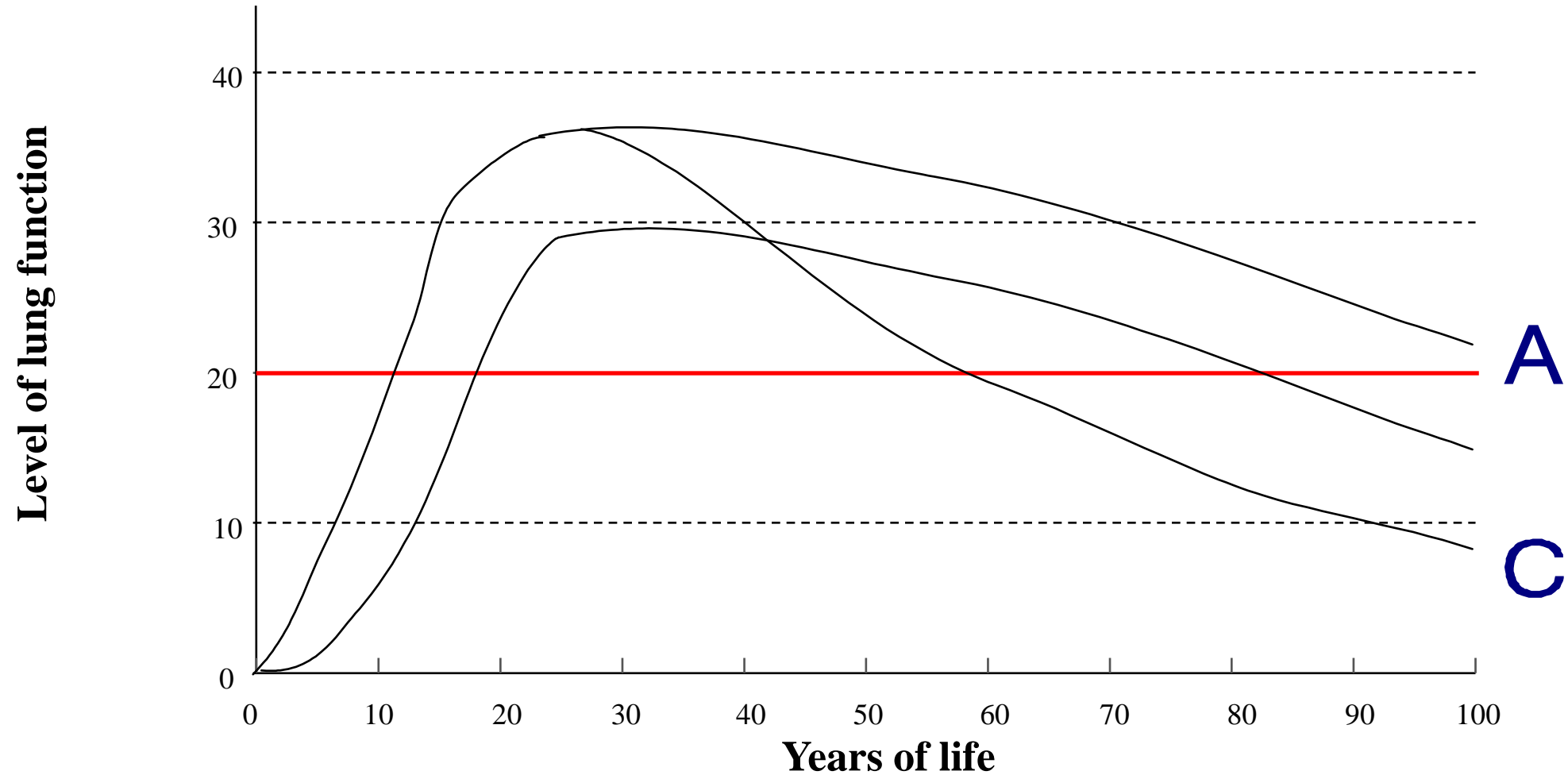
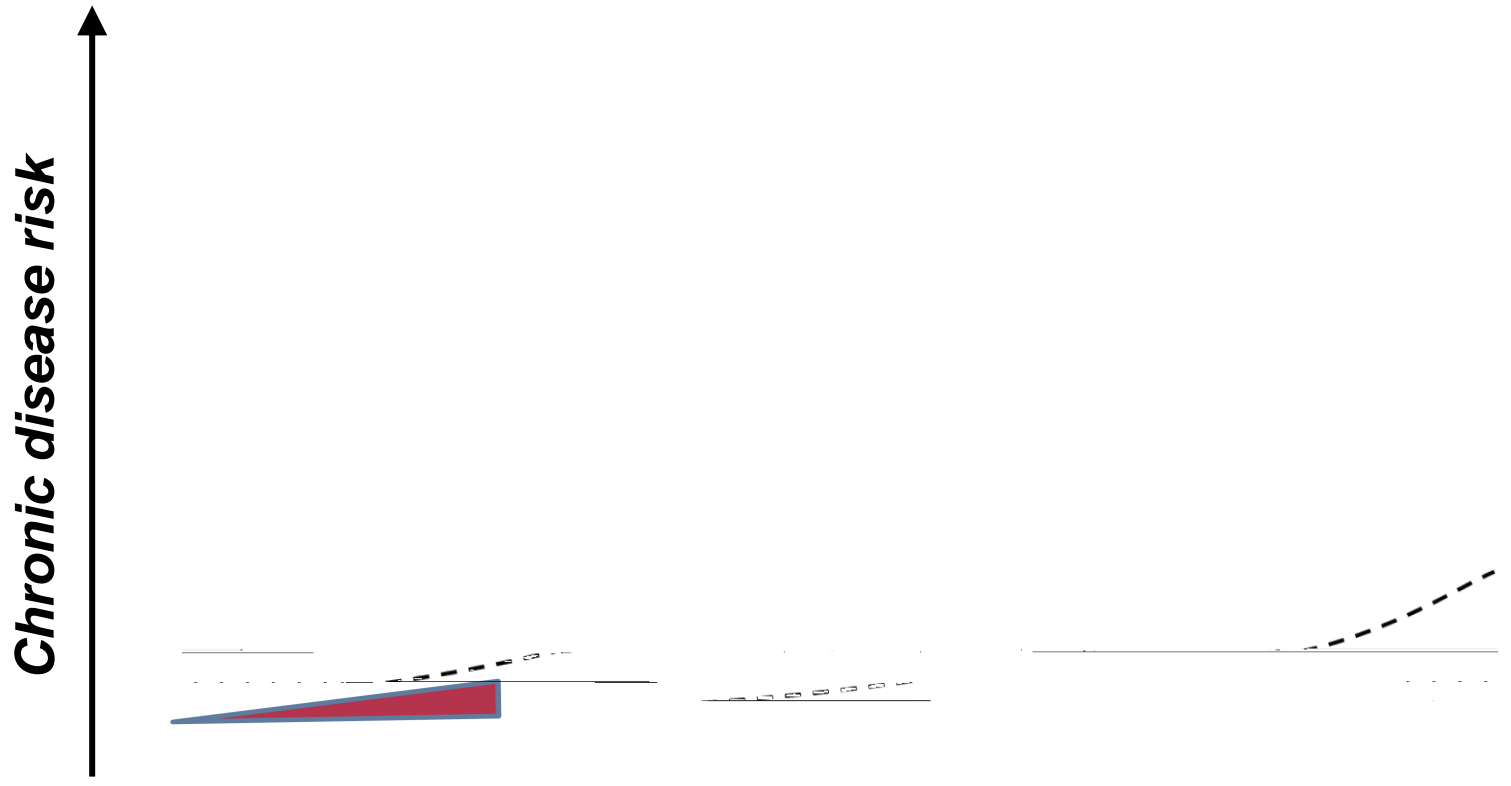




UCI

# Health or Functioning Trajectories      Development & Decline





which interact with each other. Individuals' biological development takes place

Life course epidemiology is defined as the study of long term effects on later health or disease risk of physical or social exposures during gestation, childhood, adolescence, young adulthood and later adult life.

Temporality - establishing the timing of events before & after associations.

Biological development & decline different responses depending on when events occur

Historical - changes in social norms over time influence behaviours, social re

0 0 1 94.224 14.

# Socially critical periods in human development

Transitions into and through education

School examinations

Entry to labour market

Leaving parental home

Establishing own residence

Transition to parenthood

Job insecurity, change, or loss

Onset of chronic illness

Exit from labour market

# Lifecourse epidemiological models

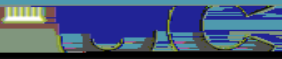
Critical or sensitive periods

Accumulation of risk

Pathways or chains of risk

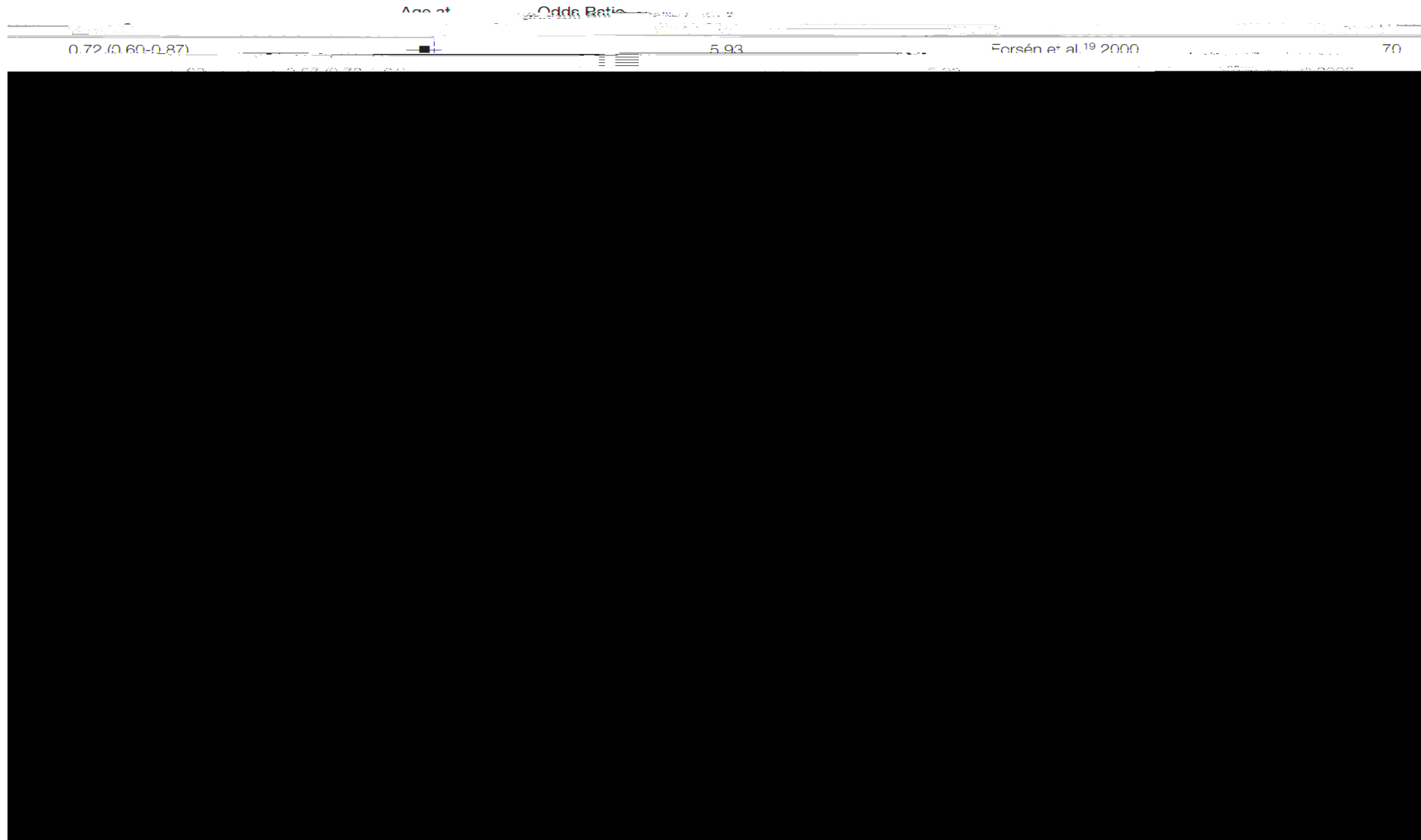








Meta-analysis: birth weight significantly inversely associated with development of type 2 diabetes, not explained by social class.

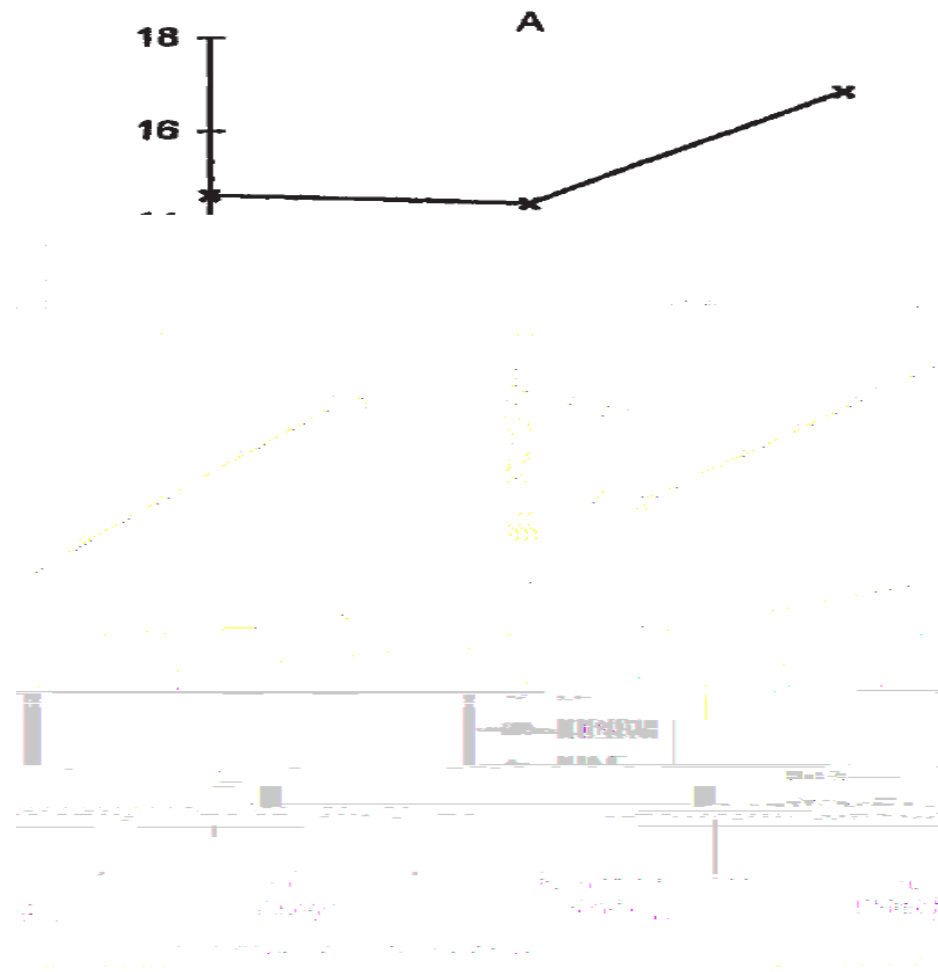




# Effect modification

(later life) factor e.g. social context

# Prevalence of high total difficulties, hyperactivity and peer relationship problems by social class and birthweight tertile





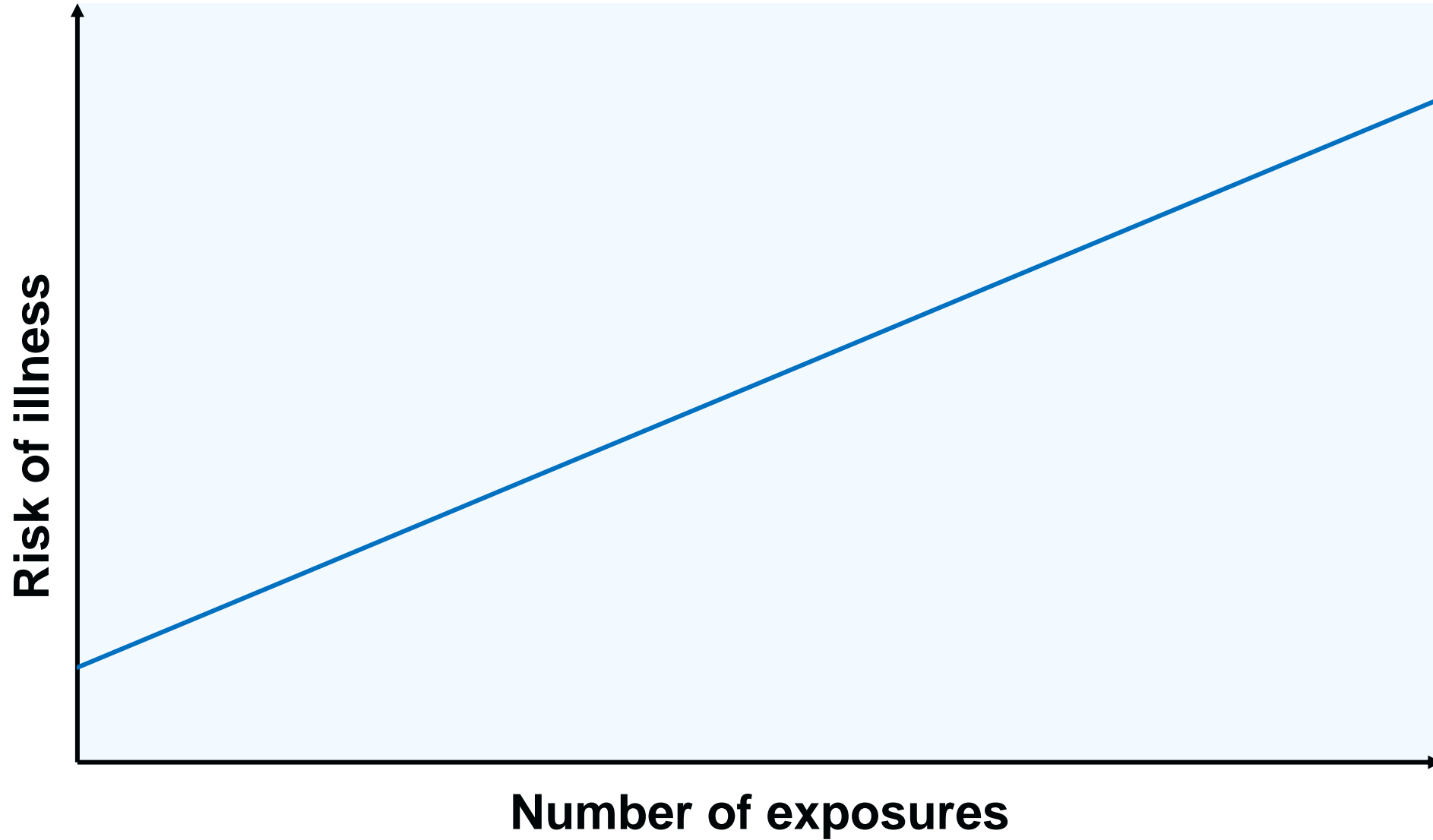


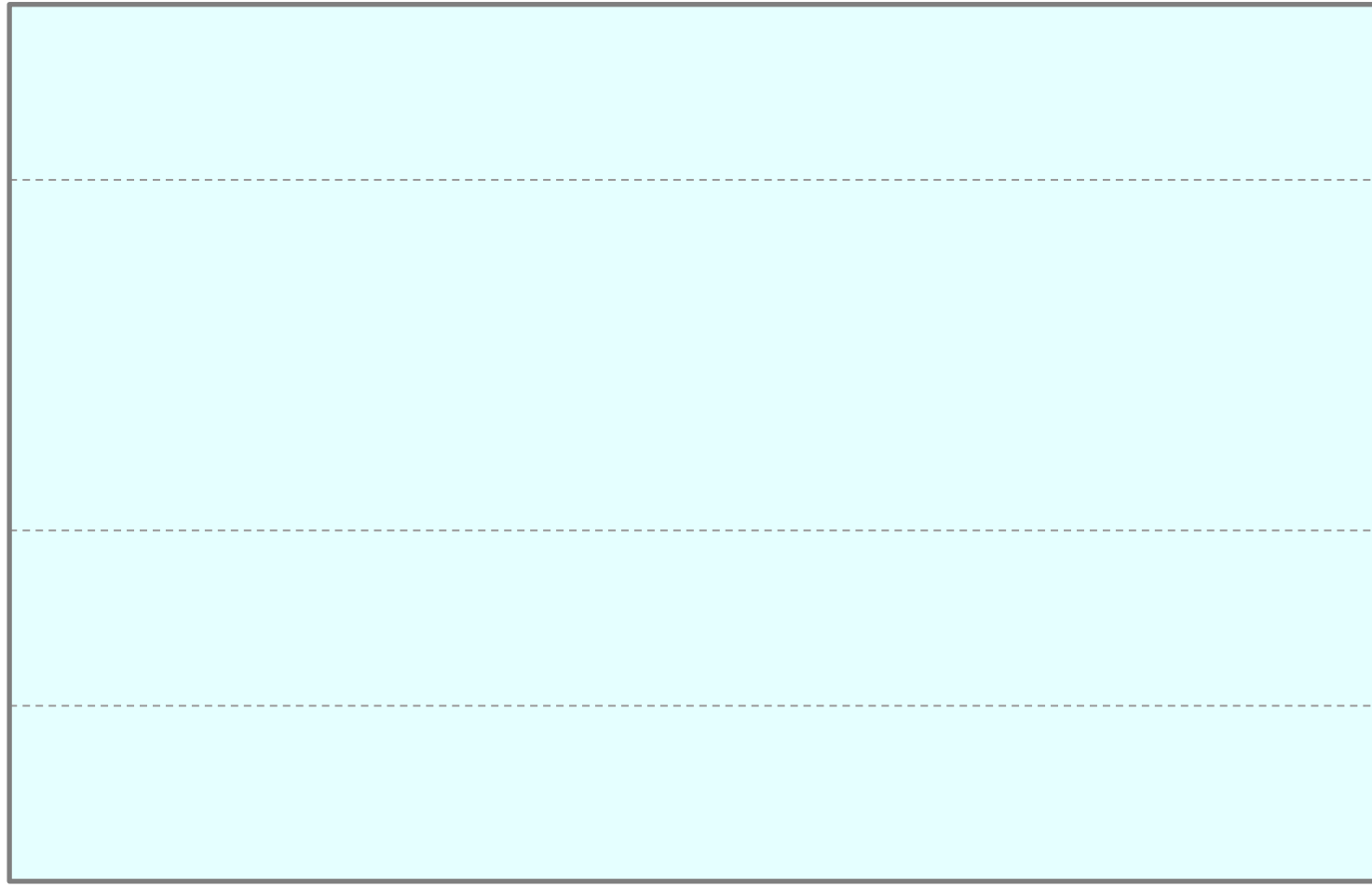
## Accumulation of risk

Life course exposures or insults gradually accumulate through episodes of illness and injury, adverse environmental conditions and health damaging behaviour

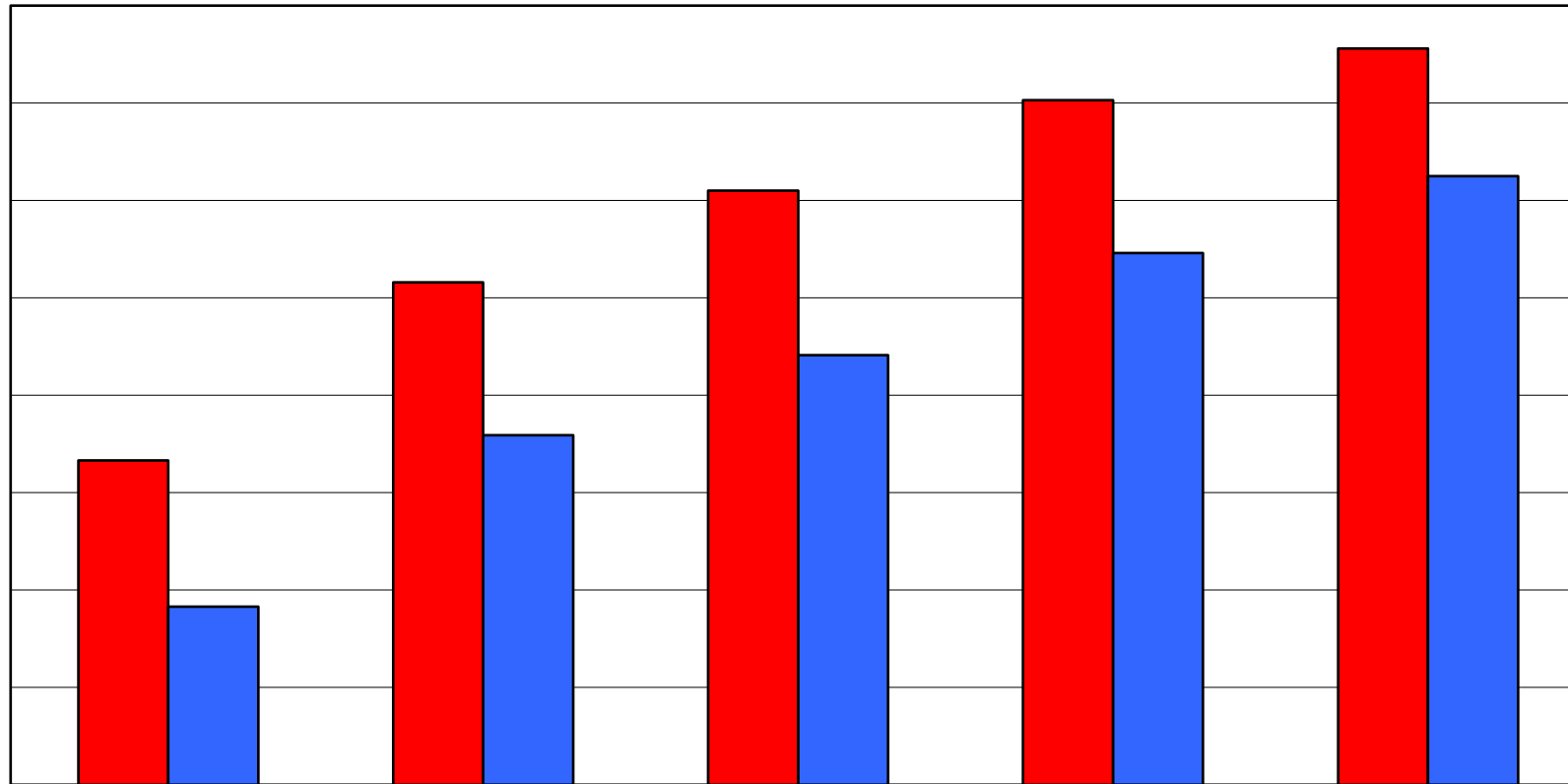
Kuh et al *JECH* (2003)

# Accumulation

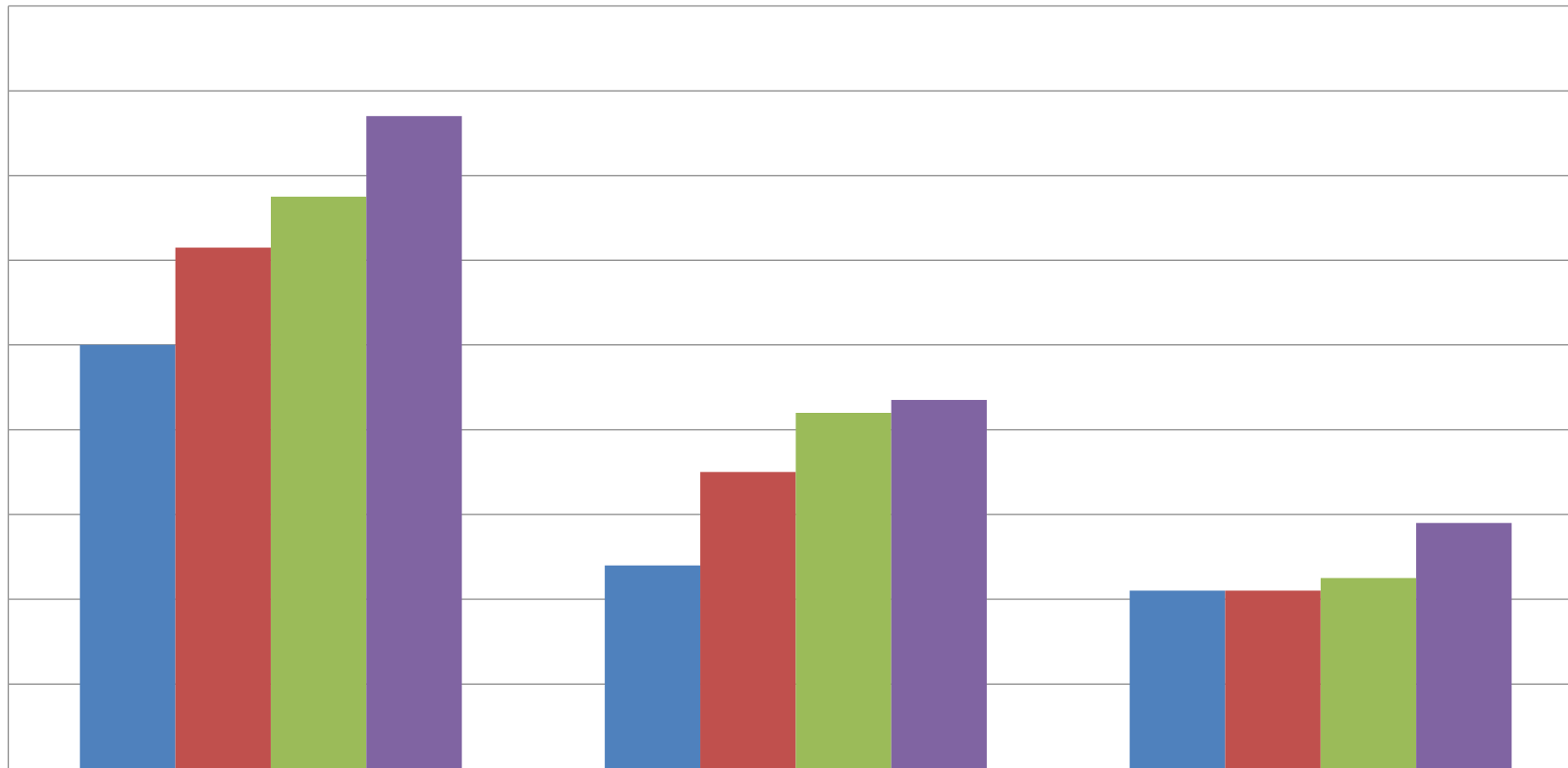


A large, light blue rectangular area with a thin dark border. A single horizontal dashed line is drawn across the middle of the rectangle, dividing it into two equal halves. This area is intended for writing or drawing.

# Disadvantaged trajectories and smoking status of women aged 22-34, England, 1998-2002



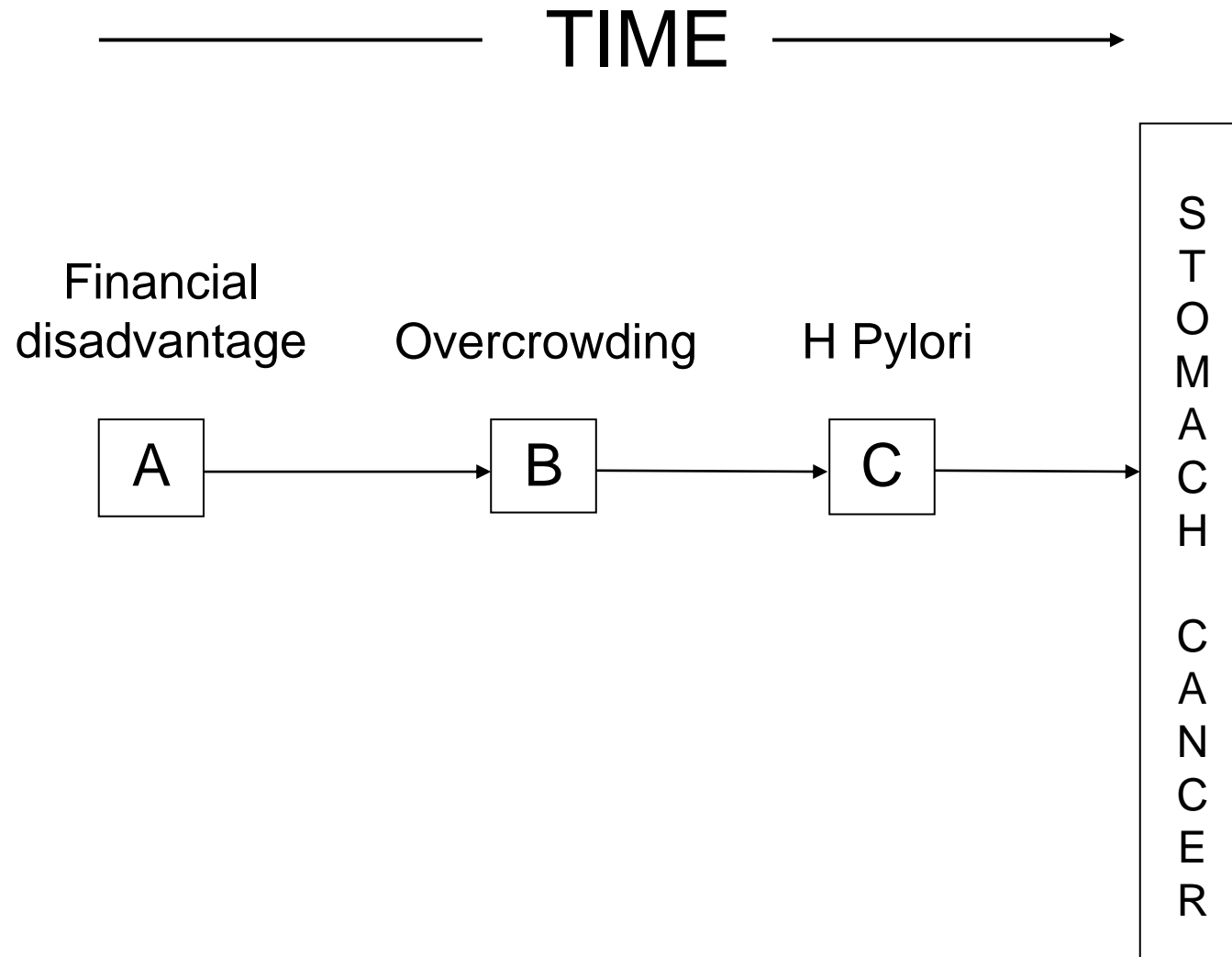
# Mortality by occupation of father and own occupation at 2 time points in adulthood



## Pathways/chains of risk

behavioural change it brings about than in the fact it sets into motion a

# Chains of risk model

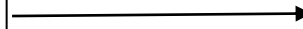


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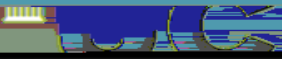
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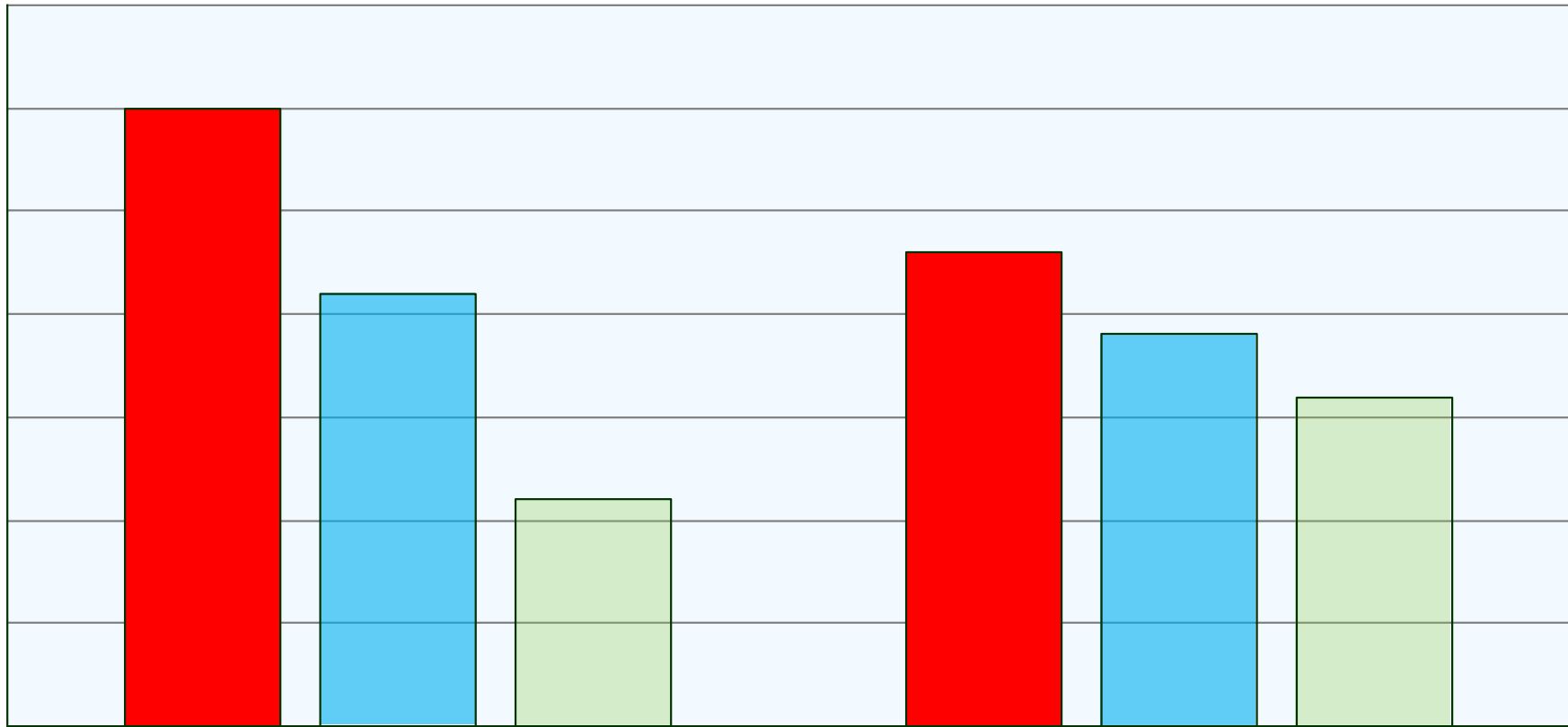
B

C









**The UK is world-leading in its wealth of data sources that follow people over their lives.**

**Birth Cohort Studies:**

**National Survey of Health & Development (NHSD)  
(born in 1946)**

# Cigarette smoking in pregnancy: its influence on birth weight and perinatal mortality

No. of cigarettes smoked per day	Death rate / 1000	Birth weight (kg)
0	32.0	3.386
1 - 4	38.5	3.295
5 - 9	42.2	3.204
10 - 19	41.6	3.208
20 - 30	41.2	3.175

# Smoking in pregnancy

It also increases the risk of complications

Smoking in pregnancy causes up to 10% of premature births, respiratory problems and stillbirths in the UK

pregnancy causes

up to

premature births

premature

respiratory

and stillbirths

in the UK

Public Health England (2016), Health matters: giving every child the best start in life.

Requires information on same individuals (and their families) from across the whole lifecourse expensive: time and money.

Missing data attrition can cause study to be biased or under-powered

Measurement: changes over time; error/imprecision; unmeasured factors

