Patient Safety Practices in Asia-Pacific Countries: A Survey based on Strategic Objectives of the Global Patient Safety Action Plan Framework by the World Health Organization

by

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Thesis submitted in partial
fulfillment of the requirements for the degree
of Master of Science in the Duke Global Health Institute
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ABSTRACT

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Abstract

Introduction: This study aims to evaluate patient safety practices in the Asia-Pacific region based on Strategic Objectives of the Global Patient Safety Action Plan (GPSAP) Framework and identify good and sub-optimal patient safety practice examples in the Asia-Pacific.

Methodology: As part of a quantitative study, a self-assessment survey tool was sent to a total of 25 health centers participating in Global Action for Leaders & Learning Organizations on Patient Safety (GALLOPS) initiative. The survey tool was based on the GPSAP's 7 strategy objectives (SOs) which was stratified into 35 areas of patient safety. The scale was from 1 to 5, with 1 being "not established" to 5 being "strongly established with good practices" for each of the 35 strategic areas. The mean of each strategic areas, SOs, and overall mean of SOs for the health centers were calculated. Good and sub-optimal practices of GALLOPS-participating countries according to GPSAP-defined patient safety strategies were identified and tabulated.

Result: A total of 15 self-rated responses were received from 8 GALLOPS-participating Asia-Pacific countries' health centers. The overall mean scores of all self-assessed SOs were: Singapore (3.84); Malaysia (3.66); South Korea (3.57); India (3.20); Sri Lanka (3.09); Indonesia (2.46); Nepal (2.14); Maldives (1.94). The total mean of all health centers' SOs was 2.99. SO3 (Safety of clinical processes) had the highest mean of 3.39, while SO4 (Patient and family engagement) and 7 (Synergy, partnership and solidarity)

had 2.54 and 2.55, having two lowest means for all countries' health centers, respectively.

Conclusion: Our study revealed substantial differences in patient safety practices across health centers of Asia-Pacific countries and across the strategic objective domains. This helped to establish a baseline of patient safety landscape in Asia Pacific and represented opportunities for promoting equity in healthcare and improving patient safety.

Dedication

This thesis is dedicated to Junsu, my brother, a dedicated airman and an empathetic friend.

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I would also like to express my appreciation to SingHealth's institutions, including Singapore General Hospital, Changi General Hospital, Singapore National Eye Centre, Sengkang General Hospital, and KK Women's and Children's Hospital, and IPSQ teams for providing feedback for data collection in Singapore. Further, I would like to thank Dr Hyejin Kim from Yonsei Severance Hospital’s Patient Safety Team, and Dr Dong Young Kim from Gachon University Gil Medical Center for having graciously accepting to meet me and provide me with the self-assessment responses during my stay in South Korea.

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1. Introduction

The discipline of patient safety is centered around preventing errors and adverse outcomes that can occur during healthcare procedures, with the overarching aim of reducing harm to patients. The World Health Organization (WHO) defines patient safety as "the absence of preventable harm to a patient during the process of healthcare". (1)

Despite significant advancements of patient safety in recent years, concerns regarding global patient safety outcomes remain widely prevalent. At the primary and outpatient level, approximately 4 in 10 patients globally experience healthcare associated harm, with 80% of these incidents being preventable (2). Historically, the concept of safe care has not received as much attention in low- and middle-income countries (LMICs), leading to poorer patient safety outcomes (3). More than 130 million adverse effects occur in LMIC hospital care settings, with 2.6 million deaths occurring annually (2). Even in high-income countries, where patient safety standards are relatively high and healthcare equipment is readily available, approximately 1 in 10 patients still suffer from adverse effects during care (3).

The Asia-Pacific region has seen significant advancements in healthcare over the past few decades but patient safety practices in some of the countries in the region still have room for improvement. Fragmented healthcare quality in Asia-Pacific calls for closing the gaps of discrepant areas of practice to achieve enhanced patient safety. While several Asia-Pacific countries have acquired notable healthcare systems, a number of economically transitioning countries of the Asia-Pacific still face dire patient safety challenges (4,5). Studies have indicated that several economically transitioning Asian

countries' patient safety preparedness levels ranged from low to moderate, while economically developed Asian countries comparatively ranked higher (5). It is important to identify good and sub-optimal practices to promote equity across the region and improve the quality of care provided.

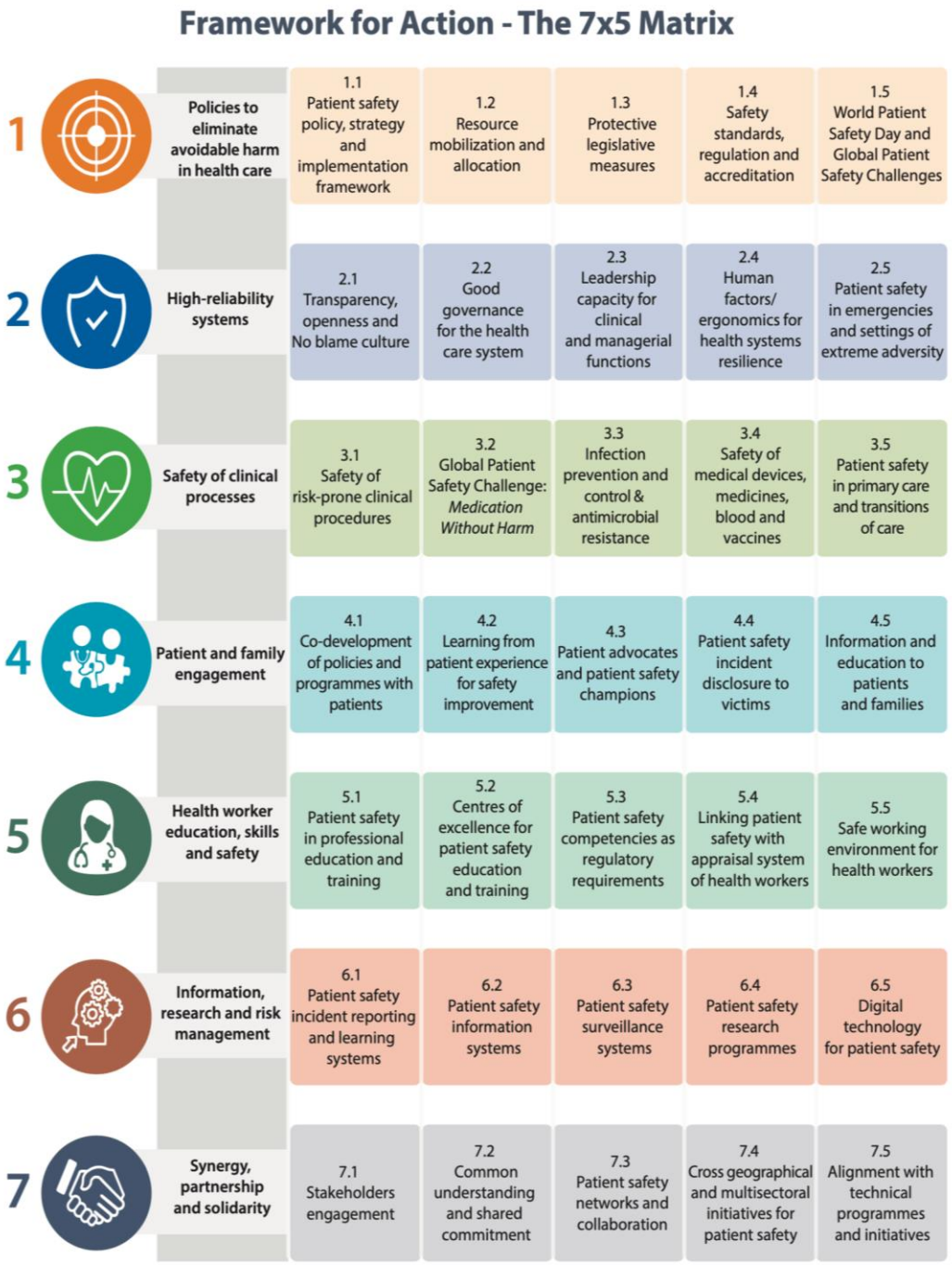
WHO has identified patient safety as a global health priority for its member states through the adoption of resolution WHA72.6, a call to action for patient safety announced during the World Health Assembly held in 2019 (6,7). Further, WHO Director General formed a task force which developed a Global Patient Safety Action Plan (GPSAP) that encapsulates strategies and guidelines for health facilities, member state organizations, private sector, and other relevant stakeholders (6,7). The plan aimed at improving patient safety around the world, with a vision of a "world in which no patient is harmed in healthcare, and everyone receives safe and respectful care, every time, everywhere" (7). Recently launched, the "Global Patient Safety Action Plan 2021-2030: Towards Zero Patient Harm in Health Care" or GPSAP is a WHO flagship initiative that outlines key strategies for reducing the incidence of harm in healthcare settings and achieving the goal of zero patient harm (8).

Under the GPSAP, WHO developed a framework for patient safety (Figure 1) to highlight particular strategies and practices deemed important to ensure all areas of patient safety practices are adequately addressed and can be applied to health functioning units (7,9). The framework comprises 35 distinctive strategies of patient safety grouped into seven strategy objectives (SOs). The seven strategy objectives needed to be addressed to improve patient safety are: 1)Policies to eliminate avoidable harm in

healthcare; 2)High-reliability system; 3)Safety of clinical processes; 4)Patient and family engagement; 5)Health worker education, skills and safety; 6)Information, research and risk management; 7)Synergy, partnership, and solidarity(8). Five strategies mapped to each of the seven SOs are constituted by a series of action recommendations for relevant partnering sectors, such as governments, healthcare facilities and services, stakeholders, and the WHO secretariat (8). With specific SOs and strategies to achieve the goal of GPSAP 2021-2030, stakeholders in action are able to accelerate their understanding and capability of addressing patient safety issues across different contexts (7).

The GPSAP Framework and its guidelines were launched as an initiative that incorporates the latest expert insights on patient safety issues from around the globe. A common global framework for Asia-Pacific countries and its underlying health centers will enhance collaborative action in sharing best practices and identifying areas that need improvement in patient safety practices, thereby more efficiently providing optimal patient safety practices across its region.

Figure 1. WHO Global Patient Safety Action Plan Framework of Patient Safety Strategies. (Each rows represent the strategy objectives with five strategies each)



As an active partner of WHO, SingHealth Duke-NUS Institute for Patient Safety and Quality (IPSQ), a patient safety organization in Singapore, initiated the Global Action for Leadership and Learning Organization for Patient Safety (GALLOPS) program to enhance patient safety standards in the Asia-Pacific (10). GALLOPS is an initiative aimed at enhancing patient safety by promoting learning organizations and leadership development in health organizations through sharing of good patient safety practices (10). With the support of WHO, the GALLOPS program started on October 21, 2021, with participants from different healthcare organizations of Asia-Pacific, sharing their experiences and insights on good and sub-optimal patient safety practices and ways to improve the quality of care in healthcare organizations (10).

The aims of this study were: 1) to evaluate patient safety practices in the Asia-Pacific region based on patient safety strategies and SOs of the GPSAP Framework; 2) to identify good and sub-optimal patient safety practices in the Asia-Pacific region for sharing insights and opportunities for improving care.

2. Methods

2.1 Setting

To evaluate patient safety practices in the Asia-Pacific region, a self-assessment survey was used, targeting health centers from Asia-Pacific countries. IPSQ developed the survey form based on Strategic Objectives of the Global Patient Safety Action Plan Framework by the World Health Organization.

Based on the participating health centers' country's income status according to the World Bank's classification, we employed a total of three strata: low-income, middle-

income, and high-income (11). It is essential to mention that our deductions are based on observations made from the samples collected from our health centers, and they should not be generalized to associate income classification of participating countries with the level of patient safety maturity of health centers. It is crucial to recognize these distinctions because including only one or two health cents is inadequate to represent a whole country or income group. Therefore, our conclusions based on a limited sample size are only applicable to the specific health centers included in our study. We categorized our resulting sample of health centers according to their associated country's income level only for the purpose of classification.

2.2 Participants

The survey participants comprised leads of health centers and facilities in the Asia-Pacific region who were members of the GALLOPS network, serving as representatives for their respective countries. These individuals, who were designated as patient safety leads, possessed expertise in their facilities' patient safety standards and practices. A total of 25 health centers from 17 countries in the GALLOPS network were invited to participate in the survey. Countries whose health centers were invited included Bangladesh, Bhutan, China, Cambodia, India, Indonesia, Laos, Malaysia, Maldives, Myanmar, Nepal, Philippines, Sri Lanka, Thailand, Vietnam, South Korea, and Singapore. Each country had one health center invited, except for India, which had two, Sri Lanka, which had three, and Singapore, which had six. Although the 25 invited health centers and 17 countries do not represent the entire universe of GALLOPS affiliates, they chose to participate in this study by providing information about their health centers. The

survey was open to patient safety leads from different health centers and facilities within the same country. All health centers and organizations, regardless of their capacity level or size, were invited to take part in the study as long as they could furnish information about their patient safety standards. Patient safety leads of GALLOPS came from various occupations, such as physicians, health scientists, directors of patient safety, and quality assurance managers.

2.3 Procedures

The survey was designed in the form of an excel spreadsheet with both quantitative and qualitative components to evaluate good and sub-optimal patient safety practices (Appendix A). The survey employed GPSAP Framework's seven distinct SOs, which were stratified into 35 areas of patient safety strategies. The quantitative component of the survey allowed each of the 35 strategies to be numerically scored on a scale from 1 to 5. A score of 1 indicated that the strategy was "not established"; a score of 2 indicated that the strategy was "minimally established"; a score of 3 indicated that the strategy was "somewhat established"; a score of 4 indicated that the strategy was "fully established" while a score of 5 indicated that the practice was "strongly established with good practices". Under the qualitative component, responding patient safety leads were asked to provide examples of good and sub-optimal patient safety practices (practice areas for improvement), within their health centers, in relationship to their numeric score for individual strategies.

Email invitations to participate in the survey were sent in October 2021 to patient safety leaders of health centers, who were involved in the GALLOPS initiative. To

encourage participation, regular email reminders were sent. IPSQ staff provided virtual assistance via Zoom platform to those who required help completing the survey. This included clarification on the meaning of strategies, SOs, and the numerical scale to self-assess patient safety practices.

IPSQ and the author were responsible for leading the survey coordination and categorization of good and sub-optimal practices according to self-assessed responses of patient safety leaders in Asia-Pacific. All study procedures were approved by the ethical review board at SingHealth Centralised Institutional Review Board (CIRB).

2.4 Measures

The survey consisted of 3 parts: 1) Characteristics of participating health centers; 2) Quantitative assessment of the maturity of the establishment of patient safety practices; and 3) Qualitative description of good and sub-optimal patient safety practices.

2.4.1 Characteristics of Participating Health Facilities

The characteristics of participants and their health facilities were assessed by six questions about country, healthcare organization, department and designation, years of service within the role, Global Patient Safety Network (GPSN) affiliation, and health organization capacity representation for members of the Global Patient Safety Network.

Years of service within the role were divided into 8 groups: less than 1 years, 1 to 5 years, 6 to 10 years, 11 to 15 years, 16 to 20 years, 21 to 25 years, 26 to 30 years, and more than 30 years. Global Patient Safety Network Affiliation was a binary question with two answer choices, differentiated as “yes” and “no”.

Capacity level for members of the Global Patient Safety Network included Health Care Facilities level B) Cluster level (Group of Hospital Institutions under your organization) C) National level (Country) D) Organization level (e.g. Associations, Networks, Care Service Providers) E) Government (e.g. Ministry of Health), F) World Health Organization (WHO). Health Care Facilities level was further stratified into 6 levels: A) Primary Care Clinic (e.g., Polyclinics, General Practitioners), B) General Hospital (e.g. Hospital Institution), C) Community Hospital (e.g. Step-down care, Rehabilitation), D) Specialty Care Center (e.g. Eye, Heart, Skin, Dental), E) Nursing Care Center (e.g. Old Folks' Home, Nursing Home, Assisted Living Facility), F) Hospice Care Institution.

2.4.2 Quantitative Assessment of the Maturity of the Establishment of Patient Safety Practices

The survey assessed the maturity of the establishment of patient safety practices for the 35 strategies within the seven SOs of the GPSAP Framework. Survey participants were required to rate their health facilities' practice standards on a scale of 1 to 5 for each strategy, as described above.

2.4.3 Description of the Maturity of Good and Sub-optimal Patient Safety Practices

As a supplemental component to our quantitative study, participants were allowed to identify and describe up to three of their good and sub-optimal patient safety practices in any of the SOs. In the first section, participants were asked to identify and describe the top three patient safety practices that were deemed exemplary within their health facility. The second section required participants to choose and describe three areas of patient

safety practices that were sub-optimal and needed improvement within their health facility.

2.5 Analysis

At the end of the survey data collection, the raw data of each survey response was stored in Microsoft Excel version 16.68 and stored in a secure hard drive.

For the quantitative assessment component of completed surveys, mean scores at three different levels were calculated: each of the strategies, each of the 7 SOs, and SOs of the countries. The scores were then tabulated into a matrix and color-coded to highlight the differences in the maturity of the establishment of patient safety practices at three levels across the Asia-Pacific region.

Responses from completed surveys were collated based on the seven SOs. Patient safety practices matched to SOs, and strategies were consolidated, identified, and shared for cross-learning and insights for improvement.

3. Results

3.1 Characteristics of Participating Health Facilities

A total of 15 self-rated survey responses were received from 15 different health centers from 8 countries of the Asia-Pacific, namely, India, Indonesia, Nepal, Malaysia, Maldives, South Korea, Singapore, and Sri Lanka (Table 1). One survey response each from one health center was received from India, Nepal, Malaysia, Indonesia, Maldives, and South Korea. Three survey responses from three different health centers were received from Sri Lanka. Six survey responses from six different health centers were received from Singapore. The survey response rate was 60.0% (15 of 25 health centers).

Table 1. Self-rated survey responses of 15 health centers in Asia Pacific region

GPSAP 7x5 Matrix Strategic Objectives	Maldives	Nepal	Indonesia	Sri Lanka 1	Sri Lanka 2	Sri Lanka 3	India	South Korea	Malaysia	Singapore 1	Singapore 2	Singapore 3	Singpoare 4	Singapore 5	Singapore 6
Overall average of all strategies	**1.94**	**2.14**	**2.46**	**3.51**	**2.77**	**2.97**	**3.20**	**3.57**	**3.66**	**4.00**	**3.43**	**3.66**	**4.09**	**3.29**	**4.60**
1) Policies to eliminate avoidable harm in healthcare	2.00	2.00	2.80	3.60	2.80	3.60	3.60	4.00	3.80	4.20	3.40	4.00	4.00	3.20	5.00
2) High-reliability systems	2.20	2.60	2.60	3.80	3.00	4.20	3.00	4.00	3.80	4.60	3.20	4.00	4.20	4.00	5.00
3) Safety of clinical processes	2.40	2.75	3.20	4.00	3.80	3.00	3.00	3.80	4.00	4.00	4.00	4.40	4.80	4.00	5.00
4) Patient and family engagement	1.60	2.20	2.50	3.00	2.20	2.20	3.80	2.40	2.80	3.00	2.60	2.40	4.00	2.80	3.40
5) Health worker education, skills and safety	1.40	1.40	2.00	3.60	2.60	3.60	3.00	3.80	4.20	4.20	4.00	3.80	4.40	3.20	4.20
6) Information, research and risk management	2.00	2.00	2.40	3.20	2.40	2.20	3.00	4.60	3.00	4.00	3.40	3.80	3.40	2.80	4.60
7) Synergy, partnership and solidarity	2.00	2.00	1.75	3.40	2.60	2.00	3.00	2.40	4.00	4.00	3.40	3.20	3.80	3.00	5.00
Strategies															
1.1) Patient safety policy, strategy and implementation framework	2.0	2.0	3.0	4.0	3.0	3.0	3.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0
1.2) Resource mobilization and allocation	2.0	2.0	3.0	3.0	2.0	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	5.0
1.3) Protective legislative measures	2.0	2.0	3.0	3.0	2.0	4.0	4.0	5.0	3.0	4.0	4.0	5.0	5.0	4.0	5.0
1.4) Safety standards, regulation and accreditation	2.0	2.0	4.0	3.0	3.0	4.0	5.0	4.0	4.0	5.0	4.0	5.0	5.0	4.0	5.0
1.5) World Patient Safety Day and global patient safety challenges	2.0	2.0	1.0	5.0	4.0	4.0	3.0	2.0	4.0	4.0	2.0	2.0	2.0	1.0	5.0
2.1) Transparency, openness and no blame culture	2.0	2.0	3.0	3.0	2.0	4.0	3.0	4.0	3.0	5.0	3.0	3.0	5.0	4.0	5.0
2.2) Good governance for the health care system	2.0	3.0	4.0	4.0	3.0	4.0	3.0	N/A	4.0	5.0	3.0	4.0	5.0	4.0	5.0
2.3) Leadership capacity for clinical and managerial functions	2.0	3.0	2.0	5.0	4.0	5.0	3.0	3.0	4.0	5.0	3.0	4.0	4.0	4.0	5.0
2.4) Human factors/ergonomics for health systems resilience	2.0	3.0	2.0	3.0	3.0	4.0	3.0	5.0	4.0	4.0	3.0	4.0	3.0	3.0	5.0
2.5) Patient safety in emergencies and settings of extreme adversity	3.0	2.0	2.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0	5.0
3.1) Safety of risk-prone clinical procedures	3.0	3.0	4.0	4.0	4.0	3.0	3.0	4.0	4.0	4.0	4.0	5.0	5.0	4.0	5.0
3.2) Global Patient Safety Challenge: Medication without harm	2.0	N/A	1.0	4.0	4.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0
3.3) Infection prevention and control & antimicrobial resistance	2.0	3.0	4.0	4.0	4.0	3.0	3.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0
3.4) Safety of medical devices, medicines, blood and vaccines	3.0	3.0	4.0	5.0	4.0	3.0	3.0	5.0	4.0	4.0	4.0	5.0	5.0	4.0	5.0
3.5) Patient safety in primary care and transitions of care	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	3.0	5.0	3.0	5.0
4.1) Co-development of policies and programmes with patients	1.0	2.0	N/A	2.0	2.0	2.0	4.0	2.0	2.0	3.0	2.0	2.0	4.0	2.0	3.0
4.2) Learning from patient experience for safety improvement	2.0	2.0	3.0	3.0	2.0	3.0	5.0	3.0	3.0	3.0	3.0	2.0	4.0	3.0	3.0
4.3) Patient advocates and patient safety champions	1.0	2.0	1.0	3.0	1.0	1.0	3.0	2.0	3.0	2.0	2.0	2.0	4.0	2.0	3.0
4.4) Patient safety incident disclosure to victims	2.0	2.0	2.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0	5.0
4.5) Information and education to patients and families	2.0	3.0	4.0	4.0	4.0	2.0	4.0	2.0	3.0	4.0	3.0	3.0	4.0	4.0	3.0
5.1) Patient safety in professional education and training	2.0	2.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0	4.0	5.0	5.0	4.0	5.0
5.2) Centres of excellence for patient safety education and training	1.0	1.0	1.0	5.0	4.0	3.0	3.0	3.0	4.0	4.0	4.0	3.0	5.0	4.0	5.0
5.3) Patient safety competencies as regulatory requirements	1.0	1.0	1.0	3.0	2.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0	2.0	3.0
5.4) Linking patient safety with appraisal system of health workers	1.0	1.0	1.0	2.0	1.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	4.0	2.0	3.0
5.5) Safe working environment for health workers	2.0	2.0	3.0	4.0	3.0	4.0	3.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	5.0
6.1) Patient safety incident reporting and learning systems	3.0	1.0	4.0	3.0	3.0	4.0	3.0	5.0	4.0	4.0	3.0	4.0	5.0	3.0	5.0
6.2) Patient safety information systems	2.0	2.0	3.0	3.0	1.0	3.0	3.0	5.0	2.0	4.0	4.0	4.0	3.0	3.0	5.0
6.3) Patient safety surveillance systems	2.0	3.0	3.0	3.0	2.0	2.0	3.0	5.0	4.0	4.0	4.0	3.0	3.0	3.0	5.0
6.4) Patient safety research programmes	1.0	2.0	1.0	3.0	3.0	1.0	3.0	4.0	3.0	4.0	3.0	3.0	3.0	2.0	3.0
6.5) Digital technology for patient safety	2.0	2.0	1.0	4.0	3.0	1.0	3.0	4.0	2.0	4.0	3.0	5.0	3.0	3.0	5.0
7.1) Stakeholders engagement	2.0	2.0	N/A	4.0	3.0	3.0	3.0	2.0	4.0	4.0	4.0	3.0	1.0	2.0	5.0
7.2) Common understanding and shared commitment	2.0	2.0	4.0	3.0	3.0	3.0	3.0	1.0	4.0	4.0	3.0	2.0	5.0	3.0	5.0
7.3) Patient safety networks and collaboration	2.0	2.0	1.0	4.0	2.0	2.0	3.0	1.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
7.4) Cross geographical and multisectoral initiatives for patinet safety	2.0	2.0	1.0	3.0	3.0	1.0	3.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	5.0
7.5) Alignment with technical programmes and initiatives	2.0	2.0	1.0	3.0	2.0	1.0	3.0	4.0	4.0	4.0	3.0	4.0	5.0	3.0	5.0

All health organization types were healthcare facilities of Asia-Pacific countries, except for one organization type being Ministry of Health from Sri Lanka. Department types represented were as follows: obstetrics and gynecology, clinical anatomy, nursing, healthcare quality and safety, quality improvement, dermatology and venereology, health management, safety and risk management, clinical audit, improvement science, and clinical governance. Patient safety leads that represented their health centers varied in their designation: director at various levels, associate professor, clinical nurse, medical superintendent, doctor, senior manager, principal specialist, and assistant manager.

Years of service within the participating patient safety leads' role also varied: two participating patient safety leads at 1-5 years of service, seven participating patient safety leads at 6-10 years of service, four participating patient safety leads at 11-15 years of service, two participating patient safety leads at 21-25 years of service, and one participating patient safety leads at 16-20 years of service, and 26-30 years of service. A total of five survey participating health centers were members of the GPSN, while ten survey participating health centers were not members of the GPSN. Capacity levels for all participating health centers differed: 14 were health care facilities level (13 general hospitals and 1 specialty care center for eyes), one was an organization level (associations, networks, care service providers), and one was a government level.

3.2 Quantitative Assessment of the Maturity of the Establishment of Patient Safety Practices

Singapore's health centers (3.84) had the highest overall mean of SOs, followed closely by Malaysia's health center (3.66) and South Korea (3.57). India's health center

(3.20) and Sri Lanka's health centers (3.09) had middle overall mean of SOs, followed by Indonesia's health center (2.46). In contrast, Nepal's health center (2.14) and Maldives' health center (1.94) had comparatively lower overall mean of SOs. The total mean score for all eight countries' health centers was 2.99 with none of the health centers' ratings above a 4.0. The measure of dispersion of the 8 countries' health centers were as follows:

Table 2. Measure of dispersion for 8 Asia-Pacific countries' health centers

First Quartile (Q_1)	2.30
Second Quartile (Q_2)	3.15
Third Quartile (Q_3)	3.62
Interquartile Range (IQR)	1.32
Median (Q_2)	3.15
Minimum	1.94
Maximum	3.84
Range	1.9
Standard deviation	0.72
Mean	2.87

Additionally, variation was also measured via dispersion for the three health centers in Sri Lanka and six health centers in Singapore:

Table 3. Measure of dispersion for the three Sri Lankan and six Singaporean health centers

	Three Sri Lankan Health Centers	Six Singaporean Health Centers
Interquartile Range (IQR)	N/A	0.66
Standard Deviation	0.38	0.48
Mean	3.09	3.84

The resulting health centers samples from various Asia-Pacific countries were grouped into three strata based on their income levels. Health centers in Maldives and Nepal were classified as centers included in low-income regions, while health centers in Indonesia, Sri Lanka, India, and Malaysia were categorized as middle-income regions. Health centers in South Korea and Singapore, on the other hand, were categorized as high-income regions.

Several differences were observed among different health centers of Asia-Pacific, with notable trends in the differences of the maturity of the establishment of patient safety practices between low-income, middle-income, and high-income countries. The health centers in Maldives and Nepal generally exhibited low means across all seven SOs, suggesting inadequate patient safety practices in these institutions. While slightly higher in overall means, Indonesia's health center also indicated low means across all SOs, showing a need to establish good patient safety practices across all SOs. Health centers from Sri Lanka and India showed a moderate level of established patient safety

practices across all SOs, when compared to the first three LMICs. In contrast, health center in Malaysia, had the second highest mean as a middle-income country. South Korea and Singapore demonstrated overall higher means in all SOs when compared to the majority of LMIC countries represented in our data.

The study revealed variations in the combined mean values of all countries' health centers for the seven SOs of the GPSAP Framework. SO1, SO2, and SO3 exhibited relatively higher combined means for the health centers across countries, whereas SO4, SO5, SO6, and SO7 had lower means in comparison. SO3 (3.39) had the highest combined mean, followed by SO2 (3.12) and SO1 (3.08) respectively, placed above the 3.0 rating threshold. Conversely, SO6 (2.80), SO5 (2.72), SO7 (2.55), SO4 (2.54) were below the 3.0 rating threshold. Irrespective of a country's economic status, SO4 indicated varying degrees of challenge in establishing good practices across all the surveyed health centers in the Asia-Pacific region.

Of the 35 patient safety strategies in the GPSAP Framework, strategy 3.4 (Safety of medical devices, medicines blood, and vaccines) and strategy 3.3 (Infection prevention and control & antimicrobial resistance) received comparatively higher means at 3.8 and 3.7 respectively. However, none of the strategies were at or above 4.0, indicating that patient safety practices across some health centers in the Asia-Pacific region were not fully established.

Among the comparatively lower means of the 35 patient safety strategies, strategy 4.3 (Patient safety advocates and patient safety champions) was the lowest at 2.0. Other strategies, including strategy 4.1 (Co-development of policies and programs with

patients), strategy 5.3 (Patient safety competencies as regulatory requirements), and strategy 7.3 (Patient safety networks and collaboration), also had lower means of 2.2, 2.2, and 2.4, respectively.

A summary chart of the each of the seven SOs, SOs of the countries, and individual strategies was created. This served as a comprehensive chart of each patient safety strategies according to each of the seven SOs (Table 2).

Table 4. Consolidated self-rated survey responses of health centers of 8 countries in Asia Pacific region

GPSAP Strategic Objectives for Health Centers of Asia-Pacific	Maldives (1)	Nepal (1)	Indonesia (1)	Sri Lanka (3)	India (1)	South Korea (1)	Malaysia (1)	Singapore (6)	Total Averaged Score
Overall average of all strategies	1.94	2.14	2.46	3.09	3.20	3.57	3.66	3.84	2.87
1) Policies to eliminate avoidable harm in healthcare	2.00	2.00	2.80	3.33	3.60	4.00	3.80	3.97	3.08
2) High-reliability systems	2.20	2.60	2.60	3.67	3.00	4.00	3.80	4.17	3.12
3) Safety of clinical processes	2.40	2.75	3.20	3.61	3.00	3.80	4.00	4.37	3.39
4) Patient and family engagement	1.60	2.20	2.50	2.47	3.80	2.40	2.80	3.03	2.54
5) Health worker education, skills and safety	1.40	1.40	2.00	3.27	3.00	3.80	4.20	3.84	2.72
6) Information, research and risk management	2.00	2.00	2.40	2.60	3.00	4.60	3.00	3.67	2.80
7) Synergy, partnership and solidarity	2.00	2.00	1.75	2.67	3.00	2.40	4.00	3.73	2.55
Strategies									
1.1) Patient safety policy, strategy and implementation framework	2.0	2.0	3.0	3.3	3.0	5.0	4.0	4.2	3.2
1.2) Resource mobilization and allocation	2.0	2.0	3.0	2.7	3.0	4.0	4.0	3.8	3.0
1.3) Protective legislative measures	2.0	2.0	3.0	3.0	4.0	5.0	3.0	4.5	3.1
1.4) Safety standards, regulation and accreditation	2.0	2.0	4.0	3.3	5.0	4.0	4.0	4.7	3.5
1.5) World Patient Safety Day and global patient safety challenges	2.0	2.0	1.0	4.3	3.0	2.0	4.0	2.7	2.6
2.1) Transparency, openness and no blame culture	2.0	2.0	3.0	3.0	3.0	4.0	3.0	4.2	2.9
2.2) Good governance for the health care system	2.0	3.0	4.0	3.7	3.0	N/A	4.0	4.3	3.3
2.3) Leadership capacity for clinical and managerial functions	2.0	3.0	2.0	4.7	3.0	3.0	4.0	4.2	3.1
2.4) Human factors/ergonomics for health systems resilience	2.0	3.0	2.0	3.3	3.0	5.0	4.0	3.7	3.2
2.5) Patient safety in emergencies and settings of extreme adversity	3.0	2.0	2.0	3.7	3.0	4.0	4.0	4.5	3.1
3.1) Safety of risk-prone clinical procedures	3.0	3.0	4.0	3.7	3.0	4.0	4.0	4.5	3.5
3.2) Global Patient Safety Challenge: Medication without harm	2.0	N/A	1.0	3.7	3.0	3.0	4.0	4.2	2.8
3.3) Infection prevention and control & antimicrobial resistance	2.0	3.0	4.0	3.7	3.0	4.0	4.0	4.7	3.4
3.4) Safety of medical devices, medicines, blood and vaccines	3.0	3.0	4.0	4.0	3.0	5.0	4.0	4.5	3.7
3.5) Patient safety in primary care and transitions of care	2.0	2.0	3.0	3.0	3.0	3.0	4.0	4.0	2.9
4.1) Co-development of policies and programmes with patients	1.0	2.0	N/A	2.0	4.0	2.0	2.0	2.7	2.2
4.2) Learning from patient experience for safety improvement	2.0	2.0	3.0	2.7	5.0	3.0	3.0	3.0	3.0
4.3) Patient advocates and patient safety champions	1.0	2.0	1.0	1.7	3.0	2.0	3.0	2.5	2.0
4.4) Patient safety incident disclosure to victims	2.0	2.0	2.0	2.7	3.0	3.0	3.0	3.5	2.5
4.5) Information and education to patients and families	2.0	3.0	4.0	3.3	4.0	2.0	3.0	3.5	3.0
5.1) Patient safety in professional education and training	2.0	2.0	4.0	3.7	3.0	4.0	4.0	4.5	3.2
5.2) Centres of excellence for patient safety education and training	1.0	1.0	1.0	4.0	3.0	3.0	4.0	4.2	2.4
5.3) Patient safety competencies as regulatory requirements	1.0	1.0	1.0	2.7	3.0	3.0	4.0	3.5	2.2
5.4) Linking patient safety with appraisal system of health workers	1.0	1.0	1.0	2.3	3.0	4.0	4.0	3.3	2.3
5.5) Safe working environment for health workers	2.0	2.0	3.0	3.7	3.0	5.0	5.0	4.3	3.4
6.1) Patient safety incident reporting and learning systems	3.0	1.0	4.0	3.3	3.0	5.0	4.0	4.0	3.3
6.2) Patient safety information systems	2.0	2.0	3.0	2.3	3.0	5.0	2.0	3.8	2.8
6.3) Patient safety surveillance systems	2.0	3.0	3.0	2.3	3.0	5.0	4.0	3.7	3.2
6.4) Patient safety research programmes	1.0	2.0	1.0	2.3	3.0	4.0	3.0	3.0	2.3
6.5) Digital technology for patient safety	2.0	2.0	1.0	2.7	3.0	4.0	2.0	3.8	2.4
7.1) Stakeholders engagement	2.0	2.0	N/A	3.3	3.0	2.0	4.0	3.2	2.7
7.2) Common understanding and shared commitment	2.0	2.0	4.0	3.0	3.0	1.0	4.0	3.7	2.7
7.3) Patient safety networks and collaboration	2.0	2.0	1.0	2.7	3.0	1.0	4.0	4.3	2.2
7.4) Cross geographical and multisectoral initiatives for patinet safety	2.0	2.0	1.0	2.3	3.0	4.0	4.0	3.5	2.6
7.5) Alignment with technical programmes and initiatives	2.0	2.0	1.0	2.0	3.0	4.0	4.0	4.0	2.6

3.3 Description of the Maturity of Good and Sub-optimal Patient Safety Practices

Examples of good and sub-optimal patient safety practices shared by survey respondents were used to support the numerical ratings of their patient safety strategies for each of the seven SOs outlined in the GPSAP Framework. Descriptive examples collected were then collated according to the SOs and compiled in a reformulated context.

At the end of the study, 10 out of 15 participating health centers across 8 countries provided their examples and reasons of good and sub-optimal practices. We collected 31 examples of self-selected good patient safety practices based on the 35 patient safety strategies of GPSAP Framework. Similarly, we collected 30 examples of self-selected sub-optimal examples based on the 35 patient safety strategies. Descriptions provided by health centers varied in amount due to differing responsiveness to the survey completion request.

All 61 examples of descriptions for different SOs were archived in appendices for further review (Appendix B and C). While health centers' names were not revealed for confidentiality purposes, their country affiliation and commentary of their good and sub-optimal patient safety practices were shared.

Overall, descriptions of good and sub-optimal patient safety practices by various health centers across Asia-Pacific provided various successful and sub-optimal examples of patient safety practices.

4. Discussion

This study showed several differences within various establishment levels of patient safety practices among health centers of different regions of Asia-Pacific, indicating there is a scope for sharing and improvement of patient safety practices in countries of Asia-Pacific. Health centers with lower overall means (e.g, Maldives: 1.94) had a lower level of maturity in establishing patient safety practices, highlighting a greater need for improvement. Conversely, health centers with higher overall means (e.g, Singapore: 3.84) showed a relatively higher level of maturity in establishing patient safety practices, indicating a greater capacity to share good practices. Three different stratums further represent patterns of health centers' maturity of patient safety practices based on their country's income level, though anomalies also exist. Results of this study can help to form a baseline of the landscape of good and sub-optimal patient safety practices within health centers across the Asia-Pacific for greater understanding. This baseline data serves to inform stakeholders of patient safety practices and health centers of Asia-Pacific and to encourage them in sharing good practices to promote equity in patient safety standards across its region.

4.1 Lack of the Establishment of Good Patient Safety Practices among Low-Income-Country' Health Centers

This study demonstrated that health centers in low-income countries like Maldives (1.94) and Nepal (2.19) showed more areas that require improvement in establishing good patient safety practices across the seven SOs in comparison to the economically developed countries. All SO means for Nepal and Maldives were below

3.0. Moreover, SO5 (1.40, 1.40) for these low-income regions' health centers particularly showed low means within the seven SOs. Health centers of these regions rated strategies 5.2, 5.3, and 5.4 at 1.0, indicating no establishment of patient safety practices. Based on the quantitative data from this study, it appears that the health centers in the low-income regions in Asia have only minimal implementation of almost all of the patient safety strategies recommended for establishment by the WHO. The findings of this study align with existing literature which emphasizes the importance of LMICs shifting their focus towards enhancing patient safety standards (12,13,14). This is necessary to promote awareness and facilitate globally equitable care for all patients.

4.2 Some Establishment of Patient Safety Practices among some Middle-Income Country' Health Centers

According to literature, health centers in Indonesia (2.46), Sri Lanka (3.09) and India (3.20) exhibit robust governmental commitment and increasing attention towards patient safety measures (15, 16). However, challenges related to restricted resources in rural and low-income areas in these middle-income countries, lack of patient empowerment, and absence of a patient safety oriented organizational culture remain prevalent issues in these countries (17, 18). In addition, within the middle-income bracket, there are different levels of income, which could account for why health centers in Indonesia- a lower-middle income nation – display lower overall means in the development of patient safety measures compared to health centers in India and Sri Lanka. Nevertheless, enhancing patient safety standards throughout all health centers of these middle-income countries may require a significant amount of time, as there is a lack

of uniformity in prioritizing patient safety. Notably, limited resources constitute the primary contrast in the maturity of patient safety practices between health centers of these middle-income countries and upper-middle and high-income countries.

4.3 Patient Safety Challenges in Asian Low-and-Middle-Income Country' Health Centers

Though some are in economic transition, most Asian LMICs face challenges such as limited access to medical equipment, inadequate health infrastructure, insufficient health training, and a shortage of healthcare workers due to low incentives (19,20). In 2015, the Regional Strategy for Patient Safety in the WHO South-East Asia Region report (2016-2025) highlighted patient safety challenges in Southeast Asian countries including Maldives, Nepal, Indonesia, India, and Sri Lanka. These challenges included 1) limited access to health infrastructure, medical equipment, drugs, waste management systems, clean water, and sanitation; 2) minimal establishment of safety culture for both patients and health providers; 3) lack of patient-centered empowerment; 4) lack of transparency in cases of adverse events; 5) increased distrust in doctor-patient relationship; 6) shortage of skilled healthcare workers; 7) Regulation of medical-based private sector growth (16). WHO has partnered with these countries to implement long-term strategy building to strengthen health systems and infrastructure to enhance patient safety challenges (21).

Our study shows that, although there are efforts to enhance patient safety in these countries, health centers across the Asian LMIC regions still require larger degrees of improvement in implementing good patient safety practices when compared with

economically developed Asian regions. Additional investigation and the extensive augmentation of data collection regarding patient safety practices are imperative to serve as guide to improving the maturity of patient safety practices in LMIC countries. It is crucial to prioritize the implementation of optimal patient safety practices and build more resilient healthcare systems in these countries' healthcare centers to raise global quality of patient safety standards.

4.4 An Anomaly: The Case of Patient Safety Practices in an Upper-Middle-Income Country's Health Center

Despite being classified as an upper-middle-income country by the World Bank, Malaysia has taken a comprehensive approach to improving patient safety standards throughout its various regions. This approach recognizes that there is no single solution to ensuring high-quality care and maintaining patient safety (22). The Malaysian Ministry of Health has implemented strong strategies that encompass patient care, healthcare work force, and staff environment in order to decrease the number of complaints received by the medico-legal section of the ministry and ensure that the quality of care provided remains high (22).

Our Malaysian health center sample (3.66) indicated comparatively higher means of SOs for patient safety practice compared to the SO means of health centers in LMIC countries, and South Korea. This result further emphasizes that country' income levels are not the sole indicators of assessing patient safety standards of country' health centers. It is possible to conduct additional research to identify other factors that contribute to improving patient safety in such health centers. Particularly for the Malaysian health

center, SO3 (4.0), SO5 (4.20), and SO7 (4.0) showed fully established patient safety practices, suggesting Malaysian health center's maturity in establishing secure clinical procedures, providing patient safety training for healthcare professionals, and fostering cooperative partnerships to improve patient safety standards. On the contrary, SO4 (2.80) had a relatively lower mean, similar to most health centers in the Asia-Pacific region. This suggests that patient and family engagement is the least developed aspect of patient safety practices. Similar to other health centers, strategy 4.1 (2.0) was rated low, indicating that regardless of their economic status, face challenges in involving patients in the co-creation of policies and programs within their institutions.

4.5 Establishment of Patient Safety Practices among High-Income Country' Health Centers

Health centers from high-income countries like Singapore (3.86) and South Korea (3.57) showed relatively higher means of SOs and strategies compared to LMICs.

The SO means of Singaporean health centers were all above 3.0, indicating that either all patient safety strategies were established to some extent, or none were minimally established. However, there were still areas for improvement in their patient safety practices, as evidenced by the lower SO4 mean of 3.03 compared to other SO means. Strategies 4.1 (2.67) and 4.3 (2.50) were notably low, suggesting that there is insufficient establishment of practices in engaging with patients in the co-creation of health policies and programs, and in appointing advocates and champions for patient safety. Examples of good and sub-optimal practices also suggested a need for further research and attention towards strengthening patient-provider relationships and

empowering patients. Overall, Singaporean health centers exhibited higher maturity in patient safety practices compared to other Asia-Pacific health centers, but there were still some areas of established patient safety practices that needed improvement.

Though the overall mean of all SOs were comparable to Singaporean health centers', health center in South Korea (3.57) showed strengths in some SOs while suggesting areas needed for improvement in other SOs. Particularly, SO6 (4.60) had the highest mean, with SO1, S02, and SO5 indicating several fully established patient safety practices. In contrast, SO4 (2.40) and SO7 (2.40) were drastically lower in its means, suggesting not much emphasis on the maturity of patient safety practices related to hospital's engagement with patient and families, along with synergistic partnership and solidarity was established to maintain optimal practice standards. The South Korean health center specifically indicated the absence of establishment of strategies 7.2 and 7.3, underscoring the urgent need to prioritize a shared commitment to patient safety and to broaden patient safety networks by engaging both internal and external stakeholders.

Several studies indicate high burnout rates among health staff of health centers in high-income countries like South Korea and Singapore, a critical factor to diminishing patient safety (23, 24, 25). Sustained burnout rate among health staff can deteriorate solidarity among the team. Lack of synergistic and multidisciplinary teams for providing integrated care can severely diminish healthcare providers' meaning in providing care (26). Encouraging collaborative care and participating in patient safety networks for the South Korean health center may be crucial to enhancing its area of need in patient safety.

The health outcomes of a population are linked to factors such as increased equity, a more inclusive social welfare system, greater political engagement and education, availability of employment, housing, access to safe water and a clean environment (27). High-income countries are more likely to offer such goods to a larger number of people than LMICs (27). Our study sample revealed that health centers in economically developed Asian countries were likely to have a higher level of maturity in implementing effective patient safety practices, highlighting the importance of transferring feasible best practices to health centers in LMICs to address their specific areas of improvement. Further investigation is required to contextualize the enhancement of patient safety measures in LMICs, and to identify methods for promoting collaboration among economically diverse Asian nations in sharing effective patient safety practices.

4.6 Differences among Patient Safety SOs and Strategies

Overall, SO1 (3.08), SO2 (3.12), and SO3 (3.39) had higher means compared to SO4 (2.54), SO5 (2.72), SO6 (2.80), and SO7 (2.55), expressing variations in the level of development of existing patient safety measures, as well as the prioritization of specific patient safety practices over others, throughout the Asia-Pacific region. Almost all health centers indicated comparatively less established patient safety practices in SO4, signifying their reluctance to broaden the membership of decision-making teams to patient groups in a bustling organization with competing priorities and agendas. This finding aligns with the lack of patient involvement in the process of care provision for Asia-Pacific countries regardless of economic status (28, 29, 30).

4.6.1 Higher Patient Safety Strategy Objectives

Our findings suggest that an increased number of healthcare facilities in the Asia-Pacific region are inclined towards prioritizing SO1 initiatives, such as adopting the concept of zero harm and implementing policies, frameworks, plans and World Patient Safety Day. Additionally, results from our participating health centers were more likely to focus on SO2 and SO3 initiatives, such as enhancing resilience through minimizing harm from medical treatments, medical expertise, and leadership that prioritizes minimization of errors during clinical processes. As a result, it appears that clinical and medical provision systems and processes are more prevalent in our health center sample compared to priorities indicated in other SOs that received lower levels of implementation. This may show that policies, plans, systems, and clinical procedures are often given greater priority in health centers and organizations within the Asia-Pacific region as part of their patient safety agenda, compared to other areas.

4.6.2 Lower Patient Safety Strategy Objectives

The GPSAP Framework indicated that patient participation in improving patient safety is weak in most countries, particularly those with LMIC status. Moreover, there is insufficient patient safety education that extends beyond clinical processes and disease treatment, inadequate documentation of patient safety related forms, and insufficient collaboration and partnership to promote equity in patient safety, especially among LMICs. Further, the GPSAP Framework emphasizes that objectives SO4 to SO7 carry equal significance as the first three SOs as all objectives are interdependent and impact each other. However, health centers represented in our study results appear to give SO4

to SO7 comparatively less emphasis, resulting in lower means. It is essential for health centers in the Asia-Pacific region to concentrate on improving patient engagement, patient safety education, information systems and IT, and collaboration among health organizations as part of the conjoined agenda along with the first three SOs of the GPSAP Framework.

4.6.3 Higher Patient Safety Strategies

The top three strategies, all falling under the first three SOs (Strategy 1.4 with a mean of 3.5, Strategy 3.1 with a mean of 3.5, and Strategy 3.4 with a mean of 3.7), demonstrate that the health centers involved in our study may possess greater capabilities in ensuring the safety of medical devices, medicines, blood and vaccines, as well as minimizing the risks associated with clinical procedures. This indicates that these specific areas have been given more emphasis, thorough research, and higher priority among the health centers included in our analysis.

4.6.4 Lower Patient Safety Strategies

It is evident that the strategies with the lowest averages (Strategy 4.1 with a mean of 2.2, Strategy 4.3 with a mean of 4.3, Strategy 5.3 with a mean of 2.2, and Strategy 7.3 with a mean of 2.2) correspond to the bottom four SOs. Specifically, health centers may need to prioritize the cultivation of patient advocates and patient safety champions within their centers. Despite being extensively promoted, patient safety champions and advocates are not sufficiently developed and represented in healthcare services (31). As literature has pointed the crucial role of champions in effectively implementing patient safety practices, it is imperative for all health centers in the Asia-Pacific region to address

this need (31). Our findings further suggest a greater need for health centers to engage in patient safety networks and collaborations, integrate patient safety competencies into regulatory protocols, and involve patient groups in the co-development of policies and programs.

4.4 Study limitations

Our study results have limitations in terms of generalizability. The benchmark data we used to assess patient safety practices across Asia-Pacific was based on 15 health centers from 8 countries, making it less representative for the Asia-Pacific region. Furthermore, there is a need for more survey responses from participating health centers' Asia-Pacific countries. For example, the results from 6 Singaporean health centers, which provided survey responses that were combined to obtain an overall mean of SOs, mean for each SOs, and mean for strategies, may have been more representative than other countries' health center data of patient safety practices.

Moreover, health centers included in the survey were selected participants for GALLOPS program which in general would exhibit greater implementation of patient safety measures compared to the overall population of health centers in their respective countries. Such limitations may underestimate the overall standard of patient safety with respective countries. However, we have noticed similar findings across all six Singaporean hospitals' responses, showing consistency of high standards of patient safety practices for Singapore. Though not fully representative, our current dataset helps to

provide insights into good and sub-optimal practices in survey-participating health centers of Asia-Pacific countries' maturity in patient safety practices establishment.

4.5 Implications for further research

As the existing data on patient safety practices in Asia-Pacific health centers is limited due to self-assessed responses from a small number of facilities, there is a need for more comprehensive data from a broader range of health centers across different regions within each participating country. This highlights two potential implications for further research. Firstly, more efforts should be made to invite participation from a wider range of health facilities in each country to provide information on both good and sub-optimal practices, which would result in a more comprehensive understanding of the current state of patient safety practices' establishment in the Asia-Pacific region. Secondly, expanding data collection process to more Asia-Pacific countries would continue to strengthen generalizability of our patient safety data repository. Collecting patient safety data from diverse regions in the Asia-Pacific could facilitate more detailed analyses of patient safety practices based on factors such as geographic location, size of health centers, and its demographic's economic conditions.

Another aspect to consider is the need for additional evaluation and testing of the GPSAP Framework in terms of its ability to serve as an indicator for assessing the establishment of patient safety in Asia-Pacific and globally. This could involve measuring its effectiveness in producing actual patient safety outcomes and further reinforcing its feasibility. Moreover, exploring other methodologies such as cluster

analysis or regression analysis could be advantageous in identifying patient safety outcomes throughout the Asia-Pacific region.

5. Conclusion

Our study revealed notable differences in the maturity of establishment of patient safety practices across health centers of Asian countries. Our quantitative assessment suggests that Asian LMIC health centers are less established in their patient safety practices compared to the economically developed Asian countries. Based on our qualitative descriptions, we identified instances of effective and sub-optimal patient safety measures that are either present or absent in the Asia-Pacific region. This study helped form a baseline of good and sub-optimal patient safety practices in Asia-Pacific, though more research and data-collection are needed to ensure more representation of health centers is covered across its countries. Strengthening this baseline will help to serve as a reference point for a comprehensive overview for evaluation (32).

To “Err is Human” is not an overstatement, and there needs robust sharing of good practices for health centers across Asia-Pacific (33). To enhance patient safety standards across the Asia-Pacific region, sharing platforms like GALLOPS can facilitate the exchange of best practices and promote collaboration among patient safety leads and health centers. By fostering stronger relationships between healthcare facilities across national boundaries, the prioritization of effective patient safety measures will become more streamlined, resulting in more equitable and improved patient safety practices throughout the region, irrespective of economic status.

Appendix A. Self-Assessment Survey Tool

A Self-Assessment for the Global Patient Safety Action Plan

Baseline survey on the current landscape of Patient Safety initiatives and programmes.

What is Patient Safety?

"Patient safety is a framework of organized activities that creates cultures, processes, procedures, behaviours, technologies and environments in health care that consistently and sustainably lower risks, reduce the occurrence of avoidable harm, make error less likely and reduce its impact when it does occur."

Source: www.who.int/teams/integrated-health-services/patient-safety/about

Objectives of this Self-Assessment

The self-assessment tool aims to provide you with:

1. self-assess of your current progress status with reference to the Global Patient Safety Action Plan: Framework for Action - The 7x5 Matrix
2. a consolidated sharing of results, challenges, and best practices from other institutions to help you facilitate improvements in patient safety, build high reliability systems, as well as explore robust collaborations in the region and beyond in eliminating avoidable harm.
3. insights to help you identify opportunities in the strengthening your patient safety strategies.

PART 1 - ABOUT YOUR HEALTHCARE INSTITUTION

1. Which country do you currently live in?

2. Which healthcare organization do you currently work for?

3. What is your current department and designation?

   Department | Designation

4. How long have you been in this role? years

5. Are you currently a member of the Global Patient Safety Network (GPSN)?
   GPSN

6. Please indicate you are answering this survey in your capacity as a member at which level? Select where appropriate.
   - Health Care Facilities level (please select where appropriate from dropdown list
   - Cluster level (Group of Hospital Institutions under your organization)
   - National level (Country)
   - Organization level (e.g. Associations, Networks, Care Service Providers)
   - Government (e.g. Ministry of Health)
   - World Health Organization (WHO)

PART 2 - SELF-ASSESSMENT OF PROGRESS WITH REFERENCE TO GLOBAL PATIENT SAFETY ACTION FRAMEWORK

7. Please share your organization's current progress status with reference to the Framework for Action – The 7x5 matrix
Please rate 1 to 5 for each of the strategy below, with 1 as "Not established" and 5 as "Strongly established with good practices" and N/A as "Not applicable or Unable to access" where the strategy is not implemented.

1	Policies to eliminate avoidable harm in health care	1.1 Patient safety policy, strategy and implementation framework	1.2 Resource mobilization and allocation	1.3 Protective legislative measures	1.4 Safety standards, regulation and accreditation	1.5 World Patient Safety Day and Global Patient Safety Challenges
2	High-reliability systems	2.1 Transparency, openness and No blame culture	2.2 Good governance for the health care system	2.3 Leadership capacity for clinical and managerial functions	2.4 Human factors/ ergonomics for health systems resilience	2.5 Patient safety in emergencies and settings of extreme adversity
3	Safety of clinical processes	3.1 Safety of risk-prone clinical procedures	3.2 Global Patient Safety Challenge: *Medication Without Harm*	3.3 Infection prevention and control & antimicrobial resistance	3.4 Safety of medical devices, medicines, blood and vaccines	3.5 Patient safety in primary care and transitions of care
4	Patient and family engagement	4.1 Co-development of policies and programmes with patients	4.2 Learning from patient experience for safety improvement	4.3 Patient advocates and patient safety champions	4.4 Patient safety incident disclosure to victims	4.5 Information and education to patients and families
5	Health worker education, skills and safety	5.1 Patient safety in professional education and training	5.2 Centres of excellence for patient safety education and training	5.3 Patient safety competencies as regulatory requirements	5.4 Linking patient safety with appraisal system of health workers	5.5 Safe working environment for health workers
6	Information, research and risk management	6.1 Patient safety incident reporting and learning systems	6.2 Patient safety information systems	6.3 Patient safety surveillance systems	6.4 Patient safety research programmes	6.5 Digital technology for patient safety
7	Synergy, partnership and solidarity	7.1 Stakeholders engagement	7.2 Common understanding and shared commitment	7.3 Patient safety networks and collaboration	7.4 Cross geographical and multisectoral initiatives for patient safety	7.5 Alignment with technical programmes and initiatives

PART 3 - SHARING OF KEY ACTION IMPLEMENTATION PLAN AND BEST PRACTICES FROM THOSE WITH A RATING OF 4 AND ABOVE AS SELF-ASSESSED IN PART 2.

8. With reference to the Framework for Action – The 7x5 Matrix, please describe your key action implementation (project/ initiative title, results, challenges, current status and best practices).

Key Action Implementation 1 - Please indicate the 7x5 Matrix Strategy (e.g. 5.2)

☐ Please tick the box if this is a best practice.

Key Action Implementation 2 - Please indicate the 7x5 Matrix Strategy (e.g. 5.2)

☐ Please tick the box if this is a best practice.

Key Action Implementation 3 - Please indicate the 7x5 Matrix Strategy (e.g. 5.2)

☐ Please tick the box if this is a best practice.

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Key Action Implementation 1 - Please indicate the 7x5 Matrix Strategy (e.g. 5.2)

☐ Please tick the box if this is a best practice.

Key Action Implementation 2 - Please indicate the 7x5 Matrix Strategy (e.g. 5.2)

☐ Please tick the box if this is a best practice.

Key Action Implementation 3 - Please indicate the 7x5 Matrix Strategy (e.g. 5.2)

☐ Please tick the box if this is a best practice.

Appendix B. Examples of Good Patient Safety Practices by Seven SOs

Strategy Objective 1. Policies to eliminate avoidable harm in healthcare

Strategy 1.1 - Patient safety policy, strategy, and implementation framework
Health Center 1 (Sri Lanka)

Healthcare quality and patient safety is ensured by prioritizing equitable access to healthcare as part of governmental policy. Aligning with WHA resolution 72.6, the National Policy of Health Quality and Safety was implemented since 2015, with evaluation plan for 2021-2025 in collaboration with WHO and relevant stakeholders is undergoing.

Strategy 1.3 - Protective legislative measures
Health Center (India)

Hospital complies with all statutory regulations and legislative measures through a robust tracking mechanism, monthly updates in hospital-wide meetings and timely renewal processes. These statutory and legislative measures are meant to enforce adherence to good practices, thereby leading to enhanced provision of safe and quality care. Compliance to mandated regulations has earned this hospital the trust of both health authorities and patients and increased efficiency with the template that allows for assessing trends in care delivery. A good practice that works for this hospital is to set up a staggered deadline calendar through the month for the mandated compliance to allow for adherence to its measures less burdensome and more sustainable.

Strategy 1.4 - Safety standards, regulation, and accreditation
Health Center (India)

Recognized as the first under 50-bed hospital to have been accredited by NABH (www.nabh.com) under Main Standards category (2012) and NABL (https://nabl-india.org/) (2020). Manyata Standards from Federation of Obstetric and Gynecological Societies of India, Kayakalp Guidelines from the Ministry of Health and Family Welfare, and WASH Certification from Quality Council of India have been obtained to enhance patient safety practices. These “rigorous adherences” to certifications and accreditations helped enforce safer care provision and culture for patients and health workers.

Strategy 1.5 - World Patient Safety Day and global patient safety challenges
Health Center 1 (Sri Lanka)

Prioritized effort by the Ministry of Health in celebrating World Patient Safety Day (WPSD) since its inception in 2019. Health ministers and high officials have been in the front lines advocating to raise awareness of patient safety for health workers and patients by celebrating WPSD. Celebration of WPSD further allowed for sharing of best patient safety practices of healthcare institutions as well as appreciation and recognition of such practices.

Strategy Objective 2. High reliability systems

Strategy 2.1 - Transparency, openness, and no blame culture
Health Center 1 (Singapore)

Implemented 5 principles for Quality and Safety Improvement:
1. Patient Safety and Relationships
2. Patient Centric Processes and Services
3. Clinical & Operational Excellence; 4. Education, Research, Innovation & Evidence-led improvement
5. Integrated Resource Management.

Implemented Quality and Safety Framework: Adopted the use of Safety and High Reliability Framework constructed by The Joint Commission for healthcare organizations to accelerate their progress toward achieving zero patient harm. The framework focuses on three major domains of change:

1. committed leadership to goal of zero harm
2. organizational safety culture with empowered staff to speak up without feeling pressured
3. Empowered workforce through robust process improvement, where staff are trained to pinpoint and leverage; sustainable improvements.

Strategy 2.1 - Transparency, openness, and no blame culture
Health Center 5 (Singapore)

The hospital employs a flat hierarchy starting from the founding leaders who has profound influence in the culture-building of its health center. The hospital has a culture-building program that covers most aspects of safety culture-building and all new hires are required to participate in it. CEO and CMB along with senior management meet all the staff during this program.

Strategy 2.2 - Good governance for the health care system

Health Center 1 (Singapore)

Robust clinical governance through establishment of Chairman Medical Board (CMB) in consultation with Chief Executive Officer (CEO) to oversee hospital program implementation for safe and quality care delivery and support impact measurement activities with clinical quality indicators for performance evaluation and improvement efforts. Director of Quality and Safety and Risk Management position was also established to initiate mapping of frameworks and activities required to implement Patient Safety and Clinical Quality Programs, identify hospital's overall priorities for measurement and improvement, and provide oversight for sustaining improvement activities to achieve desired outcomes and hospital strategic objectives.

There is a total of 27 of Medical Board appointed Quality Patient Safety (QPS), Patient Safety Network Program and related committees (i.e. KK Medical Procedure Privileging sub-committees, Patient Safety Champions Network, Patient Safety and Risk Council, Institutional Oversight Quality Assurance Committee, Medical Informatics, Sedation Committee, Medication Safety Committee, Simulation Committee, Health Performance Office, Research Committee, Tissue Review Committees (O&G and Pediatrics), Point of Care Testing Committee, Evaluation Committee, Medical Emergency Codes & Training Committee, Hospital Transfusion Committee, Clinical Documentation Implementation Committee, Electronic Results Acknowledgement Work Group and more)

Strategy 2.2 - Leadership capacity for clinical and managerial functions
Health Center 5 (Singapore)

Initiated formation of command center and Crisis Planning and Operations (CPO) department to coordinate crisis plans with IPE, ED and clinical and non-clinical departments. This enhanced deeper understanding of crisis events across hospital units.

Multiple departments have set up evaluative systems:
1. Audit programs to evaluate policy implementation effectiveness
2. Multi-stakeholder production evaluation to ensure transparency and collaborative provision of safe supplies
3. Regular meetings with infection prevention liaison officers to communicate risk mitigation plans and learn from real challenges faced in frontlines
4. Collaborate with external regulation bodies (mainly Ministry of Health) to collaborate in implementing national policies and providing feedback regarding issues and challenges for suggestion.

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Strategy Objective 3. Safety of Clinical Processes

Strategy 3.1 - Safety of risk-prone clinical procedures
Health Center 2 (Sri Lanka)

Established surgical safety/WHO checklist for healthcare surgeons to enhance clearer understanding of each patient's contextualized situation prior to surgical operations. This can mitigate unintentional life-threatening events due to following the surgical protocols without identifying potential side effects or complications that can affect the patient negatively. The hospital has seen a significant improvement in reduction of errors and mortality rate.

Strategy 3.1 - Safety of risk-prone clinical procedures
Health Center 3 (Singapore)

This health center has been accredited by the Joint Commission International (JCI) under the Hospital Standards from June 2005 to March 2020. The health center's Clinical Care Programs for Acute Myocardial Infarction and Heart Failure were certified by JCI under the Clinical Care Program Certification Standards, making the center the sole hospital in Singapore to hold this certification.

The hospital has identified the six Patient Safety Goals established by JCI as its priorities. These goals include:

1. Identifying patients accurately
2. Improving effective communication
3. Enhancing medication safety

4. Ensuring the correct site, patient, and procedure for surgeries
5. Reducing healthcare-associated infections
6. Minimizing the risk of patient harm resulting from falls.

To improve quality, the health center uses the Model for Improvement and implements rapid cycle testing through Plan, Do, Study, Act (PDSA) cycles. Clinical pathways are also used to ensure that clinical care decisions are based on the most current scientific evidence. Additionally, the hospital has 18 pathways in place for high-volume and critical areas determined by clinicians. Finally, this health center employs an Enterprise Risk Management Framework to identify and prioritize risks, with measures in place to control and manage these risks while providing regular reports to management.

Strategy 3.2 - Global Patient Safety Challenge: Medication Without Harm
Health Center (Malaysia)

In-service Nursing Education Department has proactive organization of training programs and workshops for patient safety that nurses mandatorily attend regardless of their years of service. Successful programs have been medication safety workshops, annual drug calculation program. There is an ongoing electronic medication administration system for nurses to interact with doctors that is in phase 2 of the hospital digitalized development. Additionally, pharmacists have access to oversee this process to ensure appropriate medications are being handled by healthcare professionals. An enhanced communication between nurses, doctors and pharmacists have helped the health center's efficiency in providing quality care.

Strategy 3.3 - Infection prevention and control & antimicrobial resistance
Health Center (Indonesia)

Infection prevention unit has been specifically designated in the name of "Komite Pencegahan Penularan Infeksi", and it is directly supervised by the director of the hospital's patient safety unit. This committee publishes annual reports on microbial patterns to serve as a guideline for hospital's antibiotic use and opportunities for further assessment as needed. The committee also regularly performs swabs in various health units including the operation theatre, ICU, and ward to encourage early detection of harmful infections and to enhance hygiene in both health and non-health units.

Strategy 3.3 - Infection prevention and control & antimicrobial resistance
Health Center 5 (Singapore)

Full-time Director is appointed to oversee IPE (Infection Prevention and Epidemiology) Programs. Fully trained Infection Prevention and Epidemiology Team to support the IPE Programs. These programs are reviewed annually, and follows the core components of WHO with goals of keeping staff, patients, visitors, and organization safe. Committees

and workgroups have been formed to develop strategies to enhance and monitor the quality of air and water in the hospital. IPE Program also plays a key role in product safety, and sits in workgroups for cluster level product evaluation and harmonization of sterilization practices. This program is supported by 326 IPLOs from the author's hospital, and 50 IPLOs from other health center. IPLOs are trained and equipped with fundamental knowledge and skills to accomplish their roles including the communication channels on the issues at ground level.

Strategy 3.4 - Safety of medical devices, medicines, blood and vaccines
Health Center 2 (Sri Lanka)

Safety of medical devices and medicines are ensure patient quality by having established the National Medicines Regulatory Authority (NMRA) as the regulatory body for this purpose. All devices and medicines are quality assured and evaluated by the end users to ensure their suitability for the intended purposes. The supplies are also registered to ensure the supplier reliability and availability of items without any shortages. Another established centrally coordinating system is the National Blood Transfusion Service, which ensures the blood safety by adhering to optimum standards like cGMP standard and ISO standard in processing, storage, and testing laboratories. Centrally monitoring hemovigilance system is in place to monitor the transfusion related errors. All the system related errors are identified, discussed to analyze the root cause and necessary actions are taken through hemovigilances reviews. A surveillance system is established to identify Adverse Events Following Immunization (AEFI), and there is a well-structured system to store vaccines, with proper maintenance of the cold chain throughout the country.

Strategy 3.5 - Patient safety in primary care and transitions of care
Health Center 2 (Singapore)

This health organization has implemented Primary Eye Care Services (PEC), as well as Glaucoma Observation Clinic (GLOC) and Retinal Observation Clinic (ROC), which enable smooth transfer of care from tertiary to primary levels, also known as step-down care. Furthermore, they have established our SORC program to ensure appropriate placement of care for patients with diabetes.

Strategy Objective 4. Patient and family engagement

Strategy 4.2 - Learning from patient experience for safety improvement
Health Center (India)

Implemented research project on experience-based co-design approach (EBCD), where patients and staff were interviewed and observed to holistically understand areas of

challenges in care experiences to improve quality of care for patients undergoing dialysis in a tier-2 town of a rural region.

The hospital witnessed several positive results, including empowerment of patients, enhanced opportunities for dialogues and motivation for staff with purpose-driven vision, and increased confidence among patients. This project was also noted to be transparent and adaptable throughout the process along with low-cost technology used.

Strategy 4.2 - Learning from patient experience for safety improvement
Health Center 4 (Singapore)

The health center incorporates a collaborative model where the organization reviews patient complaints from a safety and experience point of view. This initiative started off as a clinical feedback discussion with Patient Experience team which later led to form a Medical Audit Committee. This committee oversees serious reportable events and medicolegal cases.

Strategy 4.5 - Information and education to patients and families
Health Center (Indonesia)

There is much emphasis in first-time admittance to the hospital for patients and family, where they are extensively provided with education and information regarding patients' rights and obligations. Informed consent is taken before all steps of the performance of medical procedures.
All doctors are required by the hospital to describe the steps of care to the patients and patients have time to decide to proceed or stop with the explained procedure.

Strategy Objective 5. Health worker education, skill, and safety

Strategy 5.1 - Patient safety in professional education and training
Health Center (Indonesia)

As a teaching hospital, all MD Candidates are required to join a two-year clinical program. Before entering into their clinical years, medical students are to attend International 2-day Patient Safety Goals (IPSG) training, an accredited program by Joint Commission International, where students will learn to address areas in need of critical improvement regarding patient safety, with six goals: 1) identify patients correctly; 2) improve effective communication; 3) improve the safety of high-alert medications 4) ensure safe surgery 5) reduce healthcare-associated infections 6) reduce risk of patient harm resulting in falls. There is also an annual refreshment course for all practicing healthcare providers that is a requirement of the hospital.

Strategy 5.1 - Patient safety in professional education and training
Health Center 3 (Singapore)

Various educational and training programs have been established at this health hospital, and the organization has shared numerous titles to showcase its good practices:
Driving Improvement Culture & Safety Culture
Enabling Improvement to Deliver Value and Safety
-Kaizen Everyday Engagement Program (KEEP)
-Facilitation of Strategic QI projects
-Human Factors consultations for RCAs and FMEAs
-Leadership Quality Rounds Safety Climate Surveys

Strengthening Proficiency in Improvement and Safety Culture
-QI Training Programs (including Human Factors Training)
-QI Ambassador Program
-QI Portal
-Just & Learning Culture Training
-Safe Choices & Speaking Up Training

Engaging to Share Best Practices and Inspire Action
-Improvement Festival
-Patient Safety Day
-QI Recognition, Awards, and Pipelining Framework
-Fueling Improvement webinars
-QUEST newsletter
-QI Life Hacks Showcase of simple impactful changes
-Good Catch Awards
-Real Conversations forum to share learnings from serious events

Strategy 5.2 - Centres of excellence for patient safety education and training
Health Center (Malaysia)

This health center has established a Hospital Safety Committee that looks through patient safety issues. The committee further develops and reviews protocols for patient safety periodically to ensure it is well maintained. Ongoing training has been carried out by team members to promote safety awareness among colleagues and nurses. Safety Week has been organized twice a year.
To address high turnover rate among nurses, the health center has incorporated safety training programs into their orientation month such as during SBAR communication tool during handover shift that helps to provide essential and concise information, medication

administration safety program to reduce medication errors. The team has managed to observe a sharp decline in safety related issues over the months.

Strategy 5.3 - Patient safety competencies as regulatory requirements
Health Center 2 (Singapore)

This health center conducts periodic assessment of patient safety competencies among health professionals (nurses and doctors). They have annual physician evaluation exercises where medical HODs will evaluate the medical staff's behavior, professional growth, and clinical competencies in addition to re-privileging exercise. also incorporate patient safety competencies and KPIs in scope of practice and job descriptions of healthcare professionals.

Strategy 5.4 - Linking patient safety with appraisal system of health workers
Health Center 3 (Sri Lanka)

Annual appraisal system has been established to provide platform to share concern on patient safety knowledge attitude, and practices of the staff. The health center receives feedback and observations from subordinate colleague, superior and patients regarding the performance of the staff regarding patient safety. The health center has been awarding staff with best performance on every patient safety day.

Strategy 5.5 - Safe working environment for health workers
Health Center (Malaysia)

The hospital has appointed 5 safety officers that assess different aspects of safety to ensure the healthcare workers' working environment is safe. Further, each department has an appointed safety coordinator that are trained to detect safety issues and report incidences to communicate for best action efficiently and effectively.

Strategy Objective 6. Information, research, and risk management

Strategy 6.1 - Patient safety incident reporting and learning systems
Health Center 3 (Sri Lanka)

Setup task force is placed at every unit level and institution level for patient safety incident reporting system monitoring and management. Staff expressed concerns regarding patient safety incident reports, and the hospital took action by placing regular sharing of reports during hospital meetings. Discussion only involved identification of facts and opportunities for corrective action. No individual details are shared.

Strategy 6.1 - Patient safety incident reporting and learning systems

Health Center 4 (Singapore)

This health center has enhanced medication reconciliation rates than other organizations according to their research because of robust patient safety incident reporting system. This has helped to prevent most medication errors resulting in a safe environment for our patients**.**

Strategy 6.2 - Patient safety information systems
Health Center 2 (Singapore)

This health center has a quality assurance program established to monitor all the surgical outcomes and the patient safety indicators to be shared with clinicians as well as heads of department on a regular basis. The program also monitors and reviews all the mortality and morbidity review cases, adverse outcomes, and peer review learnings. This health center has developed the list of criteria of M&M reviews for each subspecialty area. These criteria are reviewed every 2 years by department.

Strategy 6.5 - Digital technology for patient safety
Health Center 3 (Singapore)

This health center has developed a portable gait assessment robot that captures metrics such as stride length and stride width, which might not be easily detected by humans. Data is presented in a visual and easily interpreted report which is used to enhance patient safety and for the purpose of patient education. Gait analysis is performed to provide information on patterns of a person's balance and walking pattern. This hospital uses Automated Pill Crushers to help enhance medication safety. Reduce cross contamination and ensure accurate dosage. This hospital also uses Wound Care Management Solution, where a mobile app runs on the smart mobile device to perform patient's identification, view past wound records, perform wound measurements and wound assessment, allow wound documentation, and save the records onto the Wound Care System. The hospital also performs automated wound measurements and assessment enabled by AI. There is continuous development in performed AI enabled analysis of wound condition and predictive analytics of healing trajectory. This is continuing to be piloted in the hospital and to be implemented. Outpatient Pharmacy Automation System (OPAS) is also employed to pmprove medication safety by reducing picking & packing errors and reduce patient wait time. The center focuses on more efficient utilization of space to support future increases in workload without increases in physical space. Further, social robots have been used to engage patients in physical and cognitive activities. Social robots lead activities and interact with elderly patients to encourage physical movement and stimulate cognition. This has shown improved overall well-being of patients and promote recovery through physical activities (exercises) & cognitive stimulation (reminiscence). Employment of social robots also lessened burden on nursing staff when conducting activities with patients and caring for patients who require constant attention.

Strategy Objective 7. Synergy, partnership, and solidarity

No submissions to date

Appendix C. Examples of Sub-Optimal Patient Safety Practices by Seven SOs

Strategy Objective 1. Policies to eliminate avoidable harm in healthcare

Strategy 1.1 - Patient Safety Policy, strategy, and implementation framework
Health Center (Nepal)

Currently we do not have a patient safety policy as such in written form. Practices of patient safety are being conducted regularly but not documented properly. Challenges found was to build a team of all stakeholders and departments and convince them to make patient safety policies in their departments. One way of solving this would be to have common consensus among all departments in making a patient safety policy. Patient safety education can be integrated in medical education for undergraduates.

Strategy 1.1 - Patient Safety Policy, strategy, and implementation framework
Health Center 1 (Sri Lanka)

Establishment of PSLW (Patient Safety Leadership Walkaround) process in this hospital is a renowned example to be shared. Currently the hospital has a system where the hospital director does the ward rounds frequently with some heads (Nursing or Administration). At the same time we conduct unit meetings in ad hock manner. Two barriers mentioned are: unawareness of the staff members as there is no developed structure for patient safety leadership walkaround and lack of staff members in the quality management unit to organize the process. They hope to develop a policy, Structure, and formats for the implementation of the PSLW in the author's health center and establish an Implementation and Evaluation plan**.**

Strategy 1.5 - World Patient Safety Day and global patient safety challenges
Health Center (Nepal)

Currently, there is no celebration of World Patient Safety Day, nor the institution-wide awareness of what it entails. The health center mentioned that there needs more advocacy and communication regarding patient safety, safety culture, lighting parts of hospital in orange which is the symbolic color for patient safety during the World Patient Safety Day, as there is currently no elements of it established.

Strategy 1.5 - World Patient Safety Day and global patient safety challenges
Health Center (Indonesia)

The health center mentions there is no information about the World Patient Safety Day within the hospital to even formulate ideas for celebration.
Strategy 1.5 - World Patient Safety Day and global patient safety challenges
Health Center (India)

The health center abides by the World Patient Safety Day through celebration and recognition within the hospital, but also expressed following up with actionable steps to improving current challenges like motivating staff to prioritize both providing quality bedside care and accurately documenting that care. Th health center suggested that specific seminars regarding the adoption of two-identifier system for patient identification, enhancing communication and handovers among care doctors and nurses, ensuring timely communication of critical alerts and establishing guidelines for the use of verbal orders can take place during future World Patient Safety Day celebrations.

Strategy Objective 2. High-reliability systems

Strategy 2.1 - Transparency, openness, and no blame culture
Health Center (Malaysia)

Currently, healthcare providers with direct patient care know the issues; however, they often feel fear, powerless, probably unappreciated for their hard work, which lead to the reluctance to speak up when an incident had happened. Health center lead hoped for each member of a hospital's staff plays a part in maintaining patient safety. Emphasizing accountability, truthful or being honest with staff about their role in patient safety can make a big difference to the hospital's culture and the attitude towards preventing errors.

The punitive approach such as disciplinary actions taken towards staff who has engaged a mistake will create fears. The fear of professional and system regulators, and the threat of complaints are creating a culture which unfortunately has started at student undergraduate level. It will take a huge amount of effort to reverse this tide, however if the element of fear and punitive reprisal can be removed, then openness will flourish. Legislation/ disciplinary actions / penalty will not on its own bring about a change of behavior or culture.

Strategy 2.1 - Transparency, openness, and no blame culture
Health Center 1 (Sri Lanka)

Currently the health center has a SRE (Serious reportable Event) Evaluation System established by the ministry of health and there is a gap due to nonexistence of a system to evaluate the reported events. There is a lack of trained staff members to review an incident. There also is no required training modules included in annual training plans. The hospital also mentioned no established mechanism to incorporate the medical specialists in incidents reporting and SRE reviews. Therefore the incidents are not evaluated in systematic manner to find out the root causes and to provide solutions to prevent the next similar incident.

Strategy 2.4 - Human factors/ergonomics for health systems resilience

Health Center 2 (Singapore)

There needs improvement in current mechanism in the health center to conduct regular survey on organization's safety and just culture, as well as identify gaps and introduce innovative approaches in line with international experience and best practice. There is a need to incorporate human factor analysis in conducting adverse events analysis.

Strategy 2.4 - Human factors/ergonomics for health systems resilience
Health Center 5 (Singapore)

There is a need to hire a human factors expert on the institutional payroll to consult on human factors elements in process designs and reviews. There is no current establishment of human factors training programs for staff. There is a need to strengthen and formalize human factors considerations in error analysis and improvement initiatives.

Strategy 2.4 - Human factors/ergonomics for health systems resilience
Health Center (Maldives)

The health center has mentioned the lack of adequate involvement and advocacy from doctors and Senior Management. Leaders may be unable to allocate required time for the activities and tasks regarding human factors analysis, and it may not be prioritized among leaders that are already busy doing other things. Further, there are still relevant policies left on draft as well as KPI's lists and set targets that are not officially established. There is not task related training and per work plan that focuses on human factors. There is a need for a mechanism to monitor and review work progress, provide periodic training, regularly disseminate data and information related to patient safety at all levels, especially starting from the leaders.

Strategy Objective 3. Safety of clinical processes

Strategy 3.2 - Global Patient Safety Challenge: Medication Without Harm
Health Center (India)

Administering medication is a crucial aspect of hospital care, but medication errors continue to be a leading cause of adverse events globally, including at author's health center. To minimize errors in care delivery, the health center has implemented structured processes such as Prescription Audit (IPD &OPD), Medication Reconciliation during transitions of care, and policies for self-medication in patients. One of the main barriers to reducing medication errors is the lack of awareness among staff members and patients about the potential complexities of medication intake. Peer policing measures may be needed as an additional layer to reduce medication errors.

Strategy 3.3 - Infection prevention and control & antimicrobial resistance
Health Center (India)

The hospital mentioned that rapid changes in their understanding of Infection prevention and Control (IPC) (particularly during the Covid-19 pandemic) and sub-optimal awareness of the key concepts of AMR are challenges to be overcome. There is no current Anti-Microbial Stewardship team comprising of relevant leaders (physicians, microbiologists, and administrators) to tackle this issue at hand in multidisciplinary manner. There is a need to participate in a wider network of like-minded organizations interested in overcoming challenges via collective efforts to understand, adopt and implement best practices related to IPC.

Strategy 3.3 - Infection prevention and control & antimicrobial resistance
Health Center (Indonesia)

Currently, there is an annual plan and targets developed for Infection Prevention and Control(IPC) & Antimicrobial Resistance(AMR) and endorsement from committee is awaited. This annual plan includes establishment oof HAI surveillance, surveillance of AMR in priority organisms, establishment of stewardship.

However, though designated, leaders may be unable to allocate required time for the activities/tasks. Moreover, there is a lack of dedicated staff for IPC and AMR activities. Thirdly, there is a delay in incorporating surveillance module in the hospital IT system. There is a need to finalize relevant policies and guidelines that are at draft, establish HAI and AMR surveillance with targets along with Stewardship guidelines and programs, and provide regular IPC and AMR related training to care professionals. Most importantly, there needs a clearer mechanism to regularly disseminate data and information related to IPC and AMR at all levels, especially from senior management, to ensure continuous support for all.

Strategy 3.5 - Patient safety in primary care and transitions of care
Health Center 2 (Sri Lanka)

In this country, the healthcare quality and safety system is well-established in the hospitals above the Base Hospital level, with separate Quality Management Units in each institution. The country is currently in the process of strengthening the quality and safety systems in the primary care institutions, in line with the Primary healthcare System Strengthening Project (PSSP), but this is a recent initiative, which needs more evaluation and evidence for effectiveness. DHQS has introduced a revised Quality Supervision Tool for primary care institutions in 2020 and there is a plan to digitalize the procedure during this year. A system to issue a unique Patient Health Number (PHN) to each patient

visiting the hospitals, to ensure coordinated care across the institutions is being implemented.

Strategy Objective 4. Patient and family engagement

Strategy 4.1 - Co-development of policies and programs with patients
Health Center (Malaysia)

This health center has a Board of Visitors comprising volunteers who are former patients, and they serve as essential patient advocates for a term of three years. The board members play a crucial role in connecting patients, the community and hospital staff to ensure patient safety and optimal healthcare, both during hospitalization and after returning home. However, in their local culture, people tend to believe that healthcare providers are solely responsible for patient safety. Consequently, engaging board members fully has been challenging, and their participation in policy and program co-development with patients is minimal. Thus, it is important to raise awareness about their roles, objectives, and responsibilities, as well as to inform patients about their care to prevent errors. There is a need to further enable them to set agendas and offer flexibility in their level and approach of involvement. Regular opportunities for interactions can be set, and a receptive context can be created through the use of democratic dialogue to build consensus.

Strategy 4.1 - Co-development of policies and programs with patients
Health Center 3 (Singapore)

The health center needs improvement in enhanced collaboration with patients and caregivers through various means, such as involving them as committee members for the development of new services or facilities, as well as engaging them as participants in quality improvement projects. Additionally, the health center seeks their participation as panelists in award judging panels, including WOW awards and internal awards for Operations, Allied Health Professional, and Nursing.

Strategy 4.1 - Co-development of policies and programs with patients
Health Center 1 (Singapore)

There is a need from this health center to collaborate more with the Office of Patient Experience and the Patient Advocacy Network to establish institutional standards for patient and family engagement. More development of culture based on patient experience long with mechanism that encouraged project teams to invite patients to participate in developing patient-centered changes that prioritize what matters most to patients. Input collection from patients and caregivers to ensure their perspectives are considered is another need.

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Health Center 3 (Singapore)

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Strategy 4.2 - Learning from patient experience for safety improvement
Health Center 1 (Singapore)

The health center expressed a need for stronger network and events to be established to unite patient safety advocates and champions for participation in patient safety and quality improvement events. Additionally, a patient safety reporting mechanism is not strongly developed which can prohibit patients and families from reporting incidents or negative experiences.

Strategy 4.2 - Learning from patient experience for safety improvement
Health Center 1 (Maldives)

This health center explained that the current status of occasionally monitoring patient experience needs to be addressed. The following barriers should be overcome: the lack of dedicated patient officer, team, or person for safety-related issues, insufficient prioritization of these issues among doctors and senior management, and inadequate attention to a patient-first/patient-centered approach to care in the organization. The health center expressed a holistic need to addressing these challenges and hopes to improve in the development of patient experience policy and guidelines to standardize the collection of patient feedback and incorporate online mechanisms to collect, analyze, and respond to patient experience data.

Strategy 4.3 - Patient advocates and patient safety champions
Health Center 2 (Singapore)

There is a major need in finding patient advocates and champions in patient safety matters, though the health center is actively seeking to work towards it.

Strategy Objective 5. Health worker education, skills, and safety

Strategy 5.3 - Patient safety competencies as regulatory requirements
Health Center (Indonesia)

Currently, the health center provides lectures on patient safety without any evaluation or regulatory requirements. There is a need to implement routine formal education and evaluation as mandatory requirements for healthcare providers before they can practice in their hospital.

Strategy Objective 6. Information, research and risk management

Strategy 6.1 - Patient safety incident reporting and learning systems
Health Center 1 (Sri Lanka)

This hospital expressed that the current measures have a manual incident reporting system, but the compliance rate is low due to various reasons. The barriers to effective incident reporting include staff reluctance to report incidents due to fear of disciplinary inquiries, a culture of protecting colleagues rather than prioritizing patient safety, insufficient knowledge about the importance of incident reporting for safety culture, a lack of established mechanisms for involving medical specialists in incident reporting, and the absence of required training modules in annual training plans. The hospital hopes to improve in the establishment of structures for identifying, reporting, and evaluating incidents through the development of digital app that can be used anonymously, a system not yet in place. There also is a need to train all staff members on the incident reporting system and its importance for patient safety.

Strategy 6.1 - Patient safety incident reporting and learning systems
Health Center 2 (Sri Lanka)

The health center mentioned the need to establish a no-blame culture, as it is a crucial factor in the success of the incident reporting system, and various activities are underway to achieve this in the country. Incident reporting for ensuring patient safety is emphasized in quality training programs but can be further reinforced. The hospital further mentioned the need to enhance the user-friendliness of the reporting format and process to increase the compliance rate of the incident reporting system in partnership with the Department of Healthcare Quality and Safety (DHQS).

Strategy 6.4 - Patient safety research programs
Health Center 2 (Sri Lanka)

The health center expressed that although health professionals, including post-graduate trainees, conduct patient safety research, the results are not adequately disseminated, and

the necessary actions are not taken to improve patient safety based on the findings. Currently, DHQS is planning to conduct research projects as part of the Health Information and Quality Improvement Project (HiQi) along with a National Convention on Healthcare Quality and Safety is scheduled, which will serve to enhance dissemination of research findings, though this may take time for scaling up the effect.

Strategy 6.4 - Patient safety research programs
Health Center 3 (Sri Lanka)

There is insufficient research on patient safety being the major concern due to limited funding and inadequate recognition within this health center. To address this issue, there is a need to strengthen research programs by seeking support from the government and genuine sponsors.

Strategy 6.5 - Digital technology for patient safety
Health Center (Malaysia)

This health center is still in the process of transitioning to a fully digitalized system, but there are several barriers to this change, particularly for those with limited IT literacy. Addressing these challenges requires significant effort to educate, guide and support users. A need for a user-friendly design and interface with monitoring technology to ensure health providers are following the correct procedures for each patient's needs and bed alarms and bar code systems to verify patient medication are areas in need of improvement but are underway in action for betterment.

Strategy 6.5 - Digital technology for patient safety
Health Center 3 (Sri Lanka)

There is a shortage of digital information in this health center's inpatient care, and funding is a significant obstacle to overcome. Adequate financial resources, human resources, and capacity building are needed to implement digitalization in patient safety for inpatient care**.**

Strategy Objective 7. Synergy, partnership, and solidarity

Strategy 7.4 - Cross geographical and multisectoral initiatives for patients
Health Center 3 (Singapore)

This health center needs ensuring safer systems through collaborative effort between the Ministry of Health, Joint Commission International, Joint Commission Center for

Transforming Healthcare, and all healthcare institutions in Singapore, aimed at enhancing the safety of healthcare systems.

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