Developing and Validating Innovative Methods to improve measurement of Out-Of-Pocket payments for health services in Low and Middle-Income countries

iHOPE Research Project

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Introduction

- There is an increasing demand for disease-specific health expenditures from countries and development partners.

- There is the need to collect better data on OOP expenditures and particularly linked to diseases.

- Current approaches to estimate OOP payments rely on data from national surveys, like LSS and Household Budget Surveys (HBS).
Existing data for Financial Protection Tracking and respective limitations

Existing Surveys

- General Household Survey
- Health Surveys

Challenges

- Many different surveys measure household health expenditures, and the question modules are not standardized
- The number of specific health items, whether they are services, medicines, or supplies or equipment, varies drastically
OOPHE Share of Total Health Expenditure

- Global: 21
- MIC: 34
- LIC: 47

Map:

Map disclaimer:
The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement. The borders of the map provided reflect the current political geographic status as of the date of publication (2013). However, the technical health information is based on data accurate with respect to the year indicated (2013). The disconnect in this arrangement should be noted but no implications regarding political or terminological status should be drawn from the arrangement as it is purely a function of technical and graphical limitations.

Legend:

- < 30.0
- 30.0-50.0
- 50.1-60.0
- > 60.0
- > 80.1-90.0
- > 90.0
- Not applicable
- No data
Objectives of the IHOPE Project

1. Improve estimation of OOPs in a household survey
2. Develop a set of questions to facilitate OOP specific disease measurement
3. To test and develop interim/alternative approaches in HH surveys
4. To develop reliable substantiated tool to measure household expenditures at different details of items
5. To provide a socio-economic context to interpret OOPs
Some Research Questions

1) What is the optimum number of questions on health expenditures that can be included in household expenditure, income or budget surveys (HECS) to obtain accurate estimates?

2) What is the optimum number of questions on non-health expenditures that can be included in household health surveys (HS) to obtain accurate estimates?

3) What is the optimum number of questions that are needed to identify OOPs?

4) Which recall period is more accurate for OOPs? (2 weeks, 6 months versus 4 weeks, 1 year)
Overall Designed Approach

Field work

Experts Opinions

In-depth interview/FGD/Open Review

Literature Review

Consulting the exiting tools

Modified tool

Testing the tool at multi country based using the different version

Africa

Asia

A standardized and validated tool that can be applicable at different context and time

The Study Conceptual Framework

Reconsideration after field test
Premises of this OOPHE validation

Main source of errors

1. Sampling error;
2. Bias from non-sampling error
3. Insufficient frequency of repetition

- Defects in the design and implementation, or limitations in human ability to adequate information convey or elicit the true response—mainly:
  
  A) Fail to recall
  B) Fail to report
Fail to Recall?

Evidence and remedies

- **Recall period** …… Shorter reference period is more recalled (Eg. 2-weeks is more recall than 4-weeks)
  - Small recall period--- Fewer events are being captured

- **Questions detail** --- More detail expenditure elicitation (single item<4-items<8-items)
  - Too many questions-----are difficult to implement (it is a load to respondents)
It is to answer this...... Expanding recall period Vs Number of items

1. Increasing number of items to optimum level
2. Innovative approach for elicitation of recalling
3. Both approaches

“100% accuracy (Provider level data)”
Randomization for the Validation of general household survey

**General Household Survey**

**Version-I**
- Existing questions.
  - Recall periods: 4 weeks for outpatient, 4 weeks and six month for medical appliances (based on the type of appliances) and 6 months for in-patient.
  - This is to examine the health expenditure using the existing health questionnaire which are already in the general household survey.

**Version-II**
- New COICOP based questions
  - Recall periods: 4 weeks for outpatient, 4 weeks and six month for medical appliances (based on the type of appliances) and 6 months for in-patient
  - This version will be consisting about 9-10 items which will derived from the COICOP health sub-category. This is the new tool that also will be integrated into the health survey validation.

**Version-III**
- OOPS from Health module
  - Recall periods: 4 weeks for outpatient, 4 weeks and six month for medical appliances (based on the type of appliances) and 6 months for in-patient
  - The health expenditure questions for this will be derived from the health module of the health survey-the DHS

At one year interval data collection similar to R-1 will be applied

At one year interval data collection similar to R-1 will be applied

At one year interval data collection similar to R-1 will be applied
Health Survey Validation Randomization

Round-I

Version-I Questionnaire
2w...2w/6m...6m: 2 weeks outpatient; 2 weeks and 6 months for medical appliance; and 6 months for the inpatient

Version-II Questionnaire
4w...4w/12m...12m: 4 weeks outpatient; 4 weeks and 12 months for medical appliance; and 6 months for the inpatient

Version-III Questionnaire
2w...2w/6m...6m: 2 weeks outpatient; 2 weeks and 6 months for medical appliance; and 6 months for the inpatient

Version-IV Questionnaire
4w...4w/12m...12m: 4 weeks outpatient; 4 weeks and 12 months for medical appliance; and 6 months for the inpatient

Round-II

One year latter

One year latter

One year latter

One year latter

One year latter

One year latter

One latter

One latter

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Versions of HH expenditure

- Version I
  - Consumption-A-Category
    - a1
    - a2
    - a3
    - a4

- Version-II
  - Consumption-B-Category
    - b1
    - b2
    - b3
    - b4
    - b5
  - 80% of all listed sub-categories

- Version-III
  - Consumption-C-Category
    - c1
    - c2
    - c3
    - c4
    - c5
  - 80% of these sub-categories
  - 80% of these sub-categories

80% of these sub-categories
How to get accurate data at provider level - Realities and approaches?

Possible areas where a given household member can visit during the study period

The first step in this validation study start from how we have reliable documentations at each site where the provider level data that we assume as Gold standard will be obtained. In this, paper based or electronic based or both paper based and electronic based documentation will be designed and installed within each health facility.
Even after getting into the health facility, they pass through the following procedures:

- Arrival
- Registration
- History Taking
- Injection Room
- Consultation-1
- Consultation-2
- X-ray
- Lab
- Dispensary
- Home
- Emergency
- Admit
Suggested approaches to get the provider level data

Documentation improvement:

1. Patient identification
2. Financial expenditure
3. Diagnosis of the disease

- Use of technologies—Especially for financial expenditure documentation—Electronic cash register?

- The concept of patient information exchange
Sampling Techniques

1. Navrongo, Ghana
2. Ouagadougou, Burkina Faso
3. Filabavi, Vietnam
### Designs to test for the in-patient and low prevalence health problems recall periods

#### Recall Periods

<table>
<thead>
<tr>
<th>W1</th>
<th>W2</th>
<th>W3</th>
<th>W4</th>
</tr>
</thead>
<tbody>
<tr>
<td>This is to test the health care utilization in the last 4 weeks (for the inpatient and low prevalence outpatient)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has the respondent ever used health care service in the last 4 weeks 1) yes 2) No</td>
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</tr>
<tr>
<td>2) When did the health utilization happen 1) 1st week ii) 2nd week iii) 3rd week iv) 4th weeks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much did you spend ____________________________</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>M1</th>
<th>M2</th>
<th>M2</th>
</tr>
</thead>
<tbody>
<tr>
<td>This is to investigate health care utilization in the last three months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Have you used health care service in the last three months a) yes b) no</td>
<td></td>
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</tr>
<tr>
<td>2) When was the time did the health utilization happen i) 1st month ii) 2nd month iii) 3rd month iv) combinations of ____</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii) How much did you spend ___________________</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>M5</th>
<th>M6</th>
</tr>
</thead>
<tbody>
<tr>
<td>This is to investigate the health care utilization in the last six months.</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Have the respondent ever used health care service in the last six months 1) yes 2) no 2) When was the time did the health utilization happen 1) 1st month 2nd month 3) 3rd month 4) 4th month 5) any combinations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### The Same Questioning Approach Will Be Made by Considering the Respective Months in the Last One Year
## Symptoms

<table>
<thead>
<tr>
<th>Malaria/Fever</th>
<th>Diarrhea</th>
<th>HIV/AIDS</th>
<th>Headache</th>
<th>Dizziness</th>
<th>Nausea/vomiting</th>
<th>Restlessness</th>
<th>Body pains</th>
<th>Cough</th>
<th>Joint pains, bone pains</th>
<th>High blood pressure</th>
<th>Blood urine, piss with sharpen pain</th>
<th>Loss of appetite</th>
<th>Respiratory infections</th>
<th>Maternal condition</th>
<th>Hypertension</th>
<th>Nutritional deficiency</th>
<th>Neoplasms</th>
<th>Diabetes</th>
<th>Cardiovascular disease</th>
<th>Mental condition</th>
<th>Oral disease</th>
<th>Skin disease</th>
<th>Other, specify</th>
</tr>
</thead>
</table>

## Diagnosis

<table>
<thead>
<tr>
<th>Infections and parasitic disease</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>HIV/AIDS and Other Sexually Transmitted Diseases (STDs)</td>
</tr>
<tr>
<td>1.1.1</td>
<td>HIV/AIDS and Opportunistic Infections (OIs)</td>
</tr>
<tr>
<td>1.1.1.1</td>
<td>HIV/AIDS</td>
</tr>
<tr>
<td>1.1.1.2</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>1.1.1.3</td>
<td>Other and unspecified Non-Communicable Diseases (n.e.c.)</td>
</tr>
<tr>
<td>1.1.2</td>
<td>STDs Other than HIV/AIDS</td>
</tr>
<tr>
<td>1.1.3</td>
<td>Unspecified HIV/AIDS and Other STDs</td>
</tr>
</tbody>
</table>

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**How to go for these disease symptoms and diagnoses**

**We will review the 10 top health problems and how they are documented in the respective HDSS, and then adjustment will be made to the lists of the questionnaire to be fielded without disturbing the existing diagnosis category.**
Developing scalar to annualize the out-of-pocket health expenditure

Once we have captured the data with the different modules that can be considered as baseline further interview will be made through telephone in line with their respective recall period!

We will set up a center to facilitate the implementation of these approaches!
# Work-Plan

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</thead>
<tbody>
<tr>
<td>Ethical approval</td>
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<td></td>
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<tr>
<td>Round-I data collection</td>
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<tr>
<td>Data on scalar derivation</td>
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<td>XXXXXXXX</td>
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<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data collection on in-patient and low prevalence</td>
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<td>XXXXXXXX</td>
<td>XX</td>
<td></td>
</tr>
<tr>
<td>Round-II data collection</td>
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<td></td>
<td>XXXXXXXX</td>
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<tr>
<td>Report writing &amp; Papers</td>
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<td>XXXXXXXX</td>
<td>XXXXXXXX</td>
<td>XXXXXXXX</td>
<td>XXXXXXXX</td>
</tr>
</tbody>
</table>
Thank You!