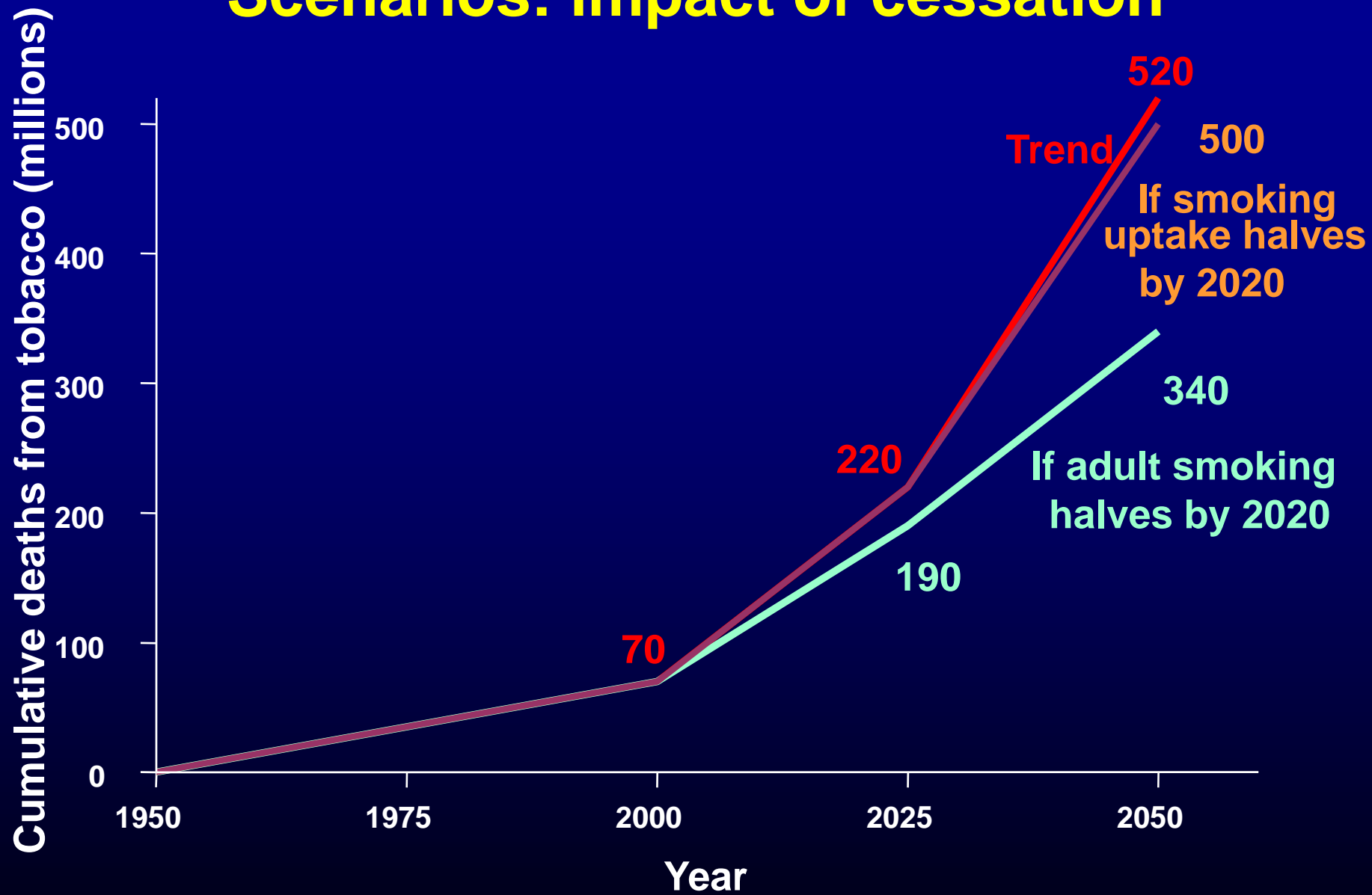
Source: Peto et al

Scenarios: impact of prevention



Source: Peto et al

Scenarios: impact of cessation



Source: Peto et al