Funding HIV-vaccine trials in developing countries – What´s wrong with IAVI´s recommendation?

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Overview

→ **Background**

→ **International unconditional income transfers**

→ **International in-kind versus income transfers**

→ **Conclusions**

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Background: The dilemma in vaccine research

o A vaccine is the key to accelerate the achievement of MDG 6.

o Pharmaceutical companies are little involved in HIV-vaccine research, because

  o discovery is an international public good (Kremer, 2006).

  o asymmetries in R&D interests

o AIDS-vaccine trials in developing countries as an alternative (IAVI, 2004)?

Basic message and approach

o   Targeting income or in-kind transfers to
     developing countries in order to accelerate
     the development of an AIDS vaccine is
     counterproductive.

o   Concept of international public goods; supply-side
     characteristics as additional perspective.

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The basic model:

o n agents,

o   two commodities (y_i, G),

o   private good $y_{i,}$

o   public good "finding an AIDS vaccine" G,

o   utility function $U_i(y_i, G)$,

o   marginal cost differentials,

o   endowed with income I_i

Time structure of actions:

o   1. Stage:

Which part of income should be transferred
to recipients?

o   2. Stage:

How much will be spent on both commodities?

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o **Proposition 1:** The overall public good provision level cannot fall if a non-contributor makes an income transfer to a contributor.

o **Proof:**
$$\Delta G < 0$$

$$\Rightarrow G' < G^*$$

$$\Rightarrow y' > y^*$$

$$\Rightarrow y' = h_i(G') < y^* = h_i(G^*)$$

$$\Rightarrow y' < y^*$$

(1)

o   Funding R&D in developing countries is justified by the epidemiology of HIV.

However: small global benefit spillovers;

recipients have incentives to spend money for other purposes

⇨ **Assistance in kind as an alternative?**

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o budget constraint changes due to in-kind option:

case 1: agent *i* receives an in-kind transfer

$$y_i + p_i g_i^i + p_j g_i^j = I_i + p_j g_i^j \ \text{für } g_j \leq G \qquad (2)$$

case 2: agent *i* gives an in-kind transfer

$$y_i = I_i - \left(p_j g_j^j + p_i g_j^i \right) + p_j g_j^j \ \text{für } g_j > G \qquad (3)$$

o **Proposition 2**: An-kind transfer may be pareto-superior to an income transfer if a recipient is more cost-efficient than a donor.

o **Proof**: Summing up (2) and (3) for $n = 2$:

$$y_1 + y_2 + p_1 G + \left(e p_1 - p_2 \right) g_1^2 = e I_1 + I_2 \qquad (4)$$

o   Optimal strategy depends on the relative price of providing a health-promoting public good.

o   Vaccine research has to be monopolized in industrialized countries.

o   Asymmetries in R&D interests ⇨ incentive compatible mechanisms ⇨ pull strategies

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Conclusions

- o Funding HIV-vaccine trials in developing countries will not be effective because of aid dispersion.

- o In-kind transfers are preferable only if recipients have a cost advantage.

- o Asymmetric interests in R&D can be addressed by vaccine purchase commitments.

- o ***However:*** Analyses possess some methodological limitations.

Thanks a lot for your attention!

Additional Slides