

Procurement of medicines of local government units in the Philippines: A Pilot Study



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Background

- RA 7581, the Price Act, and RA 9502, the Universally Accessible Cheaper and Quality Medicines Act of 2008 allowed the DOH to “monitor and regulate drug prices” to protect procuring government agencies from unreasonable drug prices.
- As per DOH DO 2014-0146, private and public facilities poorly comply with the required reporting of selling price of essential drugs via the online Essential Drug Price Monitoring System (EDPMS).
- Therefore, DOH PD created the Drug Price Reference Index (DPRI) to serve as a guide where government agencies can base the maximum reasonable purchase price of each drug they opt to buy.

Main Objective

The objective of this study is to compare the prices of selected drugs in purposively-selected Luzon LGUs with the DPRI

Methodology

- Price and quantities of a basket of drugs procured by the sampled LGUs from years 2014-2015
- Prices to be compared with the DPRI
- Prices which vary for the time period shall be weighted according to quantities. For example:

Amoxicillin 500 mg procured 2014-2015 by LGU A

a. Quantity Procured	b. Weight based on Quantity	c. Price Procured	Column b. X Column c.
1,000	0.4	PhP 7.00	2.80
1,500	0.6	5.00	3.00
TOTAL: 2,500		Weighted Price = PhP 5.80	

Methodology

- Prices and quantities of a basket of drugs applicable per LGU shall be compared with the DPRI by aggregating into the following price index (Las Peyres):

$$L_{LGU} = \frac{\sum_{j=1}^n p_{j,LGU} q_{j,LGU}}{\sum_{j=1}^n p_{j,DPRI} q_{j,LGU}}$$

p is the price of drug j applicable in either the LGU or DPRI. q is the quantity.

Methodology

$$L_{LGU} = \frac{\sum_{j=1}^n p_{j,LGU} q_{j,LGU}}{\sum_{j=1}^n p_{j,DPRI} q_{j,LGU}}$$

- Intuition:
 - This index shows the percent difference of the total LGU drug expenditure when the quantities procured were priced at LGU prices versus DPRI prices.
 - The lower L_{LGU} is, the better since it means that drug prices obtained by the LGU are near DPRI thresholds. The L_{LGU} is the main dependent variable.
- The L_{LGU} shall be the main dependent variable.

Methodology

$$L_{LGU} = \frac{\sum_{j=1}^n p_{j,LGU} q_{j,LGU}}{\sum_{j=1}^n p_{j,DPRI} q_{j,LGU}}$$

Example for LGU X:

Generic Name	Quantity	LGU Average Price	DPRI price
Cetirizine Tab	5,000	1.35	1.29
Chloramphenicol Cap	1,000	2.75	2.16
Cilostazol Tab	250	6.65	6.80
Diltiazem Tab	500	18.50	17.61

$$L_{LGUX} = 1.07$$

Methodology

$$L_{LGU} = \frac{\sum_{j=1}^n p_{j,LGU} q_{j,LGU}}{\sum_{j=1}^n p_{j,DPRI} q_{j,LGU}}$$

Example for LGU Y:

Generic Name	Quantity	LGU Average Price	DPRI price
Cetirizine Tab	5,000	1.29	1.29
Chloramphenicol Cap	1,000	2.16	2.16
Cilostazol Tab	250	6.80	6.80
Diltiazem Tab	500	17.61	17.61

$$L_{LGUY} = 1.00$$

∴ LGU Y follows the DPRI.

Collecting Procurement Documents

- Major issues:
 - Bureaucratic delays of DOH ROs
 - Some LGUs did not respond at all despite repeated follow-ups
 - Some LGUs claim that documents are either archived and hard to retrieve or are submitted to COA
 - Hospitals were more cooperative than LGUs

Collecting Procurement Documents

- Solution applied:
 - PD asked the study team to halt data collection and instead, they collected purchase orders for us starting last January 19, 2017

Caveat: Getting only the POs (and not the other procurement documents) will only allow for an analysis of price and quantity data.

Total Data Yield versus Target: 31.25% (10 out of 32)

Collected price and volume of LGU-procured drugs

- The Resulting LasPeyres Index

Study Sites	LasPeyres Index	# of drugs and total qty.
b_prov2_city_1	0.35	67; 215,722
a_muni_3	0.95	11; 117,270
b_prov1_muni_3	2.01	43; 81,860
a_hf_4 ^b	2.69	6; 3370
b_prov1_hf_2 ^c	3.72	74; 25,259
a_city_2	4.14	50; 73,792
b_prov1_hf_1 ^c	4.7	59; 41,825
b_prov1_city_2	4.96	9; 14200
b_prov1_muni_5	35.71	1; 5
b_prov1_muni_2	212.7	1; 840

Collected price and volume of LGU-procured drugs

- Top 10 Most Procured Drugs

Generic Name	Dosage Strength or Form	Volume (# of Study Sites Which Bought)	Price (Difference with DPRI)				
			Median	Difference of Median vs DPRI	Min	Max	Standard Deviation
Paracetamol	250 mg/5 mL, 60 mL Bottle	42,912 (3)	10.13	0.82 x	0.42	12.8	6.52
Morphine (As Sulfate)	30 mg Tablet	40,000 (1)	1.28	0.04 x	N/A	N/A	N/A
Lagundi	300 mg Tablet	39,200 (1)	1.48	0.99 x	N/A	N/A	N/A
Amoxicillin	500 mg Capsule	24,800 (5)	2.61	2.07 x	1.37	3.5	0.76
Paracetamol	500 mg Tablet	23,200 (3)	0.49	2.13 x	0.26	0.70	0.22
Ascorbic Acid (Vitamin C)	500 mg Tablet	20,200 (2)	47.03	69.16 x	1.24	92.82	64.76
Ferrous Sulfate + Folic Acid	60 mg Elem. Iron + 400 mcg Tablet	20,000 (1)	0.55	0.95 x	N/A	N/A	N/A
Mefenamic Acid	500 mg Capsule	17,950 (4)	2.55	3.44 x	0.52	74.00	36.11
Mefenamic Acid	50 mg/5 mL, 60 mL Suspension	16,370 (4)	37.65	3.77 x	1.31	74.00	51.40
Cefuroxime	750 mg Vial	16,267 (5)	158.70	7.70 x	63.60	256.62	85.63

Policy Recommendations

- Strengthen the price and volume monitoring using a one-stop-shop online database
- Train purchasing officers (i.e. BAC, Supply Officer, etc.) in the GPRA
- Disseminate the use of DPRI
- Include the prices and volumes of LGU-procured drugs in the DPRI computation
- DOH PD can Collaborate with COA for Monitoring Prices of LGU-Procured Drug
- Further Studies to Evaluate the Transparency of LGUs
- Explore the use of the Presidential hotline, 8888

Policy Recommendations

Use the LasPeyres Index in drug price monitoring using the following suggested algorithm

LasPeyres Index Value	Priority	Interpretation
< 0.5	Highest	Quality Red Flag
0.5 to 1.5	Minimal	Acceptable Level
1.5 to 5.0	Average	Price Issue
5.0 to 10	High	Price Issue
> 10.0	Highest	Price Issue

Thank you for your kind attention.