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Solidarity and innovation

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Introduction

- Two warnings:

A. I will focus mainly on the situation in the rich countries, where the bulk of innovation takes place – this is extremely one-sided from the point of view of solidarity.

B. A *paradox*: why ask an economist to talk about "justice" and innovation?

Economics and ethics

- Ethics without economics is bad ethics
- we live in a world of scarcity, in which it is impossible to reach all social objectives at the same time
- choices have to be made and priorities have to be set
- if these trade-offs are not made explicit, it is likely that the resulting decisions will involve many inequities
- analysing choice under constraints is the main topic of economics

Economics and ethics

- Economics without ethics is bad economics
- “efficiency” can only be defined if one first specifies objectives
- specifications of “social objectives” is an ethical question
- distributional considerations (solidarity or justice) are necessarily part of this definition
- neglecting distributional issues is also a value judgment (and one which is very difficult to support)

Structure

1. Why stimulate innovation?
2. The challenge of solidarity
3. Solidarity: general principles?
4. Setting priorities: philosophical approaches and taboos
5. Some policy implications

Conclusion

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1. Why stimulate innovation?

Surprising? Innovation is the main cause of the strong increase in health care expenditures (>50%). Much concern about the budgetary consequences in collectively financed health care systems.

Is more innovation desirable?

- Cutting expenditures not necessarily welfare-optimal. Obvious that one should compare costs ánd benefits.
- Definition of “unmet” medical need is not sufficient to argue for desirability – innovation creates demand and meeting needs creates new needs (“dynamic efficiency”).

A welfare criterion

- QUESTION: “From a social welfare standpoint, how much should the nation spend on health care, and what is the time path of optimal health spending?”
- Trade-off between health (care) expenditures and other uses of the available resources.
- “Willingness to pay” as a criterion (but be aware of distributional consequences!)

- Argument 1: "as we get older and richer, which is more valuable: a third car, yet another television, more clothing – or an extra year of life?" (Hall and Jones, Quarterly Journal of Economics, 2007).
- Argument 2: complementarity – "Improvements in life expectancy raise willingness to pay for further health improvements by increasing the value of remaining life. This means that advances against one disease, say heart disease, raise the value of progress against other age-related ailments such as cancer or Alzheimer's" (Murphy and Topel, Journal of Political Economy, 2006).

"Optimal path" for US (Hall and Jones)

the larger γ, the less is the contribution of consumption to welfare

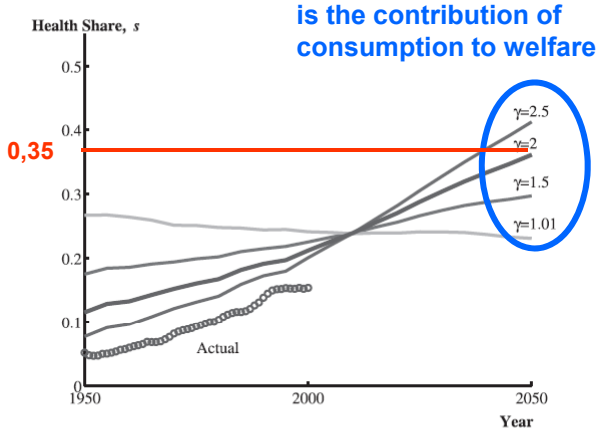

FIGURE V
Simulation Results: The Health Share of Spending
Note: Circles "o" show actual data for the health share. Solid lines show the models predictions under the baseline scenario ($\gamma = 2$) and for alternative choices of the utility curvature parameter. See Table II for other parameter values.

Provisional conclusion

- From a long-run aggregate point of view, medical innovation is desirable.
- In fact, demand would increase even without public intervention.
- Yet, in a regulated environment, policies to steer the process are definitely desirable.

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2. The challenge of solidarity

Willingness-to-pay for social insurance is not evident:

- limited *transparency of collective financing*: insurance element not always sufficiently clear.
- compulsory systems of health care financing impose a degree of *solidarity* that goes well beyond "enlightened" self-interest.

Pressure on solidarity

- Trend towards a more fragmented society:
  - more individualistic "consumer" reactions
  - increase in social distance lowers altruism and puts pressure on "warm" reciprocity relations
- Shift in social norms: greater acceptance of financial incentives, linked to individual responsibility

An example

- Imagine two secretaries, of the same age, doing practically the same job. One finds out that the other earns considerably more than she does. The better paid secretary, however, is quicker, more efficient and more reliable at her job. In your opinion, is it fair or not fair that one secretary is paid more than the other? (Source: World Values Study)

	1981	1990	1999
Belgium	53.2	67.3	68.5
Denmark	53.7	72.5	77.1
France	58.0	74.0	73.9
Italy	45.4	74.0	74.0
Netherlands	56.3	68.6	74.3
Sweden	54.3	57.5	71.6
UK	65.1	74.1	67.1
USA	77.8	82.5	89.2

A double challenge

- If we fall back on private financing, huge inequalities will emerge.
- "Mobilize" willingness to pay of the citizens:
  - emphasize the insurance aspect.
  - increase the efficiency of the system.
- Strengthen solidarity and make it more transparent.

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3. Solidarity: general principles?

- Argument: "life and health are priceless".
- Leads to unacceptable policy prescriptions:
  - Should we really spend all we can on health care until the last Euro would buy no gain in health (or life expectancy) at all?
- How then to think about justice? There is a lack of debate on the “content” of solidarity. Often, a simple enumeration of a set of ideal (absolute) prescriptions.

Principle 1?

- Patients with *rare diseases* should have the same right to treatment and care as those with common diseases.

QUESTION: putting this as an absolute principle is begging the real question: is this affordable? Use of thresholds is essentially arbitrary.

Principle 2?

– *Equality of access to new medicines* for all citizens, independent of *SES*, race, gender, *region.*

QUESTIONS:

a) How to define who is a “citizen”? Largest inequalities are at the world level.
b) Is this sufficient from the point of view of justice?

Principle 3?

– No socio-economic *health inequalities?*

QUESTIONS:

a) How to trade-off income versus health?
b) Caution! A dynamic perspective.

An historical example...

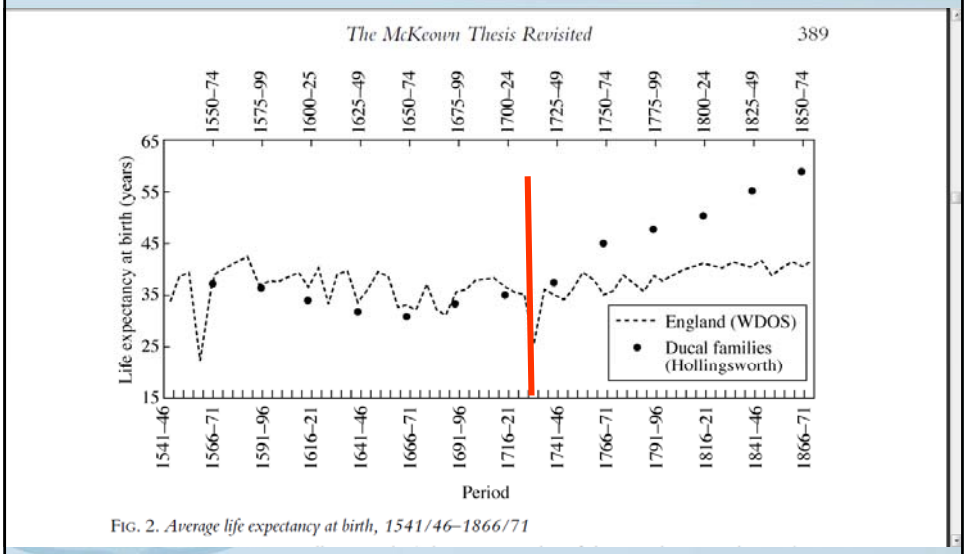

FIG. 2. *Average life expectancy at birth, 1541/46–1866/71*

Bron: Harris, Social History of Medicine, 2004

Conclusions?

1. Necessary to look the problem squarely in the eyes: hard choices have to be made.
2. Health care is only important as an input in health:
   - certainly for the low SES-groups other policy domains might be more important: education, housing, environment.
   - even from a health perspective, it may therefore be optimal to slow down innovation (e.g. in medicines).

3. Health is only important as one dimension of well-being:
   - how to trade off the different dimensions of life against each other?
   - preferences of individuals (and of nations) have to be respected.
   - the relative importance of material consumption will be larger for poorer individuals/societies.

4. Large inequalities at the world level a prime cause of concern in a universalistic theory of justice (instrumental/pragmatic arguments for restricting solidarity to “own” citizens should be seen as such).

FORMULATION OF PRIORITIES IS KEY

LARGER WEIGHT FOR INDIVIDUALS AT A LOWER LEVEL OF WELL-BEING

Need for transparency

- Not being explicit about priorities leads to gross injustices:
  - better organized patient groups are better treated;
  - short run political considerations (media influence) play an important role in the decisions;
  - emotional arguments supersede informed ethical choices.
- Secrecy makes the “solidarity” concept less credible for the citizens – and becomes more and more difficult because of the growing pressure of patient groups.

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4. Setting priorities: philosophical approaches and taboos

- How to set priorities? Nobody has the "correct" answer to these difficult questions.
- Two influential philosophical approaches: Daniels and Dworkin. Both a bit disappointing.

A procedural perspective: **Norman Daniels**

- "Accountability for reasonableness".
- The priority setting process should satisfy a set of fairness conditions:

1. Decisions and their rationales must be publicly accessible (*publicity condition*).
2. There must be mechanisms for challenge and opportunities for revision of policies in the light of new evidence (*revision and appeals condition).*

3. There must be public regulation of the process to ensure that the other conditions are met (*regulative condition*).
4. Rationales for priority-setting decisions should aim to provide a reasonable explanation, i.e. an explanation appealing to evidence, reasons and principles accepted as relevant by fair-minded people (*relevance condition*).

Limitations of the procedural approach

- Transparency through "fair" procedures (including e.g. participation of patient groups) is definitely needed.
- YET: relevance condition does not really add to the substantive discussions about how to make hard choices.
- In a sense deeply disappointing: is it really impossible to do better?

An ex ante-perspective: **Ronald Dworkin**

- Why is a free market solution unacceptable?
  - unequal distribution of wealth
  - inadequate information about health risks and medical technology
  - premium differentiation on the basis of health risks

- IDEAL: "PRUDENT INSURANCE"
  what health care would we have if it were left to a free and unsubsidized market, if the three problems were somehow corrected?

- Basic assumption: a just distribution is one that well-informed people create for themselves by individual choices, provided that the economic system and the distribution of wealth are themselves just.

- If most prudent people would buy a certain level of medical coverage in a free market with a just distribution, then a universal health care system should guarantee to everybody this coverage in the actual situation.
- **+:** ordinary medical care, hospitalization when necessary, regular checkups, etc.

- **-:** would it be rational for a 25-year-old to insure herself as to provide for life-sustaining treatment if she falls into a persistent vegetative state?
- **-:** would young people think it prudent to buy insurance that could keep them alive by expensive medical intervention for 4 or 5 months at the most if they have already lived into old age?

Limitations of the ex ante-approach

- Ex ante-approach may be very harsh for people with rare diseases and high treatment costs: it is likely that nobody would take insurance for this event.
- The ex ante-approach is only a first device to start thinking about what would be the correct weighting scheme in an ex post-approach.

A puzzle?

Why do I (you?) feel emotionally attracted by these theories while finding them deeply disappointing from a rational point of view?

Transparency and taboo trade-offs

- Psychological research has pointed to the distinction between so-called "sacred values“ and “vulgar values”:
  - routine trade-offs
  - tragic trade-offs
  - taboo trade-offs
- *"Opportunity costs be damned, some trade-offs should never be proposed, some statistical truths never used, and some lines of causal/counterfactual inquiry never pursued"* (Tetlock, 2003).

- Psychological and social mechanisms to avoid explicit taboo trade-offs:
  - smoke screens and “secret” committees;
  - presentation of difficult ethical choices as if they are technical (cost-effectiveness analysis and economic evaluation);
  - rhetorical tricks to transform taboo trade-offs in one of the other forms;
  - introduction of a strict distinction between “economic” and “ethical” issues.

Daniels, Dworkin and the taboo trade-offs

- Back to my question: why do I (you?) feel emotionally attracted by these theories while finding them deeply disappointing from a rational point of view?
- Answer? Psychological mechanisms in the face of taboo trade-offs:
  - "pass the buck" to a committee – shifted and shared responsibility (Daniels);
  - transform taboo trade-off in a rational choice (Dworkin).

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- Two key points:
  - "Social investment" in new innovative medicines must be traded off against other social objectives. Supporting the pharmaceutical sector is not a fundamental objective.
  - More transparency and exchange of information is desirable, both from the economic and from the ethical point of view.

a. International justice

- CHALLENGE: How to steer the direction of innovation, so that there is a sufficiently large research effort for medicines that are mainly relevant for the poorer countries?
- If we treat universal distributive justice serious, this has implications for international trade negotiations (intellectual property and patents protection).

b. Priority setting: economic evaluation and reimbursement decisions

- Collection of information on effectiveness and cost-effectiveness is essential for a thorough evaluation of new medicines.
- Yet, the present methodology of cost-effectiveness calculations is deeply unsatisfactory (despite the fact that cost-effectiveness studies have already become a small industry).

Questions

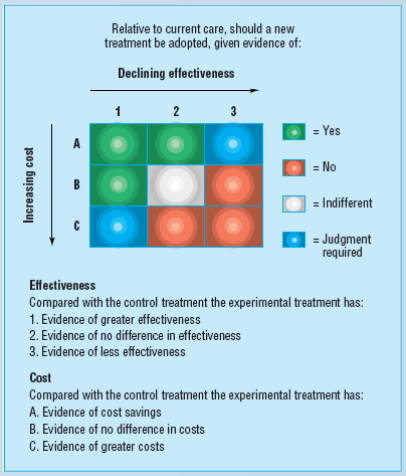
- Incremental cost-effectivenessratio (ICER):

$$\frac{C_1 - C_0}{E_1 - E_0}$$

- The two crucial questions are not tackled with the presently used techniques:
  - what is the optimal size of the health care budget?
  - how to integrate equity considerations into the analysis?

Problem 1: Optimal size of the health care budget

- **Case C1**: "cost-effective" interventions will imply:
- EITHER cuts in other categories of health spending
- OR a larger health care budget



Where to cut expenditures?

"How much will Herceptin really cost?"

Table 1 Cost and potential benefits of adjuvant cancer treatments in Norfolk and Norwich University Hospital Trust

Treatment	No of patients given treatment	Drug cost (£000)	Proven benefit	Potential benefit at our hospital	Cost per patient cured (£000)
Adjuvant chemotherapy for lung cancer	15	23	5-15% improved 5 year overall survival[w3]	1 extra patient cured	23
Oxaliplatin as adjuvant therapy for colon cancer compared with fluorouracil alone	20	137	5% improved 3 year disease-free survival; no benefit to overall survival[w4]	1 extra patient without recurrence at 3 years	137
Neoadjuvant chemotherapy for oesophageal cancer	25	8	9% improved 5 year survival[w5]	3 extra patients cured	2.67
Rituximab in addition to CHOP for non-Hodgkin lymphoma in patients over 60	25	215	13% improved 2 year overall survival[w6]	3 extra patients cured	71.67
Adjuvant aromatase inhibitors in postmenopausal breast cancer	270	120	3.7% improved disease-free survival compared with tamoxifen; no benefit to overall survival[w7]	8 extra patients without recurrence at 5 years	15
Total	355	503		16 extra patients cured	
Herceptin for early stage breast cancer	75	1940	0-4% improved 4 year overall survival[w1 w2]	3 extra patients cured	650

CHOP=cyclophosphamide, doxorubicin, vincristine, and prednisolone

Bron: Barrett et al., BMJ, 2006

How to think about a budget increase?

- How important is health compared to other dimensions of well-being?
- How effective is health care compared to other budget items if the ultimate objective is to improve the health of the population (with special attention for the weakest groups in society)?
- If we want to respect preferences (and perhaps we should), we have to introduce the concept of willingness-to-pay.

There is the taboo again!

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Problem 2: distribution

- "Productive efficiency" interpretation is meaningless with personalized and untradable goods (such as life expectancy or QALY's).
  - Unweighted sum of QALY's is what it is – it is difficult to accept and as a criterion it is rejected by a majority of the population
- Does it make sense to restrict CEA to "economic efficiency", with decision-makers introducing equity aspects in a later stage?

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Misleading, intransparent, incoherent

1. The “later” stage introduces committee-policy and is insufficiently transparent (taboo trade-offs) – cf. decisions about orphan drugs.

2. Social protection measures have to be financed with the same budget, and have to be evaluated also in a consistent way. Incoherent decisions cannot be optimal from an ethical point of view.

Towards a coherent framework

- We need one framework to integrate these decisions on different dimensions.
- The objective is not to maximize health, but to maximize well-being: “willingness-to-pay” should be taken into account in the analysis.
- This framework should specify different weights for different groups of people (larger weights for the poor and for the severely ill). Sensitivity analysis to accomodate different views.

c. “Advertising” public health care

- Increase the WTP of the population by directed information campaigns, focusing on two aspects:
  - universal health insurance (or health care provision) is optimal for everybody.
  - solidarity is an essential human value but requires difficult choices.

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- The main challenge for the future is solidarity.
- In a civilized society, there should be an open debate: all players should try to be as explicit as possible about their understanding of the concept (no smoke screens).
- Policies should be transparent, and techniques should be developed which aim at coherency and at the removal of ad-hocery.