

Insights from behavioral economics for improving usage of rectal microbicides

Sebastian Linnemayr, PhD

RAND

May 14, 2014

Take-home message

- Behavioral Economics \neq Economics as you may know it...

What is behavioral economics (BE) ?

- It is economics in the sense that people make decisions based on **costs** and **benefits**



What is behavioral economics?

- It is economics in the sense that people make decisions based on **costs** and **benefits**
- But BE recognizes that they make systematic mistakes in assessing them
- People are *predictably* irrational / show biases



Motivating example– organ donations

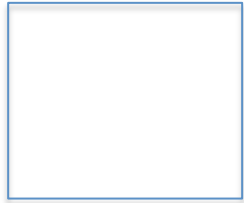
Fraction of drivers who are organ donors:

Germany: 12%

Austria: 99%

What is the difference?

- No, the difference is this:



Whether people have to check the
box

Opt in versus opt out of donating organs

In the next 10 minutes I will talk...

1. About the **costs and benefits** of microbicide use (the 'traditional' economics angle)
2. About the **biases** that interact with the characteristics of microbicides (the 'behavioral economics angle')
3. Some (very) preliminary solution suggestions for discussion

Costs: the quick part

- Financial
- Opportunity cost (of enjoying carefree sex)
- Stigma
- Discomfort
- ...

The more difficult part: benefits

- Timing: costs now, benefits later
- Prevention versus Treatment
 - Uncertainty / odds
- Efficacy versus effectiveness
 - “enroll in a study of a gel that might (or not) work, and you may (or not) receive the real gel.”

Healthy behaviors likely when...

- Decision is simple
- Single action
- Good feedback
- vaccination

Microbicides:

- Long-term behavior needed
- Daily / event-specific adherence needed
- Infrequent testing feedback

Characteristics of microbicides

1. Costs immediate, benefits later → **Myopia**

Particularly bad if coincides with overconfidence

Potential intervention: incentives

PROBLEM: measurement

Characteristics of microbicides

2. The benefits of microbicides are largely invisible (absence of infection) → **Salience**

Related: difficulty of dealing with odds / numerical literacy

Potential intervention: make benefits visible (HIV infection 'counter')

Characteristics of microbicides

3. Little feedback → **un-learning**

- See other people with unhealthy behaviors not getting infected
- Person not getting infected despite irregular usage

Potential intervention: frequent information of similar users who got infected due to non-adherence?

Characteristics of microbicides

4. Active decision-making required → **status-quo bias (inertia)**

- Compare to organ donation example (default is not to take the medication)
- Daily versus event-specific usage (similar to condom)

Potential intervention: reduce cognitive effort needed to make the decision

Characteristics of microbicides

- Repeated (daily) decision-making required → **long-term strategy needed**

- Long-term effects of interventions?

Potential intervention: one size fits all? Combination of different strategies at different stages in the user life cycle needed

Conclusion

- Behavioral economics suggests that the biases of
 - Myopia
 - Overconfidence
 - Saliience
 - Status quo bias
 - Un-learningmay contribute to low microbicide usage
- BE suggests to use the same biases to ‘nudge’ people in the right direction
- Next step: think more carefully about specific nudges

Thank you!

slinnema@rand.org

Extra slide 1: Clinical trials vs. real-life adherence

- Clinical trials:
 - Recruitment
 - Intrinsic motivation / study sample (students, ...) / risk profile
 - Fixed duration
 - Reduced benefits (placebo; efficacy not established)
- Actual adherence:
 - Life-long
 - General population
 - Different types of barriers (financial costs; intra-couple bargaining, ...)
 - Social effects