



Evaluating Performance in Public Services ↑
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THE IMPACT OF GOVERNMENT REGULATION ON THE QUANTITY AND MIX OF HEALTH CARE SERVICES

LESSONS FROM THE INTERNATIONAL EXPERIENCE

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The views are the author's sole responsibility

INTRODUCTION

- ◆ Socially desirable goals:
Increasing the performance of public services
- ◆ Better accountability for use of public funds
(Performance-based budgeting)
- ◆ Increasing use of (quasi) market signals for
service delivery

However,

Implications beyond the budgetting process...



WHY HEALTH CARE DIFFERS

- ◆ Outcomes

 - Objective measured at the macro (mortality),

 - Subjective and measured at the micro level
(patients' perceptions, quality of life)

- ◆ Outputs and throughputs:

 - Activity rates

 - Waiting times

- ◆ Information asymmetries

- ◆ Vulnerability of any measurement system





OUTLINE



- ◆ Public intervention and regulation and quantities and mix of health care services
- ◆ Highlights from the OECD Ageing Related Disease Study
- ◆ Policy Implications



MIND THE Qs EFFICIENCY AND QUANTITIES IN HEALTH CARE



- ◆ In some cases, increased efficiency is synonymous of higher quantities:
Surgical intervention, cardiac revascularisation
- ◆ But, this is not always the care:
 - integrated care provided to stroke patients
 - psychiatric care
- ◆ Decreasing marginal returns to technology use?

MARKET MECHANISMS AND QUANTITIES

- ◆ Implications of market use to increase activity in service delivery are not always accepted:
 - public finance implications
 - equity implications in case of higher private copayments for a fixed level of public funding
- ◆ Fuzzy “market” results:
 - “markets” for mammography services vs. organised screening programmes
 - Links between incentives and service use (radiological intensity in post mastectomy treatment)

BEYOND THE Qs: REGULATION AND MIX OF SERVICES

- ◆ Mix of high tech vs. low tech drugs in secondary prevention of ischaemic heart disease
- ◆ Mix of full mastectomy vs. Breast conserving surgery:
 - social factors
 - availability of radiology facilities
- ◆ Mix of revascularisation services:
CABG vs PTCA depending on the responsiveness of the public hospital system

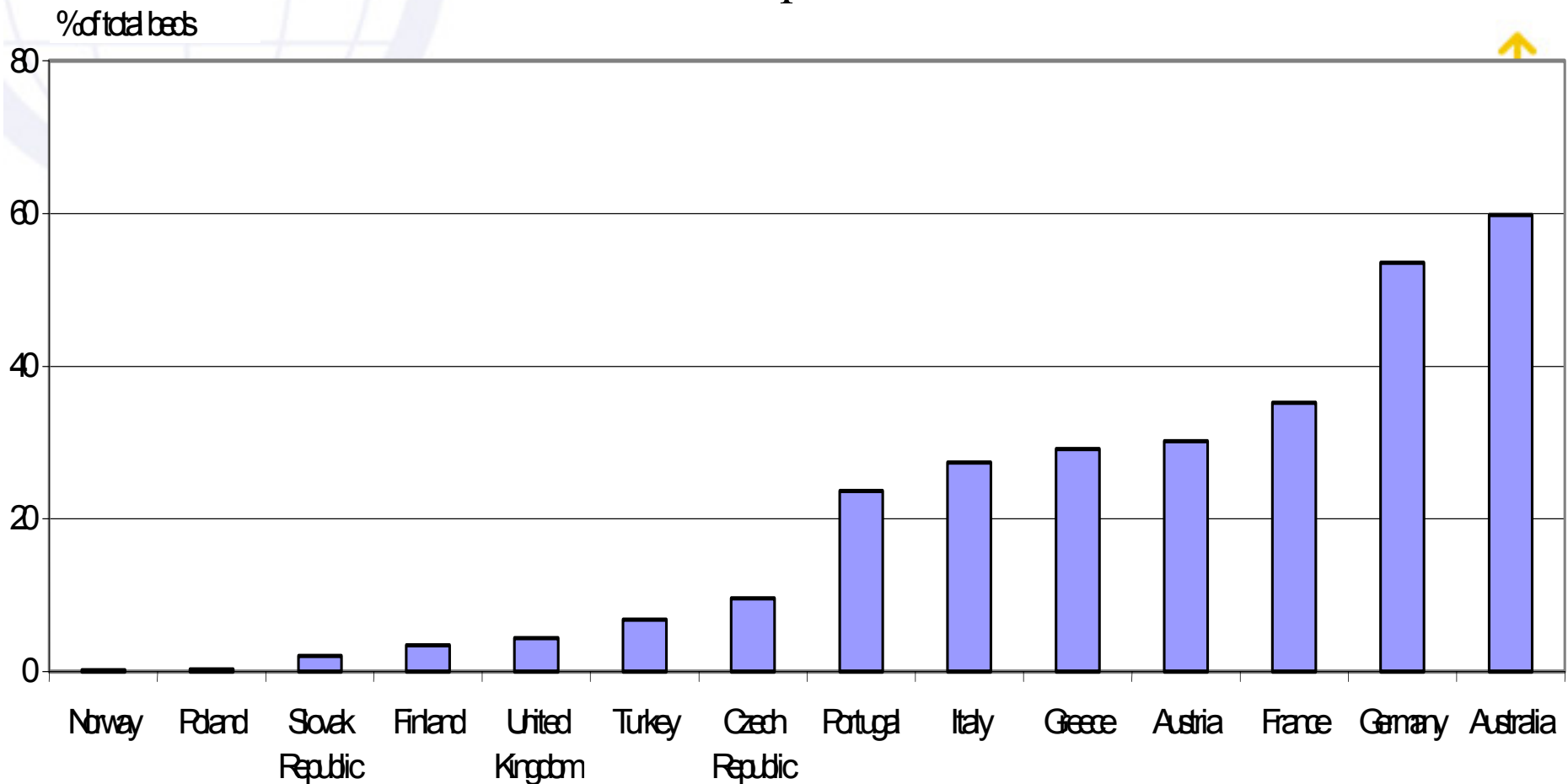
A REGULATORY APPROACH TO A MARKET FRAMEWORK



- ◆ Regulatory functions
 - Quality certification
 - Prices
 - Market entry
- ◆ Treatment of public vs. Private providers
- ◆ A proper regulatory framework might require externalising certain functions at arms' length from government...

The role of private provision for hospital services

B Private inpatient beds





HIGHLIGHTS FROM THE AGEING RELATED DISEASE STUDY

- **Three conditions**

Ischaemic heart disease, stroke, breast cancer

- **Collaborative work:** OECD team : M. Jee-Hughes, P. Moise, L. Moon.

- **Networks of national experts**

- Support from the US National Institute on Aging and the Ministry of Health, Labour and Welfare in Japan

- Over 20 countries participated in the project





Using the variations in treatment of particular diseases across countries as a “natural experiment”



- Are these variations due to
 - Incentives / payment systems?
 - Health policy / regulation / planning?
 - Medical knowledge?
 - Economic circumstances?
- How do countries achieve value for money in treating these diseases?
- Implications for monitoring of health systems

The approach

- The McKinsey Study
Baily MN, Garber AM. Brookings Papers, 1997
- A focus on treatments, costs, and outcomes
- Contributions from existing research networks
- Patient-based versus event-based data:
Tracking the “episode of care”
- Outcomes : case fatality and readmissions
Further need for patients’ perceptions



Understanding the drivers of performance ↑

Medical knowledge, technology and economic incentives ↑

- The rising tide of new technologies and the growth in health expenditure
- Patterns of diffusion and decreasing returns
 - Good technologies “gone bad” ?
 - Assessing the marginal health benefits
- Understanding the results in relation to health outcomes deserve careful examination

A stronger role for supply side incentives and organisation of care





- ◆ Economic incentives:
 - Payment mechanisms
 - Direct constraints on quantity of care
- ◆ Impact on:
 - The quantity of care provided
 - The type and mix of interventions

The impact of supply-side incentives and the organisation of care

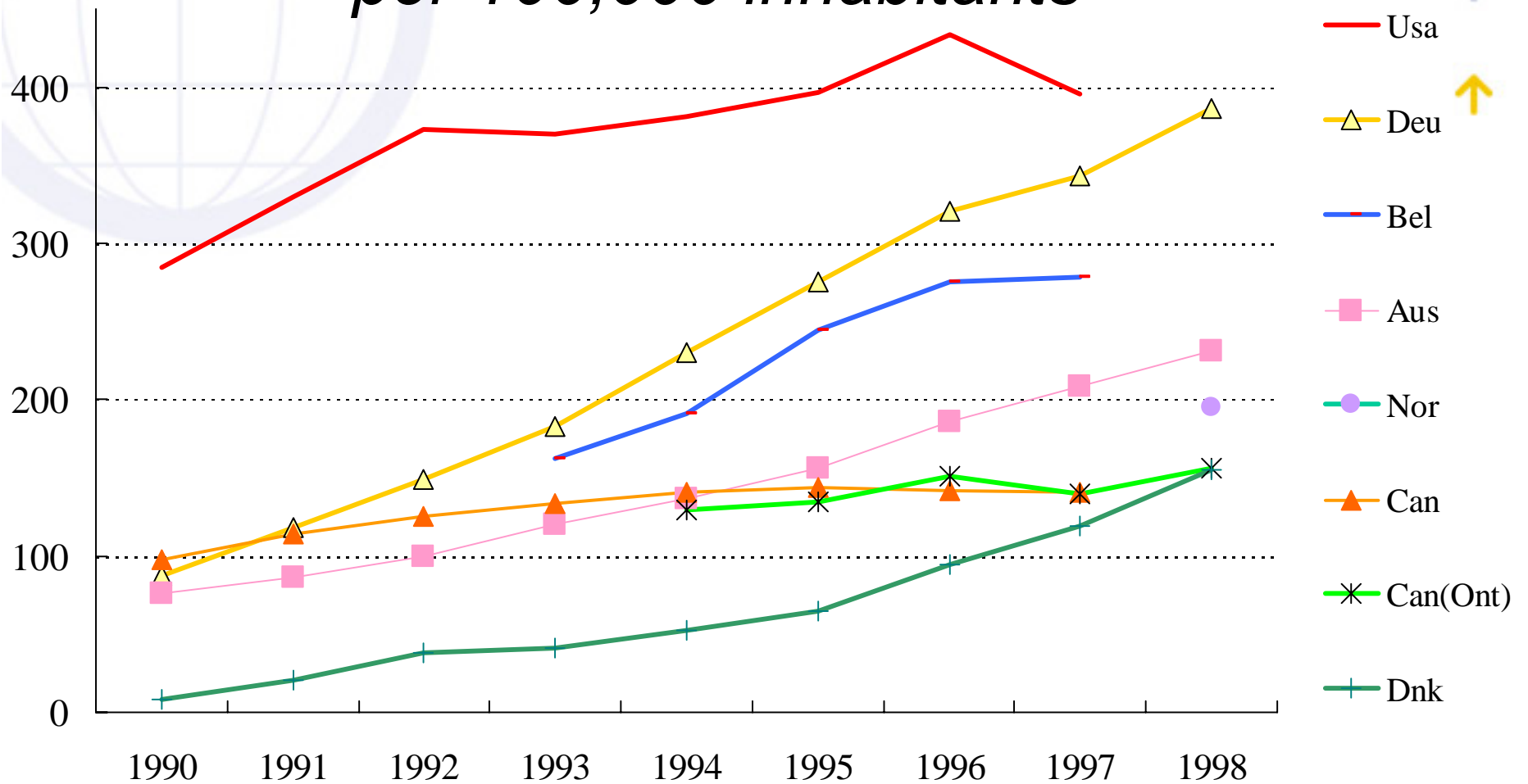
- ◆ BC: Regulation and availability of machines, but link to screening rates? Impact on older patients. Role of organised screening. Payment and radiotherapy
- ◆ IHD: Availability of technology and number of procedures, additional impact of payment incentives
- ◆ Stroke: variation difficult to interpret. Impact on availability of technology (MRI). Organisation of stroke care and co-ordination across various settings

Understanding qualitative trends and the mix of invasive/less invasive treatment

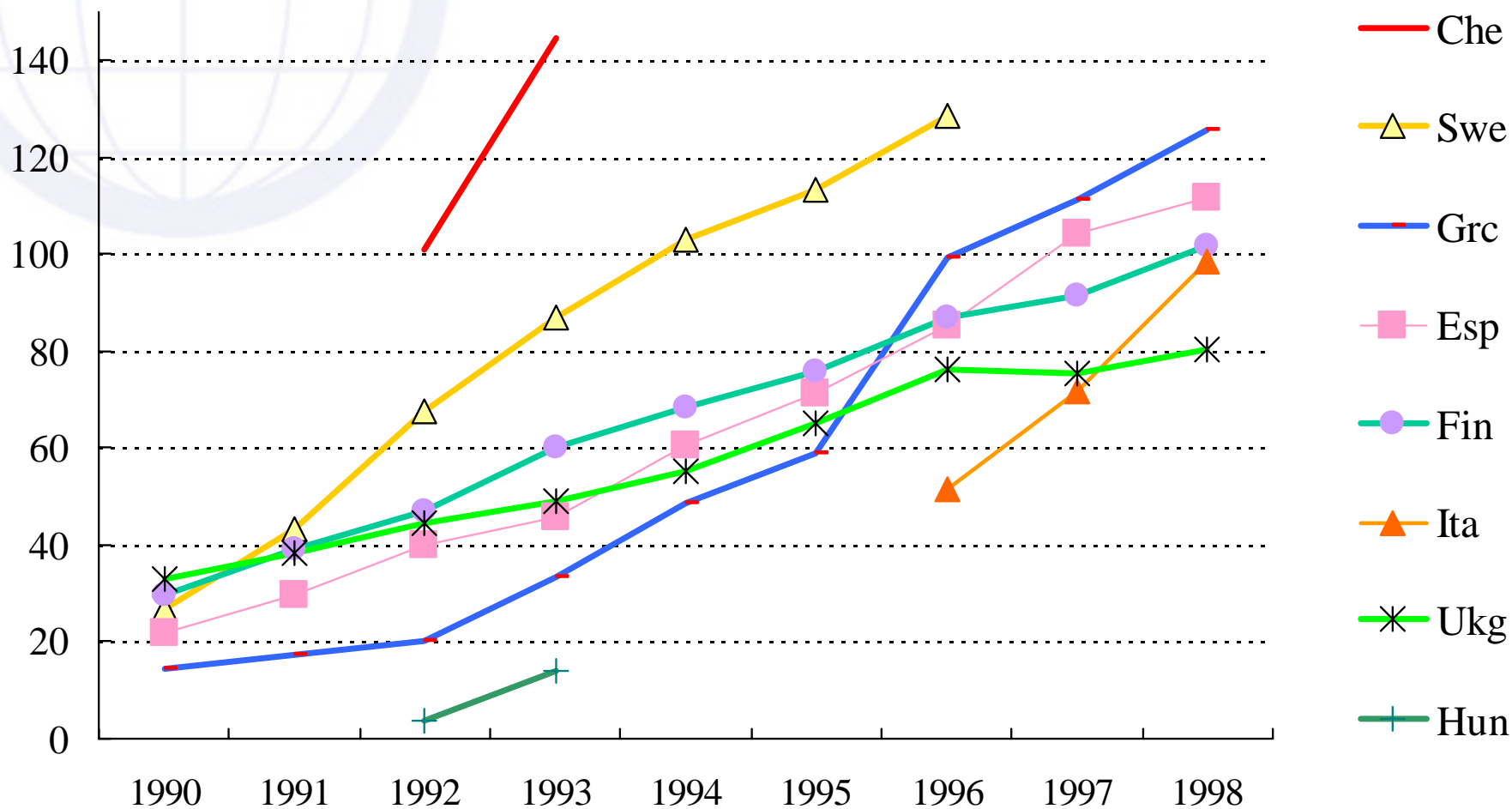
- ◆ BC: Strong role for guidelines, for diffusion of BCS, but high level of mastectomy in some countries. Lack of radiation therapy 
- ◆ IHD: Medical knowledge: diffusion of PTCA, stents. Role of clinical trials for pharmaceutical utilisation. High rate of CABG in certain countries, CABG/PTCA also depends on payment 
- ◆ Stroke: Diffusion of endarterectomy. Transfers to rehabilitation higher in countries with more LTC

IHD

Number of PTCAs (1990-1998) *per 100,000 inhabitants*



Number of PTCAs (1990-1998) *per 100,000 inhabitants*



Multivariate analysis of the determinants of CABG and PTCA utilisation ↑

| Dependent variable: | PTCA | | CABG | |
|-----------------------------------|----------|--|----------|--|
| GDP per capita | 1.695 ** | | 0.095 | |
| | -6.53 | | -0.36 | |
| Level of IHD | 0.087 | | 1.287 ** | |
| | -0.59 | | -7.01 | |
| Hospital constraint | 0.388 ** | | 0.702 ** | |
| | -4.92 | | -7.9 | |
| Facility constraint | 0.313 ** | | 0.13 * | |
| | -4.86 | | -2.05 | |
| Time index variables | > 0 ** | | > 0 ** | |
| No. of observations | 85 | | 81 | |
| Percentage of variation explained | 87 | | 79 | |



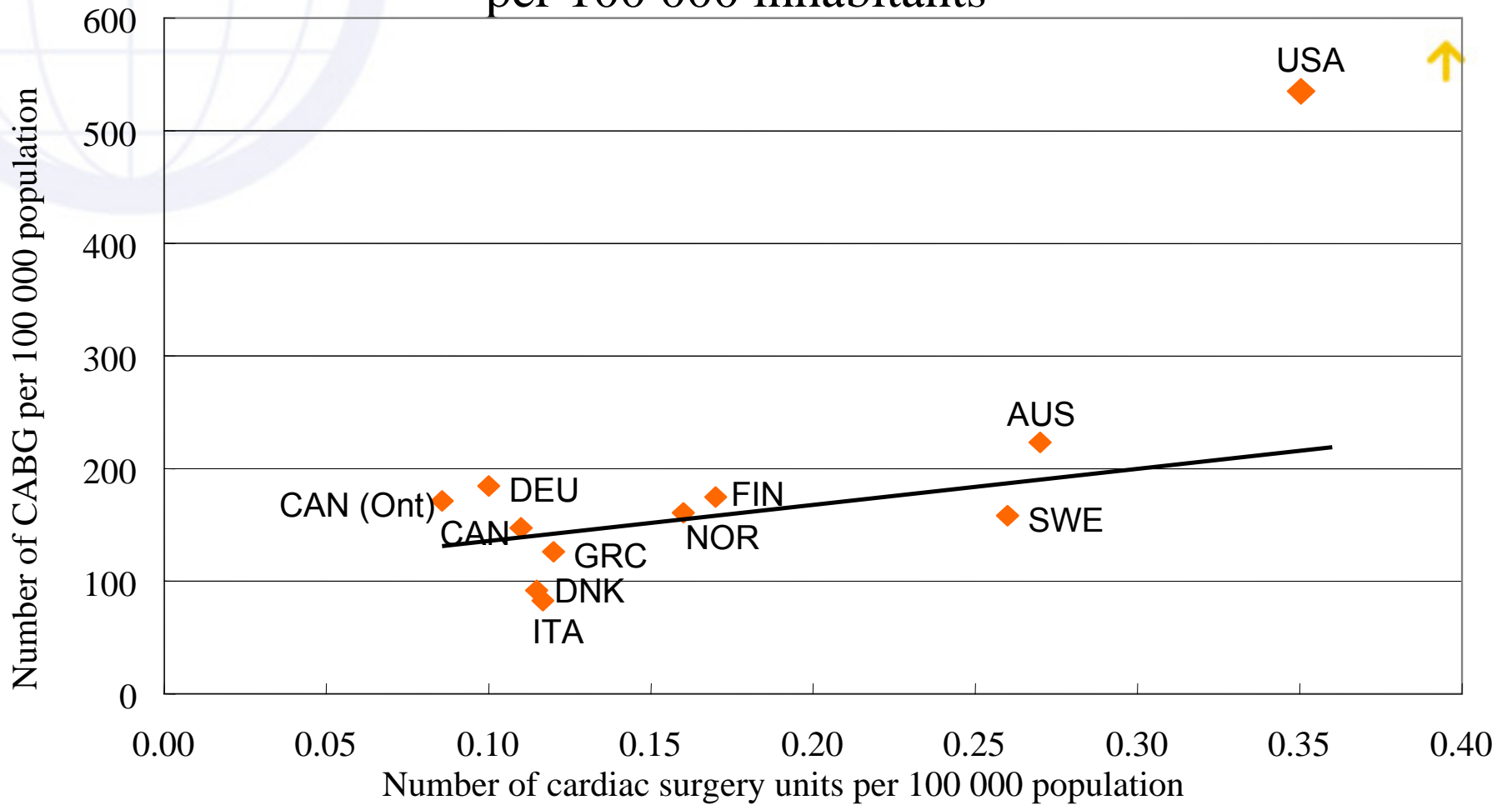
Further questions

- Are facilities “efficiently used”?
- What happens to patients ?



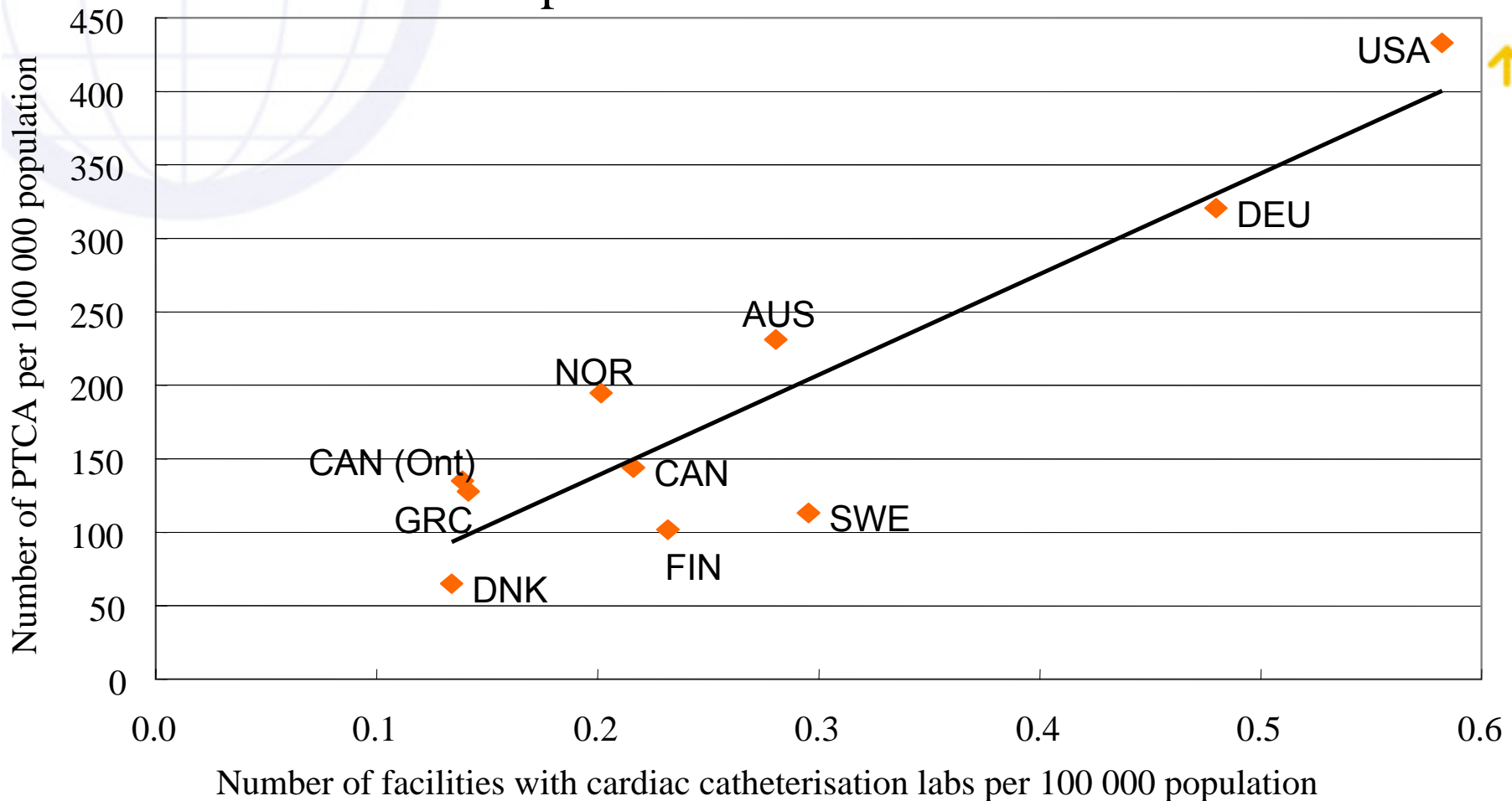
Utilisation rates for CABG and Number of cardiac surgery units

per 100 000 inhabitants



Utilisation rates for PTCA and number of catheterisation facilities

per 100 000 inhabitants



WHAT HAPPENS TO PATIENTS ?

OUTCOMES

- **Macro level:**

 - Population level: mortality trends

- **Micro level**

 - Objective measures:

 - Case fatality for treated patients*

 - Subjective measures:

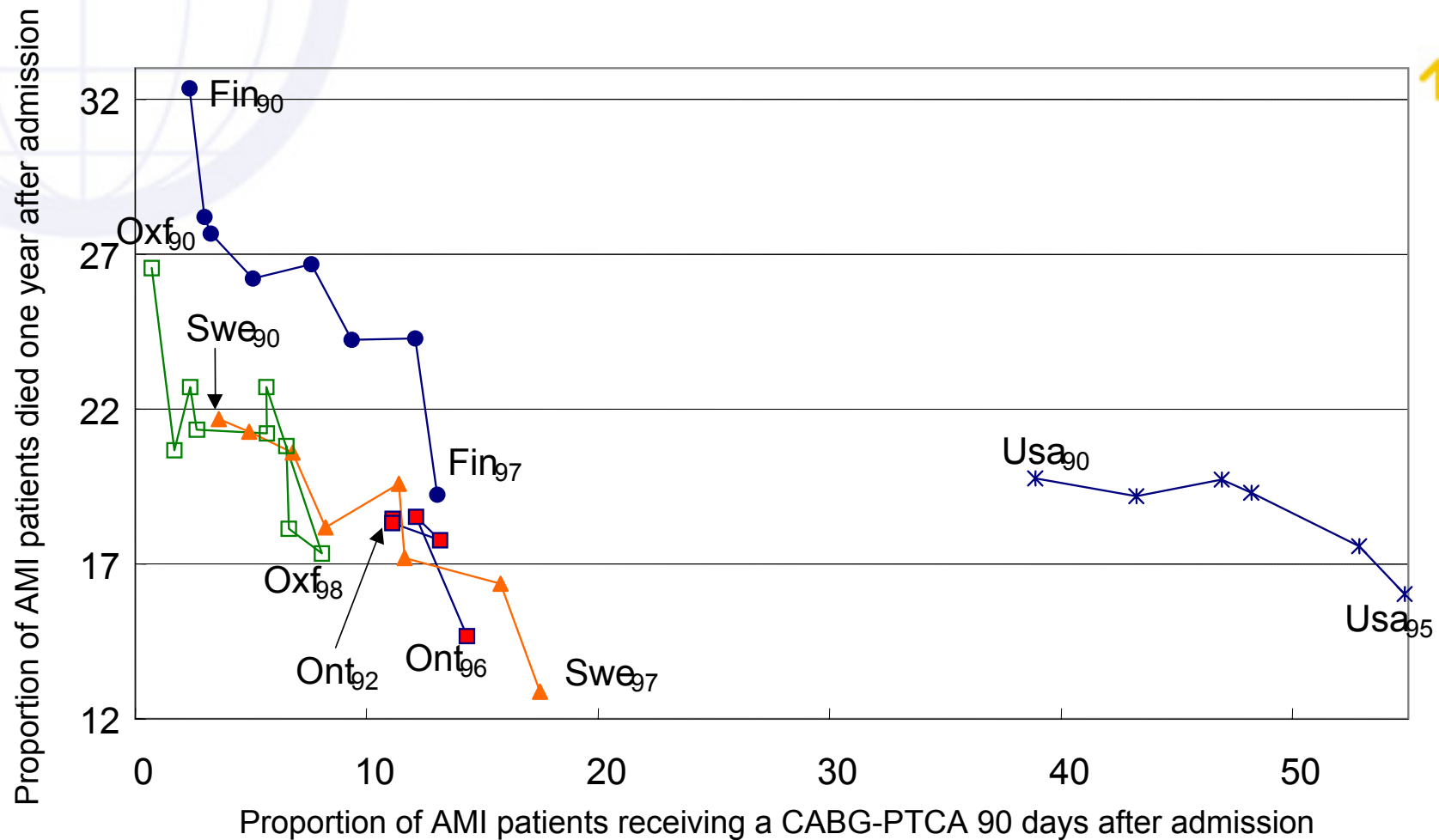
 - Quality of life measures*

 - **Role of medical and non medical factors**



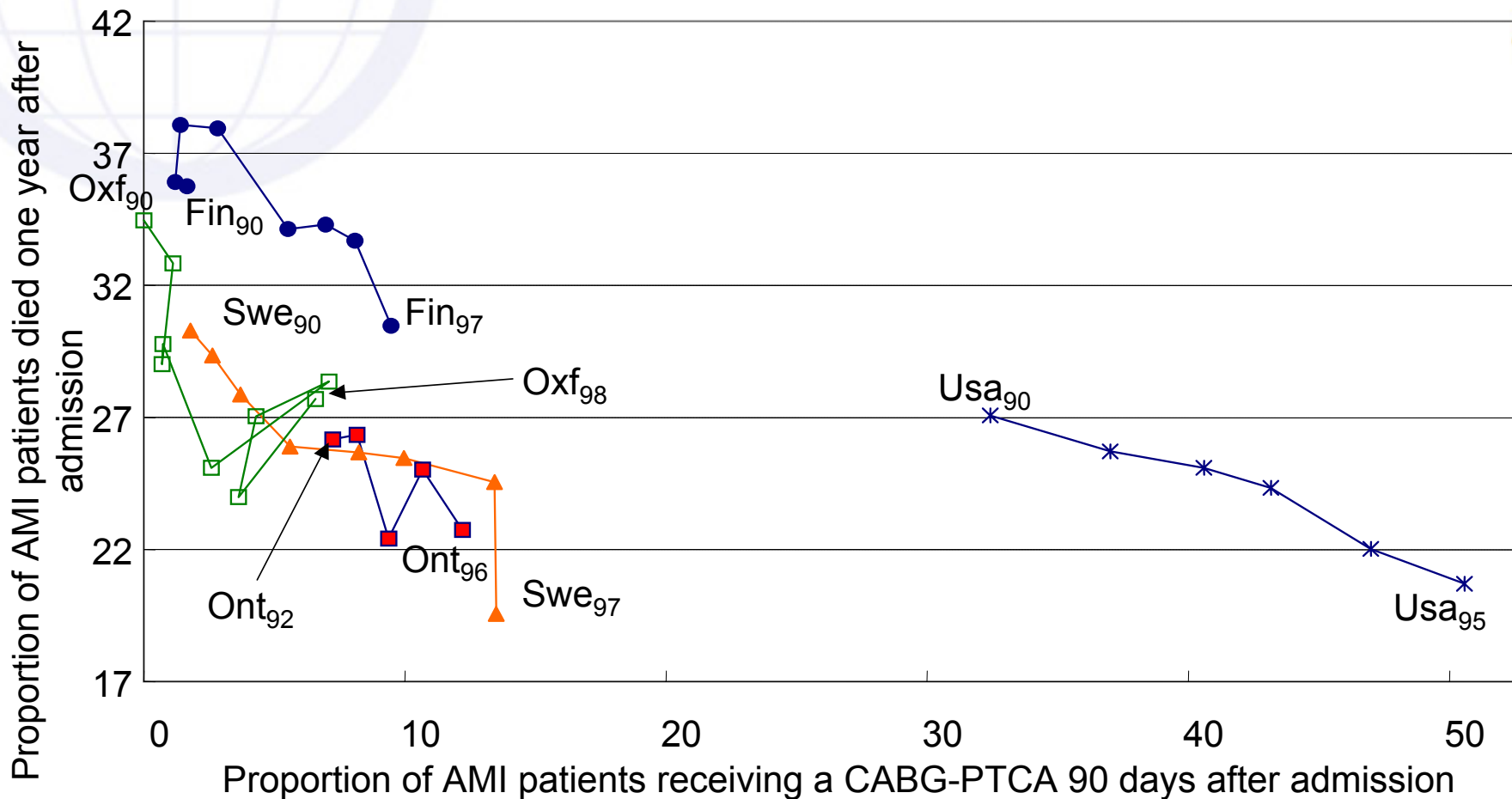
Case fatality in relation to technology utilisation

Men (65 to 69)



Case fatality in relation to technology utilisation

Men (70 to 74)





Breast Cancer



- Epidemiology is endogeneous
- Breast cancer : role for screening and treatment
- New less invasive treatments but more costly in the short run
- Goal of treatment: survival, avoid recurrence, improve quality of life

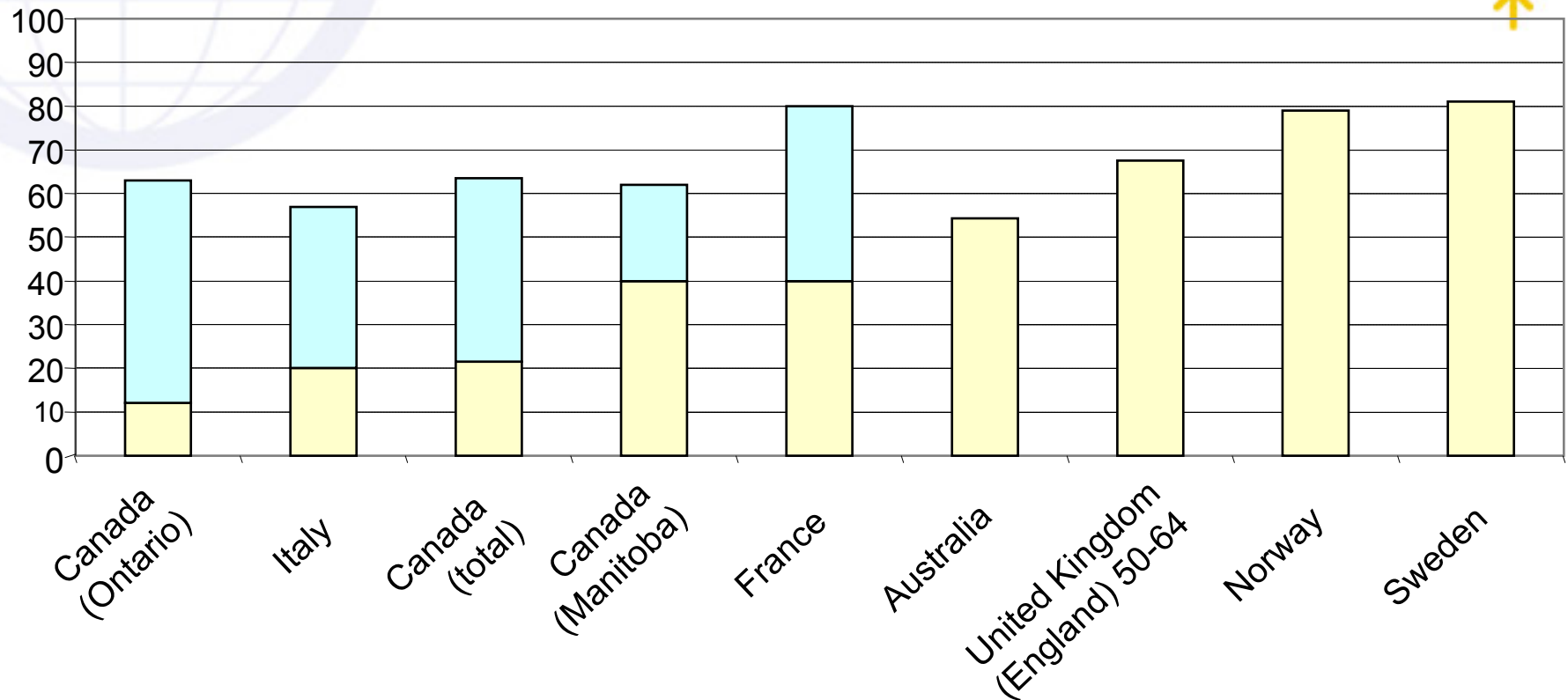
The role of organised screening programmes



- Implemented following cost-effectiveness studies, targeting usually women aged 50-69
- Different methods (CBE; mammography)
- Large proportion of women still receive screening outside programmes in many countries
- Tendency to extend the programmes to higher and younger age groups
- Organised health systems work better in this field, but they need some resources

Organised screening participation rates

As a percentage of eligible women

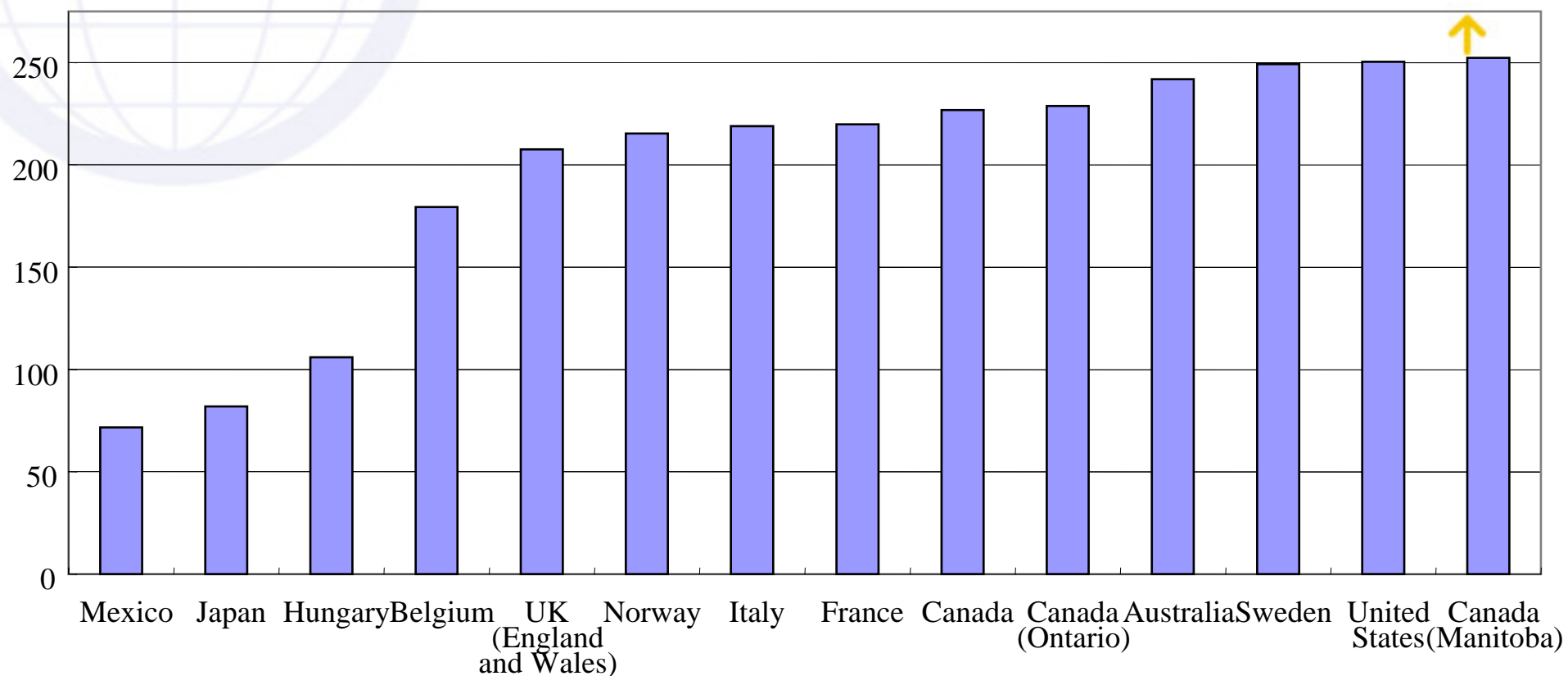


Organised screening
 Other observed screening in target group

Source: health interview surveys, experts reports, Health Canada 2001

Age-standardised incidence (1995) ↑

rate per 100 000 females aged 40 and over

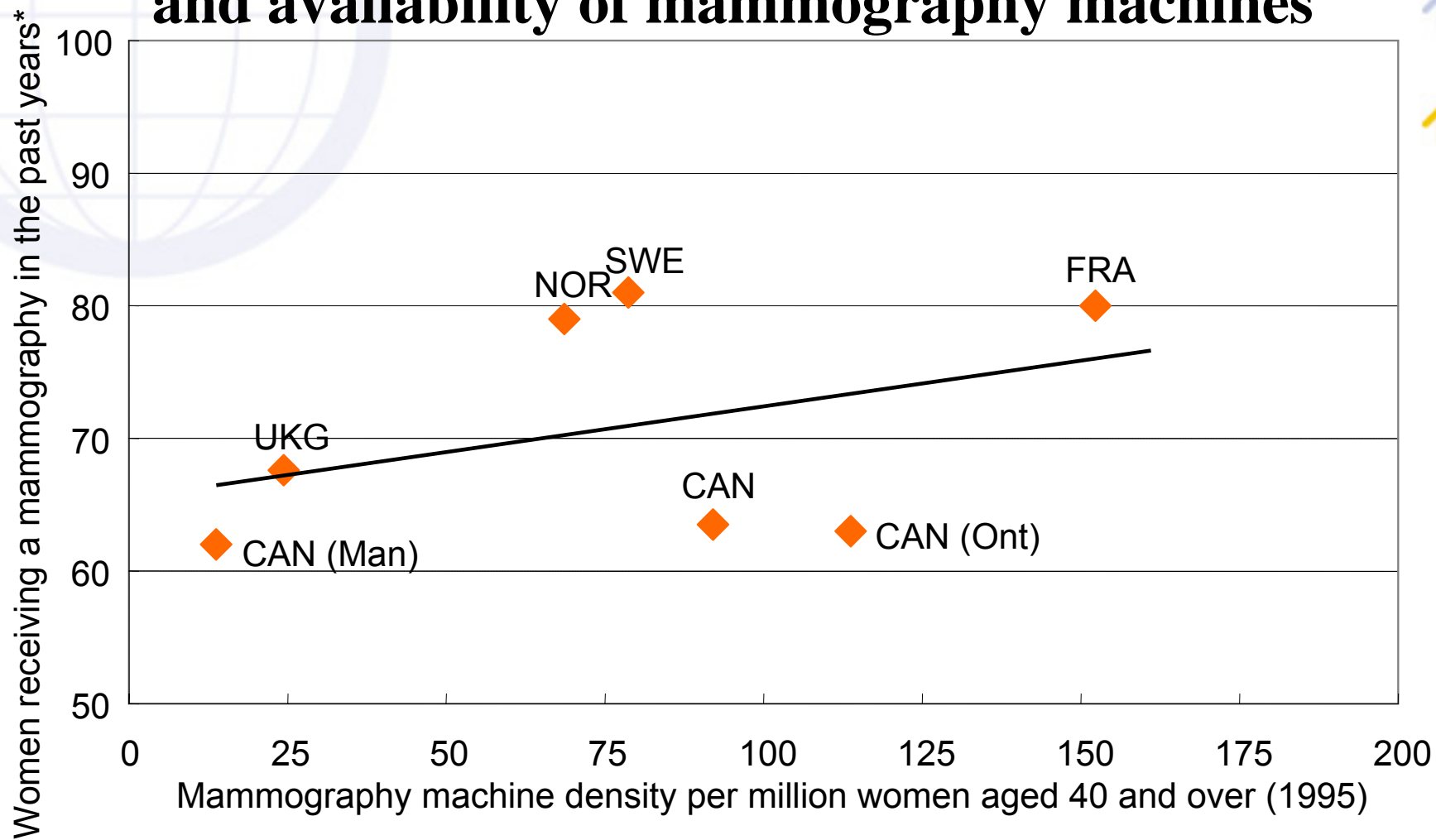


Note: 1990 data for Hungary, Mexico and the United Kingdom

Key results in terms of treatment trends and outcomes ↑

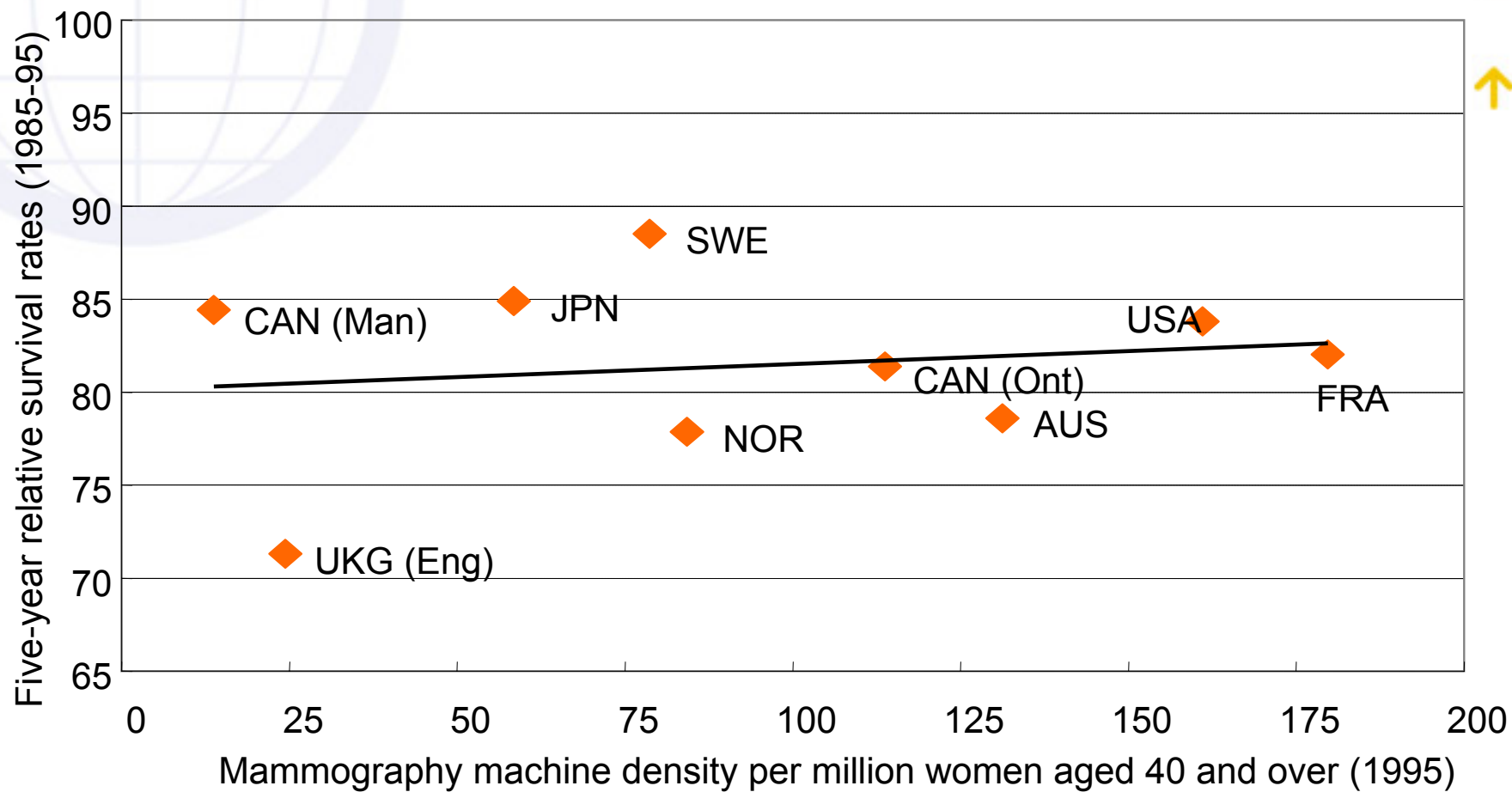
- Prevention is key ↑
- Supply incentives important factors for diffusion of surgical procedures (uptake of BCS) ↑
- Patterns of treatment depend on medical guidelines but also on institutional aspects
- Survival and mortality
- Excessive restriction in spending may constrain access to treatments in some countries for some groups

Proportion of women receiving a mammography and availability of mammography machines

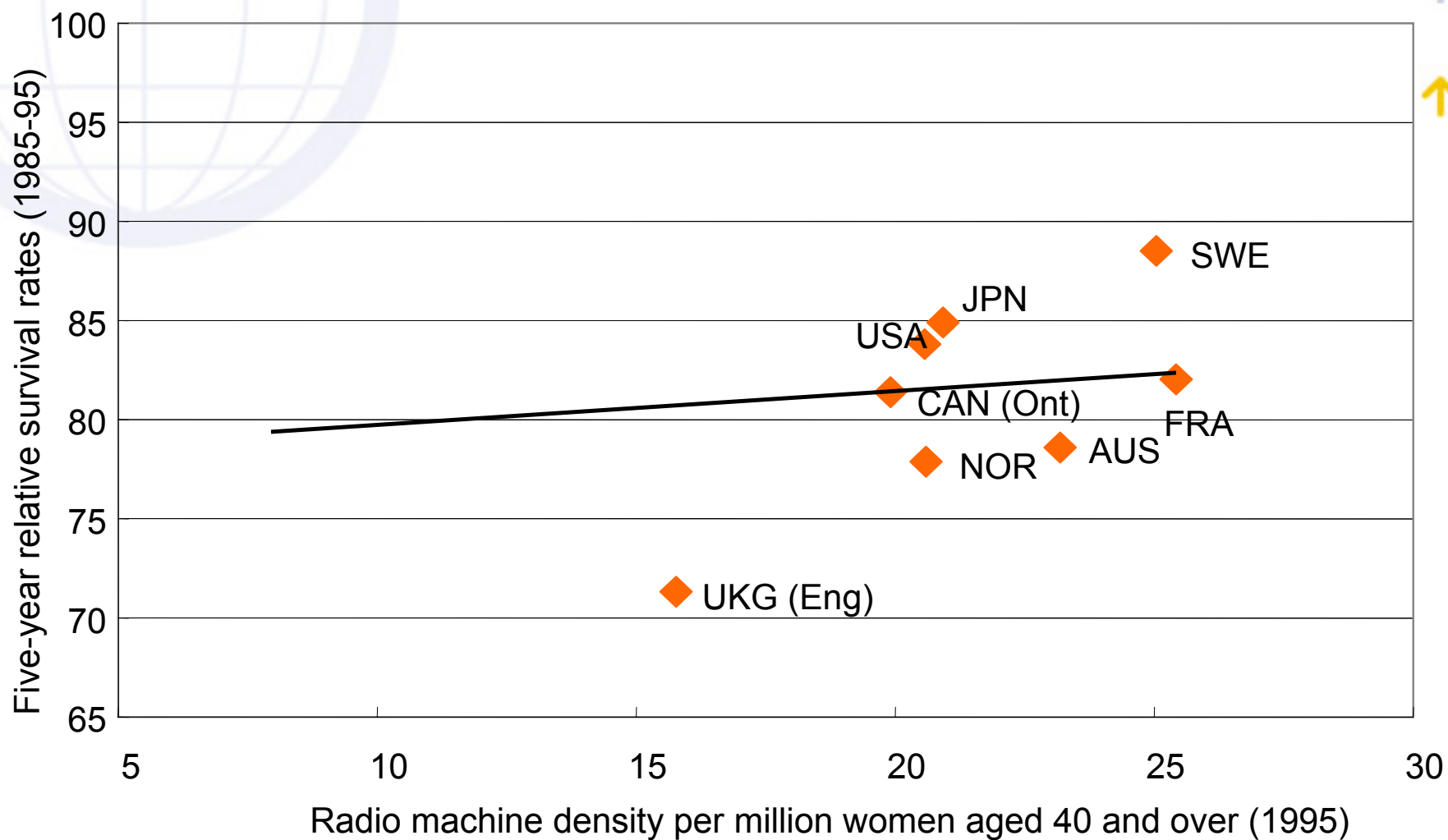


**standardised rates from available surveys*

5-year relative survival rate and availability of mammography machines in a recent year

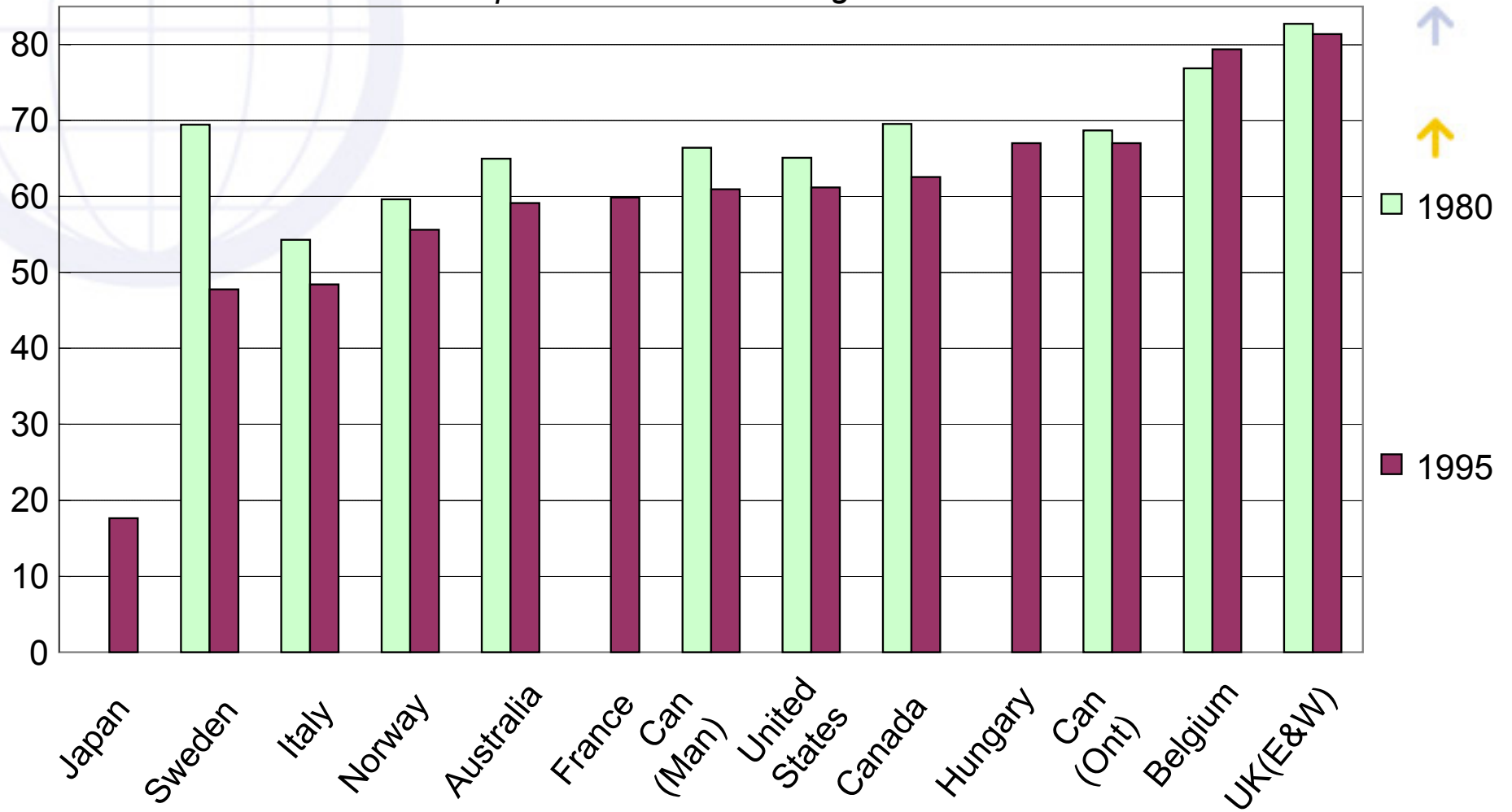


5-year relative survival rate and availability of radiotherapy machines in a recent year



Mortality rates

per 100 000 women age 40 and over



Note: for France, Hungary, Japan, Norway and the United Kingdom (E&W);1983 and 1996 for Australia; 1996 for Italy.



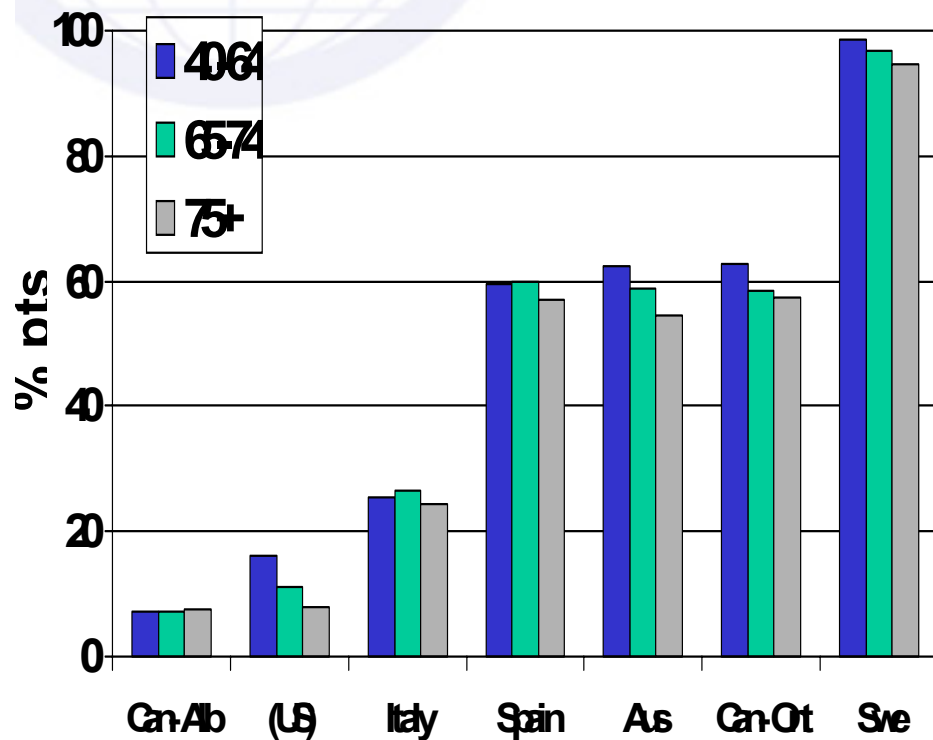
STROKE

- ◆ Diffusion of high technology for diagnostic
- ◆ Organisation of care
- ◆ Outcomes: case fatality and disability

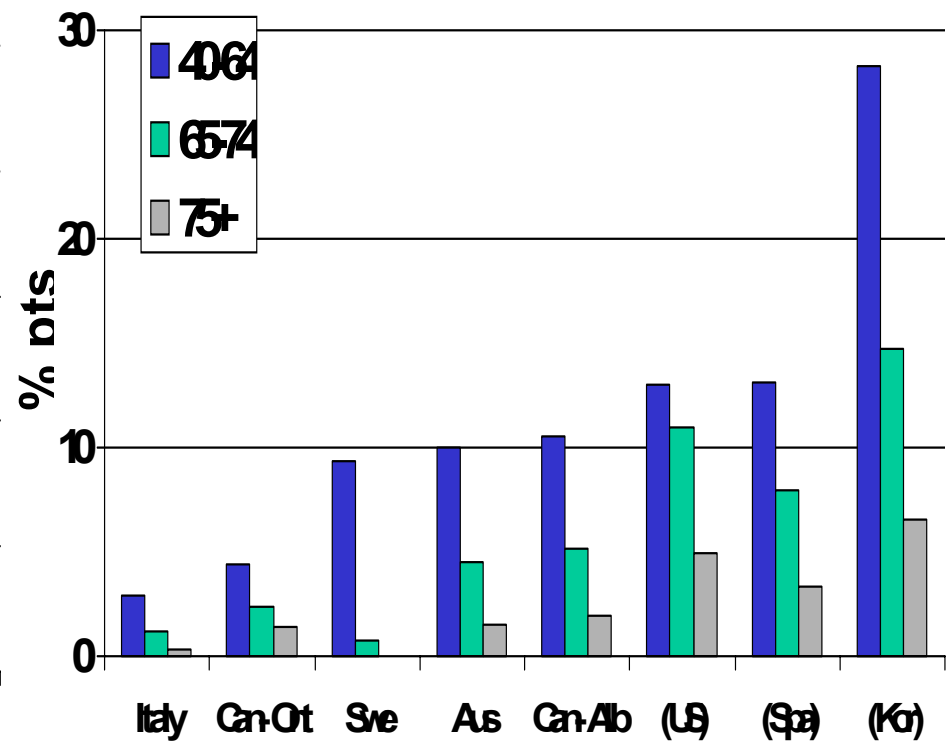


Trends in the use of diagnostic procedures for ischaemic stroke

*CT Scan by age groups
(89-97)*



*MRI by age groups
(89-97)*





The importance of organising care

Stroke units

- organised inpatient care
 - multidisciplinary team
 - acute and rehab
 - *acute* coronary care units are standard
- shown to be highly effective
 - most effective stroke treatment
 - and cost-effective (some models)
- no standard definition





Stroke units

| | | Units per 100,000 | Beds per 100,000 | % patients |
|--------------------|-------------|-----------------------------|----------------------------|-------------------|
| Denmark | <i>1998</i> | 0.93 | 10.4 | |
| Sweden | <i>1998</i> | 0.78 | 5.8 | 70% |
| Norway | | | | 60% |
| Netherlands | <i>2000</i> | 0.42 | 1.7 | |
| Australia | <i>1999</i> | | | |
| UK | | | | 26% (>0.5 LOS) |
| Hungary | <i>2000</i> | 0.2 | | 15% |



TRENDS IN “DISABILITY” AND QUALITY OF LIFE

- ◆ BC: better quality of life with earlier diagnosis, but more “sickness”
- ◆ US/Canadian results: single vessel interventions *vs.* multiple vessels
- ◆ Stroke: role of stroke unit and availability of early rehabilitation



Policy implications

- A rapidly evolving, and costly technological change:
Need for flexible systems and approaches
 - Improving performance: a multidimensional strategy
 - Delivery of appropriate amount of care
 - Delivery of appropriate mix of treatment
(+/-invasive, prevention vs cure)
 - Targeting the treatments to the right patients with the
right indication and the highest ability to benefit
 - Improving efficiency in the production process:
Stimulating the Qs but only to the right extent
- + (Improving value for money through minimising costs
and providers' rents, while preserving quality)



A further step in assessing performance?

- Results strongly “suggestive” but not “conclusive”
- Different perspectives
 - Payers and the “macro/public health” perspectives*
 - Patients/physicians with the micro/medical view*
- Where to locate the economic constraint ?
- Which parameters are to be optimised ?
 - These depend on countries’ various economic and political consensus about health and the role of health care systems*
- Need to foster data development and common standards
 - Long-term investments to improve performance*

