

Measuring the health of the nation: how is the UK doing in saving lives?

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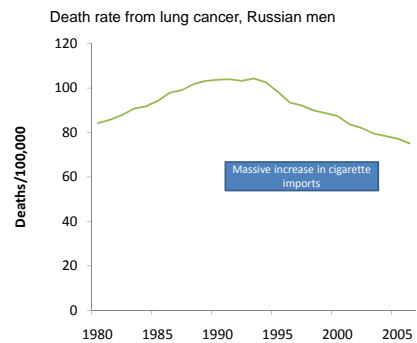
Before we start: A few methodological caveats

- International comparisons complicated by:
 - Variable boundaries
 - England, England and Wales, Great Britain, United Kingdom
 - Incompatible data
 - Surveys with different inclusion criteria/ different questions/ different times
 - Coding practices
 - Lack of data
 - What has been happening to mortality in Belgium since 1997?
 - ... or Denmark since 2001
 - Would governments accept a situation where economic data were over a decade out of date?

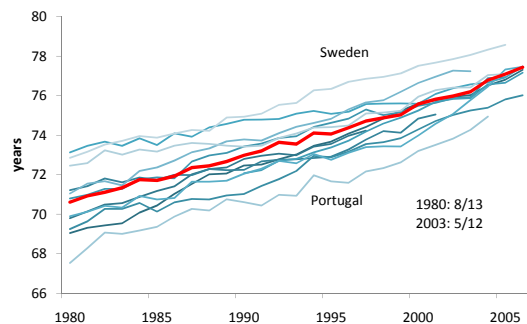
... a few more

- Timeliness
 - 5-year cancer survival, by definition, is only available more than 5 years after the patient received their initial treatment
 - Mortality data take time to collate
- Denominators
 - Census data
 - Often out of date
 - Missed substantial numbers in some parts of the UK
 - Challenge of increasingly mobile populations

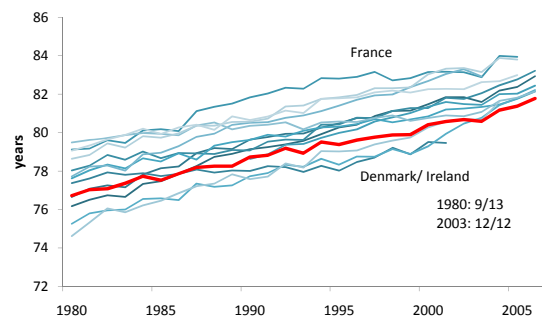
Attribution – the importance of cohort effects



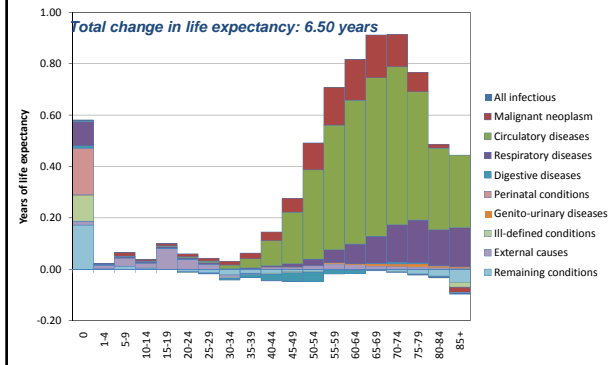
Male life expectancy at birth: EU14



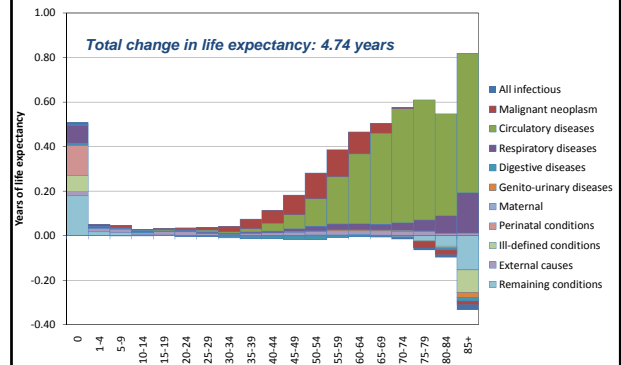
Female life expectancy at birth: EU14



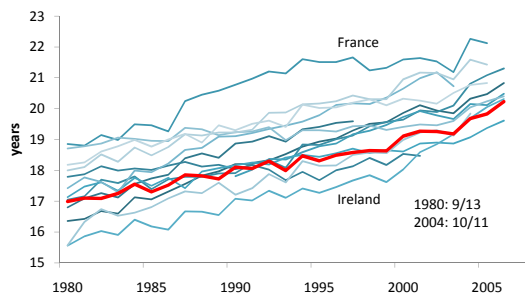
Contribution of changes in deaths by cause and age group 1980-2005: UK men



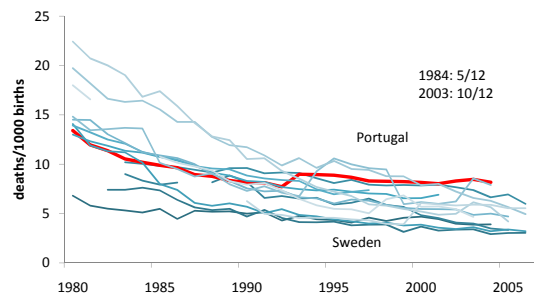
Contribution of changes in deaths by cause and age group 1980-2005: UK women



Life expectancy at birth: females age 65 – EU14



Perinatal mortality

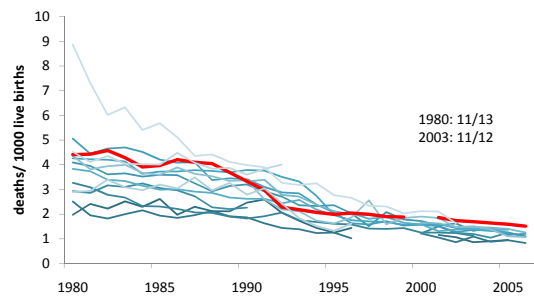


Behind the figures

- Study of causes of perinatal death 1982-2000, North of England
 - Singletons:
 - Death from congenital anomalies declined substantially (~50%) for stillbirths and neonatal mortality
 - Death due to intrapartum hypoxia fell, by nearly 50% for stillbirths and 30% for neonatal deaths
 - No reduction in stillbirths due to antepartum hypoxia in babies weighing > or = 2500 g, or in mortality attributed to infection.
 - Multiples:
 - Stillbirth rates declined significantly but neonatal mortality did not

Bell et al., 2004

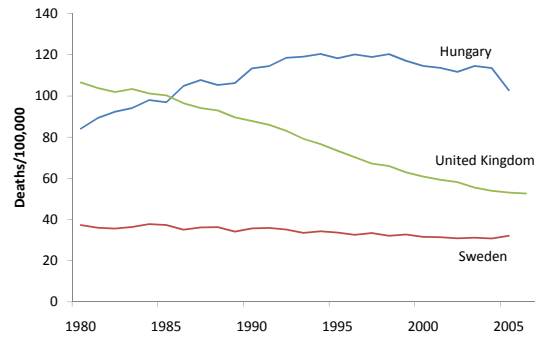
Post-neonatal mortality



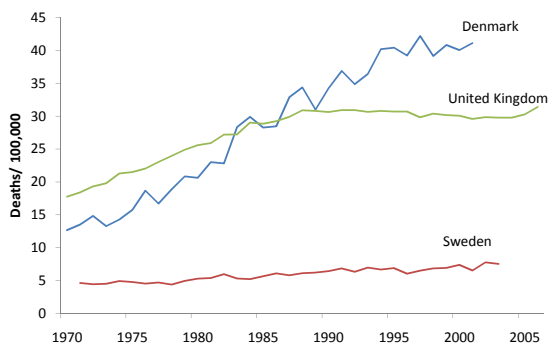
Some illustrative causes

- Lung cancer
- Cirrhosis
- Breast cancer
- Road traffic injuries

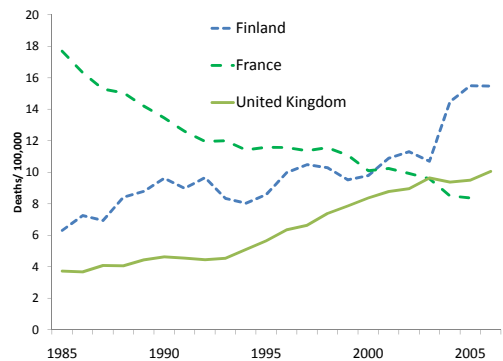
Mortality from lung cancer (male)



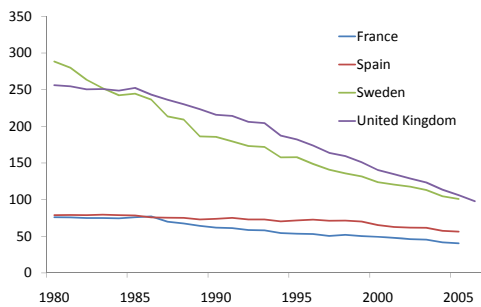
Mortality from lung cancer (female)



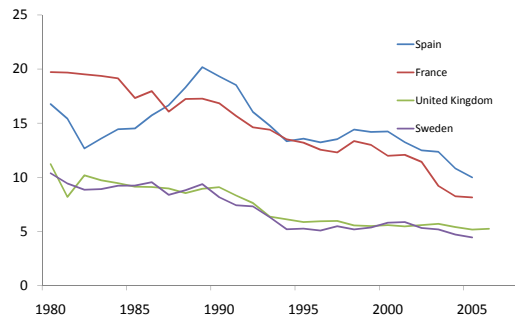
Mortality (age 0-64) from cirrhosis (both sexes)



Mortality from ischemic Heart Disease



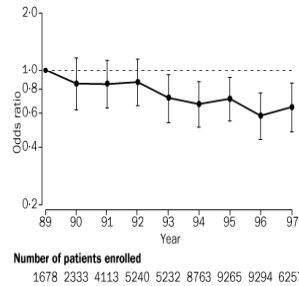
Motor Vehicle Injuries



Improvements in trauma care in the UK

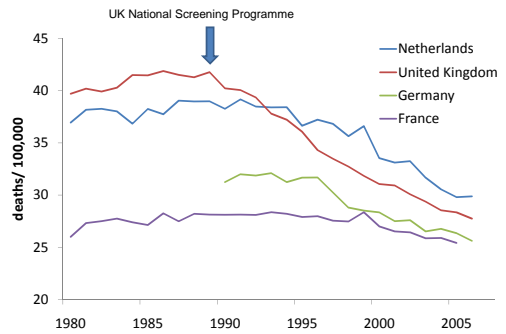
Potential reasons

- More patients seen by senior doctor
- More staff with advanced life support training
- Improved co-ordination of services
- Introduction of audit system



Source: Lecky et al., Lancet 2000

Breast cancer

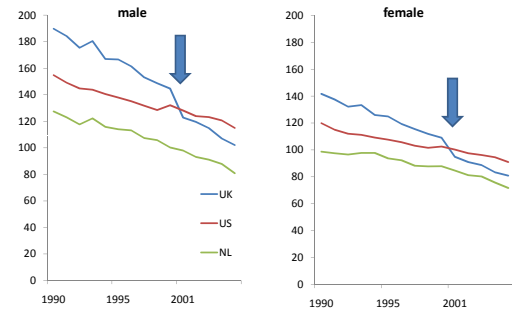


Avoidable mortality

- Deaths preventable by timely and effective care
- Idea goes back to Florence Nightingale
- Concept developed in 1970s by Rutstein
- Early examples include
 - diabetes under age 49,
 - leukaemia under age 15,
 - Asthma under age 65



Deaths amenable to medical care

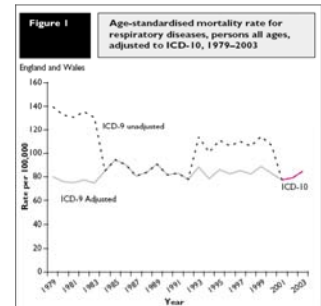


The reason?

“Things can only get better”

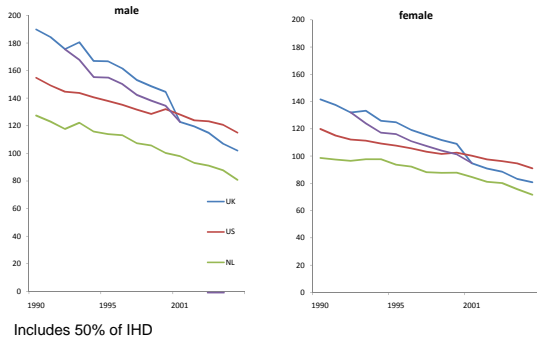
Unfortunately not....

- Change in application of rule 3 for coding underlying causes introduced unilaterally in UK
- Reversed with introduction of ICD-10

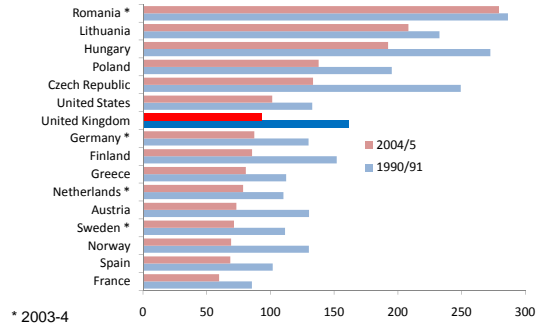


Brock et al, 2006

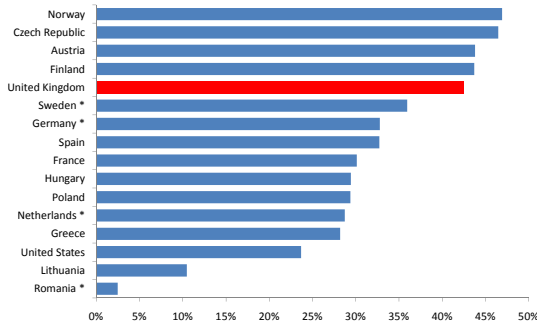
Deaths amenable to medical care



A broader comparison: change between 1990/1 and 2004/5



Put another way: percentage reduction 1990/1 – 2004/5



Cancer survival

- Widely used in international comparisons
- Offers scope for important insights
- But:
 - Long lags between treatment and outcome
 - Very uneven geographical coverage
 - Risk of systematic bias
 - US SEER database has under-representation of poor and African-Americans

A very brief (and simplified) summary

- Little variation in survival from cancers where treatment highly effective
 - Testicular, childhood leukaemia
- Little variation where treatment ineffective
 - Lung, pancreas
- Main variation where treatment quite effective
 - Breast, colo-rectal
- Overall picture of late stage at specialist referral in UK
 - Could this be the downside of gatekeeping?