

What Factors Influence Drug Pricing in Public Hospitals?

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Based on the Study on Factors Influencing Drug Prices Among National Public Hospitals by John Q. Wong, Geminn Louis C. Apostol, Cheyenne Ariana Erika M. Modina, and Joy Bagas

REGULATION

KEY FINDINGS

- ✓ Most hospitals are aware of the various steps that must be undertaken for each stage of the drug management cycle (drug selection - procurement - distribution) however these are loosely complied with. Incentives and monitoring systems for complying with the various steps mandated by the procurement law and in implementing the Philippine National Drug Formulary (PNDF) are also lacking internally and externally.
- ✓ Factors with significant relationship to the price ratio are: [1] being a GIDA hospital, [2] being a higher level hospital, and [3] procurement by consignment, shopping or emergency purchases using revolving funds. Meanwhile, mark-up variations are influenced by hospital level and distribution to warehouse and pharmacy.
- ✓ Hospitals who participated in the study were in agreement that the Philippine Drug Price Reference Index (DPRI) was set too low and unrealistic, which then of exerts impact on the various steps of the drug management cycle, most prominently on procurement.

METHODOLOGY

- The study employed a case-control study design which included 57 public hospitals. These public hospitals were categorized according to the price ratio (PR) of a preselected basket of medicines with respect to the drug price reference index (DPRI).
- Cases and controls were further classified according to exposure variables identified (drug selection, procurement, and distribution indicators).
- Bivariate analyses were done to show crude estimates of association between PR and exposure variables. Multiple logistic regression was employed to measure magnitudes of associations and control effects of confounding factors.
- A consultation workshop with the Department of Health-Pharmaceutical Division (DOH-PD) was held to determine the pre-selected basket of medicines (26 drugs) to be included in the computation of the price ratio.
- Facility records review and inventory check and key informant interviews (KII) were done in 12 hospitals, randomly selected by level, type, accessibility and location.

Price Ratio = N/D

N = Total cost of procurement of the preselected basket of drugs by the facility
D = Total cost of the preselected basket of drugs based on the drug reference price index

% Retail Price Mark Up = (A/B) x 100

A = Purchase Price - Retail Price
B = Purchase Price

RESULTS

Price Ratio and Mark-ups

- More than half of all national public hospitals were purchasing their drugs at prices above the DPRI, a clear deviation from the concept behind DPRI as a median price, i.e. half of hospitals should be able to purchase their drugs at or below the reference price.
- Mark-ups also vary widely across drugs and across the hospitals, from 14.64% to as much as 2,574%. This updates the 2009 study by Ball and Tisocki which reported that public pharmacies imposed regulated, 'fixed' mark-ups by only as much as 30%, and the 2005 study by Batangan et al that retail mark-ups could range from around 2% to 60% for originator products and 5% to as much as 355% for generic products.

Drug Selection

- Only 54% of all drugs procured in a given year were purchased in their generic form. Seven of twelve KILs reveal that physician preference is the main reason for procuring branded over generic drugs.

Drug Procurement

- Of the 12 KILs, 9 use shopping, 10 use emergency purchases and 4 use consignment as alternative modes of procurement. One specialty hospital in NCR and another regional hospital reported consigning all of their drugs in recent years.
- The procurement process takes on average **11-13 weeks**. Submission of purchase of requests to the awarding of bids takes 5.78 weeks, followed by an average of 2 weeks until purchase orders are issued. From the awarding of bids, it takes 3.53 to 4.76 weeks until products are delivered.
- Stock-outs for indicator drugs occur **7% in a year**, indicating that despite failed biddings and budget limitations, national public hospitals are able to adapt and provide for essential medicines.
- The most frequently used criteria for procurement planning remains to be **past consumption (91%)**, consistent with past studies. Few hospitals took into consideration other salient factors such as morbidity and mortality data, level of services provided, patient demographics and in a country frequented by extreme weather events, the influence of seasonal/ weather factors.
- Although 75% of the hospitals studied go on yearly procurement audits, **less than half of hospitals conduct pre-bid conferences** and only 73.2% take the time and the effort to rigorously monitor procurement performance indicators.

Drug Distribution

- The most common issue in the distribution process was partial deliveries of drugs from suppliers (66.67%). Delayed deliveries of remaining drugs was experienced by 58.33%, while one hospital (8.33% of the KII sample) reported non-delivery of the remaining drugs.
- Slightly more than half (57%) of indicator drugs identified by DOH-PD were available or in stock. Only 22% of stock cards reflect the actual inventory count.
- Absence of functional warehouse in most hospitals meant that pharmacies were used as drug storage facilities too. This has implications on the hospital's procurement planning (e.g. discourages bulk procurement) and quality of drugs (e.g. improper storage conditions).
- Delivery receipts were checked routinely (100%) and although there was a system (80.4%) and a group or individual assigned (85.7%) to monitor product quality, only 72.7% of hospitals reported to have a program for product defect reporting, of which only 66.1% made use of pre-printed forms. Fewer hospitals have a process to track remaining shelf-life of drugs (60.7%), to monitor compliance with packaging labels (55.4%) and to do some quality control testing (33.9%). As such only 57.1% of product defects were actually recorded and 67.9% were acted upon. Poor product quality also led to additional and redundant purchases, leading to higher drug prices.

RECOMMENDATIONS

1. Continue setting DPRI rates but foster flexibility by having **differential rates**, taking into account hospital characteristics and other service-level factors, i.e. GIDA.
2. Conduct studies that focus on **patients' and suppliers'** role in the drug management cycle in order to identify additional indicators influencing the price ratio and mark-ups which end-users can use in procurement planning and forecasting.
3. Implement **ordering agreement** to realize benefits of bulk procurement by hospitals with limited storage capacity.
4. Institute a system of **monitoring** and provide **incentives** and **penalties** to strengthen implementation of the Generics Law.

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