To what extent do user fees affect Hepatitis B vaccine coverage rates in China?

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Overview

• Background
  – Hepatitis B and vaccination

• Our project
  – Approach
  – Preliminary results
Background

• Hepatitis B virus (HBV)
  – Worldwide:
    • 2 billion people have been infected
    • 350-400 million have chronic infection
    • 600,000 deaths, annually
      – Cirrhosis and liver cancer
World map of hepatitis B virus (HBV) prevalence.

• Transmission
  – Body fluids
  – High endemic regions:
    • Mother-to-Child, and between young children
  – Low endemic regions:
    • Intravenous drug use, sexual contact, etc.
• Probability of becoming a carrier
  – If infected as adult: 2%
  – If infected as newborn: 90%
    • Of which approx. 25% will die from HBV related causes
• HBV vaccination of newborns
  – Three doses:
    • Birth dose within 24 hours
    • 2nd dose at 1 month
    • 3rd dose at 6 months
  – Effective
    • >90% of vaccinees get sufficient immune response
    • Protection seems to be long lasting, >23 years
• HBV in China
  – 93 million carriers
    • 20 million with chronic illness
  – Vaccination
    • Introduced in 1992
    • Universal program since 2001
    • Coverage rates well above 90% in many regions
Our project

• Framework: Microeconomics
  – Households/individuals are decision makers

• How much are HBV vaccine decisions affected by different factors?
  – Vaccination is costly:
    • Vaccination and service fees, travel and time costs
  – Perceived benefits may vary:
    • Characteristics, knowledge, attitudes, and social norms
Methods and preliminary results

• Population of interest
  – 8 provinces with low reported coverage rates
  – Households in rural villages
• Household survey
  – Approx. 9600 households, 30 000 individuals
  – Questionnaire based interviews
• Descriptive statistics
• Econometric modeling
“Do you think parents should let their children play with HBV infected children?”

- Yes: 21%
- No: 69%
- It depends: 10%

Preliminary – please do not quote!
“Do you believe the vaccine is effective?”

Yes: 85%
No: 4%
Don't know: 11%

Preliminary – please do not quote!
"How long do you think the protection last?"

- < 1 year: 18.8%
- 1-5 yrs: 44.3%
- 6-10 yrs: 14.2%
- 11-20 yrs: 7.2%
- > 20 yrs: 15.5%

Preliminary – please do not quote!
• Subsample: Children < 15 years
• Questions
  – Received 3rd dose within one year after birth?
  – Household’s relative economic status in village
• Note
  – Children born after 1996
Newborn has received timely 3rd dose (%), by relative economic status

- Very rich: 60.0%
- Rel. well off: 62.6%
- Average: 63.2%
- Rel. poor: 56.5%
- Very poor: 37.8%

Preliminary – please do not quote!
• Subsample:
  – No HBV vaccine in the past
  – No HBV vaccination plans for the future

• Question:
  – If no vaccination or service fees…
  – …would you go and take the vaccine if offered X Yuan to compensate costs/inconveniences?
Cumulative percentage willing to take vaccine if indirect costs are compensated by X Yuan per Dose

Preliminary – please do not quote!