Leakages and Market Failures in the Provision of Health Products

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Motivation

• Fake medicines are a global public health problem

• Evidence of antimalarial drug quality (Nayyar et al., 2012)
  • Sampled countries in Southeast Asia: Cambodia, China, India, Laos, Myanmar, Thailand
  • **35% of medicines in public and private outlets are fake**
  • Prevalence in Sub-Saharan Africa equally high
  • Similar problem for antibiotics
Common Explanations

• **Profit motives** at all levels in the global supply-chain: manufacturers, counterfeiters, government officials, health care workers, wholesalers, retail drug shops

• Insufficient **internal quality-control** in production process and **regulation and monitoring** of the supply-chain

• **Imperfect competition**

• Widespread **self-prescription** and **poor knowledge** about product authenticity among consumers

However, there is essentially **no evidence** of how supply and demand forces drive drug quality, and how to combat the problem

- We provide evidence from the **private retail sector** in Uganda (Bjorkman, Svensson, Yanagizawa-Drott, 2012)
Which one is fake?
Which one is fake?

Fake

Authentic

A

B
Are fake drugs cheaper?

- Prices may “signal” quality

- The problem may be less severe if households can pay a little extra and get authentic drugs

- However, the data from Ugandan drugs shops shows that fake drugs are on average sold at the same price as authentic drugs
Do households suspect fake drugs?

- Households may partially realize that drugs are fake and ineffective
- This would lead to lower demand and treatments among households that believe the drugs are fake
- We used household survey data from Uganda to investigate this
Do households suspect fake drugs?

<table>
<thead>
<tr>
<th>Location</th>
<th>Drug Shops Selling Fake Drugs</th>
<th>% HH Believes Fake Drugs Are Sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mpigi</td>
<td>18%</td>
<td>18%</td>
</tr>
<tr>
<td>Mbale</td>
<td>41%</td>
<td>41%</td>
</tr>
<tr>
<td>Bushenyi</td>
<td>53%</td>
<td>53%</td>
</tr>
<tr>
<td>Mbarara</td>
<td>49%</td>
<td>49%</td>
</tr>
</tbody>
</table>
Is the problem lack of competition?

Local Competition in Ugandan villages

Local Monopoly 51%

Local Competition 49%
Is the problem lack of competition?

% of Drug Shops Selling Fake Drugs

- Monopoly: 31%
- Competition: 39%
Randomized Experiment

• **NGO Collaboration**: BRAC and Living Goods

• **Intervention**:
  a. Door-to-door Community Health Promoter (CHP) selling authentic antimalarial drugs at a 20-25% subsidized price
  b. ~100 sample villages, half randomly assigned CHP

• **Theory of Change**: By having an NGO provider that sells authentic drugs at low price:
  a. Households will get access to authentic medicines, which can **increase treatments**
  b. Market forces could **drive out the bad drugs** from private outlets due to the NGO
Randomized Experiment
Impact: Drug Quality in Drug Shops

Program Impact:
20 %-points fewer drug shops sell fake drugs
Program Impact:
18% lower prices
Impact: Treatment of Sick Children

Program Impact:
39% increase in antimalarial medicine use
Conclusion and Way Forward

• Evidence of **positive market externalities**: Fake drugs in private outlets can be driven out by the entry of an NGO committed to high quality and low price

• Interventions directly **targeting the retail sector can be highly effective**

• Potential interventions and policies:
  • Monitoring of quality in public and private outlets
  • Technological solutions
  • Certification and consumer information schemes