

Description of Core Performance Measures and Indicators of Patient Safety Used by Select Government and Private Hospitals in the Philippines

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ABSTRACT

Background. In 2008, the Department of Health (DOH) issued Administrative Order 2008-0023 that called for an “effective and efficient monitoring system that will link all patient safety initiatives”. However, there are still no explicit and harmonized targets to measure effectiveness and to provide benchmarks that assess whether previous efforts were helpful.

Objective. The study aimed to describe the status of patient safety performance measures and indicators on the international patient safety goals (IPSGs) in select hospitals in the Philippines.

Methods. Descriptive, cross-sectional design was used to investigate currently used performance measures and indicators. Data collection included administration of a Hospital Patient Safety Indicators Questionnaire (HPSIQ) that summarized the currently used patient safety measures and indicators in the sampled Level 2 and level 3 hospitals and triangulation by review of documents such as hospital databases, protocols on reporting, and manuals for information gathering regarding patient safety. Performance measures were categorized using the Donabedian framework. Core indicators were identified through review of standards that cut across the six IPSGs and evaluation of overarching processes and concepts in patient safety.

Results. Forty-one level 2 and 3 hospitals participated in the study. Most performance indicators were process measures (52%), while structure (31%) and outcome measures (17%) accounted for the rest. There is an obvious lack of structural requirements for patient safety in the hospitals included in this study. Less than half the hospitals surveyed implement risk assessment and management consistently. Reporting of events, near- misses, and patient safety data are widely varied among hospitals. Data utilization for quality improvement is not fully established in many of the hospitals. Patient engagement is not integrated in service delivery and performance measurement but is crucial in promoting patient safety.

Conclusion. Mechanisms to improve hospitals’ capacity to monitor, anticipate, and reduce risk of patient harm during the provision of healthcare should be provided. Having a unified set of definitions and protocols for measurement will facilitate reliable monitoring and improvement. Leadership and governance, both internal (e.g., hospital administrators) and external (e.g., DOH) that recognize a data-driven approach to policymaking and improvement of service delivery are crucial in promoting patient safety.

Keywords: patient safety, performance indicators, quality indicators, outcome and process assessment



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BACKGROUND

In 2008, the Philippine Department of Health (DOH) directed more attention towards patient safety, through its Administrative Order 2008-0023 that aims “to ensure that patient safety is institutionalized as a fundamental principle of the health care delivery system in improving health outcomes.”¹ The directive designated the National Patient Safety Committee (NPSC) to establish a proactive reporting system for events that will foster learning from experience. The policy emphasized building a culture of patient safety and implementing patient safety programs in facilities following policies and standards developed by the NPSC and the Philippine Health Insurance Corporation (PHIC) Benchbook on Safe Practice and Environment. Promotion of safe practice and environment, risk reduction strategies, professional development, and patient empowerment are also parts of the said document.

The PHIC developed core standards and criteria in quality health care such as those that relate to leadership and management, medication management, surgical and anesthesia care, and infection control. These standards are being used to assess performance of hospitals applying for Center for Excellence accreditation under the National Health Insurance Program. In its 2nd edition of the PhilHealth Benchbook manual, the agency enhanced the standards adopting concepts on patient safety, sentinel events, risk management, international benchmarks of quality and safety, among others.² In the same manner, other regulatory agencies such as the DOH, through its licensing and accreditation bureaus have a distinct set of standards as well.

While the DOH Administrative Order called for an “effective and efficient monitoring system that will link all patient safety initiatives,”¹ and despite the current standards set by health agencies, gaps still remain, particularly on the overall assessment of the many interventions done and the actual impact on the status of patient safety in the country. There are no explicit and harmonized targets and indicators

specified to measure success and to provide benchmarks that qualify and quantify whether efforts are effective and helpful. Determination of what performance measures and indicators hospitals are currently using is likely a needed first step in unifying and setting national targets.

OBJECTIVES

The study aimed to describe the status of patient safety performance measures and indicators on the international patient safety goals (IPSGs) in select hospitals in the country. The measures and indicators were also evaluated on how frequently these are being monitored and reported by the sampled hospitals.

METHODS

Study Design

Descriptive, cross-sectional design was used to investigate available performance measures and indicators for the period of January 2019 to March 2020.

Study Participants

A combination of proportionate random and purposive sampling was planned in selecting participant hospitals in this study to capture a nationally representative picture (Figure 1). Proportionate sampling was initially done at the regional level for DOH-retained and local government unit (LGU) hospitals taking into consideration the level of hospital classification but eventually, due to low participation rates from sampled hospitals, the team decided to invite as many of the eligible Level 2 and 3 hospitals in the study. The Philippine General Hospital was purposely included, being the national university hospital (NUH), as well as three private hospitals with current or previous Joint Commission International (JCI) accreditation to represent those with best practices in patient safety and provide a range and benchmarks for use of performance metrics.

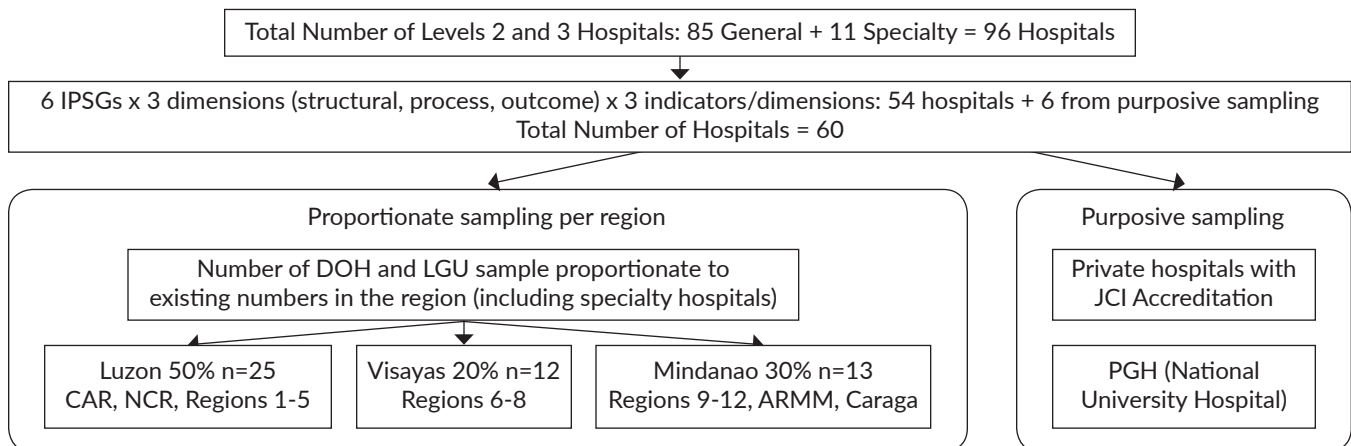


Figure 1. Sampling frame for study hospital participants.

Table 1. Summary of the Core Standards in the Hospital Patient Safety Indicators Questionnaire

International Patient Safety Goal	Key Concepts and Standards	Guidelines and References
Core	Patient safety committee (PSC) and its activities have adequate support	The Joint Commission's National Patient Safety Goals (2015)
	Hospital has adequate staffing pool with relevant training on patient safety	
	Specific risk assessment and management are utilized to identify special/vulnerable populations like the elderly, pediatric, pregnant, and psychiatric patients	World Health Organization Patient Safety Solutions (2007)
	Specific risk assessment and management are utilized to identify patients at-risk for hospital-acquired conditions such as pressure ulcers, venous thromboembolism, malnutrition, falls, and suicide	Philippine Health Insurance Corporation Hospital Benchbook: Survey Manual and Self-Assessment Book (2014)
	PSC receives and processes reports related to patient safety and quality	DOH Health Facilities and Services Regulatory Bureau Checklist
	Reports on patient safety program are used for improving care delivery	
	Outcome measures related to patient safety are monitored and reported	
	Medical records are secure, complete, and fully accessible to patients and care participants	
Rights and preferences of patients and care participants are upheld in care processes and patient safety activities		

Development and Administration of the HPSIQ Instrument

The Hospital Patient Safety Indicators Questionnaire (HPSIQ) was developed after a literature search of relevant international and locally accepted patient safety standards that included the JCI Accreditation Standards for Hospitals,³ and the PhilHealth Benchbook for Accredited Hospitals,² among others. Each standard was given corresponding performance metrics upon which the achievement of the said standard will be evaluated based also on literature review. The initial draft of identified relevant measures and indicators for the data collection was presented to an expert panel consisting of members from the DOH Health Facilities Development Bureau and Health Policy Development and Planning Bureau, PhilHealth, and an expert from a specialty private hospital for their insights and comments. The draft HPSIQ was pilot tested in a public tertiary hospital that was randomly selected from the pool of Level 2 and Level 3 hospitals not included in the original sample. Feedback on the appropriateness of the language, content, and format of the questions as well as processes to ensure confidentiality, data privacy, and efficiency during data collection were used for the final revision of the instruments.

Description of Patient Safety Hospital Survey Instrument

The HPSIQ is a self-assessment tool that was provided to hospital administrators and personnel to identify their existing performance measures related to the six IPGs. During the development of the questionnaire and review of standards, the study team observed that some indicators cut across the six IPGs and evaluate overarching processes and

concepts in patient safety. These were eventually categorized as “core indicators.” A summary of the key standards under core indicators and references is outlined on Table 1.

Data Collection and Analysis

Hospitals were asked to accomplish HPSIQ using data from their centralized information management system or if this is not available, assigned hospital liaisons were instructed to distribute sections of the HPSIQ to the personnel/office who can best provide the needed information then validate and collate the data prior to submission to the research team. Data from the HPSIQ were triangulated by having respondents provide documentary evidence that include hospital databases, protocols on reporting, and manuals for information gathering regarding patient safety and information on hospital characteristics and performance measures and indicators on the six IPGs and later validated by members of the study team.

The core indicators were identified through review of standards that cut across the six IPGs and evaluation of the overarching processes and concepts in patient safety. Using the Donabedian Framework, all prospective indicators in the HPSIQ were categorized into either structure (S), process (P) or outcome (O) measure. The *structure measures* pertain to provider's capacity, systems, and processes to provide high-quality care, *process measures* indicate what a provider does to maintain or improve health, either for healthy people or for those diagnosed with a health care condition, or *outcome measures* reflect the impact of the health care service or intervention on the health status of patients.⁴ The types of measures offer different perspectives by which quality can be measured. Structure measures are often referred to as

“inputs” which assess the adequacy of resources to be able to uphold the relevant standard. Process or “output” measures signify if the structural elements are being integrated into consistent practices that ultimately result in improved outcome measures. Additional analyses included descriptive statistics using frequencies, percentages, mean, and ranges.

Ethics Review and Approval

The Philippine Council for Health Research and Development (PCHRD) Technical Advisory group provided the technical review and approval of the research protocol. It was then reviewed and approved by the University of the Philippines Manila Research Ethics Board and the Single Joint Research Ethics Board of the Philippine DOH.

RESULTS

Description of Sampled Hospital Participants

Table 2 provides a summary of the description of the hospitals who participated in this study. A total of 41 Level 2 and Level 3 hospitals were included in the study with the majority (82.1%) being under the management of the DOH and are Level 3. Majority (75%) of Level 2 hospitals are managed by the local government units. Only the private hospitals in the group have JCI accreditation, while most public hospitals reported accreditation from other bodies such as PhilHealth, Philippine Hospital Association, Performance Governance System (PGS) through Institute for Solidarity in Asia, International Organization for Standardization (ISO), TÜV SÜD, and Accreditation Canada Internationale (ACI).

Of the 41 hospital participants, there were 12 Level 2 hospitals composed of 6 LGU, 5 DOH, and 1 private hospital while there were 29 Level 3 hospitals that included 2 LGU, 24 DOH, 2 private, and 1 NUH. Analyses are presented according to Level, fiscal management, and by specific hospital type (Level + fiscal management, e.g., Level

2 LGU hospitals, Level 3 DOH hospitals, etc.). Comparing the hospitals in the sample to the distribution in the whole country, there is a higher proportion of DOH (63%) and Level 3 (51%) hospitals in the participating sample while LGU (16%) and Level 2 (24%) hospitals were less represented.

Donabedian Framework: Structure, Process and Outcome Measures

All prospective indicators in the HPSIQ were categorized into either structure (S), process or outcome (O) measure. The types of measures offer different perspectives by which quality can be measured. Structure measures are often referred to as “inputs” which assess the adequacy of resources to be able to uphold the relevant standard. Process or “output” measures signify if the structural elements are being integrated into consistent practices that ultimately result in improved outcome measures. Of the 405 potential indicators listed in the HPSIQ, 126 (31%) are structure measures, 212 (52%) are process measures while 69 (17%) are outcome measures. Specifically for core indicators, 31 (52%) were structure measures, 18 (30%) were process measures, and 11 (18%) were outcomes measures. At the outset, some IPGs do not have outcome measures that can identify performance of the hospital in that aspect and these are on patient identification and falls prevention.

Core Indicators of Patient Safety

Core indicators are those that cover overarching processes and concepts in patient safety which include (1) resources for patient safety (e.g., budget for patient safety committee, learning development interventions, and data/information management such electronic medical record, information of management system); (2) risk assessment and management to improve efficiency and equity; (3) reporting and learning systems in patient safety (e.g., reporting of never events, near misses, AHRQ patient safety indicators); and (4) patient/family-centeredness (e.g., patient

Table 2. Description of Hospital Participants according to Fiscal Management and Resources

Description	All hospitals included N=41	LGU hospitals n=8 %	DOH hospitals n=29 %	Private hospitals n=3 %	NUH n=1 %
Level 2	29.3%	75	17.9	33.3	0
Level 3	70.7%	25	82.1	66.7	100
HFEP recipient	90.2%	87.5	100	n/a	100
JCI accreditation	7.3%	0	0	100	0
Other accreditation	95.1%	100	92.9	100	100
	(Median, IQR)	(Median, IQR)	(Median, IQR)	(Median, IQR)	(Mean/total)
Average bed capacity	300, 300	174.5, 162.5	450, 250	338, 112.5	1334
Medical personnel	230, 259	86, 108	230, 225	1082, 415	926
Nursing personnel	364, 264	228, 151	364, 255	527, 204	1099
Ancillary personnel	159, 147	57, 49	174, 124	369, 389	917
Administrative personnel	215, 192	183, 31	215, 178	551, 160	1205

*IQR: interquartile range

and care participants engagement, overall experience, and feedback) (Table 3).

Resources for Patient Safety

Almost all hospital participants report the presence of either a patient safety committee and/or officer; with only one hospital having none of these. However, in about 17% of hospitals, there is a committee or person looking over patient safety, but no identifiable structured program. Having a committee or person in-charge is noted only in 81% of Level 3 hospitals and only in 62% of Level 2 ones, while 25 of 29 DOH hospitals and five of the eight LGU hospitals have these. When asked if the patient safety committee regularly meets, only 29% said yes. Less than half of the hospitals also report monitoring the number of reports that are received and attended to by the patient safety committee. Only 21% of public hospitals allot a specific budget in patient safety in the annual hospital budget and 15% maintain a patient safety expenditure list, while all private hospitals do both. About 54% indicate that their staff receive regular training on patient safety.

Of the different training modules on patient safety, those on infection control are the most frequently offered (78% of hospitals), while those on general patient safety, medication safety, patient identification, falls prevention, effective handovers, and surgical safety are less consistently offered by the public hospitals.

Private hospitals, Level 3 hospitals, and the NUH have more available structure measures and resources on

core indicators such as patient safety program, information management system, EMR, and budget for patient safety than DOH, LGU, and Level 2 ones. Also, we note the glaring lack of budget on patient safety for public hospitals. Private hospitals and the NUH also show more consistent use of process measures such as training, use of patient safety reports for improvements, and risk assessment for hospital-acquired conditions. It seems Level 2 LGU hospitals need the most support and guidance on core indicators for patient safety.

Risk Assessment and Management

Risk assessment to identify populations that can be vulnerable to in-hospital issues (e.g., elderly, pregnant, pediatric, and psychiatric) is only being done by less than half of the hospitals. Tools to identify patients at risk for hospital-acquired conditions (HACs) such as venous thromboembolism, pressure ulcers, malnutrition, falls, and suicide are only about a quarter of the hospitals, being seldomly used in the Level 2 hospitals but are more consistently implemented in Level 3 and private institutions.

Reporting and Learning Systems in Patient Safety

Only 49% of the hospitals generate the said patient safety reports, however, 80.5% of them claim that they use the same reports for policies and improvement. This inconsistency was observed among Level 2 hospitals and Level 3 DOH hospitals in whom the frequency of those who generate patient safety reports are less than those who utilize these reports for further action (Table 4). Among public hospitals,

Table 3. Frequency Distribution on Existing Core Indicators of Patient Safety in Select Government and Private Hospitals in the Philippines, 2019-2020

Description	Level 2 LGU n=6 (%)	Level 2 DOH n=5 (%)	Level 3 LGU n=2 (%)	Level 3 DOH n=24 (%)	Private hospitals n=3 (%)	NUH n=1 (%)
Resources for Patient Safety						
Presence of Patient Safety (PS) Program	66.7	80	50	83.3	100	100
Presence of PS Committee	83.3	60	50	95.8	100	100
Presence of PS Officer/ Leader	83.3	100	100	95.8	100	100
Budget Allotted for PS	0	20	50	37.5	100	0
Availability of Electronic Medical Record	16.7	80	50	70.8	100	100
Presence of Information Management System	33.3	80	50	87.5	100	100
Conduct of Regular Training on PS	0	20	50	66.7	100	100
Risk Assessment and Management						
Risk Assessment for Special Populations	66.7	40	100	30.2	100	0
Risk Assessment for Hospital-acquired Conditions	0	12	20	29.2	70	100
Reporting and Learning Systems						
Generation of PS Reports	0	0	50	62.5	100	100
Use of PS Reports for improvement, policies	66.7	80	50	83.3	100	100
Use of PS reports on clinical program evaluation	50	40	50	58.3	100	0
Patient-centeredness						
Patient involvement in creating PS activities, policies	50.0	60	50	79.0	100	100
Patient participation in PS activities	33.3	100	0	66.7	100	100
Patient feedback in PS activities	16.7	0	0	33.3	100	100
Records fully accessible to patients, care participants	83.3	100	50	95.8	100	100

generating patient safety reports are less consistently done compared to private hospitals, with none of the Level 2 public hospitals doing so. When triangulated with documents review, data from nonconformity and corrective action report (NCAR) forms are usually reported, processed, and submitted but these are not routinely integrated or considered in determining future strategies and policy directions as evidenced by the lack of protocols or policies to summarize, monitor, disseminate, and utilize said data.

Only about 32% and 36% of hospitals monitor “never events” and near-misses, respectively. “Never events” are shocking medical errors that should never occur and consist of 29 events grouped into 7 categories: surgical, product or device, patient protection, care management, environmental, radiologic, and criminal according to the National Quality Forum.⁵ These have been given some emphasis by many safety advocates because these are considered unambiguous (clearly identifiable and measurable), major adverse occurrences that result in death or significant impairment and are typically preventable.^{6,7} A near-miss is an error or unplanned event that has the potential to cause harm but fails to do so because of chance or because it is intercepted.⁸ Of the listed event rates on Table 4, recording the rates of hospital-acquired pneumonia (HAP) and ventilator-associated pneumonia (VAP) are consistently done by more than half of the hospitals per level and fiscal type. Falls, adverse drug events (ADEs), and medication errors are documented less often.

The AHRQ Patient Safety Indicators or PSIs (Table 5) are a set of indicators on safety-related adverse events in the hospitals following operations, procedures, and childbirth that are validated and used widely. For purposes of this study, provider-level PSIs in the HPSIQ were used to allow for individual hospital assessment and internal benchmarking, and excluded the area-level indicators which are meant for geographic comparisons.⁹ Of the 17 AHRQ PSIs, only one indicator (transfusion reaction count) is monitored by at least half of the hospitals observed.

Patient-centeredness and Engagement in Patient Safety Initiatives

Patient involvement in planning and implementing patient safety activities and policies are reported by 73% of hospitals (Table 3), less consistently in the public and Level 2 hospitals compared to the private and Level 3 facilities. Further triangulation of this observation with the hospital administration and frontliners show that patient involvement in hospitals is limited to giving informed consent as well as answering patient satisfaction surveys and feedback forms. Making medical records fully accessible is an important first step in patient-centered care because it enables patients to correct medical information, add their values and preferences, and empower them to take control of their health. Majority of the hospitals surveyed report accessibility of patient health records.

DISCUSSION

This is one of the very few studies locally that describes the current performance metrics being used by hospitals to assess patient safety and quality.^{10,11} It is part of a larger project that includes assessment of other aspects of performance measurement in patient safety (e.g., validity, reliability, standardization, and patient-centeredness) and evaluation of the capacity and needs of hospitals to do performance monitoring which are beyond the scope of this report.

The Donabedian framework defines healthcare service delivery as a continuum composed of structures, processes, and outcomes, and asserts that quality of care (of which safety is a component) is the product when the structures are translated into outcomes via the processes. In this early attempt to identify nationally implemented performance metrics on patient safety, it is important to recognize that these interconnected components of measurement are equally important – only when processes are of high technical quality and responsive to patient needs will health outcomes improve.

Table 4. Frequency Distribution of Event Reporting of Hospitals in Select Government and Private Hospitals in the Philippines by Level and Fiscal Management, 2019-2020

Event Reporting	Level 2			Level 3			
	LGU n=6 (%)	DOH n=15 (%)	Private n=1 (%)	LGU n=2 (%)	DOH n=24 (%)	Private n=2 (%)	NUH n=1 (%)
<i>Reporting of Never Events</i>	16.7	0	100	0	41.7	50	100
<i>Reporting of Near-Misses</i>	16.7	0	100	50	41.7	100	0
Event rates							
Hospital-acquired Pneumonia (HAP)	66.7	60	100	100	62.5	50	100
Ventilator-associated Pneumonia (VAP)	66.7	40	100	100	79.2	100	100
Surgical site infection	33.3	40	100	100	79.2	100	0
Catheter-related bloodstream infection	33.3	20	100	100	75.0	100	100
Catheter-related UTI	16.7	20	100	50	87.5	100	100
Falls occurring in the hospital	16.7	0	100	50	66.7	100	100
Adverse drug events	33.3	0	100	0	66.7	100	100
Medication error	66.7	60	100	100	62.5	100	100

Table 5. Frequency Distribution of Reporting of AHRQ Patient Safety Indicators in Select Government and Private Hospitals in the Philippines according to Level and Fiscal Management, 2019-2020

AHRQ Patient Safety Indicators	Level 2			Level 3			
	LGU n=6 (%)	DOH n=15 (%)	Private n=1 (%)	LGU n=2 (%)	DOH n=24 (%)	Private n=2 (%)	NUH n=1 (%)
<i>Pressure ulcer rate</i>	33.3	20	0	50	33.3	100	100
<i>Death rate among surgical inpatients with serious treatable conditions</i>	16.7	20	100	50	25.0	50	100
<i>Retained surgical item or unretrieved device fragment count</i>	16.7	0	100	50	33.3	50	100
<i>Iatrogenic pneumothorax rate</i>	16.7	0	0	50	4.2	0	0
<i>Central venous catheter related bloodstream infection rate</i>	33.3	0	100	100	50.0	50	100
<i>Postoperative hip fracture rate</i>	33.3	0	100	50	12.5	50	0
<i>Perioperative hemorrhage or hematoma right</i>	16.7	0	100	50	4.2	50	0
<i>Postoperative metabolic derangement rate</i>	16.7	0	100	100	4.2	50	0
<i>Postoperative respiratory failure rate</i>	16.7	0	100	100	8.3	50	0
<i>Perioperative pulmonary embolism or DVT rate</i>	16.7	0	100	100	8.3	50	0
<i>Postoperative sepsis rate</i>	33.3	0	100	50	25.0	50	0
<i>Postoperative wound dehiscence rate</i>	16.7	20	100	50	25.0	50	0
<i>Accidental puncture or laceration rate</i>	50.0	20	100	100	45.8	50	100
<i>Transfusion reaction count</i>	50.0	20	100	100	45.8	100	100
<i>Birth trauma rate - injury to neonate</i>	33.3	0	100	50	20.8	50	0
<i>Obstetric trauma rate - vaginal delivery with instrument</i>	16.7	0	100	100	20.8	50	0
<i>Obstetric trauma rate - vaginal delivery without instrument</i>	33.3	0	100	50	25.0	50	0

Such processes, in turn, will be possible only if facility structures provide an appropriate environment and have systems in place that allow for good processes. In determining appropriate indicators for patient safety standards, it will be valuable to validate that structure and process outcomes are linked to outcome measures either by evidence review or by cycles of implementation by our local facilities.

There is an obvious lack of structural requirements for patient safety in the hospitals included in this study. While most hospitals have a patient safety committee or officer, fewer reported the presence of a structured program with clear objectives, defined roles for proponents, and appropriated resources. The components of the said program would usually include event reporting and referral, basic safety orientation and training of personnel, and data gathering, analysis, and monitoring across various units of the hospital, clinical and non-clinical departments, and operating units. The seeming lack of priority and focus on safety structures is likely not possible since many of the staff assigned under the patient safety committee are also assigned elsewhere in the hospital. This lack of resources specific for patient safety is likely exacerbated in rural areas and geographically isolated and disadvantaged areas with grossly deficient overall resource for health.¹² Other inputs and tools for patient safety include electronic health records and information management systems which improve documentation and staff support (this may reduce medication errors and guideline adherence), facilitate seamless workflow and transfer of information, allow collection and analyses of clinical and nonclinical data,

and promote transparency and teamwork in care settings.^{13,14}

Several studies have shown the knowledge and skills gaps among our local healthcare providers and this is also particularly true for patient safety.^{15,16} Apart from the overall lack of training, there is varying emphasis in content being offered in the surveyed hospitals. This apparent emphasis on infection control practices is likely the result of the endorsement and strong implementation of its program by the DOH. Many of the hospital participants have had infection control units or committees, long before they established their patient safety programs or committees. General patient safety concepts, particularly those on effective communication, teamwork, and risk reduction, are not routinely included in basic training but are expected to have tremendous impact in preventing harmful events.^{17,18}

The results of this study reflect the underutilization of risk assessment tools to promote patient safety in this study. This represents the potential exposure of vulnerable patients to errors and harms as well as a missed opportunity to make care processes more efficient, since these tools enable providers to identify higher-risk individuals who may benefit more from risk-reducing strategies rather than applying these same strategies for the rest of the inpatient population. While many facilities outside of the Philippines have employed these more consistently, there are still barriers to implementation such as lack of consistency and transparency, lack of training, and inadequate guidance of subsequent risk management.¹⁶ Nevertheless, numerous risk assessment tools are available that have been validated across different settings

(e.g., entire hospital, operating room, etc.), different users (e.g., provider-initiated and patient self-assessment), and different conditions (e.g., patient profiles like pregnant or pediatric; or HACs). The challenge for hospitals is selecting risk assessment tools that will provide them with useful information, without unnecessarily increasing workload (including paperwork) among healthcare staff, and to have defined risk reduction strategies in place once high-risk groups are identified.

Reporting and learning systems generate data from monitoring processes, routine census, and summaries of root cause analyses and should not only be done for adherence to reporting standards by external regulators but should be used to support continuous improvement.¹⁹ However, in this study, consistent use of these reports by LGU hospitals can still be improved and more surveyed hospitals claim that they utilize their patient safety reports for policies and improvement (80.5%) compared to those who report generating the said reports (49%). A possible explanation for the latter observation is that they use reports other than those from the patient safety committee and patient safety measures for improvement; or there are more discreet or area-specific improvements done that may not have been subject to PS reports made at the hospital level.

Incident reporting is the voluntary reporting of a patient safety event that is usually accomplished by the staff that is/are directly involved or those who were involved in the events leading up to the incident.¹⁹ This is a passive form of reporting, in comparison to active surveillance of patient safety events using direct observation, chart review, or triggers in electronic charting. Sentinel events (those resulting in death, permanent harm, or severe temporary harm), adverse events (those resulting in harm or undesirable experience such as hospital-acquired conditions), never events, near-misses, and unsafe conditions are among the patient safety events that may be reported through incident reporting. Under-reporting of patient safety incidents has been widely recognized as we see here in this report and can undermine an institution's ability to correct unsafe or inefficient work processes.²⁰ The observed higher reporting of HAP and VAP compared to falls, ADEs, and medication errors may be due to the following reasons: first, HAP and VAP (as well as surgical site infections, catheter-related bloodstream infections, and catheter-related UTI) are medical diagnoses that are cursorily included by physicians in patient charting making them easier to track; secondly, the latter set of indicators rely on voluntary/incident reporting by personnel that are usually less likely done; and lastly, infection prevention and control programs are more established compared to other programs in patient safety. While ensuring that reporting mechanisms are easy, seamless, and reliable, learning systems are equally important – these are designed to capture and understand from reports what patient safety concerns, risks, and/or occurrences are present to prompt action, revision, and improvement of response and protocols.

There are very few patient engagement standards that are integrated into patient safety measurement in hospitals as seen in the survey and even in literature. Ensuring medical records to be fully available and accessible to patients and their care participants which 92.7% of hospitals are doing. While this finding should be regarded positively, the project team believes that this should be probed further because medical records include not only clinical abstracts and discharge summaries, but also patient charts and electronic health records which may not have been clear with the respondents. Many international organizations advocate for patient engagement not only to access their medical records, but also to check their accuracy and to flag documentation errors. In a study on “open notes” or notes shared by patients and clinicians, 44% of participating patients reviewed their doctor's notes, and about 8% used the feedback function to cite inaccuracies and report safety concerns such as medication errors or misreported comorbidities.²¹ This innovation, while proven to be helpful, represents a huge leap of change for hospitals and clinics in the country.

There is a big gap in potential measures for patient-centeredness, and patient and family engagement that are appropriate, relevant, and feasible in the local setting. Many studies in the recent decade have shown that patient and family engagement is critical not only in individual healthcare decisions but also in healthcare services organizations, health policy development, and in health research.^{22,23} It has been proven that effective patient engagement can lead to better health outcomes, improves quality of care and patient safety, and helps control health care costs.²⁴ “Patient involvement” in this study was limited to giving informed consent as well as answering patient satisfaction surveys and feedback forms. Hospital administrators should recognize and aim for the further end of the continuum of patient engagement that ranges from merely providing them with needed information to a full partnership that acknowledges them as equal members of the treatment team or of quality improvement activities.

CONCLUSION

Review of available evidence from local and international sources revealed that there are numerous performance measures and indicators in patient safety but there are areas of overlap (hence the formation of “core indicators” in this study) and gaps (e.g., patient-centeredness). Also, structure, process, and outcome measures are not explicitly linked and in some IPGs (e.g., patient identification and falls prevention), there are no outcome measures that can identify performance of the hospital.

Hospitals and their patient safety committees need firmer support in terms of personnel, policies, and budget. Mechanisms to improve their capacity to monitor, anticipate, and reduce risk of patient harm during the provision of healthcare should be provided by the hospital leadership

as well as the DOH. Risk assessment strategies to identify vulnerable populations and at-risk for hospital-acquired conditions are not commonly practiced in this hospital cohort.

Reporting and learning systems through a combination of voluntary reporting and surveillance should be strengthened for hospitals to undertake corrective action and quality improvement initiatives. There are no explicit policies or mechanisms to utilize, disseminate, and learn from data coming from nonconformity and corrective action reports or patient safety reports.

Education in the improvement of healthcare and patient safety is vital and should be dynamic, using new and creative techniques. Training on safety should not only be comprehensive but integrate interprofessional approaches to care, with emphasis on vital communication and teamwork. Further investigation on how to adequately assess the involvement of patients in the hospital patient safety program should be undertaken. More importantly, educating healthcare providers and managers on what patient-centeredness is, how it can be integrated in care processes, and how to measure its attainment, should be top-of-mind.

Having a unified set of definitions and protocols for measurement will facilitate reliable monitoring and improvement. This will entail broader discussions among stakeholders, with particular emphasis for facilities in geographically isolated and disadvantaged areas (GIDA) so that equitable policies are formulated and supporting mechanisms are readily identified. Leadership and governance, both internal (e.g., hospital administrators) and external (e.g., DOH) that recognize a data-driven approach to policy-making and improvement of service delivery are crucial in promoting patient safety.

This study has several limitations. It covers hospitals only since the literature on measures for primary care facilities are still explored, particularly for developing countries. Secondly, the focus of this study is measuring performance in the achievement of the six IPSGs based on the JCI Accreditation Standards for Hospitals 2011, which are some of the more common patient safety issues encountered in hospitals and have evidence for system-wide measurement and solutions. The decision to use the IPSGs as the starting point is for its simplicity, familiarity amongst institutions, focus on patient safety, and being used as reference by the DOH and PHIC standards. Issues outside of these six IPSGs can later be covered once processes employed highlighted in this project are scaled up. Thirdly, while the measurement of safety inherently involves measuring quality, other aspects of quality such as individual assessment and communication of health risks to patients regarding specific illnesses and their treatment are also not included. These concepts would need their own separate discussions, in that, these will require investigation of more general contexts and details outside of hospital processes.

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Statement of Authorship

DRTL and LCRP contributed in the conceptualization of work, analysis of data, drafting and revising of manuscript, and final approval of the version to be published. GDR and CRDC contributed in the acquisition and analysis of data, and final approval of the version to be published. ADM contributed in the conceptualization of work, revising of manuscript, and final approval of the version to be published.

Author Disclosure

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