Assessing outpatient care expenditures to inform the UHC agenda:
Baseline results from a quasi-experimental impact evaluation of a health systems strengthening project in the Democratic Republic of Congo

Samia Laokri\textsuperscript{1,2}, Rieza Soelaeman\textsuperscript{1}, David R. Hotchkiss\textsuperscript{1}
\textsuperscript{1}Tulane University, School of Public Health and Tropical Medicine, “Global Health Systems and Development” – U.S.A.
\textsuperscript{2}Université Libre de Bruxelles, School of Public Health, “Health Systems and Policy – International Health” – Belgium

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BACKGROUND
Policy background: UHC under process

• Important milestone reached in 2014
  – with the adoption of resolutions and recommendations from the General Assembly of the National Steering Committee of the Health Sector (CNP-SS) to move forward to effective decentralization and a major reform in the health sector

• A new public health law reform aimed at implementing UHC

• WHO AFRO + UHC Partnership support policy dialogue

• Agreement on a roadmap

➤ Technical and policy process toward UHC are in development

➤ Baseline assessment of financial protection associated with PHC is expected
OBJECTIVES
Aim

① To describe levels of total and disaggregated out-of-pocket expenditures (OOPs) for outpatient care, cost distributions and utilization patterns

② To investigate whether incurring extreme, high or medium high OOPs is associated with demand- and supply-side factors
METHOD
The « ASSP – Accès aux soins de santé primaires » research project

**Study design:**
A population-based study aimed at:
- Baseline, Process and Impact Evaluation
  - of a very large range interventions supported by ASSP
- Focus on selected multi-sectoral interventions for operational research studies:
  - Community Health Endowment
  - Health Workers motivation
  - Family Planning
  - User fee
  - Value for Money Assessment
  - WASH
  - Empowerment
- Timeline: 2014-2107

**Funding bodies and Partners:**
- A broader project towards HSS
Strengthened public sector health system components at provincial, health zone, facility and community levels:

- Infrastructure
- Procurement of medicines, equipment and nutrition products
- Payment of salary incentives
- Implementation of management systems and standards
- Data collection, analysis and reporting (HMIS)
- Reduced financial barriers for vulnerable groups
- Stronger community participation in decision-making and tracking of resources

Enhanced government capacity for key functions:

- Accountability and responsiveness
- Stewardship and leadership
- Enabling environment
- Policy setting, implementation and quality control
- Information management
- Stronger links with Faith-Based Networks

Sustainable increased coverage with high quality essential health services:

- Antenatal care, delivery and contraception
- Diagnosis and treatment of malaria
- Child health
- Nutrition
- WASH
- Outpatient and inpatient care services

A quasi-experiential village level panel design with a two-stage sampling strategy
Outpatient survey

• Study period and sites
  – 2014: Baseline study (N=3341)
  – 5 provinces: Equateur, Kasai Occid. /Orient., Maniema, Orientale

• Participants
  – All individuals who reported illness or injury in the 4 weeks prior to interview

• Interviews
  – based on structured questionnaires administrated to head of household (\(?\)

• Data covered:
  – Why care was not sought if this was the case?
  – Where the individuals who did seek care were treated (incl. Informal channels such as traditional healers)?, OOP payments for health?, Satisfaction with services received?
Conceptual framework of predictors of OOPs and multivariate analysis approach

**Demand-side factors**
- Health disparities/inequities
- Household assets
- Household composition
- Ill-Health condition
- Care-seeking behaviors
- Pharmaceutical costs
- Geographic area
- Control features

**Supply-side factors**
- Availability of care services and staff
- Healthcare Affordability
- Availability of technology in Health Facility (HF)
- Accessibility of healthcare facilities
- Sanitary pyramid level (HF type)
- Medical malpractice
- Quality of care services
- Health system related patterns

**Individuals’ likelihood of OOPs on health and associated financial burden**

**Multivariable analysis approach:**
- Multilevel techniques to capture individual, household, health facility related effects
- Multiple models to ensure robustness of findings (response variables)
- Various scenarios to test sensitivity (covariates)
KEY FINDINGS
Service and population coverage*

Main reasons for not using care:
- Distance: 11%
- Self-medicated/Used traditional medicine: 12%
- No money: 66%

Up to 3 OP visits by individual:
- Illness #1: 100%
- Illness #2: 37%
- Illness #3: 09%

Avg: 1.02 visits per person

Up to 9 visits by household:
- Avg: 1.34 visits per household

*All estimates are weighted
Service and population coverage (cn’t)

Quality

No dissatisfaction reported: 11.77%

Dissatisfaction with care received:
- Health providers' explanation: 37.39%
- Provider skill: 48.17%
- Equipement in HF: 49.85%
- Time until attended to: 68.84%
- Drug supply: 77.49%

Acessibility
- Avg time to reach HF: 64 min
  (Female: 40 min vs. Male: 95 min)
- 89% were ≥30 min per trip

Place where outpatient care was received
- Public medical sector
- Private medical sector
- Other
Equity in healthcare utilization

Wealth gap in utilization rates (%):

- Public medical sector:
  - WealthQ1: 59.06%
  - WealthQ5: 63.43%
- Private medical sector:
  - WealthQ1: 23.17%
  - WealthQ5: 31.94%
- Other source:
  - WealthQ1: 17.77%
  - WealthQ5: 4.64%

- Avg nb of free visit:
  - WealthQ1: 46.76%
  - WealthQ5: 28.58%
- Avg nb of paid visits:
  - WealthQ1: 53.83%
  - WealthQ5: 72.81%
OOPs (in US$) and financial burden

- Overall (incl. zero): 6.20
- Overall (non-zero): 6.77
- Overall per visit: 6.61
- Urban: 10.88
- Rural: 6.40
- Kasai Occidental: 4.44
- Maniema/Orientale: 5.82
- Female: 9.69
- Male: 7.07
- Public medical sector: 6.26
- Private medical: 7.00
- Other source: 3.93

- Consultation: 33%
- Medicines: 62%
- Laboratory tests: 00%
- X-ray: 01%
- Medical products: 01%
- Transportation: 01%
- Other: 02%

- Tot. Medical: 98% (US$ 6.4)
- Tot. Non-medical: 2% (US$ 2.7)
Equity in OOPs for outpatient care

Reported OOPs by wealth quintiles (in US$):

- **TOTAL OOPs**
  - Low (<median value)
  - Medium high (>= median, <= 2 times median)
  - High (>=2 times median)
  - Extremely high (>=3 times median)

- **Medical**
  - Poorest
  - Richest

- **Non-medical**
  - Poorest
  - Richest

Pro-rich distributions of OOPs:

- **OVERALL OOPs**
  - Index value = 0.1634 (SE = 0.0189)
  - p-value = 0.000

- **MEDICAL OOPs**
  - Index value = 0.1239 (SE = 0.0202)
  - p-value = 0.000

- **NON-MEDICAL OOPs**
  - Index value = 0.3413 (SE = 0.0766)
  - p-value = 0.000
Multivariable logistic regression analysis for « high » levels of expenditures (≥2 times the median)

<table>
<thead>
<tr>
<th>Determinant</th>
<th>Adjusted OR</th>
<th>SE</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wealth Q1 - Poorest (vs. Richest)</td>
<td>0.37</td>
<td>0.16</td>
<td>0.023</td>
</tr>
<tr>
<td>Wealth Q2</td>
<td>0.44</td>
<td>0.16</td>
<td>0.022</td>
</tr>
<tr>
<td>Wealth Q3</td>
<td>0.46</td>
<td>0.16</td>
<td>0.031</td>
</tr>
<tr>
<td>Wealth Q4</td>
<td>0.49</td>
<td>0.14</td>
<td>0.012</td>
</tr>
<tr>
<td>Owns a transportation mean</td>
<td>0.43</td>
<td>0.12</td>
<td>0.002</td>
</tr>
<tr>
<td>Large household size (≥6 members)</td>
<td>1.77</td>
<td>0.50</td>
<td>0.042</td>
</tr>
<tr>
<td>Days lost: One Month or above</td>
<td><strong>3.97</strong></td>
<td>0.19</td>
<td>0.005</td>
</tr>
<tr>
<td>Share of oops on drugs</td>
<td>0.21</td>
<td>0.12</td>
<td>0.007</td>
</tr>
<tr>
<td>Equateur (vs. Maniema/Orientale)</td>
<td>0.23</td>
<td>0.09</td>
<td>0.000</td>
</tr>
<tr>
<td>Kasai Occidentale + Orientale</td>
<td>0.37</td>
<td>0.14</td>
<td>0.011</td>
</tr>
<tr>
<td>Under 5 years old</td>
<td>0.58</td>
<td>0.11</td>
<td>0.003</td>
</tr>
<tr>
<td>HF has functional ultrasound</td>
<td><strong>3.84</strong></td>
<td>1.98</td>
<td>0.010</td>
</tr>
<tr>
<td>HF has functional centrifuges</td>
<td>0.35</td>
<td>0.16</td>
<td>0.021</td>
</tr>
<tr>
<td>HF at Operational level 2 (HGR)</td>
<td><strong>50.59</strong></td>
<td>77.19</td>
<td>0.011</td>
</tr>
<tr>
<td>Dissatisfaction index: Score 4</td>
<td><strong>2.90</strong></td>
<td>1.22</td>
<td>0.013</td>
</tr>
</tbody>
</table>

Statistical significance of ***: <.0001 ; **: <.05 ; *: <.10
DISCUSSION
Several study limitations

- Household *consumption/expenditures or income data* were not available
  - which prevents calculation of « catastrophic expenditures »
    → Do we need such indicator by type of care/disease or for all?
- Weaknesses related to *sensitive data collection*
  - which acknowledges possible missclassification or mis-reporting (but minor effect)
- Choice of health facility linked to *main care-seeking pattern* (first illness reported)
  - but relatively few resorted to multiple care facilities over the 4 weeks of study period, which constitutes another limit
- Evidence reported here purposely focused on *outpatient care*
  - This was an attempt to attribute effects of catastrophic cost to likely smaller amounts spent on health compared to inpatient spending
Implications for UHC and health financing reform

Expenditures studies may contribute to inform policy-making in UHC
– Use of baseline data for UHC assessment

Several challenges ahead:

– Wealth and geographic disparities
– Skewed distribution of OOPs across group ("extreme" risk)
– Inability of insurance schemes if any to effectively cover PHC expenses & Levels of co-payments arrangements
– Go beyond subsidized care towards vulnerable groups
– Capacity to pay & Price elasticity to demand
– Price transparency & charging practices across location of care
– Beyond quantity, quality matters
Author’s contact:
Samia LAOKRI, Health economist slaokri@ulb.ac.be
Assistant Professor of International Health at
ULB – Université Libre de Bruxelles
Adjunct Assistant Professor at Tulane University
Appendix
Public financing for health: Overview

**GGHE as a % of General Government expenditure, 2012-14 Average**

Source: WHO’s Global Health Expenditure Database (NHA indicators)

**GGHE per capita in US$ (2012 prices), 2012-14 Average**

DRC = USD124

DRC = 10.5%
Progress in DRC

UHC (WHO definition)

• « Cube » Coverage
  – Spectrum of good-quality essential health services according to need
  – Entire population throughout the life-course
  – Protection from financial hardship, including possible impoverishment, due to oops for health

• Equitable distribution

Health-related SDG

• DRC ranked 21 on 31 SubSaharan Africa for avg health outcomes

Source: ONE 2016 Africa Data Report
<table>
<thead>
<tr>
<th>MPA Curative Activities</th>
<th>MPA Preventive Activities</th>
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<tbody>
<tr>
<td>- Growth monitoring for under-fives</td>
<td>- Clinic-based IMCI</td>
</tr>
<tr>
<td>- Prenatal and postnatal counseling</td>
<td>- Testing/treating diseases, including NTDs</td>
</tr>
<tr>
<td>- PMTCT (ARV and Cotrimoxazole)</td>
<td>- TB: Sputum collection/forwarding to CDTs</td>
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<tr>
<td>- FP counseling and services</td>
<td>- Nutritional rehabilitation</td>
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<tr>
<td>- Immunizations</td>
<td>- Minor surgery</td>
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<tr>
<td>- Infection prevention &amp; blood safety</td>
<td>- Normal labor &amp; delivery services</td>
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<tr>
<td>- Distribution of IPTp and LLINs</td>
<td>- IPTp for pregnant women</td>
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<tr>
<td>- HIV information</td>
<td>- STI syndromic treatment and referrals</td>
</tr>
<tr>
<td>- Vitamin A &amp; other micronutrients</td>
<td>- S/GBV Post-exposure prophylaxis &amp; counseling</td>
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<tr>
<td>- HIV/AIDS: PMTCT &amp; blood testing</td>
<td>- Acute respiratory infection treatment</td>
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<tr>
<td>- Other basic curative care</td>
<td>- Other basic curative care</td>
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<table>
<thead>
<tr>
<th>MPA Promotional Activities</th>
<th>MPA Community Activities</th>
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<tbody>
<tr>
<td>- Condom use for dual protection</td>
<td>- Community-based IMCI (c-IMCI)</td>
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<tr>
<td>- Environmental sanitation</td>
<td>- Food safety and food handling</td>
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<tr>
<td>- Exclusive breast feeding</td>
<td>- Potable water improvements, (e.g., spring capping)</td>
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<tr>
<td>- Healthy eating &amp; food handling</td>
<td>- Household sanitation, (e.g., improved latrines)</td>
</tr>
<tr>
<td>- Iodized salt</td>
<td>- Community water treatment</td>
</tr>
<tr>
<td>- Improved latrines</td>
<td>- Disease/Vector control (e.g., LLINs &amp; tsetse control)</td>
</tr>
<tr>
<td>- ORT and diarrheal disease control</td>
<td>- Community based IEC</td>
</tr>
<tr>
<td>- Fistula awareness and prevention</td>
<td>- Distribution of FP commodities</td>
</tr>
<tr>
<td>- Vegetable gardens, fish farming, livestock</td>
<td>- S/GBV Community awareness and prevention</td>
</tr>
</tbody>
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<thead>
<tr>
<th>Complementary Package of Activities (CPA)</th>
<th>Management/Administrative Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Internal medicine, surgery, OB/GYN, and pediatrics</td>
<td>- Increase availability of essential services</td>
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<tr>
<td>- Long acting &amp; permanent contraception methods</td>
<td>- Resource Mgmt (human, material, financial)</td>
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<tr>
<td>- Post-abortion care (PAC)</td>
<td>- Continuous health personnel training</td>
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<tr>
<td>- Blood screening, storage &amp; collection</td>
<td>- Train/Mentor (community) outreach workers</td>
</tr>
<tr>
<td>- Multi-drug resistant (MDR)TB sputum collection</td>
<td>- Links/Referrals from private health providers</td>
</tr>
<tr>
<td>- PMTCT-plus with ARV prophylaxis</td>
<td>- Management of health information</td>
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<tr>
<td>- TB-HIV co-infection screening and treatment</td>
<td>- Management of pharmaceutical information</td>
</tr>
<tr>
<td>- Rehabilitation and Physiotherapy</td>
<td>- Managing resources, applied research</td>
</tr>
<tr>
<td>- Lab Tests: parasites, HIV, TB &amp; Bacterial</td>
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<tr>
<td>- Biochemical medical Imaging: Radio/Echography</td>
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