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PRESCRIPTIONS

POLICY BRIEF

Performance Assessment of the Online Hospital Statistical Reporting Process and Preliminary Analysis of Performance

POLICY LESSONS

To ensure high quality hospital statistical reports, a system must be put in place that ensures the submissions happen on a sustained and reliable basis.

With the transition to the online hospital statistical reporting system, the compliance rate to the report submission is only at 74% in 2015. Despite this, noncompliant health facilities retain their LTOs without incurring any penalties. An analysis of the department memos highlighted a directive misalignment among the different divisions causing confusion on the execution of enforcement. Additionally, validation and feedback to the health facilities were only done on an ad hoc basis. For a sustained and reliable utilization of the hospital statistical reports, procedures in monitoring and enforcing the submissions must be institutionalized.

Application of Pabon-Lasso and Data Envelopment Analysis to the hospital statistical reports must be grounded on a standardized reporting practices.

Random sampling of the 1195 forms for the initial analysis yielded poor results due to missing and noncompliant forms. As efficiency measures, PBL and DEA both require accurate data for the analysis to be valid. Quality improvement effort must be made to provide standard practices and guidelines to the health facilities as the reliability of these indicators is determined primarily by the accuracy, completeness and timeliness of the institution level data collection.

The value and objectives of the hospital statistical report as performance measure must be established and explicitly communicated with the stakeholders.

Clearly communicating the value of hospital performance management can improve the participation of stakeholders. Performance management systems must be defined in consultation with the stakeholders, coupled with regular feedback through public discussions and publications of data utilization. Harmonization of standards, measurements and incentives can consolidate data collection efforts and foster strengthened collaboration between the regulator and health facilities.

INTRODUCTION

The Department of Health's Hospital Statistical Reports (DOH-HSRs) are reports on quality management, hospital operations, staffing patterns, and finances submitted annually by hospitals nationwide to the DOH-Health Facilities and Services Regulatory Bureau (HFSRB). Ensuring the full implementation of HSRs will help DOH monitor the performance of health facilities that are supposed to ensure good quality care, are aligned with the DOH requirement that the HSRs be submitted in compliance with annual licensing. The HSR also serves as a data platform for improving the service delivery network in the country. The study aims to assess the online Hospital Statistical Report (OHSR) in: health information resources, indicators, data management, and information products.

METHODS

Initially, the plan was to use descriptive statistics to summarize key hospital performance indicators, as well as Pabon Lasso (PBL) and Data Envelopment Analysis (DEA) as measures of hospital efficiency. However, initial sampling of the submitted hospital statistical reports showed poor data quality, such as poor compliance to the prescribed format with a significant amount of missing submissions.

Hence, analysis using Pabon Lasso (PBL) and Data Envelopment Analysis (DEA) were instead done as a proof of concept. Additionally, business process assessment using lean six sigma tools, Supplies-Input-Process-Output-Customers (SIPOC) and Voice of Process (VOP), was employed to capture the process of acquiring information of the nine specific indicators in 6 health facilities in NCR. Thematic areas to define operational and policy gaps were described using the Ishikawa (Fishbone) Cause and Effect analysis and the 6M model: Man, Machine, Material, Method, Measurement and Milieu (Environment).

RESULTS

Out of 1,195 registered hospitals in the country, 73% submitted their HSR on time and in proper format (complied properly) in 2015, the highest in 5 years. Comparing along ownership, 76% of 772 private hospitals submit forms properly only slightly more than the 69% of 423 government hospitals in the same year. Along service capability or hospital level, 75% of 769 Level 1 hospitals complied with proper HSR forms, with Level 2 hospitals (72% of 305 hospitals) and Level 3 hospitals (66% of 116 hospitals) slightly less. All 4 specialty hospitals submitted their HSRs properly.

Compliance along geographic regions varied greatly, from as low as 26% in ARMM to the highest at Region 10 and 11 (at 94% and 93% respectively). Chronologically, and taking all 1,195 registered hospitals in the sample together; 55% of hospitals were compliant in 2010, decreasing sharply to 19% in 2011. This was maintained at 27% in the next two years, and rose sharply to 69% and 73% in 2014-15.

Business process analysis showed that the OHSR process is divided into two major portions: one side occurring in the hospitals, where data is sourced; and another side for the regulators, where the data is received and processed.

Considering ethics clearance requests and time constraints, six (6) hospitals consisting of Level 1 and Level 3 private and public hospitals were purposively sampled for Process Mapping on the Facility Side. Level 2 hospitals were not covered in the study since their process is similar to Level 3 hospitals. The study proceeded to describe the processes representative of Level 1 hospitals, which were mandated to submit to the Regional Licensing and Enforcement Division and Level 2 3 hospitals mandated to submit to the Central Office - HFSRB.

After conducting process mapping sessions with the selected hospitals, it was revealed that there was a wide variation in how the data is processed, particularly with where process owners source the data to be included in the HSR, as well as with points of verification within their respective processes. Some hospitals could do with doing less data validation and waiting for batches of reports to come in, while some hospitals expressed these as problem areas in the process. For certain parts of the process in hospitals, inefficiencies result in delays in OHSR submission.

The personnel or department unit assigned to handle the OHSR also differed across hospitals. While the Medical Records Office (MRO) is the recognized department to handle all affairs pertaining to the OHSR, only three of the six hospitals had their MROs handling the OHSR. One hospital assigned its PhilHealth Department, while another assigned its Information Technology (IT) Department. One of the hospitals visited had no designated department handling the OHSR, which coincidentally is also the hospital that was found to be unfamiliar with the OHSR. The responsibility

for creating and submitting the OHSR fell to different people and departments across the hospitals, and was usually an add-on job to the personnel involved. This resulted in negative implications for both accountability and OHSR submission compliance.

Furthermore, it was found that the hospitals involved in the process mapping sessions were using formulas that deviate from the prescribed indicator definitions given by the regulators. Of the nine (9) indicators included in the study, this variation was most noticeably present in the Average Length of Stay (ALOS) and Total Inpatient Service Days indicators. Bed to Population and Bed Turnover Ratios, on the other hand, are not calculated at all. These findings put into question the validity of the aggregate OHSR data in its current state, since no conclusion can be made when such variation in the data elements is present.

The process at the regulator side was also subjected to the same process mapping session. Although problems with regards to how work is being done from an operational aspect were brought up, more salient were problems with policies effected within the HFSRB. It was found that there was no feedback mechanism or standard procedure when handling OHSR submission compliance. This resulted in loose enforcement of OHSR as a requirement for hospital licensing and therefore low OHSR submission compliance of hospitals.

In addition to the initial process mapping done in the regulator side, the researchers conducted the Directive Alignment Assessment, which is essentially a memo trail exercise that tried to investigate the history of the logic and actual implementation of the OHSR documented in various Department Circulars, Department Memos, and Administrative Orders. Through this, issues in enforcement and strategic alignment of the units trying to implement the OHSR were revealed. Unclear implementing rules and regulations, particularly on delineation of roles as to OHSR submission monitoring and handling of OHSR non-submissions, impacted the submission compliance of the hospitals.

For the demonstration of Pabon Lasso and Data Envelopment Analysis, the sample of records included was reduced to less than 180 due to missing data and inconsistent submissions. According to analysis by Pabon Lasso, 31% of hospitals were placed in Zone 3 and thus considered “efficient”, while 54% were in Zone 1 and thus “inefficient” (n=118). According to DEA, 30.45% of hospitals were found to be technically efficient (n=82), 53.57% were efficient in terms of input effectiveness (n=28) and 19.51% were efficient in terms of service effectiveness (n=41).

DISCUSSION

Business Process Assessment

Segmenting the two portions of the end-to-end process, namely the hospital side and the regulator side, was useful in analyzing the most salient problems that the entire OHSR process faces.

For the hospital side, it was seen that variation in both how work is being done, who does the work, and the indicator definition used is causing problems in OHSR implementation in the form of delayed submissions or even non-submissions. For this, the researchers recommended the use and implementation of a quick reference manual that, among other operational concerns, includes the prescribed formulas to be used.

On the regulator side, the policy gaps highlighted through the Directive Alignment Assessment should be investigated and rectified as the first step in an organizational re-alignment effort moving forward. Operational strategy underpinned by clear policy should be prioritized, such that stakeholder efforts actually bear fruit in the form of valid data fit for analysis and eventual policy making.

Pabon Lasso

As expected, hospitals were placed mainly between Zones 1 and 3 of Pabon Lasso analysis: inefficient (Zone 1) or inefficient (Zone 3). The percentage of hospitals considered “inefficient” (in Zone 1) was higher when calculated using Authorized Bed Count (ABC) than with Implementing Beds (IB), which is the more realistic measure of patient volume. This indicates that efficiency may be underestimated when computed using Bed Capacity. Because IB is the more realistic figure, this then makes for higher technical efficiency and input effectiveness in practice.

DEA

Hospitals performed best in input effectiveness (54% efficient), and worst in service effectiveness (20%). The adjusted number of hospitals eligible for analysis varied greatly between indicators, with 82 eligible for technical efficiency and only 28 for input effectiveness. The total sample of hospitals initially included in the DEA study was 122. Due to varying data completeness, the sample included in analysis had to be greatly reduced. Variables

for input and service effectiveness, such as net infection rate, were often missing from the forms.

Among the indicators in DEA, technical efficiency is the one most similar to those in Pabon Lasso. It is notable that resulting values for percentage of hospitals considered Technically efficient according to DEA and efficient according to Pabon Lasso are similar, at 30.45% and 31%, respectively (using IB computation). Though this shows consistency in results, precaution must be taken in interpretation. Missing or incomplete data and reduced and varied sample size used in each analysis limits the generalizability and accuracy of interpretation.

CONCLUSION

The HFSRB should engage in quality improvement efforts in data collection and validation doing and basing policy on analyses such as Pabon Lasso and DEA. To address the barriers that keep HFSRB from realizing the goal of informed policymaking by way of crucial data in the OHSR, a strategic alignment of roles and responsibilities with the organization must be done. This is done by way of documented delineation of responsibilities, work schedules as well as performance management mechanism for those to be held accountable for the implementation of the OHSR. Next, HFSRB must clearly communicate its specifications for the data to be gathered. In particular, standardization of indicator definitions and enforcement of a defined OHSR process owner that will serve as liaison must be effected. Finally, process efficiency should be looked into by way of a deeper dive analysis of process behavior. This is typically done by actually observing the process as it happens. This way, Time and Motion (T&M) analysis could be applied to determine the optimal staffing requirements given the context of current HFSRB operations.

Fluctuations in HSR compliance (proper submission) rate coincided with and can be seen to be attributed to changes in submission form and way of transmission (paper or online format). Interpretation of PBL and DEA is difficult because of diminished sample size, which point to the importance of obtaining complete and accurate data for analysis, before further re-analysis and interpretation.

RECOMMENDATIONS

If quality improvement efforts are not undertaken, the OHSR process will continue to produce output that is ill-suited for complex and data quality-sensitive analyses such as Pabon Lasso and DEA. Furthermore, attempting to base policymaking on analyses done with substandard data will probably do more harm than good and would hamper the national health agenda. Next steps to build on the quality improvements discussed in this paper should proceed as soon as it is feasibly possible.

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