How do supply-side factors influence informal payments for healthcare? The case of HIV patients in Cameroon

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How do supply-side factors influence informal payments for healthcare? The case of HIV patients in Cameroon

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Rationale (1)

Out-of-pocket expenses (OOPE) still represent important shares of the total health expenditure in many African countries.

<table>
<thead>
<tr>
<th>Country</th>
<th>OOPE as a % of total health expenditure, 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sudan</td>
<td>76</td>
</tr>
<tr>
<td>Nigeria</td>
<td>73</td>
</tr>
<tr>
<td>Guinea</td>
<td>56</td>
</tr>
<tr>
<td>Cameroon, Chad, Sierra Leone</td>
<td>61</td>
</tr>
<tr>
<td>Mali, Sao Tome and Principe, South Sudan</td>
<td>60</td>
</tr>
<tr>
<td>Egypt, Morocco</td>
<td>58</td>
</tr>
<tr>
<td>Niger</td>
<td>53</td>
</tr>
<tr>
<td>Côte d’Ivoire</td>
<td>51</td>
</tr>
</tbody>
</table>

Rationale (2)

- These OOPE often take the form of informal payments (e.g. bribes) initiated by the patients or the health staff
  - to access health care
  - to avoid queues
  - to receive care of better quality
  - to express gratitude
Rationale (3)

- Existing literature on informal payments for health care mainly covers countries of Central and Eastern Europe (Cherecheş et al., 2013; Stepurko et al., 2010)

- Very little empirical evidence from African countries

- No published study on magnitude of IPs for HIV services

- In Cameroon, some evidence suggests they exist:
  - 33% of people who had a contact with the health care system in previous 12 months paid a bribe (TI, 2013)
  - 61% of respondents felt that medical and health services were corrupt/extremely corrupt (TI, 2013)
  - 58% of household heads considered that the level of corruption is high in the health sector (NIS, 2011)
HIV/AIDS is a major health problem in Cameroon (NACC, 2015)
- Prevalence in people aged 15-49 years in 2011 (DHS): 4.3% (women: 5.6%; men: 2.9%)
- Prevalence among pregnant women in 2012: 7.8%
- 58% of PLWHA are women and 16.6% are aged 15-24 years
- 34,158 deaths due to HIV/AIDS in 2014 (est.)
- 46% of women and 58% of men had never done a HIV screening test in 2011
- Total number of PLWHA is expected to increase from 616,029 in 2010 to 772,755 in 2020
- Patients on ART: 105,653 in 2011 (49.6% of eligible patients) -
- 166 health facilities were providing health care services for PLWHA in 2013
- Fight against AIDS: highly dependent on international funds (72% of the funding 2007-2012)
- ART delivered free of charge since April 2007

Patients and civil society organizations frequently report (TAW, 2010)
- Stock-outs in ART, other drugs and biological tests (lack of reagents and/or equipment failure)
- Additional undue payments asked for consultations and medical tests
Aim & data source

- **Aim:** To study the role of supply-side factors in explaining the incidence (and amount) of IPs incurred by PLWHA for consultation

- **Data source:**
  - EVAL (ANRS 12-116) Sept. 2006 - March 2007 (Boyer et al., 2010)
  - Full sample: 3,151 patients ≥ 21 years with at least three months HIV-positive diagnosis selected randomly in 27 public and private health facilities
  - For the analysis: only patients involved in a consultation with a doctor
Methods (1)

Dependant variables

\[ Y_{ij} = \begin{cases} 
1 & \text{if } P_{ij} > T_j \\
0 & \text{otherwise} 
\end{cases} \]

- \( P_{ij} \): the amount paid by patient \( i \) for a consultation in health facility \( j \)
- \( T_j \): the official tariff charged by facility \( j \)

\[ A_{ij} = P_{ij} - T_j \]

- \( A_{ij} \): the amount paid informally

Supply-side characteristics:

- facility ownership (public, private non-profit, private for-profit)
- task-shifting implemented in facility
- % of doctors who consider provision of HIV-care is a difficult task that is insufficiently remunerated
- % of patients with waiting time > 1 hour
Patient characteristics: gender, age, education, employment status, marital status, place of residence, household income quintile, self-rated health status and whether the patient was taking ARTs or not

Multilevel mixed-effects logistic model (Hox, 2010; Rice & Jones, 1997)

- Hierarchical data: patients (level 1/individuals) nested into health facilities (level 2/groups)
- Dependent variable ($Y_{ij}$) computed hospital by hospital

\[
\text{logit}(\Pr(Y_{ij} = 1)) = \gamma_{00} + \sum_p \gamma_{0p} X_{pj} + \sum_q \gamma_{0q} Z_{qj} + \sum_p \sum_q \gamma_{pq} Z_{qj} X_{pj} + \sum_p u_{pj} X_{pj} + u_{0j} + e_{ij}
\]
## Results: Descriptive statistics (N=1,637)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>0.68</td>
</tr>
<tr>
<td>Age</td>
<td>37.71</td>
</tr>
<tr>
<td>Urban residence</td>
<td>0.79</td>
</tr>
<tr>
<td>Employed</td>
<td>0.68</td>
</tr>
<tr>
<td>Married</td>
<td>0.39</td>
</tr>
<tr>
<td>ART</td>
<td>0.74</td>
</tr>
<tr>
<td>Good self-rated health</td>
<td>0.76</td>
</tr>
<tr>
<td>Public facility</td>
<td>0.70</td>
</tr>
<tr>
<td>Task shifting implemented in the facility</td>
<td>0.76</td>
</tr>
</tbody>
</table>
Results: Descriptive statistics (N=1,637)

- Incidence of IPs was 3.05% with average IP of FCFA 2,277 (~US$ 4.6)

- Total IPs represented 78% of total direct cost of consultations for those who incurred IPs

- Higher incidence of IPs:
  - Private for-profit (11.82%) compared to public (2.99%) and private not-profit (0.77%) facilities
  - Facilities with no task-shifting (5.03%)
  - Patients not following ARTs (7.31%) and in poor health (7.24%)

- Higher average amount of IP: facilities with no task-shifting, urban residence, employed, poor self-rated health, non-ART
Results: Models estimates (N=1,637)

- Probability of incurring IPs significantly higher in facilities where:
  - long waiting times were observed
  - a high proportion of physicians considered themselves to be insufficiently remunerated for the HIV-care they provide
  - task-shifting was not implemented

- Probability of incurring IPs significantly lower in private non-profit facilities compared to public hospitals

- Younger patients, with a poor self-rated health, not on ART, married: more likely to make IPs

- Intraclass Correlation Coefficient = 0.42
- Significant random effects for gender
- No significant interactions between individual and facility-level factors
- Results robust to sensitivity analysis
Discussion

- A need to improve payment schemes for health workers to better fit the remuneration to the actual workload (e.g. through pay-for-performance). Increasing salaries alone may not be effective.

- Reducing the frequency of IPs: An additional advantage of implementing task-shifting in HIV-care, particularly in a context where the number of doctors is low compared to the growing number of PLWHA.

- Private non-profit facilities (owned by religious entities) are known for their greater transparency/accountability in the management of both health staff and patients + higher ethical standards. This highlights the need for improvements on these aspects for public and private for-profit health facilities.

- Long waiting times can reflect shortages of health workforce, poor organization of the facility or low motivation/rent-seeking behaviour of health staff. Need to identify the underlying causes of this problem and address them.
Limitations

- Analysis only included IPs for consultations and did not consider IPs for medications or medical tests due to lack of data.

- Only in-cash IPs were analyzed, while IPs can also be made in-kind or in the form of services.

- Relatively small number of patients that incurred an IP (n=50) impeded elaborate econometric analysis of the amount paid informally.

- Perspective: new analysis using data collected from Sept. to Dec. 2015.
Thank you!