Philippines Impact of Incentives and Information on Quality and Utilization in Primary Care (I3QUIP):

BASELINE SURVEY METHODOLOGY

Survey Design

The baseline survey collected information regarding local government, health services, and other basic background information on 240 local government units (municipalities or cities). It also collected data to measure utilization, quality, and other key indicators for the study. Data collection was conducted through the following processes in each LGU office and RHU, applying the designated tools:

- Interviews with Key Informants, including the Local Chief Executive
- Interviews with RHU Physician
- RHU/Health Facility Survey
- Patient Chart Reviews for Selected Diseases
- Direct Observation of Clinical Management of Patients (only in a Subset of Study Sites)
- Patient Exit Survey
- Collection of a Sample of Patient Health Profiles

Sampling

Randomization

The sample of 240 LGUs was selected by PhilHealth from PCB1-engaged LGUs that are willing to participate in the study. Randomization of LGUs was conducted at the municipality level, stratified at the regional level and then at the provincial level. See the list of the 240 I3QUIP LGUs in Annex I. This section describes the process of randomization of the municipalities.

A total of two hundred forty (240) municipalities and cities were randomly selected from a listing of municipal/city LGUs with PCB-accredited RHUs. To become PCB-accredited, the LGU applies for accreditation of its RHU to become a provider of the PhilHealth PCB1 package. When PhilHealth approves that the RHU meets the service delivery standards of a PCB1 provider based on a review of the facilities and its staff, the accreditation is formalized with the

LGU applying for accreditation and signing a Performance Commitment signifying compliance to the guidelines of the PCB1 package.

The National Capital Region (NCR) and the Autonomous Region of Muslim Mindanao (ARMM) were not considered as part of the study from the early stages of the study design. This is because ARMM does not have health services decentralized at the municipality level and therefore the interventions are not relevant. NCR was taken out as each municipality and city was considered too large (with too many RHUs) and therefore was deemed inefficient to include in the study and may dilute the findings.

Stratification by Region. Of the 17 regions in the country, 14 regions were included. The three that were not included are: ARMM and the NCR as described above, and Region VIII which was severely affected by the typhoon Haiyan/Yolanda in November 2013 prior to the conduct of the baseline survey[1].

Two to three provinces were randomly chosen from each of the 14 regions included in the study. This resulted in 30 provinces, with two provinces each from 12 regions and three provinces each from 2 regions.

Stratification by Province .In each of the selected provinces, eight LGUs were selected from the list of LGUs with PCB-accredited RHUs as of June 2013 provided by PhilHealth. In total, there were 1,120 LGUs with PCB-accredited RHUs nationwide. In provinces with less than eight municipalities/cities with PCB-accredited RHUs, the remaining LGUs were randomly sampled from another province in the same region to add up to 16 LGUs per region, except for Regions VI and VII where a total of 24 LGUs were selected for each region.

PhilHealth confirmed the willingness of LGUs' participation in the study through the mayor's signing of an Informed Consent form. A total of 32 municipalities in 18 provinces did not sign the consent form as they either declined participation in the study or they were no longer eligible to participate since they no longer had PCB-accredited RHUs nor had any pending application for PCB accreditation at the time of the randomization. Demographic characteristics of the 32 municipalities that were selected to participate in the study but declined or were no longer eligible were compared with the 240 LGUs that were selected and signed the consent forms. The demographic characteristics assessed included population, number of registered of voters, land

[1] There were two provinces each from 15 regions in the original random selection in August 2013. After the typhoon in November 2013, the two Region VIII provinces that sustained worst damages from the typhoon were replaced by one province each from Regions VI and VII using the same random selection process. This was because initial reports suggested that most health facilities were destroyed in Region VIII with all or most of their supplies and documentation. It was deemed impossible to conduct the baseline survey, hence they were excluded from the study. This resulted in the sample including three provinces each from Regions VI and VII.

area, number of barangays, and the income class of the municipality. There were no statistically significant differences found between the two sets of LGUs (data not shown).

Assignment into Treatment Groups. During the conduct of the baseline survey, the 240 LGUs were randomly assigned into the four treatment arms, including the control arm, stratified by province. There are therefore 60 LGUs per treatment arm, evenly spread across the regions and provinces. The assignments were only notified to the LGUs and the health facilities after the baseline survey, at the time of the orientation of the study conducted between September and November, 2014. The orientations to LGUs were attended by the Local Chief Executive, the Municipal Health Officer (usually the rural health physician in the main RHU), and the Municipal Accountant. The orientations were given by treatment arm based on treatment-specific manuals, to ensure that there was no contamination.

Sample Size and Non-Response

Table 1 indicates the target sample sizes and the actual number of samples obtained during the baseline survey, and reasons for not reaching the targeted sample size. See Annex for the selection process for the respondents or samples for each tool.

Table 1: Target Sample Sizes by the Survey Component

	Questionnaire/ Tool	Target No. of Samples/ Respondents	Actual No. of Samples/Respondents Obtained	Remarks
1	LCE Questionnaire	240	239	The LCE in the LGU with no respondent was away for a prolonged period of time and alternate respondents refused to respond on behalf of the mayor.
2	MSWDO Questionnaire	240	240	-
3	LGU Finance Questionnaire	240	240	-
4	Health Facility Survey Questionnaire	240	240	-
5	Physician Interview Questionnaire	240	231	Some LGUs had no physician for a prolonged period of time during the survey for various reasons (e.g. retired and no replacement yet, in a long-term training, undergoing treatment, etc.)

	Questionnaire/ Tool	Target No. of Samples/ Respondents	Actual No. of Samples/Respondents Obtained	Remarks
6	Direct Observation	240 (=5prov x 8mun x 6obs)	201	All missing cases are from the same province, where there were very few hypertension cases during the period of the survey.
7	Patient Chart Review	5,760 Asthma - 1,440 (=240munx6charts) AGE – 1,440 Diabetes – 1,440 Hypertension – 1,440	5,401 Asthma-1,348 AGE – 1,368 Diabetes – 1,286 Hypertension – 1,405	There were not as many as 6 cases for the condition (some LGUs had zero cases for some conditions).
8	Patient Exit Survey	4,800 (=240x20)	4,784	All 16 missing respondents were from only one LGU, where the physician was always sick and absent and very few patients visited the RHU.

ANNEX: SAMPLING METHOD

The respondents or samples for each baseline survey tool were selected as follows:

1. Local Chief Executive (LCE) Questionnaire. The LGU's LCE or a referred representative was interviewed.

2. Municipal Social Welfare Development Office (MWSDO) Questionnaire. The Municipal Social Welfare Development Officer or designated staff was interviewed.

3. LGU Finance Questionnaire. The LGU's Accountant, Budget Officer, or both or designated representatives were interviewed.

4. Health Facility Questionnaire. Only one RHU per municipality was included in the baseline survey. Majority of the municipalities have only one RHU, but for those with more than one RHU, the main RHU was the one included in the survey. The main RHU is generally the RHU located in the central areas of the municipality and the most equipped among the RHUs in the case of multiple RHUs.

The data collection for the other tools were done in the RHU included in #4 above:

5. Physician Interview Questionnaire. The Rural Health Physician was interviewed. If the facility has more than one physician, the one most regularly reporting in the facility was interviewed.

6. Direct Observations (DO). Out of the 30 provinces in the study, five provinces were randomly selected for the conduct of Direct Observations. Three provinces (Batanes, Ifugao, and Abra) were not included in the DO selection due to their remoteness and thereby difficulties in supervising.

   The selection of the five provinces was stratified by the three major regional groupings: two in Luzon, one in Visayas, and two in Mindanao. For each province selected, only eight LGUs were included as DO sites; hence in two provinces that had more than eight I3QUIP sites, those with lowest assigned numbers in the original random sampling procedure (beyond the eighth place) were not included. There were therefore 40 RHUs for Direct Observation.

   Selecting Cases/interactions for Direct Observation: Six direct observations were to be made per RHU. The interactions to be observed were the management of the first six patients on the day of observation, above 40 years old and who are known hypertensives or are new cases with abnormal blood pressure. If a patient was attended to by another

health provider while the enumerator was still observing another case, that patient was skipped.

7. Patient Chart Review. Four conditions were included in the patient chart review: asthma, diabetes, hypertension, and acute gastroenteritis. For each condition, the chart of the six most recent patients were reviewed. For hypertension and diabetes, only charts of patient above 40 years old were included. For any condition, charts were included whether the patient is a PhilHealth member or not.

   For each patient, the entries in the charts as far back as July 1, 2012 were included in the review, except for Gastroenteritis where only the most recent visit recorded in the charts is included.

   The health profiles of patients whose charts were reviewed were also collected for encoding, if available.

8. Patient Exit Survey. Ten respondents were selected per RHU for the patient exit interview. Counting from the first patient who is seen at the health facility, every other patient coming out from consultation were interviewed. If a potential respondent refused to be interviewed, that person was skipped. Only adult patient or adult companions of patients were interviewed.