Health care quality Improvement network in the Asia Pacific region

focused on
the hospital performance assessment

OECD
KOREA Policy Centre

HIRA
HEALTH INSURANCE
REVIEW & ASSESSMENT SERVICE

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Chapter 1 Introduction

1. Research Background

○ With the continuing rise in the cost of medical care in many countries, there is increasing interest in improving value for money.

- The average cost of medical care in OECD countries reaches about 8.9% (OECD, 2015). It is expected that the increase in the senior population and patients with chronic diseases, advancements in science and technology, and the rise in consumer demands will lead to a consistent increase in the cost of medical care in the future.

- Although the increase in the cost of medical care is controlled in many countries, since the increase in cost is inevitable, efforts are being made for more value-driven and efficient cost management.

○ The focus on the quality of medical care to improve healthcare systems, and quality evaluations are the first steps to improve the quality and the resulting value of healthcare (OECD, 2010).

- Information on medical care quality is necessary because medical care quality is not automatically achieved or improved. The occurrence of adverse events among inpatients has reached 9.2% (de Vries EN et al., 2008). Upon reviewing the occurrence of adverse events using the Global Trigger Tool selection criteria developed by the Institute for Healthcare Improvement (IH) at one of the advanced general hospitals in Korea, about 7% of inpatients had experienced at least one adverse event (Hwang JI et al., 2014).

- For quality evaluations in Korea, the medical care payment

appropriateness evaluation from the Health Insurance Review and Assessment Service (hereafter "HIRA") is a representative project, and the "rate of preventative antibiotic administration within 1 hour of incision" is included as one of the evaluation indicators for reducing abuse of antibiotics and preventing infection of the surgical area. Before collecting quality information in 2005, less than a quarter of all patients received properly used preventative antibiotics. However, as evaluations continued, this figure recently improved to reach 86.7% (Health Insurance Review and Assessment Service, 2010; Health Insurance Review and Assessment Service, 2014).
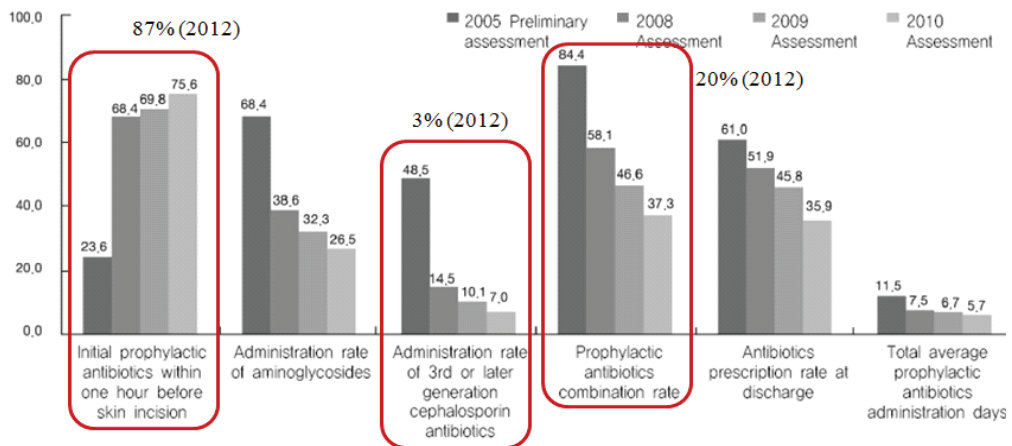
Figure 2.13 Total assessment results by indicator of prophylactic antibiotics for surgery (by year)

[Figure 1] Annual changes in preventative antibiotic evaluation indicators for surgery

Reference: HIRA, 2010 & 2014.

○ Healthcare quality indicators were compared in the Asia-Pacific region.

- The WHO is comparing healthcare quality indicators in the Asia-Pacific region based on the indicators that are being used in the OECD HCQI project. Table 1 shows the status of countries that submitted indicators

and data for comparison (OECD & WHO 2014).

- Of the indicators that are used in the OECD HCQI project—the quality indicators in the domain of the admission rate due to a chronic disease in the primary medical care domain, appropriate drug prescription indicators, cancer: relative five-year survival rate, mental health, patient safety, and patient experience are not collected in the Asia-Pacific region.

〈Table 1〉 Comparison status of healthcare quality indicators of countries in the Asia-Pacific region (OECD & WHO, 2014)

Indicator Domain	Indicator (Number of countries that submitted data)
Childhood vaccination	• Vaccination rates for diphtheria tetanus and pertussis (DTP3), children aged around 1 (27) • Vaccination rates for measles(MCV), children aged around 1 (27) • Vaccination rates for hepatitis B (Hep3) (26)
In-hospital mortality following acute myocardial infarction and stroke	• In-hospital case-fatality rates within 30 days after admission for AMI (7) • In-hospital case-fatality rates within 30 days after admission for ischemic stroke (6) • In-hospital case-fatality rates within 30 days after admission for hemorrhagic stroke (6)
Mortality from breast, cervical and colorectal cancer	• Breast cancer mortality (25) • Cervical cancer mortality (25) • Colorectal cancer mortality (25)

○ The healthcare quality indicator is being used as a system that evaluates the performance of hospitals in various countries. Hospitals are, in particular, the core medical service providers in the healthcare delivery system and are responsible for the quality of acute care. The OECD has studied existing research on hospital performance evaluations and has surveyed the status of member countries.

- Based on the argument that evaluating and improving hospital performance is important for improving the quality of medical care, the OECD has been conducting a detailed task of "hospital performance" since 2015. For the initial task, they reviewed the conceptual framework of hospital performance evaluations of international organizations in several countries (OECD, 2015a)

○ A method of cooperation must be found along with research on the quality improvement network in the Asia-Pacific region by assessing the policies and specific status related to hospital performance evaluations for countries in the Asia-Pacific region.

- Hospital performance evaluation is being discussed as an important factor for improving the quality of healthcare . It is necessary to systematically assess the status of countries in the Asia-Pacific region regarding hospital performance evaluations.

- It is necessary to deduce the main domains of interest for the countries in the Asia-Pacific region related to hospital performance and domains that will require development and cooperation in the future and to seek an alternative plan that can lead to improving the quality of medical care.

- The main domains and methods of hospital performance evaluations, methods using results, connections with other systems, agents of execution, and legal bases may be topics of the status survey.

2. Research Objective

○ The purpose of this study is to assess and analyze the current status, future development direction, and pending issues of hospital performance evaluation systems, which are important policies, to improve the quality of medical care in the countries of the Asia-Pacific region. Given the results of the study, it is necessary to find ways to contribute to the establishment of policies for the relevant countries, for research between nations, and for policy cooperation.

- To survey the hospital performance evaluation status of the countries in the Asia-Pacific region, the framework and progress of OECD related projects were reviewed to establish a framework for a status survey.

- The main domains of hospital performance evaluations were verified, and the development of initial survey questions was supported in cooperation with the OECD, WHO, OKPC, etc.

- Once the OECD and WHO surveyed the Asia-Pacific region hospital performance status, survey results were analyzed, and the main characteristics of the Asia-Pacific region hospital performance evaluations were verified.

3. Research Method

○ The conceptual framework of hospital performance evaluations of various countries and international organizations were investigated by examining the relevant documents and searching corresponding websites. The conceptual framework enables verification of the performance domains that are included in each system and offers information on priorities and the preferred future direction of development.

○ The main content was established for assessing the status of hospital performance evaluations for countries in the Asia-Pacific region.

‒ The semi-structured questionnaire for the OECD HCQI hospital performance project was improved to fit the status of countries in the Asia-Pacific region.

‒ A structured survey questionnaire was developed for hospital performance with the OECD, OKPC, WPRO, SEARO, etc.

○ Expert Advisory Conference.

‒ During the processes of developing the survey questionnaire and responding to the questions, the content was shared with domestic experts and in advisory conferences.

‒ The activities of the Asia-Pacific region quality improvement network were shared through a discussion with domestic medical care quality experts who advised on the direction of policy cooperation.

Chapter 2 Conceptual Frame works for the Hospital Performance Evaluation and National Trends

1. Healthcare Policy Types and examples Related to Quality Improvement

○ Various healthcare policies have influenced improvements in medical care quality.

– To improve the quality of medical care, there are many policy types such as healthcare system design, personnel, and technology investment resources, monitoring and standardizing medical care systems, and quality improvement programs in addition to quality evaluations. Such policy cases are shown in Table 2 below.

〈Table 2〉 Types and cases of healthcare policies that influence the quality of medical care (OECD, 2012)

Policy Type	Case
Healthcare system design	• Accountability of actors, allocation of responsibilities, legislation
Healthcare system input (professionals, organizations, technologies)	• Professional licensing, accreditation of healthcare organizations, quality assurance of drugs and medical devices
Healthcare system monitoring and standardization of practice	• Measurement of quality of care, national standards and guidelines, national audit studies and reports on performance
Quality Improvement (National programs, hospital programs and incentives)	• National programs on quality and safety, pay for performance in hospital care, examples of improvement programs within institutions

○ Many countries in the Asia-Pacific region have started taking part in various policy activities to evaluate and improve the quality of their healthcare systematically. During 2013-2014, the World Health Organization (SEARO/WPRO), OECD, and the OECD Korea Policy Centre worked together on a fundamental survey of how quality initiatives for healthcare in Asia-Pacific region countries should be enforced. The main results for 27 countries are as follows (OECD & WHO, 2014)

〈Table 3〉 Cases of healthcare quality improvement policies of the countries in the Asia-Pacific region(OECD&WHO, 2014)

Policy Type	Country	Case
Legal System	New Zealand	• Detailed bill related to health care quality
Healthcare quality supervision	Majority of countries	• Department of Health
	Pakistan	• Local governments and department of science and technology
	Japan	• Japan Council of Quality Health care accreditation supervision
Comprehensive healthcare	Malaysia	• Strategic Plan for Qualityin Health
	Nepal	• National Quality Assurance Policy
	Cambodia	• National Quality for Quality in Health
Detailed Policy	Hong Kong	• Red light case, surgical safety, drug safety, patient safety, and hospital accreditation related policy established
Quality or safety goals established	Sri Lanka	• Standards for thecare of new infants

○ The following content was compared to determine the healthcare quality initiative status of the countries in the Asia-Pacific region (OECD & WHO, 2014).

- Continuous supplementary training (continuous professional education, CME, or continuous professional development, CPD): The quality of medical care and patient safety must be improved by periodically refreshing the knowledge and techniques of trained healthcare professionals.

- Accreditation of healthcare institution: Accreditation refers to a process that systematically evaluates hospitals regarding a series of quality and safety indicators to guarantee the quality of medical care.

- Data Structure: The ability to measure quality plays a pivotal role in quality improvement, and data structure must support this. It would be extremely beneficial if nationwide data on inpatients and primary medical care, cancer registration, prescription drugs, long-term care, mental healthcare, and patient experiences can be used at the national level. The national mortality rate data, population health survey data, population census registration data, etc. can be used as valuable information.

- Quality Indicator: Performance monitoring is necessary for various fields including acute care, primary medical care, cancer, mental health, patient experiences, etc.

- Performance Payment System (P4P): The hospital's performance is linked with financial incentives to encourage high-quality service.

- National Audit: Investigation on specific fields such as cardiothoracic surgery, mortality related to anesthesiology, and maternal deaths, etc.

- Practice Guidelines: Practice guidelines based on evidence plays a core role in improving quality and reducing side effects. The guidelines help healthcare experts and patients make appropriate and effective decisions.

- Patient-Centered Care: Increases consumer participation and improves

quality by offering patients a chance to provide feedback on their experience.

- Patient Safety and Medical Malpractice: National patient safety programs, disclosure with sentinel events and adverse events reporting systems, medical malpractice adjustment systems, drug safety programs, infection management policies for reducing hospital infections, the proper use of antibiotics, etc.

〈Table 4〉 Status of healthcare quality policies regarding supplementary training, hospital accreditation, technical evaluation research on medical devices and drugs, safe blood usage, and drug monitoring in countries in the Asia-Pacific region

Country	Existence of mandatory CME/CPD	Existence and type of hospital accreditation	Existence of technology assessment studies for medical devices	Existence of standards for safe blood use	Existence of technology assessment studies on drugs	Existence of pharmaco-vigilance systems
Australia	+	Mandatory	+	+	+	+
Bangladesh	+	Voluntary	+	+	+	+
Brunei	+			+		+
Cambodia	+	Mandatory		+		+
China						
North Korea	+	Mandatory	+	+	+	
East Timor						+
Hongkong	+	Voluntary	+	+	+	+
India		Voluntary		+	+	
Indonesia	+	Mandatory		+		+
Japan		Mandatory	+	+	+	+
South Korea	+	Voluntary/ Mandatory	+	+	+	+
Laos	+					+
Macao		Voluntary	+	+		+
Malaysia	+	Voluntary	+	+	+	+

Country	Existence of mandatory CME/CPD	Existence and type of hospital accreditation	Existence of technology assessment studies for medical devices	Existence of standards for safe blood use	Existence of technology assessment studies on drugs	Existence of pharmaco-vigilance systems
Maldives	+			+	+	+
Mongolia	+	Voluntary		+		+
Myanmar				+	+	+
Nepal		Mandatory	+	+		+
New Zealand	+	Mandatory/ Voluntary	+	+	+	+
Pakistan	+			+		+
Philippine		Voluntary	+	+	+	+
Singapore	+	Voluntary	+	+	+	+
Sri Lanka		Mandatory	+	+	+	
Thailand	+	Voluntary	+	+	+	+
Vietnam		Voluntary	+	+		

2. Review on Hospital Performance Evaluations

○ We studied the PATH (Performance Assessment Tool for Quality Improvement in Hospitals) project from Euro WHO (World Health Organization) as an international hospital performance evaluation program. For national programs, cases from Canada, the United States, and the United Kingdom were studied.

A. Performance Assessment Tool for Quality Improvement in Hospital (PATH)

○ The WHO Regional Office in Europe began the PATH project to support hospitals in the European region for collecting data on performance in 2003, assessing their status through comparing groups of colleagues, and promoting quality improving activities.

○ This project allows hospitals to participate voluntarily. The results are not used for accreditation or released to the public and are designed for the institution's internal use.

○ A conceptual model was developed, and the objective of the PATH project was diagramed.

‒ The six performance evaluation domains of PATH were clinical effectiveness, efficiency, employee competence and job satisfaction, compliant governance, safety, and patient-centered. Of these, safety and patient-centered domains are specifically proposed as a cross-domain. This was explained as being relevant to clinical effectiveness (patient safety), employee competence and job satisfaction (employee safety), and compliant governance (environmental safety) in terms of safety. The patient-centered domain relates to compliant governance (linked to treatment), employee competence and job

satisfaction (questions regarding relationships with employees in the patient survey), and clinical effectiveness (continuity of care in the institution).
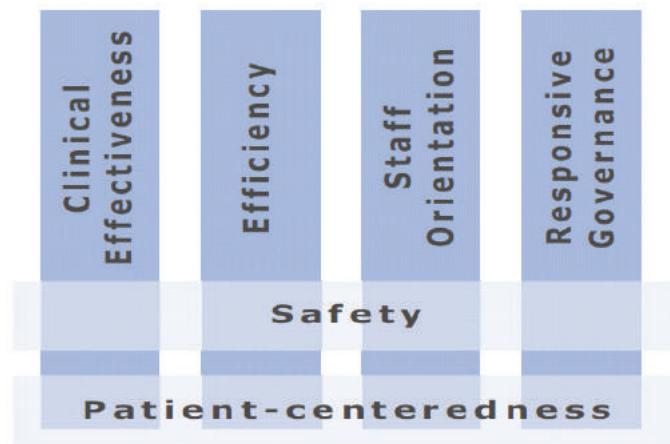
[Figure 2] The PATH conceptual model
Reference: PATH (Performance Assessment Tool for Quality Improvement in Hospital)
Reference: World Health Organization, 2007.

— The detailed indicators were developed by dividing them into 17 core indicators and 24 custom indicators. The project proceeded in three stages that included data collection, issuing a performance report that contains analysis results on the collected data, and a feedback process through websites, newsletters, and annual conferences.

〈Table 5〉 The PATH indicators set

Performance dimensions	Core indicators	Tailored indicators
Clinical effectiveness & safety	C1. Caesarean section C2. Prophylactic antibiotic use C3. Mortality C4. Readmission C5. Day surgery C6. Admission after day surgery C7. Return to ICU	T1. Door to needle time T2. Computer tomography scan after stroke T3. AMI patients discharged on aspirin T4. Mortality indicators with more advanced risk-adjustment T5. Readmission indicators with more advanced risk-adjustment T6. Pressure ulcers T7. Rate of hospital-acquired infections
Efficiency	C8. Length of stay C9. Surgical theatre use	T8. Score on Appropriateness Evaluation Protocol T9. Costs antibiotics/patients T10. Length of stay indicators case mix adjusted T11. Cash-Flow/Debt T12. Cost of corporate services/patient day
Staff orientation & safety	C10. Training expenditure C11. Absenteeism C12. Excessive working hours C13. Needle injuries C14. Staff smoking prevalence	T13. % wages paid on time T14. Survey on staff burnout T15. % job descriptions with risk assessment T16. Staff turnover T17. Work-related injuries by type
Responsive governance	C15. Breastfeeding at discharge C16. Health care transitions	T18. Audit of discharge preparation T19. % discharge letters sent T20. Score on Appropriateness Evaluation Protocol for geriatric patients T21. Waiting time for day surgery tracers T22. AMI and coronary heart failure with lifestyle counselling
Patient centeredness	C17. Patient expectations	T23. Patient survey score on access to care T24. Patient survey score on amenities of care

Reference : World Health Organization, 2007.

B. Canada

○ Although local government is quite advanced in Canada, an organization named CIHI (Canadian Institute for Health Information) conducts nationwide quality management. The CIHI developed a hospital performance framework in 2013 in connection with the national healthcare system performance framework that was previously developed.

– This framework uses the OECD's healthcare quality indicator project model based on the WHO's PATH conceptual framework. It is set up so that the framework explains performance through a logical structure of inputs–processes–outputs and outcomes.

– Inputs reflect the PATH model's employee competence and job satisfaction, compliant governance, and efficiency domains, while outputs include effectiveness, safety, patient–centered, efficiency, and equity domains, which are relevant to the midway goal that is necessary to achieve favorable results.
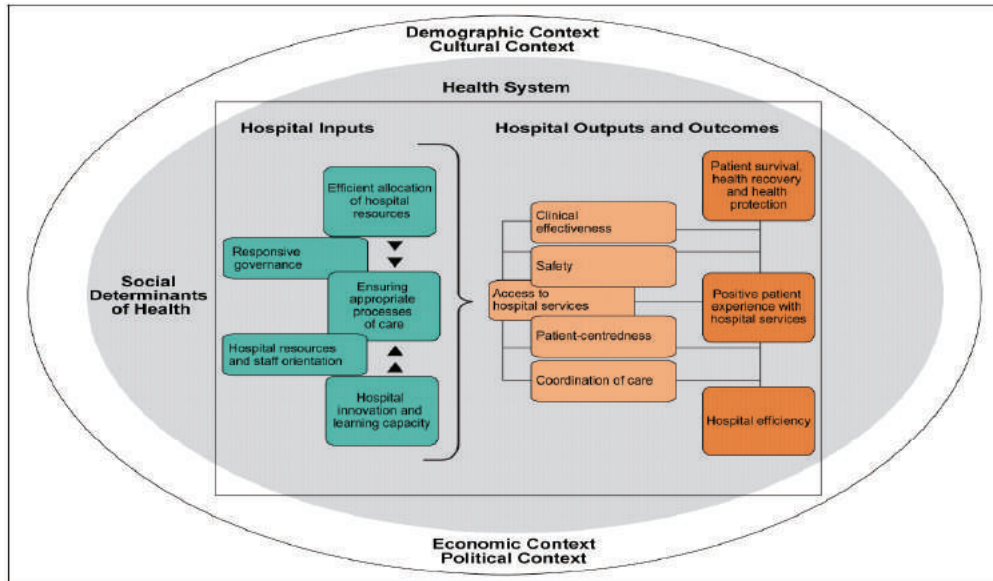
[Figure 3] Conceptual framework of Canada's hospital performance

Reference: Canadian Institute for Health Information, 2013.

〈Table 6〉 Domains and cases of Canada's hospital performance evaluation indicators

Dimension		Examples of indicators
Hospital inputs	Hospital leadership and governance	• Indicators are needed on hospital/primary care/public health integration and consideration of patient needs when making resource allocation decisions
	Quality and quantity of hospital resources	• Total beds staffed and in operation • Total budget or expenditures
	Efficient allocation of hospital resources	• Nursing inpatient services total worked hours per weighted case
	Adjustment to community and local needs	• Indicators are needed on the extent to which hospitals work with community organizations and respond to local needs
	Hospital innovation and learning capacity	• Indicators are needed on information technology implementation in hospitals, knowledge transfer activities, quality improvement activities, performance measurement activities, etc.
Hospital outputs	Access to high–quality hospital services	• Emergency Department wait time for physician assessment
	Appropriate and effective	• Use of coronary angiography following AMI • 30–day overall readmission • 30–day surgical readmission
	Safe	• Nursing–sensitive adverse events • Obstetric trauma • Hospital–acquired infections
	Person–centered	• Restraint use for mental illness • Patient experience indicators
	Efficiently delivered	• Cost of a standard hospital stay • Average length of stay
Hospital outcomes	Patient survival and degree of health recovery and heath protection	• Hospital standardized mortality ratio • Patient reported outcome measures
	Responsiveness to community served	• Indicators of hospital coordination and integration with other health service providers
	Hospital value for money	• Indicators relating the extent to which the previous 2 outcomes have been achieved to the resources used

Reference : Brownwood, May 2015.

C. United States

○ Hospital performance evaluation results are disclosed through a Hospital Comparison website.

- The hospital comparison website is operated as a part of the Hospital Quality Initiative that takes part in various activities to improve the quality of medical services that are provided by hospitals under the leadership of the CMS (Centers for Medicare and Medicaid Services).

○ A separate conceptual framework for Hospital Compare has not been developed, but it began through a collaboration between the government and the private sector in December 2002.

- Ten main clinical quality indicators are being calculated regarding myocardial infarctions, heart failure, pneumonia, and surgical operations since 2005.

- Since then, results from the patient experience survey, readmission rate, mortality, etc. have been added to the indicator list. As of 2016, there are 85 indicators in 7 domains on the indicator list that are used to measure hospital performance on the hospital comparison website.

- These indicators were selected through an agreement between parties involved in the public and private sectors such as the CMS, the hospital industry, TJC (The Joint Commission), NQF (National Quality Forum), and the AHRQ (Agency for Healthcare Research and Quality). Various data sources are being used to calculate indicators, and these are the products of agreement processes.

〈Table 7〉 Domains and cases of the U.S. CMS's Hospital Compare indicators

Measure category		Examples of indicators
General information	Structural measures	• Participation in a systematic database for cardiac surgery • Safe Surgery Checklist Use
Survey of Patients' Experiences	Hospital Consumer Assessment of Health care Providers and Systems Survey (HCAHPS)	• Responsiveness of hospital staff • Pain management • Cleanliness of hospital environment • Discharge information
Timely and Effective Care	Acute myocardial infarction (AMI)	• Median time to transfer to another facility for acute coronary intervention
	Heart failure (HF)	• Evaluation of left ventricular systolic (LVS) function
	Surgical Care Improvement Project (SCIP)	• Prophylactic antibiotic received within one hour prior to surgical incision • Prophylactic antibiotics discontinued within 24 hours after surgery end time
	Emergency department (ED) throughput	• Emergency department volume • Median time to pain medication for long bone fractures
	Preventive care	• Immunization for influenza
	Children's asthma care (CAC)	• Home management plan of care (HMPC) document given to patient/caregiver
	Stroke care	• Venous Thromboembolism (VTE) Prophylaxis • Assessed for Rehabilitation
	Blood clot prevention and treatment	• Venous thromboembolism prophylaxis
	Pregnancy and delivery care	• Percent of newborns whose deliveries were scheduled early (1-3 weeks early), when a scheduled delivery was not medically necessary
Readmissions, Complications, and Deaths	30 day death and readmission rates	• Chronic obstructive pulmonary disease (COPD) 30-day readmission rate • Acute myocardial infarction (AMI) 30-day mortality rate
	Surgical complications	• Complication/patient safety for selected indicators

Measure category		Examples of indicators
		• Iatrogenic pneumothorax
	Healthcare–associated infections (HAI)	• Central line–associated bloodstream infection (CLABSI) • Surgical site infections from colon surgery (SSI: Colon)
Use of Medical Imaging	Outpatient imaging efficiency	• MRI lumbar spine for low back pain • Cardiac imaging for preoperative risk assessment for non–cardiac low–risk surgery
Hospital outcomes	Medicare spending	• Medicare spending per beneficiary
	Payment and Value of Care	• Heart attack payment
Number of Medicare patients	Medicare volume	• Number of Medicare patient discharges for selected MS–DRGs

Reference: MRI (Magnetic Resonance Imaging), MS–DRGs (Medicare Severity–Diagnosis Related Groups)
Reference: Brownwood, May 2015.

D. United Kingdom

○ The NHS Outcomes Framework is not a direct framework for hospital performance but was developed to provide fundamental principles regarding the responsibilities of the government and NHS and to improve the performance of healthcare systems.

- Five result areas were selected as outcomes that must be achieved nationally being preventing premature mortality, improving the quality of life of patients with chronic diseases, recovering from acute care and damage, guaranteeing a positive practice experience, and a safe practice environment and protection against avoidable adverse events.

- Detailed indicators were developed by applying the effectiveness, safety, and patient–centered HCQI framework.

3. Use of Hospital Performance Evaluation Results in Policy

○ RAND divides the use of performance evaluation results into the following four categories (Damberg et al., 2011).

○ Cases regarding public disclosure are as follows:

- Canada's CIHI "Your Health System" website provides hospital comparison data regarding accessibility, appropriateness and effectiveness, safety, health status, patient-centered, efficiency, and the social health determination factor domains.

- The U.S. CMS discloses hospital performance evaluation results from the domains of general information, patient experience surveys, timeliness and effectiveness, complications, readmission rate and death, use of imaging tests, treatment fees, and heart attack/heart failure/pneumonia treatment fees and death through the hospital comparison website.

- The United Kingdom CQC (Care Quality Commission) website discloses the performance evaluation grades for each hospital regarding an overall summary and grade, safety, effects, caring, responsive, well-led operational systems, surgery and outpatient care department grades.

○ The P4P (pay for performance) is the main type of payment application, and OECD countries use this in various forms regarding primary medical care, professional treatment, and hospital care (Cashin et al., 2014).

〈Table 8〉 Status of the P4P program in OECD countries (2012)

Country	Primary care	Specialist care	Hospitals
Australia	○		○
Austria			
Belgium	○		
Canada			
Chile	○	○	
Czech republic	○		
Denmark			
Estonia			
Finland			
France	○	○	○
Germany	○		
Greece			
Ireland			
Israel			
Italy			
Japan			
Korea	○	○	○
Luxembourg	○		
Mexico	○		
Netherlands	○	○	○
New Zealand	○		
Norway			
Poland	○		
Portugal	○		
Slovakia			○
Slovenia			
Spain	○	○	○
Sweden	○		○
Switzerland			
Turkey	○		○
UK	○	○	○
US	○	○	○

Chapter 3 Hospital Performance Evaluation Status in Asia-Pacific Countries

1. Development of a Survey Questionnaire for Hospital Performance Evaluation of Asia-Pacific region

○ The OECD has been developing a medical care quality indicator and comparing and analyzing the medical care quality status of member countries through the HCQI project since 2003. The results are published in the "Quality of Care" chapter of 『OECD Health at a Glance』.

- To share the OECD's main policies and recognize problems with both member and non-member countries in the Asia-Pacific regions, and to serve the role of spreading shared content in these countries, a kick-off conference was held in 2011 in Hong Kong to form a quality improvement network. An Asia-Pacific Region Quality Improvement Network Experts conference has been held every year since 2012.

- For countries in the Asia-Pacific region, it is difficult to collect quality indicators regarding admission rates and drug prescription indicators resulting from chronic diseases, mental health, patient safety, and patient experience domains aside from childhood vaccination, mortality following acute myocardial infarction and stroke, and the five-year survival rate for breast cancer, cervical cancer, and colorectal cancer.

- Hence, the WHO (SEARO/WPRO), OECD, and the OECD Korea Policy Centre first conducted a joint fundamental survey on the progress of the healthcare quality initiative for countries in the Asia-Pacific region (OECD & WHO, 2014) during 2013-2014.

- The survey questionnaire regarding healthcare quality initiative progress for countries in the Asia-Pacific region included three parts. Part 1 included general questions on quality policies; Part 2 included questions on the information infrastructure for measuring the quality indicators; and Part 3 included the main questions regarding quality improvement initiatives and activities (Appendix 1).

〈Table 9〉 Questions from the questionnaire on the progress of the healthcare quality initiative of countries in the Asia-Pacific region

Part	Questions
Part 1: General questions on quality policies	1. Overview of key quality of care policies 2. Legal framework for quality of care 3. Professional certification/licensing and re-certification 4. Accreditation and other external quality assessment mechanisms 5. Medical devices, blood-products and pharmaceuticals 6. National audit studies and performance reports 7. Practice guidelines 8. Quality indicators 9. The ability for patients to influence quality and policies on measuring patient experiences 10. Public reporting 11. Financial incentives 12. Patient safety and medical malpractice 13. Infection control policies
Part 2: Information infrastructure for measuring quality of care	1. Is this data available at a NATIONAL level? (hospital in-patient data, primary care data, cancer registry data, prescription medicines data, mortality data, formal long-term care data, mental hospital in-patient data, patient experiences survey data, population health survey data, population census or registry data) 2. For each type of data available at a NATIONAL level: a) Which national authority is the custodian of this data b) What estimated proportion of the target population or health service is covered by this data? c) If the proportion is less than 100%, please explain which population groups or health services are excluded from the data.

Part	Questions
	For each type of data available at a NATIONAL level (hospital in-patient data, primary care data, cancer registry data, prescription medicines data, mortality data, formal long-term care data) 3. Please indicate if any of the following sources are used to create the dataset: a) Data entry from paper medical records b) Data extracted automatically from electronic medical records? c) Data entry from paper insurance claim records? d) Data extracted automatically from electronic insurance claim records? e) A survey questionnaire? f) Another information source: Please write in 4. Do you have standards or guidelines for collecting the data. 5. Do the data elements adhere to a global health data standard or this data is coded by assigning standard codes using a classification system? For each type of data available at a NATIONAL level (hospital in-patient data, primary care data, cancer registry data, prescription medicines data, mortality data, formal long-term care data, mental hospital in-patient data, patient experiences survey data, population health survey data, population census or registry data) 6. Does this data contain records for patients (persons)? 7.a. Does this data contain records for patients (persons)? 7.b. If yes, is there a patient (person) unique identifier (ID) generated or used exclusively by the facility? 7.c. Is there a form of a national ID or health service ID system in place or could it be used to link this data to another data set? 8. Is this data used to regularly report on health care quality? 9. If you answered Yes for any type of data, please provide examples of the indicators that are used to regularly monitor health care quality. 10. Please provide up to three web links or references to any recent publications of health care quality indicators based on any of these datasets.

Part	Questions

	11. Some countries are encountering difficulties regularly monitoring health care quality. Please indicate if your country is experiencing any of the following challenges and, if yes, please explain the nature of the challenge that you are facing.
	  a) Legal or policy barriers to the collection or analysis of data. If yes, please explain the challenge you are facing.
	  b) Concerns with the quality of the data that limit its usefulness for regular quality monitoring. If yes, please explain the challenge you are facing.
	  c) Lack of resources or technical capacity for data collection, analysis and use. If yes, please explain the challenge you are facing.
	  d) Other challenges
	
	12. Thinking about the PAST 5 years. On a scale of 1 to 5, with one being much easier and 5 being much harder, would you say that it has become easier or harder to use personal health data to monitor health and health-care quality in your country?(1=much easier, 2=easier, 3=neither easier nor harder, 4=harder, 5=much harder), Please explain why you have this opinion
	
	13. Thinking about the NEXT 5 years, how likely is it that your country will be able use personal health data to regularly monitor any aspect of health care quality?(1=very likely, 2=likely, 3=unsure, 4=unlikely, 5=very unlikely), Please explain why you have this opinion
	
	14. Please use this box to add any additional information important to understanding the development and use of health data in your country.

Part 3: Quality improvements initiatives and activities	1. Please describe initiatives and activities for quality and patient safety improvements in your country, including implementations of WHO's patient safety and quality improvement programmes and other relevant action-related programmes, in order to facilitate exchanges of good practices across countries. 2. For your information, below is the list of some of WHO's patient safety and quality improvement programmes. If your country have already implemented, please check the item

Part	Questions
	and describe the activities briefly: a. SAVE LIVES: Clean Your Hands, b. WHO Surgical Safety Checklist and Manual, c. WHO Patient Safety Curriculum Guide, d. The adaptation and promotion of QA/QI trainings, International Classification for Patient Safety (ICPS)

○ Main content of the semi—structured questionnaire of the OECD HCQI hospital performance project(Appendix 2)

〈Table 10〉 Main content of the semi—structured questionnaire of the OECD HCQI hospital performance project

Domain	Main Questions
Experiences in hospital performance monitoring and reporting	1. Confirm what programs exist, if any? 2. Understand the scope and nature of existing programs? 3. Explore your experiences in operating existing programs? 4. Identify any plans for future development of existing or new programs?
Use of hospital performance information	1. Understand if the information is linked to other policy instruments? 2. Assess the impact of using the information?

Source: Guidelines for Semi—Structured Interview on Hospital Performance Programs, 2015. 9.

- At the fourth Asia—Pacific region Quality Improvement Network Experts conference in December 2015, along with a flow of the hospital performance project being conducted by the OECD headquarters, the importance of hospital performance evaluations for improving the quality of medical care was shared, and a decision was made to survey the hospital performance evaluation status of countries in the Asia—Pacific region.

○ The questionnaire for assessing the status of hospital performance evaluations for countries in the Asia—Pacific region was developed

through a phone conference with the OECD headquarters, WHO (SEARO/WPRO), and the OECD Korea Policy Centre, and an OECD HCQI expert conference. The questionnaire was developed through the following process:

- The qualitative questionnaire draft on hospital performance evaluations that was written at the OECD headquarters on March 15, 2016 included policy changes for each country related to quality improvements, quality indicator-based performance reports, and activities related to patient experience measurements that were included in the report on quality management strategies from countries in the Asia-Pacific region in 2015.

〈Table 11〉 Draft of the questionnaire for hospital performance evaluation status surveys of the countries in the Asia-Pacific region

Domain	Main Questions
Update on healthcare quality initiative progress among countries in the Asia-Pacific region	1. Could you please have a look at the report on quality strategies in Asia-Pacific countries published by WHO and OECD in 2015 and provide an update of activities reported on your country in Part 1 (Quality of Care Policies - Table 1-21) and Part 3 (Quality Improvement initiatives and activities). We would appreciate if you could report what changes in your country should be made in the table (1-21) to provide a correct representation of the situation in 2016.
Hospital performance reporting based on quality indicators	1. Existence of a program for hospital performance reporting 2. Program operator (government, hospital management, professionals, others) 3. Coverage of the program (public hospitals, private hospitals, whole country) 4. Type of quality indicator used 4.1. Existence of an index based on death rate data such as HSMR 4.2. Existence of an index based on readmission and

Domain	Main Questions
	re—surgery data 4.3. Existence of an index related to medical care—related infections 4.4. Existence of an index based on complications 4.5. Existence of an index based on patient experience measurements 5. Public disclosure of hospital performance information 6. Connection between hospital performance information and the payment system
Activities related to measuring patient experiences	1. Existence of standard questionnaires on patient experiences available 2. Evaluation of patient experiences on hospital care 3. Evaluation of patient experiences with primary care

- Review opinions were drawn up through the research team meeting regarding the hospital performance evaluation qualitative questionnaire draft on March 22 and sent to the OECD headquarters. For the countries in the Asia—Pacific region to gain a benchmarking opportunity by compiling a questionnaire, they must refine the survey questions further. To facilitate responses, they must include the provision of survey results from countries that submitted the 2013-2014 quality initiative progress survey as the main opinions .

- The final hospital performance evaluation qualitative questionnaire that was completed on March 25 and included 1) the 2013-2014 quality initiative progress update (Part 1. Healthcare Quality Policy and Part 3. Quality Improvement Initiatives and Activities), and 2) the hospital performance reporting system based on quality indicators (hospital performance program reporting system, hospital performance measurement indicator, hospital performance program data sources, quality improvement through hospital performance programs) and

patient experience (patient experience measurements and related activities at the national level) (Appendix 3).

2. Results of Hospital Performance Evaluation in the Asia-Pacific countries: South Korea

○ The developed hospital performance evaluation status questionnaire was sent to the countries in the Asia-Pacific region through the WHO (SEARO/WPRO) and these countries were requested to submit the questionnaire by June 30.

 - The questionnaire responses were collected, and the results were announced at the fifth Asia-Pacific region quality improvement network experts conference (Sri Lanka, Colombo) in 2016, and plans were made to use the results in policies and for benchmarking.

 - However, despite requests for the questionnaire through the OECD headquarters and WHO (SEARO/WPRO), there are only two countries including South Korea that responded to the status questionnaire as of December 2016, hence the difficulty in compiling results.

○ This chapter will organize cases from Korea, a country that diligently answered the questions in the developed hospital performance evaluation status questionnaire.

 - The hospital performance evaluation status questionnaire was drafted during the research team meeting and then reviewed by the department in charge of evaluating the appropriateness of medical care payment including patient experience evaluations and the Korea Institute for Healthcare Accreditation.

- Finally, the questionnaire was rewritten to reflect the reviews and revisions from the insurance evaluation department, disease policy department, and healthcare institution policy department of the Ministry of Health and Welfare, and then submitted in August 2016.

A. Healthcare quality strategy: Updated

〈Table 12〉 National healthcare quality strategy: Responses regarding updates

Questions (accourding to 2015 report)		Updated Contents
1.1 Overview of quality of care policies	Table 2. Policies or documents for quality of care	▶ Accreditation of Medical Care Institutions : Pursuant to Medical Service Act, Article 58, The Korea Institute for Healthcare Accreditation (KOIHA) has been performed accreditation to hospital, since 2010. ▶ Designation of tertiary and specialty hospital : Pursuant to Medical Service Act, Article 3-4&5, The minister of health and welfare may designate a hospital which can satisfy the requirements. For example, structure and quality of care, etc. ▶ Quality assessment of healthcare & Pay for performance : Pursuant to the National Health Insurance Act, Article 47, 63 and Act No 18, Health Insurance Review and Assessment Service (HIRA) conduct a quality assessment and operate a P4P by using the results of quality assessment. ▶ Hospital quality incentive scheme : Since 2015, the Ministry of Health and Welfare (MOHW) conducts an incentive scheme by reflecting a assessment results of quality of care and safety, public accountability, coordination of care, training, and R&D as a part of the health insurance coverage expansion policies. ▶ Preventive measures against healthcare associated infection : Pursuant to Article 47 of the Medical Service Act, a hospital with an Intensive Care Unit (ICU) and 200 or more beds is required to set up an infection control committee and an

Questions (accourding to 2015 report)	Updated Contents
	infection management department, and have appropriate workforces ▶ Korean Nosocomial Infections Surveillance System (KONIS) : Since 2006, Korea Centers for Disease Control and Prevention (KCDC) and the Korean Society for Healthcare-associated Infection Control and Prevention have accumulated data regarding infection of ICU and surgical sites in the joint (http://konis.cdc.go.kr). ▶ Korean Adverse Event Reporting System (KAERS) : The Korea Institute of Drug Safety and Risk Management (KIDS) is established under the Pharmaceutical Affairs Act, Article 68. The KAERS is a system developed by the KIDS to facilitate the reporting and management of adverse drug events (ADEs). The KAERS has been maintaining the reports of AEs since 2012 (https://www.drugsafe.or.kr). ▶ Assessment of public healthcare institution : The MOHW evaluates public healthcare institutions under the Public Health and Medical Service Act, Article 8 and 9. The evaluation includes public accountability, high-quality of medical services, health safety-net and unmet healthcare services needs. ▶ Evaluation of emergency medical institution : The MOHW plays a role in the assessment of emergency medical institutions, public reporting and provision of financial and administrative support under the Emergency Medical Service Act, Article 17.
Table 3. Organizations responsible for quality of care	▶ Ministry of Health and Welfare : Enacts and amends laws, and makes policies to improve the quality of care and patient safety. ▶ Health Insurance Review and Assessment Service : It is a public agency established under the National Health Insurance Act. Major functions of HIRA are claims review, quality assessment and benefit management. ▶ Korean Institute for Healthcare Accreditation : Pursuant to Medical Service Act, It is a non-profit organization delegated by the MOHW for the accreditation of healthcare institutions. ▶ Korean Institute of Drug Safety & Risk Management : It was established in April 2012, to enhance national health quality through the prevention and recognition of

Questions (accourding to 2015 report)		Updated Contents
		drug-related issues (https://www.drugsafe.or.kr). ▶ National Evidence-based Healthcare Collaborating Agency (NECA) : It is a national research agency, established to provide authentic and quality information about medical devices, medicines, and health technology through objective and reliable analysis (http://www.neca.re.kr).
1.2 Legal framework for quality of care	Table 4. Legal and regulatory framework for quality of care	▶ Medical Service Act : Article 47- Preventive measures against healthcare associated infection : Article 53- Assessment of new health technology : Article 58- Accreditation of medical institutions. ▶ National Health Insurance Act : Article 62 and 63- Health Insurance Review and Assessment Service. ▶ Pharmaceutical Affairs Act : Article 68- Korea Institute of Drug Safety and Risk Management. ▶ Act on Remedies for Injuries from Medical Malpractice and Mediation of Medical Disputes : Was enacted in April, 2011 (level of detail - specific) ▶ Patient Safety Act : New enactment date: 28, Jan, 2015. Enforcement date: 29, Jul, 2016.
1.3 Professional certification/licensing and re-certification	Table 5. Policies for mandatory CME/CPD and re-certification	▶ Medical Service Act : A doctor, dentist, Korean medicine doctor, midwife, and nurse are required to obtain a license from the MOHW under the Article 5, 6, and 7. : Central associations (Korean Medical Association, Korean Dental Association, The Association of Korean Medicine, Korean Midwives Association, and Korean Nurses Association) are required to conduct supplementary education for improving the capacity of the members under the Medical Service Act, Article 30.
1.4 Accreditation and other external quality	Table 6. Policies for accreditation and other external quality	▶ Existence of accreditation: Yes
		▶ Organizations/laws responsible for accreditation : MOHW, HIRA, KOIHA
		▶ Existence of national standards for hospitals: Yes
		▶ Type of accreditation

Questions (accourding to 2015 report)		Updated Contents
assessment mechanisms	assessment mechanism	: KOIHA (voluntary), HIRA (mandatory)
		▶ Scoring system : KOIHA − 3 grade(accreditation, conditional accreditation, and non−accreditation) : HIRA − 5 grade (by the score)
		▶ Additional organizations responsible for enforcement: National Medical Center (NMC)
		▶ ISO certification programme: Yes * Hospital standards and training programs were accredited by the ISQUA
1.5 Medical devices, blood products and pharmaceuticals	Table 7. Technology assessment for medical devices	▶ Ministry of Food & Drug Safety (KFDS) : It is a governmental organization and support for policy development, approval (License), re−assessment, quality management and safety of medical devices. ▶ Korean Adverse Event Reporting System (KAERS) : This system established by KFDS. Pursuant to Medical devices Act Article 31, Medical devices handler discover any case or risk of death or occurance of a serious adverse effect while in use, they should report to minister of KFDS. ▶ National Evidence−based Healthcare Collaborating Agency : It is one of the national research agencies established to provide authentic and quality information about safety and efficacy of medical devices relevant to medical treatment through reliable analysis (http://www.neca.re.kr). ▶ Health Insurance Review & Assessment Service : HIRA has a responsibility to decide whether the medical treatment which are related to medical devices being listed for reimbursement by evaluating a cost effectiveness and appraisal healthcare benefit.
	Table 8. Standards on safe blood use	▶Korean Centers for Disease Control & Prevention : It organized the Human Blood Safety Surveillance based on the Korea Blood Management Act, to continuously improve the quality and safety of blood assessment and services such as hemovigilance, sampling surveys, checking incidents and reporting blood supply−demand status. ▶ Korean Red Cross Blood Services (KRCBS)

Questions (accourding to 2015 report)		Updated Contents	
		: It has been granted the authority and responsibility for the blood supply-demand program since 1981, and has developed an advanced system for blood management and for the safe and effective supply of blood.	
	Table 9. Technology assessment studies on drugs	▶ Health Insurance Review & Assessment Service : It is responsible for carrying out cost-effectiveness assessment and making a decision for being listed for reimbursement of drugs approved by the KFDS. ▶ Ministry of Food & Drug Safety : This is the main governmental organization to conduct the plan, research on clinical trial and survey on safety and efficacy of drugs (Phase I, II, III, etc.).	
	Table 10. Pharmacovigilance systems	▶ Health Insurance Review & Assessment Service : Developed the Drug Utilization Review (DUR) program to provide doctors and pharmacists real-time information on drug safety, such as screening for contraindications for the use drugs prohibited for children and pregnant women. ▶ Ministry of Food & Drug Safety (KFDS) : Carries out the general functions related to drug safety and risk management; includes the Institute of Drug Safety and Risk Management. ▶ Korean Institute of Drug Safety & Risk management : It is a public institute under the KFDS, responsible for planning drug safety and risk management by gathering information on side effects of drugs.	
1.6 National audit studies and performance reports	Table 11. National audit studies	None	
1.7 Practice guidelines	Table 12. Clinical practice guidelines	Owner and execution ▶ Korean Centers for Disease Control and Prevention : It is a governmental organization	Development area ▶ Primary care : Asthma, Hypertension,

Questions (accourding to 2015 report)		Updated Contents		
		that develops guidelines for chronic diseases and AIDS. ▶ Korean Academy of Medical science (KAMS) : It is a governmental organization that offers an education for internship program based on the CPGs. ▶ Korean Medical Guideline Information Center (KOMGI) : It manages the implementation of the guidelines developed by various organizations (in 2016, 151 CPGs were available on the website). ▶ National Health Clinical Research (NHCR) : It is responsible for the establishment of clinical evidence related to major disorders.		Diabetes, etc. ▶ Cancer care : Colorectal cancer, Stomach cancer, Lung cancer, etc. ▶ Acute care : Pneumonia, Hepatitis, stroke, etc. ▶ Mental care : Post-traumatic stress disorder, Depressive disorder, etc. ▶ Others : Hemodialysis, Chronic kidney disease, etc.
	Table 13. Disseminating mechanisms, incentives, studies regarding CPGs	Disseminating mechanism: Yes	Financial Incentive: No	Studies to assess compliance: Yes
		▶ KOMGI uploaded 51 types of CPGs on the website, and monitored the total number of downloads for each CPG. ▶ Based on the survey result of NECA, utilization of CPGs for pediatric asthma, gastroesophageal reflux disease, cardiac computed tomography was investigated.		
1.8 Quality indicators	Table 14. Quality indicators and consistency assuring mechanisms	National level Quality indicators: Yes	Consistency assuring mechanism: Yes	Feedback mechanism: Yes
		▶ HIRA conduct quality assessment with 344 indicators across 36 domains(as of July 2016). ▶ HIRA then provides feedback to the service provider and supports quality improvement based on the assessment results. ▶ The coordination committee for quality assessment have a regular meeting with various stakeholders to make decisions on major issues related to assessment for quality of care.		

Questions (accourding to 2015 report)		Updated Contents
1.9 The ability of patients to influence quality and policies on measuring patient experiences	Table 15. Systematic measurement of patient experiences	Systematic measurement: Yes ▶ The MOHW and National Medical Center conduct a survey of patient experiences for public hospital. ▶ The accreditation standards of KOIHA include a patient experience, as a part. ▶ This year, HIRA conducted preliminary surveys of patient experiences. ▶ The Korea National Health and Nutrition Examination Survey include questionnaire items on patient experiences.
	Table 16. Patient organizations	Existence: Yes ▶ Korean Alliance of Patients Organizations (Member association): Leukemia, Kidney cancer, Congenital heart disease, Multiple myeloma, Gastrointestinal stromal tumor, AIDS and Cancer associations.
1.10 Public reporting on quality of care	Table 17. Public reporting on quality of care	▶ Health Insurance Review & Assessment Service : Annual comprehensive quality report, web-site and media ▶ Korean Institute for Healthcare Accreditation : web-site
1.11 Financial incentives	Table 18. Pay for performance	▶ Programme: − **Value incentive (disincentive) programme** : For acute stroke, operative prophylactic antibiotics utilization, hemodialysis, and pharmaceutical benefits (based on quality results including the rate of antibiotics prescription, rate of injection prescriptions, and prescribing rate of poly-pharmaceuticals). − **Value incentive programme for management of chronic diseases** : For chronic disease care in a doctor's clinic (hypertension and diabetes). − **Hospital quality incentive scheme** : Based on hospital performance related to quality of care and safety, public accountability, coordination of care, training, and R&D, the incentive is almost 500 million US dollars for 2016-2017. − Based on the level of staff and results of quality

Questions (accourding to 2015 report)		Updated Contents
		assessment, the additional incentive is provided for the long term care hospital which is satisfied with the requirement (Publicly announced by minister of health and welfare 2012-169)
1.12 Patient safety and medical malpractice	Table 19. Patient safety	▶ Programme: ─ **Drug Utilization Review** ： Providing doctors and pharmacists real-time information on drug safety, such as screening for contraindications or the use of drugs prohibited for children and pregnant women. ─ **Korean Nosocomial Infections Surveillance System** ： It is a national wide network to survey nosocomial infections in hospitals with more than 200 beds. ─ **Regional Pharmacovigilance Centers (RPVCs)** ： These centers evaluate causal relationships of AE reports submitted to them within the region and report AE cases to KIDS via KAERS. ▶ Organization ─ MOHW ─ HIRA: It operates the DUR system. ─ KCDC ─ KIDS: It facilitates evidence-based decisions in drug safety by promoting adverse drug event (ADE) reporting, assessing drug safety information, performing causality assessments, developing DUR criteria, disseminating safety information and providing education to the public.
	Table 20. Adverse event reporting or medical malpractice addressing system	▶System for reporting and learning of patient safety accident ： Reporting system relevant to patient safety accident is being developed. KOIHA will operate this system upcoming July, 2016. ▶ Adverse Event Reporting System ─ **Korean Adverse Event Reporting system** ： It is governed by the KIDS. ─ **Korean hemovigilance system** ： It is governed by the Korean Society of Blood Transfusion & KCDC ： Korean blood protective system, notifications of any adverse transfusion reaction (ATR) causing death, disability,

Questions (accourding to 2015 report)		Updated Contents
		hospitalization, or viral infection are mandatorily reported by hospitals. ㅡ **Korean Nosocomial Infections Surveillance System** ː It is governed by the Korean Society for Healthcare–associated infection control and prevention & KCDC (a nationwide network to conduct surveys on nosocomial infections in hospitals with more than 200 beds. ▶ Adressing system of medical malpractice ㅡ **Korean Medical Dispute Mediation and Arbitration** ː It is responsible for medical dispute mediation, comprehensive investigation of the reasons for medical accidents, and determining reasonable claims for damage. ㅡ **Korean Consumer Agency** ː It is a governmental organization established in July 1987 based on the Consumer Protection Act, to provide consumer counseling and to conduct tests/inspections and investigations on standards, quality, and safety of products and services.
1.13 Infection control policies	Table 21. Infection control policies	▶ Indicators ㅡ **Nosocomial infection rate by KONIS** ː ICU and surgical site infection ㅡ **Operative prophylactic antibiotics utilization** by HIRA ▶ Policies ㅡ **Infectious Disease Prevention and Control Act** ㅡ **Value incentive (disincentive) program** ː Financial incentive is offered according to a performance in operative prophylactic antibiotics utilization.

○ Aside from the responses in this table, the accreditation program from the Korea Institute for Healthcare Accreditation and the main content on the Patient Safety Act that was enacted in July 2016 were submitted.

ㅡ History of the hospital accreditation program
- 2010: Announced acute hospital accreditations standard
- 2011: Announced acute small and medium hospital accreditations

standard

- 2012: Received approval based on acute hospital accreditation standards from the ISQUA / **Announced the** long-term care hospital and mental hospital accreditations standard
- 2013: Announced the oriental medicine hospital and dental hospital accreditations standard
- 2014: Announced the acute hospital second-cycle accreditations standard
- 2015: Received approval for the training program for survey committee members from the ISQUA
- 2016: Announced the long-term care hospital and mental hospital second-cycle accreditations standard, and revised the acute hospital accreditations standard (strengthened infection management domain)

- Main content of the Patient Safety Act
  - This act regulates necessary matters regarding patient safety. Its purpose is to contribute to improving the quality of healthcare and to promote national health
  - The national and local governments must establish the policies for patient safety and improving the quality of medical care as well as a systematic basis that is necessary for patient safety activities. Further, they can offer the administrative and financial support necessary for patient safety activities that are taken by the healthcare institutions, healthcare professionals, patients, and patient caregivers.
  - The Minister of Health and Welfare must ensure that a comprehensive patient safety plan is established and enforced every five years and have a national patient safety committee that reviews matters related to patient safety. Hospital-level healthcare institutions above a certain size must establish and operate a patient safety committee for the sake of patient safety.
  - There must be personnel who are in charge of patient safety and take

care of tasks related to patient safety and the quality improvement of medical care, and the required expenses for this must be given to the healthcare institution.

- A patient safety accident reporting and training system must be built and operated so that the healthcare professional or patient who has caused or becomes aware of a patient safety accident can freely report the facts and the relevant surveys, research, and information disclosure can take place.

- A warning must be able to be issued if there is a new type of patient safety accident or if there is the potential for serious harm to patient safety.

- Unfavorable actions based on a prohibition of confidential information disclosure and reporting must be prohibited to guarantee the confidentiality of the patient safety accident report.

○ Part 3. Regarding updates on quality improvement initiatives and activities, the quality improvement project that used the medical payment appropriateness evaluation and content regarding medical care quality evaluation support funds that were implemented in 2015 were added and submitted accordingly.

- Quality Improvement Support Project
  - QI Employee Training: Conducted twice a year for QI managers.
  - QI Consulting: Supported QI programs being conducted in hospitals.
  - QI Outstanding Case Awards and Presentations: Collected benchmarking information for quality evaluations by collecting outstanding QI activities and QI activity cases.
  - QI newsletter publication and online community: Provide the most up to date information that is necessary for improving quality at each hospital.
  - In the future, the HIRA will be expanding the QI employee training program to employees at small and mid-hospitals in rural areas,

build a sharing system for outstanding QI cases for each region, and provide comprehensive consulting and online consultations.

- Medical care quality evaluation incentives
  - Evaluation domains for calculating medical care quality evaluation incentives: Medical care quality and patient safety, publicness, medical care delivery system, education training, and research development.
  - Number of evaluation indicators: 37 in 2015, 59 in 2016.
  - Budget Size: 100 billion won in 2015, 500 billion won in 2016.
  - 266 hospitals (233 general hospitals; 43 tertiary hospitals) have received medical care quality evaluation incentive(2015)

B. Hospital Performance Report System

〈Table 13〉 Responses regarding the survey of the hospital performance reporting program

	Question		Answer	
2.1.1	Is there a programme for hospital performance reporting in your country?		Yes (∨)	No ( )
	2.1.1a	Is the programme nationally representative?	Yes (∨)	No ( )
	2.1.1b	The name of the programme	Quality assessment of healthcare benefit	
	2.1.1c	What is the main purpose of the programme?	(∨) External monitoring/ accountability ( ) Hospital internal monitoring/learning & improvement ( ) Other:	
2.1.2	Does the hospital performance programme have a conceptual framework that describes the domains on which performance is assessed ?		Yes ( )	No (∨)
			Please attach available materials about the framework that is used.	
2.1.3	Who is running the programme?		(∨) Government ( ) Hospital ( ) Professionals ( ) Others:	
2.1.4	Is a partnership built for the hospital performance programme?		Yes (∨)	No ( )
	2.1.4a	Who is participating?	(∨) Government (∨) Hospital management (∨) Professionals (∨) Patients (∨) Social insurers ( ) Private insurers Others: HIRA	
2.1.5	What is the coverage of the programme?		( ) Public ( ) Private (∨) Whole country	
	2.1.5a	How many hospitals participated in the programme in 2015?	Number of Hospitals: 3,141[*] - Tertiary hospital: 43 - General hospital: 287	

Question			Answer
			− Hospital: 1,474 − Long−term care hospital: 1,337 Total % of Hospitals: 100%

Reference: 2014 National Health Insurance Statistical Yearbook. 2014. 12.

〈Table 14〉 Responses regarding the hospital performance indicators

Question			Answer		Examples of Indicator
2.2.1	2.2.1a	Indicators based on mortality data	Yes (∨)	No ( )	− Fatality rate while hospitalized − Operative mortality rate
	2.2.1b	Indicators based on hospital Re−admission rates	Yes (∨)	No ( )	− Rate of re−hospitalization (7 days/ 30 days after discharge/ unplanned)
	2.2.1c	Indicators based on complication rates	Yes (∨)	No ( )	− Incidence rate of surgery complication and adverse effect − Rate of re−operation due to bleeding or hematoma − Rate of re−operation due to infection
	2.2.1d	Patient safety Indicators	Yes (∨)	No ( )	− Initial prophylactic antibiotic prescription rate within 1 hour before skin incision − 3rd or higher generation cephalosporin antibiotics administration rate − Antibiotics prescription rate at discharge
	2.2.1e	Indicators based on patient experiences	Yes (∨)	No ( )	− Cleanliness, safety, relaxedness environment − Providing precaution and treatment plan after discharge
	2.2.1f	Efficiency indicators	Yes (∨)	No ( )	− Hospitalization days per episode (Lengthiness Index, LI)

Question			Answer		Examples of Indicator
					− Medical costs per episode (Costliness Index, CI) − Average admission fee

〈Table 15〉 Responses regarding data sources for the hospital performance reporting programhospital performance indicators

Question			Answer	
2.3.1	Is the hospital performance programme using administrative data?		Yes (∨)	No ( )
	2.3.1a	If not, what kind of data is used in the programme?	− Clinical record of medical institution − Resident registration data of Ministry of the Interior − Claims data of HIRA	
2.3.2	Is the hospital performance programme based on self−reporting by individual hospitals?		Yes (∨)	No ( )
	2.3.2a	If yes, is self reporting voluntary?	Yes ( )	No (∨)

〈Table 16〉 Responses regarding quality improvement through the hospital performance reporting program

Question		Answer	
2.4.1	Does the hospital performance programme provide feedback to individual hospitals?	Yes (∨)	No ( )
2.4.2	Is the hospital performance information reported publicly?	Yes (∨)	No ( )
2.4.3	If public reporting on hospital quality of care exists, what kinds of means are used (internet website, media, annual report)?	Internet website, annual report, media	
2.4.4	Is hospital performance information linked to payment? (i.g. P4P)	Yes (∨)	No ( )

C. Patient Experience

〈Table 17〉 Responses regarding the survey questions and evaluation for patient experience

	Question	Answer	
3.1	Are there standard questionnaires on patient experiences available? 　a) If questionnaires on patient experiences 　　are available, please attach an example.	Yes (∨) − Inpatient (Yes) − Outpatient (No)	No (　)
3.2	Are patient experiences on hospital care systematically assessed?	Yes (　)	No (∨)
3.3	Are patient experiences with primary care systematically assessed?	Yes (　)	No (∨)
3.4	How are the results of patient experiences used (ex: public reporting, P4P, feedback)?	None	

3. Quality and Patient Safety Policies for Each Country in the Asia-Pacific Region

A. South Korea

1) Overview

○ The medical payment appropriateness evaluation in Korea reached a quantitative expansion in medical services in 1989 due to national health insurance and the fee for service. Since the 1990s, there has been an increase in the social demand for securing an appropriate and qualitative level for medical services (HIRA, 2017).

－ The enforcement regulations of the same law say that "if the appropriateness of medical payments is evaluated, the evaluation must be based on the appropriateness of the medical payment from the aspects of medical and cost-effectiveness."

○ In 2005, the quality evaluation results began to be disclosed to the public, and usage could be assessed through the clinical quality evaluations in 2006. Moreover, these results were connected to payments and the pay for the performance pilot project began in July 2007 .

○ The medical payment appropriateness evaluation judged effectiveness, efficiency, and timeliness, but has recently been expanded to include the patient-centered and safety domains. Additionally, the range of disease groups has been expanded to include serious and chronic diseases, and a comprehensive evaluation will be performed for each institution through the general quality indicator.
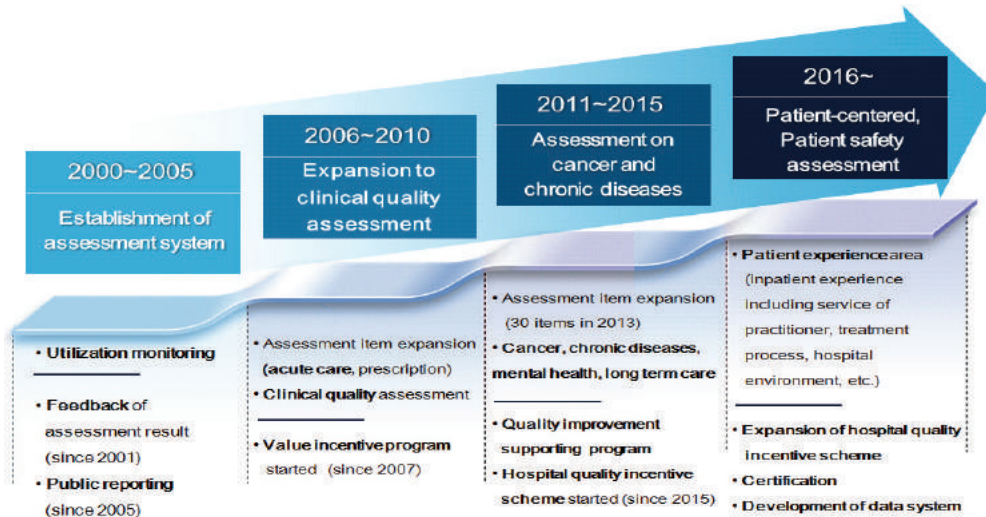
[Figure 4] Stages of development in the medical payment appropriateness evaluation
Reference: The 5th Asia-Pacific International Business presentation(Sri Lanka, Colombo) 2016.11.

2) Evaluation Content and Method

A) Evaluation Objective

○ The improvement of medical care quality by enabling medical care providers to offer appropriate medical care through evaluating the appropriateness of medical services and continuously improving inappropriate medical services based on evaluation results.

○ To promote health by guaranteeing high-quality medical care and appropriate costs to the general public, rationalize payments to insurers, and prevent socioeconomic loss.

B) Evaluation Target

○ (Scope of evaluation targets) The targets of appropriateness evaluations are "all medical care services," "all medical institutions (medical care

institutions, pharmacies, Korea Orphan & Essential Drug Center, health centers and country hospitals, community health center branches, and healthcare centers)," and "all citizens."

C) Evaluation Method

○ The HIRA's requested data, medical institution status data, medical institutions' medical record data, and the resident registration electronic data from the Ministry of Government Administration and Home Affairs are collected and used for evaluation.

－ Data are collected through the "web evaluation data collection system" or the "E-evaluation data submission system" that includes content from the questionnaire that was developed based on medical records for each patient.
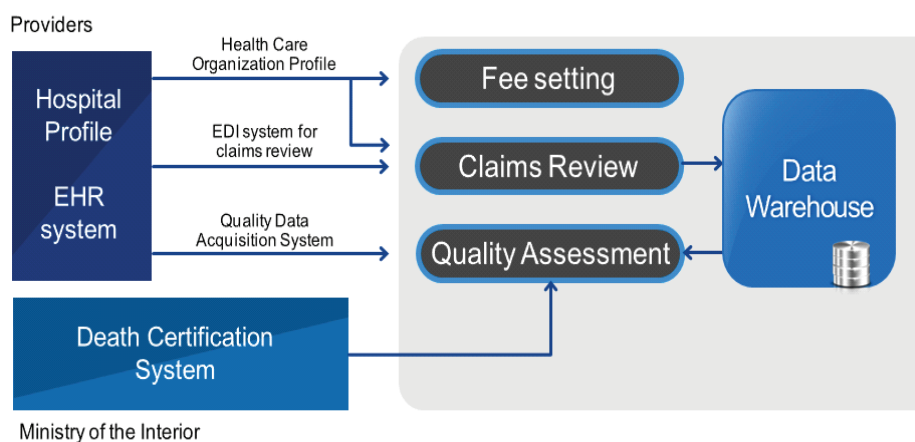
[Figure 5] Data collection process for quality evaluations
Reference: The 5th Asia-Pacific International Business presentation(Sri Lanka, Colombo) 2016.11.

3) Evaluation Results Analysis and Use of Results

A) Evaluation Results Analysis

○ (Evaluation for each medical institution) Each evaluation indicator is calculated for each medical care institution, and the variations between medical care institutions are assessed.

○ (Patient severity-adjusted) The evaluation indicator, which is influenced by the results of a patient's differing statuses, compares evaluation results between medical institutions after adjusting the patient's severity.

○ (Composite score calculation and ranking) One Composite score is calculated for each evaluation data item, and institutions that are included in the evaluation are ranked accordingly.

B) Use of Evaluation Results

(1) Public communication through disclosure

○ The evaluation results information is released to the public through the HIRA website (www.hira.or.kr) so that they can select the best medical institutions.

 - Presented by favorable institutions and combined result ranks by item (Rank 1-Rank 5)

○ A tool for public communication is also prepared to gather opinions on the evaluation standards of healthcare professionals regarding the evaluation item.

[Figure 6] HIRA's hospital evaluation information disclosure website

(2) Medical institution quality improvement support

○ The evaluation results of the institution are provided with benchmarking information so that the medical institution can use them for quality improvement activities. Further, problems are diagnosed through on-site consultations for low-quality medical institutions

- The main projects include the QI training process, QI consulting, Outstanding case awards, and presentations for QI activities, QI newsletters, and community operations, etc.

(3) Payment Connection

○ (Value incentive program project) The value incentive program project applies economic incentives or disincentives according to evaluation results, thereby encouraging medical institutions to improve the quality of their medical care.

- The pilot project began in 2007 and the actual project started in 2011. The target items were expanded from acute myocardial infarctions /cesarean delivery to hemodialysis (expected for 2017).

- In 2014, the range of target institutions was expanded to include outpatient drugs at the clinic level.

- The adjustment rate was greatly expanded from ±1% to ±5% to reduce the qualitative differences between medical institutions.

4) Recent trends

○ Following the recent increase in interest of patient safety and the improvement in the quality of medical care institutions in Korea, the medical quality evaluation support fund system was enacted in September 2015, and the Patient Safety Act was announced on January 28, 2015.

○ During the early years of the evaluations, the appropriateness evaluation began with a great focus on frequency or proportion, which takes up a big portion of overall medical payments. However, this was expanded to clinical fields such as acute myocardial infarctions, acute strokes, use of preventative antibiotics in surgery, etc. starting in 2004 (HIRA, 2016).

○ Evaluations have recently started being performed on the patient-centered domain in 2016. To secure a balance in evaluations by including the perspective of medical care consumers in the medical care quality evaluation, "patient experience" will also be implemented, and a preliminary evaluation has also begun on the "patient safety and anesthesia domain," which is currently being emphasized for its importance both domestically and internationally.

○ The international trend is to push forward and proceed with international collaborations such as quality evaluation consultations for developing countries and continuous participation in the OECD healthcare quality indicator project.

B. Japan

1) Healthcare system overview

○ Japan has recently taken on several projects to improve the quality of medical care relating to patient safety, which includes the patient safety report training system, patient and patient family participation incentive system, etc.

- To improve patient safety in university hospitals and national hospitals, hospital officials must complete an annual patient safety course, and a patient safety report training system has been in operation since 2005 (accredited organization, about 400 cases reported over 12 months).

- If a hospital supports the trained expert to consult a patient and the patient's family participated in the program on lifestyle advice and self-management (cancer care plans, home care health services), the hospital will receive incentives from the government (OECD, 2014).

2) Medical quality improvement system

A) Managing agent

○ Japan Council for Quality Health Care(JCQHC)[1]

Jul. 2015
The Japan Council for Quality Health Care is rebranded by
renewing the logo and organization's abbreviation.

Apr. 2013
The Healthcare Quality and Sustainability
Improvement Program commences.

Jan. 2009
The Japan Obstetric Compensation
System for Cerebral Palsy commences.

2008 Oct.
The National Database of Near-Miss
Event in Pharmacy Project commences.

Oct. 2004
The National Database of Medical
Adverse Events Project commences.

2003 Apr.
The Patient Safety
Promotion Project commences.

Apr. 2002
The Medical Information Project
(current EBM and Guidelines (Minds))
commences.

2001 Nov.
The Patient Safety Promotion Council is established.

1997 Apr.
Hospital accreditation project commences in full scale.

1995 Jul.
The Japan Council for Quality Health Care is founded.

[Figure 7] History of Japan's JCQH
Reference: JCQHC. JCQH for the improvement of quality and safety in health care. 2015.

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1) JCQHC. 公益財団法人日本医療機能評価機構. 2011)

나) Project types

(1) Hospital Accreditation

○ Japan's hospital accreditation system is a system that categorizes hospitals into different functions—such as general hospitals, regional hospitals, rehabilitation hospitals, chronic treatment hospitals, and mental hospitals—and evaluates the hospitals based on standards, accrediting them accordingly (JCQHC, 2012).
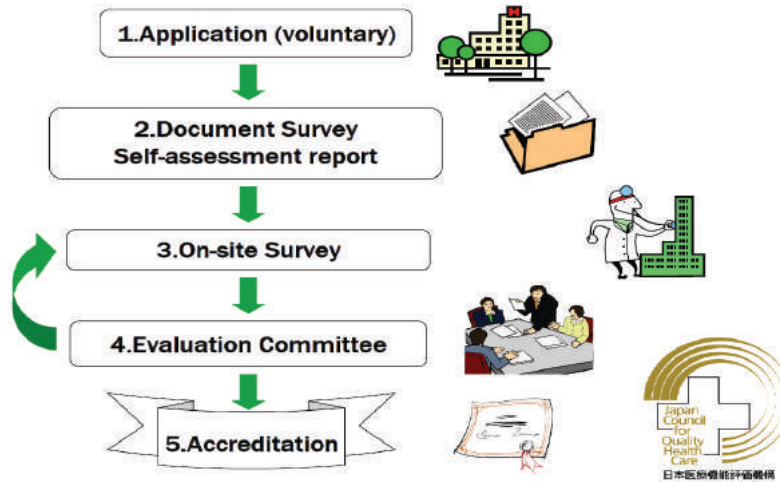
[Figure 8] Japan's hospital accreditation evaluation procedure
Reference: JCQHC. 公益財団法人日本医療機能評価機構. 2011.
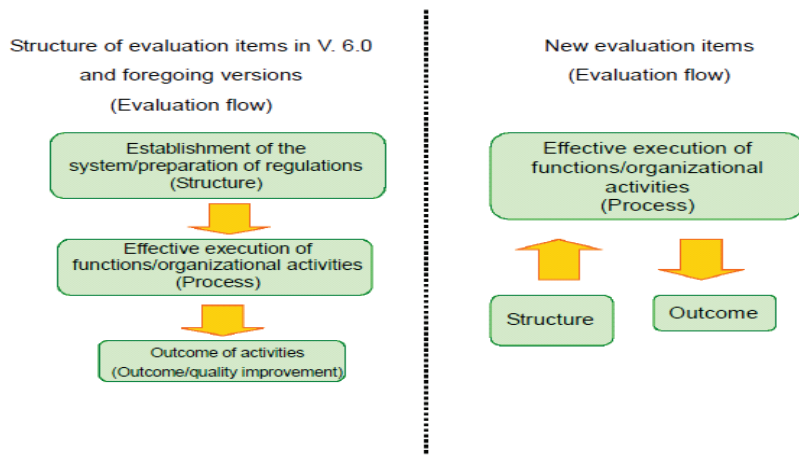
[Figure 9] Changes in Japan's hospital accreditation evaluation structure

Reference: JCQHC. A New Framework for Evaluation if Hospital Functions. 2012.
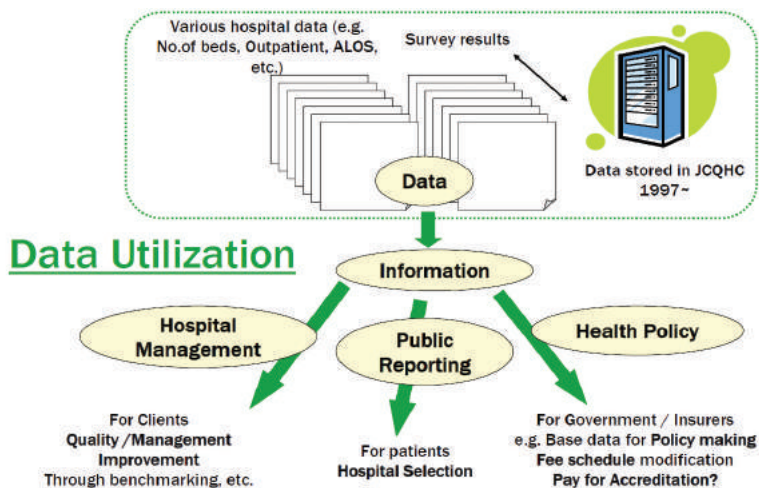
[Figure 10] Use of medical care information from Japan's JCQHC

Reference: JCQHC. 公益財団法人日本医療機能評価機構. 2011.

(2) National Database of Medical Adverse Events

○ Japan has collected information on medical care side effect cases and medical accidents from medical care institutions. It is mandatory for the university and public hospitals to report this information and medical accidents must also be reported online (JCQHC, 2014).
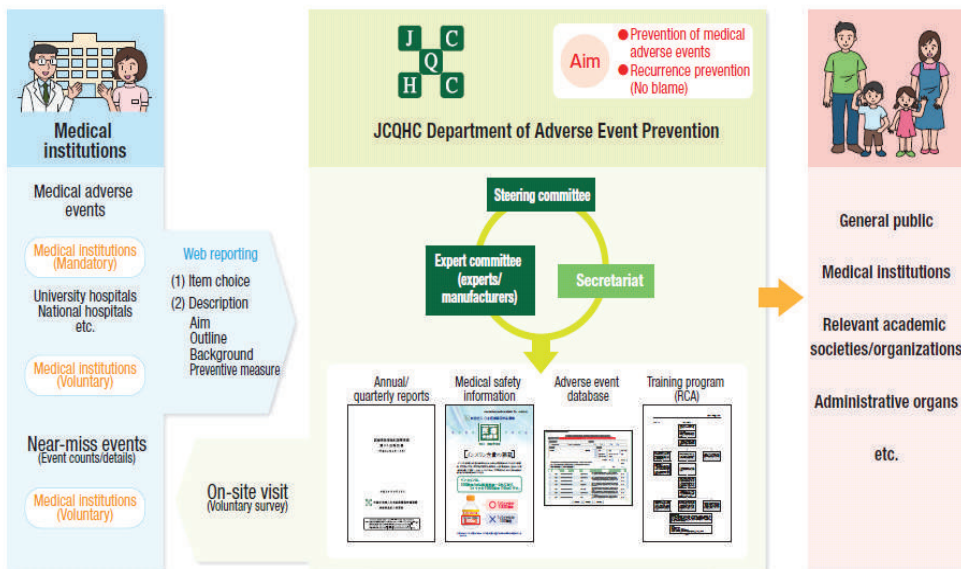
[Figure 11] Japan's medical care accident reporting the whole process

Reference: JCQHC. Japan Council for Quality Health Care 2014 Approach. 2014.

Portal Site of Healthcare Quality Indicators (Japan)

[Figure 12] Japan's Healthcare Quality Indicators Japan website

Reference: Availible URL from: http://quality-indicator.net/English/

〈Table 18〉 Institutions to be evaluated and targets of data collection in 2016

Types	Number
Total	109
Stroke	8
Respiratory Tract Diseases	10
Circulatory System: results	4
Circulatory System: Medicine	10
Circulatory System	4
Cardiovascular Diseases	5
Gastroenterology	6
Orthopedics	4
Breast Cancer	3
Diabetes	3
Perinatal Care	4
Psychiatry	5
Palliative Medicine	2
Infection	5
Antibacterial Drugs	36
Medical Management	10

Source: Availible URL from: http://quality-indicator.net/English/

C. Australia

1) Status of patient safety and medical care quality in Australias

○ Australian Commission on Safety and Quality in Health Care (ACSQHC)

‒ The Australian government is one of the main government institutions that conduct national patient safety initiatives. The goal is to have the healthcare systems provide more information and support and to systematize the provision of safe and sustainable high‒quality treatment.

〈Table 19〉 Number of adverse events that occurred per 100 cases of admission in public hospitals in Australia (2014‒2015)

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
Total	6.8	6.6	6.4	7.1	7.5	8.0	na	3.5	6.7

Reference: AIHW (unpublished), National Hospital Motbidity Database; Table 12A.37.

‒ A data system at the national level (particularly in the primary medical care domain) that can support the improvement of medical care is as yet insufficient.

2) Recent activities for patient safety and improving medical care quality

○ The Australian government is reviewing standards at the national level, data for quality measurements, factors of the national patient and quality reporting, learning systems.
  • Review of the national standards
  • Atlas of healthcare variation

- Hospital acquired complications and modelling funding and pricing to reflect safety via health care agreements
- Registries

A) Review of national standards

○ National Safety & Quality Health Service Standards

- The purpose is to protect the public from harm and to improve the quality of medical care services.

- It applies to all public and private hospitals and outpatient procedure centers.s

○ Australian Health Service Safety and Quality Accreditation Scheme(AHSSQA)
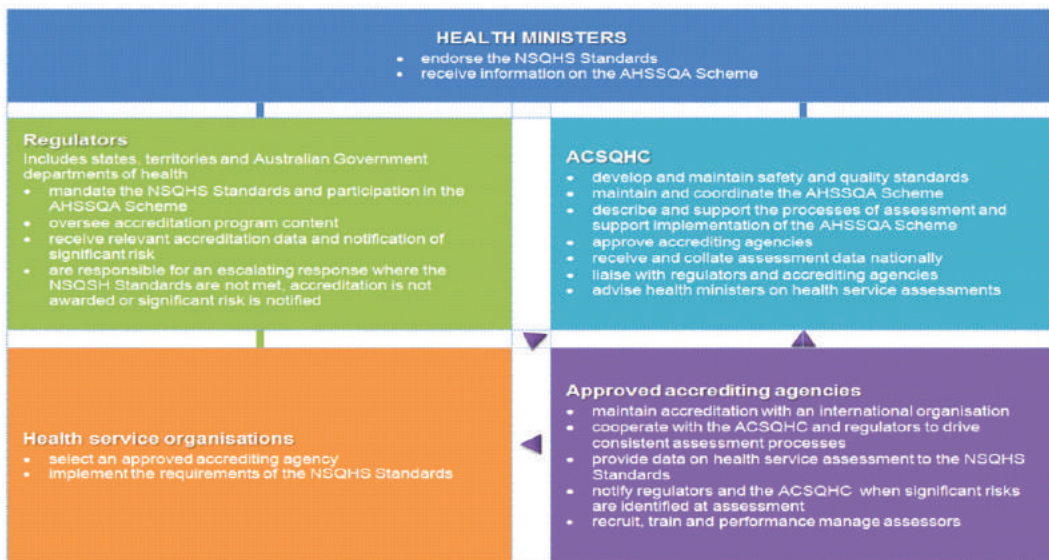
[Figure 13] Australia's healthcare service safety and quality accreditation system

○ National Safety and Quality Health Service Standards Version 1 for healthcare service safety and quality accreditation in Australia consists of 10 standards

 − Standard 1: Governance for Safety and Quality in Health Service Organisations

 − Standard 2: Partnering with Consumers

 − Standard 3: Healthcare Associated Infections

 − Standard 4: Medication Safety

 − Standard 5: Patient Identification and Procedure Matching

 − Standard 6: Clinical Handover

 − Standard 7: Blood and Blood Products

 − Standard 8: Preventing and Managing Pressure Injuries

 − Standard 9: Recognising and Responding to Clinical Deterioration in Acute Health Care

 − Standard 10: Preventing Falls and Harm from Falls

○ Since the end of 2014, the Australian government has performed comprehensive reviews on these standards and has encouraged participation from various professional groups such as chief nurses, young doctors, and safety and quality managers, and has conducted consumer surveys and various pilot projects.

〈Table 20〉 Performance by domain of national safety and medical care quality standard (ver. 1) regarding medical services

Standard Domain		Assessment Results
S1.	Governance for Safety and Quality	• Resulted in better integration of governance & quality systems (83%) • Clarified the roles & responsibilities of Boards (82%)
S3.	Preventing & Controlling Healthcare Associated Infection	• 13.5% reduction in SAB • 40% reduction in MR SAB rates • 50% reduction in CLABSI
S4.	Medication Safety National Medication Chart Residential Aged Care Medication chart	• 30% reduction in prescription errors • Reduction in medication errors from 5.2/1,000 to 1.7/1,000 • Reduction in total number of prescriptions from 13.3 per resident to 5.6
S7.	Blood and Blood Products	• $70M reduction in blood products
S9.	Recognising & Responding to Clinical Deterioration	• 30% (NSW) – 20% (Vic) reduction – in hospital cardiac arrest rates

	Number of actions
Clinical Governance for Health Service Organisations	33
Partnering with Consumers	14
Preventing and Controlling Healthcare-associated Infection	16
Medication Safety	15
Comprehensive Care	36
Communicating for Safety	11
Blood Management	10
Recognising and Responding to Acute Deterioration	13

[Figure 14] National safety and medical care quality standards (ver. 2) regarding medical services for healthcare service safety and quality accreditation

B) Australia's Atlas regarding healthcare variations

○ In July 2016, the ACSQHC launched the Atlas that shows the variations of healthcare in Australia in one glimpse.
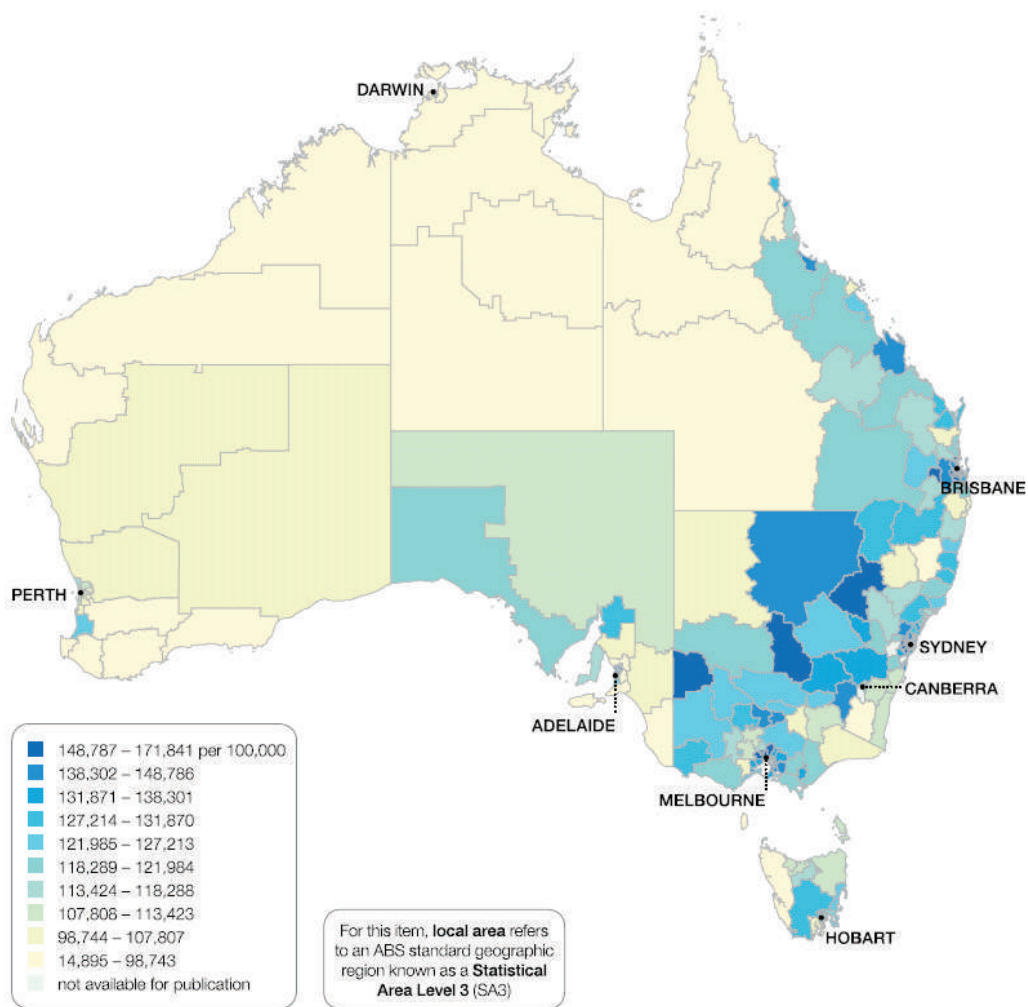
[[Figure 15] No. of people receiving antibiotic prescriptions per 10,000 people in the population by region, standardized age (2013-2014)

Reference: National Health Performance Authority analysis of Pharmaceutical Benefits Scheme (PBS) statistics 2013-14.
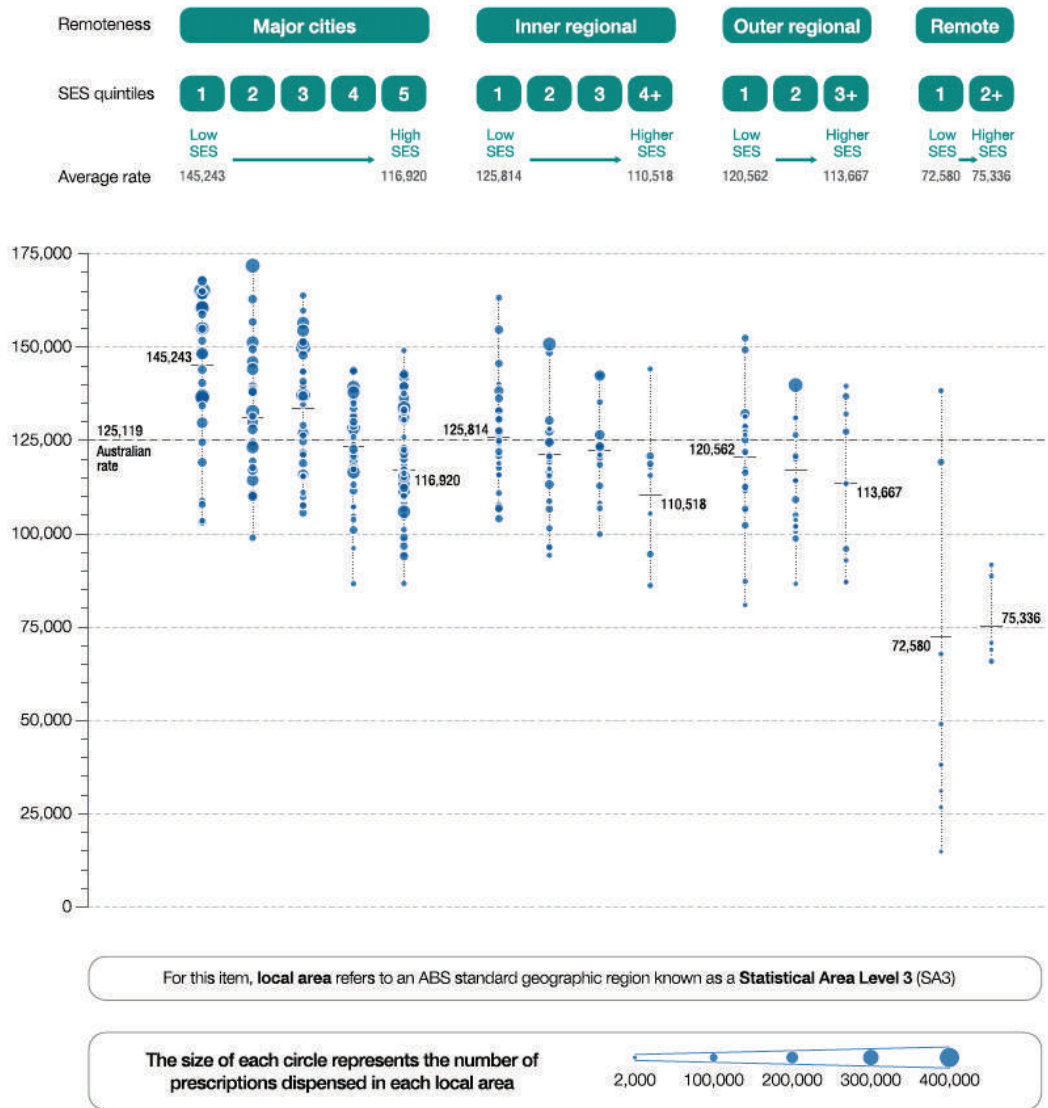
[Figure 16] No. of people receiving antibiotic prescriptions per 10,000 people in the population according to the region, distance, and socioeconomic status, standardized age (2013-2014)
Reference: National Health Performance Authority analysis of Pharmaceutical Benefits Scheme (PBS) statistics 2013-14.

3) Hospital Acquired Complications (HACs)

○ Australia uses hospital data that are collected on a daily basis to calculate outcomes regarding symptoms that occur after a patient is admitted to the hospital.

○ In 2013, the validity of calculating the HAC incidence rate using data that are collected on a daily basis from patient medical records was reviewed, and a HAC List was developed based on the avoidability, severity, and healthcare service influence and clinical priority.

〈Table 21〉 HAC list in Australia (2016)

Complication(16)	Diagnosis(38)
1. Pressure injury	• Unspecified decubitus ulcer and pressure area • Stage III ulcer • Stage IV ulcer
2. Falls resulting in fracture or intracranial injury	• Intracranial injury • Fractured neck of femur • Other fractures
3. Healthcare associated infection	• Urinary tract infection • Surgical site infection • Pneumonia • Blood stream infection • Central line and peripheral line associated bloodstream infection • Multi–resistant organism • Infection associated with prosthetics / implantable devices • Gastrointestinal infections
4. Surgical complications requiring unplanned return to theatre	• Post–operative haemorrhage/haematoma requiring transfusion and/or return to theatre • Surgical wound dehiscence • Anastomotic leak • Vascular graft failure • Other surgical complications requiring unplanned return to theatre
5. Unplanned Intensive Care Unit admission	• Unplanned admission to intensive care unit

Complication(16)	Diagnosis(38)
	(ICU)
6. Respiratory complications	• Respiratory failure including acute respiratory distress syndrome requiring ventilation (invasive and/or non-invasive) • Aspiration pneumonia
7. Venous thromboembolism	• Pulmonary embolism • Deep vein thrombosis
8. Renal failure	• Renal failure requiring haemodialysis or continuous veno-venous haemodialysis
9. Gastrointestinal bleeding	• Gastrointestinal bleeding
10. Medication complications	• Drug related respiratory complications/ depression • Haemorrhagic disorder due to circulating anticoagulants • Hypoglycaemia
11. Delirium	• Delirium
12. Persistent incontinence	• Urinary incontinence
13. Malnutrition	• Malnutrition
14. Cardiac complications	• Heart failure and pulmonary oedema • Arrhythmias • Cardiac arrest • Acute coronary syndrome including unstable angina, STEMI and NSTEMI
15. Third and fourth degree perineal laceration during delivery	• Third and fourth degree perineal laceration during delivery
16. Birth trauma	• Birth trauma

4) Building clinical quality registries

○ Clinical quality registries include a system that systematically monitors the quality of healthcare (appropriateness and effectiveness) and collects, analyzes, and reports data on a daily basis from certain clinical domains, and such information is used for benchmarking of the results, variations of the results and improvements.

    - Victorian Prostate Cancer Registry (Victorian PCR), Victorian State Trauma Registry (VSTR), Australia and New Zealand Intensive Care Adult Patient Database (ANZICS APD), Australia and New Zealand Dialysis and Transplantation Database (ANZDATA), Australian Orthopaedic Association National Joint Replacement Registry (AOANJRR)

D. New Zealand

1) General characteristics and healthcare systems

○ New Zealand's total population is 4.36 million people, income per capita is the 24th in the world, and the life expectancy is 81 years old, which is 25th in the world.

○ The Health Minister develops policies in the fields of healthcare and disabilities and provides leadership. The minister receives support from the Ministry of Health and the departmental project units, and the cabinet and National Health Board, Health Workforce New Zealand, National Health Committee, and other advisory committee members from the Ministry of Health serve in advisory roles.

〈Table 22〉 General characteristics regarding the performance of healthcare systems in New Zealand

Category	Content
Total Population	4,365,113
Life expectancy from birth	81years
Infant mortality (death per 1,000 infants)	4.65
GDP per capita (USD)	30,200
Medical cost (%GDP)	10.1
Healthcare system	Public financial support

Category	Content
Healthcare system performance framework	Six health targets, 3 focus on patient access and 3 on prevention. Primary Health Organisation targets. Atlas of Healthcare Variation. Quality and Safety markers.
Disclosure domains/categoriess	다양한 주제. Atlas domains: maternity, gout, demography, cardiovascular disease, poly-pharmacy and surgical procedures.
No. of disclosure indicatorsa	34개의 전국 지표
Data sources	Health Quality and Safety Commission/Atlas of healthcare variation; Primary Health Organisation Performance Programme

Reference : Hibbert 등, 2013.

2) Healthcare system performance evaluation

○ Four healthcare system performance mechanisms are currently in used(Hibbert et al., 2013).

○ Health Targets

- The health target is a group of national performance measurement indicators that were designed to improve the performance of healthcare services by reflecting public and government priorities. It shows the focused role of the DHB and emphasizes responsibility rather than quality improvement (QI).

- There are six health targets. Three focus on patient accessibility and another three focus on prevention. Health targets are reviewed annually to verify that the government's healthcare priorities are property established.
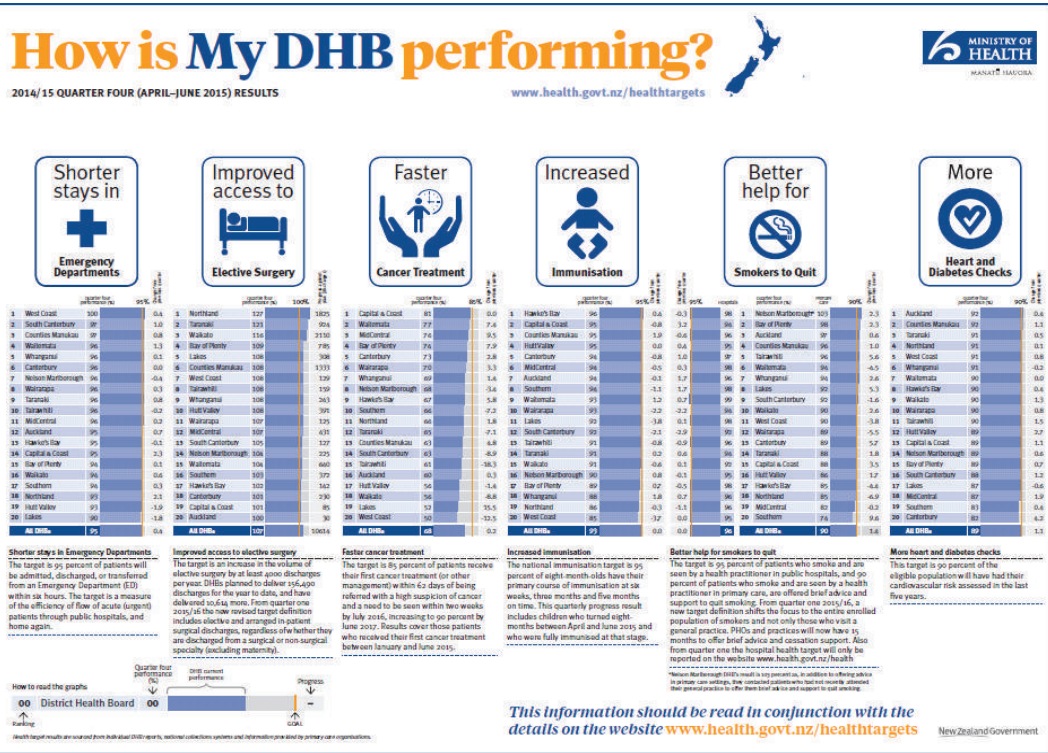
[Figure 17] Health Target performance results of New Zealand's DHB

[Figure 18] Health Target performance evaluation results of New Zealand's PHO

○ PHO Performance Programme

- This program was designed by primary medical care representatives, DHBs, and the Ministry of Health. This system is for reducing unequal of health outcome and improving the health of the registered population by compensating improvements in quality and supporting clinical governance within PHOs.

○ Quality and Safety Markers

- The Health Quality and Safety Commission began a nationwide patient safety campaign called "Open for better care" in 2013. Quality and safety markers (QSMs) are used to evaluate the success of the campaign

and determine the necessary changes for reducing harm and costs.

○ Atlas of Healthcare Variation

- This atlas shows variations in healthcare that is offered to residents in other regions. Similar healthcare atlases have been developed in other countries, the most representative of these being the Dartmouth Atlas from the United States. New Zealand's atlas emphasizes the variations themselves rather than determining why the variations occurred and whether or not they are appropriate, hence the purpose is to promote discussion.
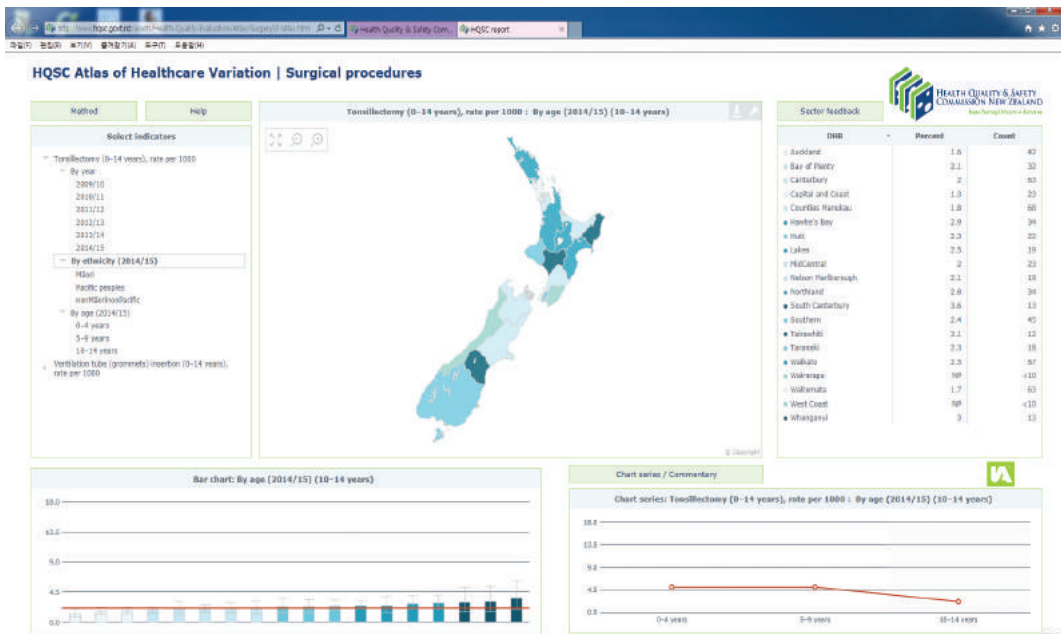
[Figure 19] Example of the Atlas of Healthcare Variation
from New Zealand's Health Quality & Safety Commission

E. Singapore

1) Healthcare systems

○ Singapore's government-led healthcare system takes care of everything from planning, development, and monitoring. Healthcare finances are controlled by both the public and private sectors by the government using the 3Ms method (Medisave, Medishield, Medifund).

- Medisave is a compulsory method by the government that opens an account for saving money toward medical expenses for individuals and families. Although it is considered personal property, the government controls its use. This money is appropriated for high-cost treatment such as inpatient treatment, and other outpatient are appropriated from Medishield.

- Medishield is a type of social insurance that is offered by the government and registration is not obligatory. There are out-of-pocket costs that may be paid from the Medisave account.

- Medifund is a national aid fund that guarantees medical care for the lower 10% of households.
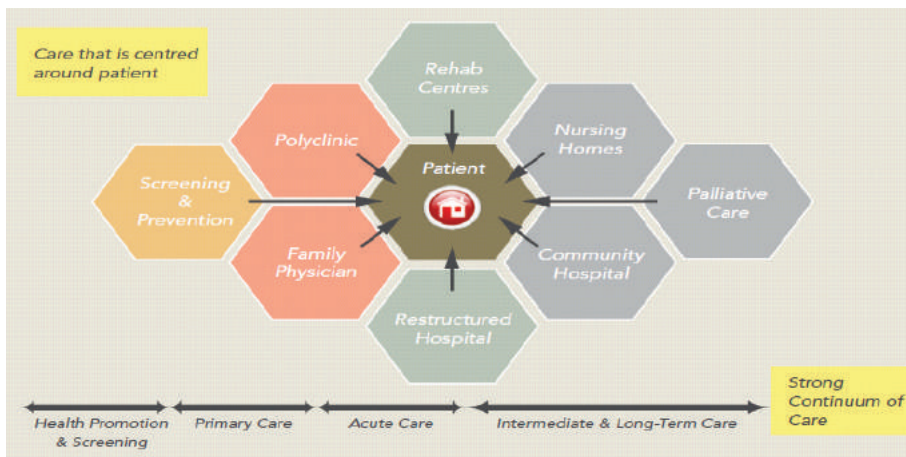
[Figure 20] Singapore's Model of patient care

Reference: Ministry of Health Singapore. STATE OF HEALTH Report of the Director of Medical Services 2003 - 2012. 2013.
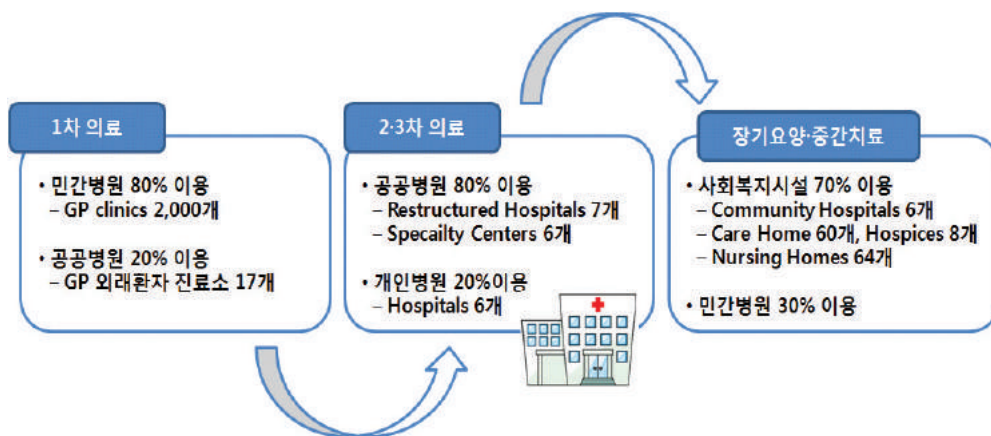
[Figure 21] Singapore's healthcare delivery system

Reference: The 5th Asia-Pacific International Business presentation(Sri Lanka, Colombo) 2016. 11.

2) Healthcare system performance evaluation

A) Objective

○ Singapore's hospital performance measurements use various indicators to track qualitative aspects of medical services that are offered to patients (such as patient experience with infections during their stay at a medical care institution, etc.).

○ The main principle is "Best Outcome, Best Experience" and is divided into two categories: ① "Clinical Quality" refers to an integrated medical care delivery system and establishment of stability, and ② "Service Quality" pushes for the establishment of seamless service and personalized care (Singapore General Hospital SingHealth, 2013).

- Singapore goes beyond patient safety and also includes the safety of the medical team. The proposed quality evaluation priority includes five factors of safe, professionalism, respect, experience, and efficiency.

[Figure 22] Singapore's quality evaluatio framework
Reference: Singapore General Hospital SingHealth. Clinical Governance Office-Quality in Care. 2013.

B) Overview of performance measurement indicators

○ Singapore's hospital performance measurement indicator fundamentally considers the vision of Singapore's Ministry of Health and was developed by benchmarking the international indicator standards of the OECD, CMS, etc.

－ Six standard domains of international healthcare were divided into structures and results targeting public hospitals and indicators were proposed based on the National Health System Scorecard that reflects the purpose and vision of the government's healthcare system.

　• Accessible Care

　• Appropriate Care

　• Patient-centered Care

　• Safe Care

　• Public Health

　• Learning Institution

－ It was further divided into accessibility, quality, and efficiency for each type of treatment service.
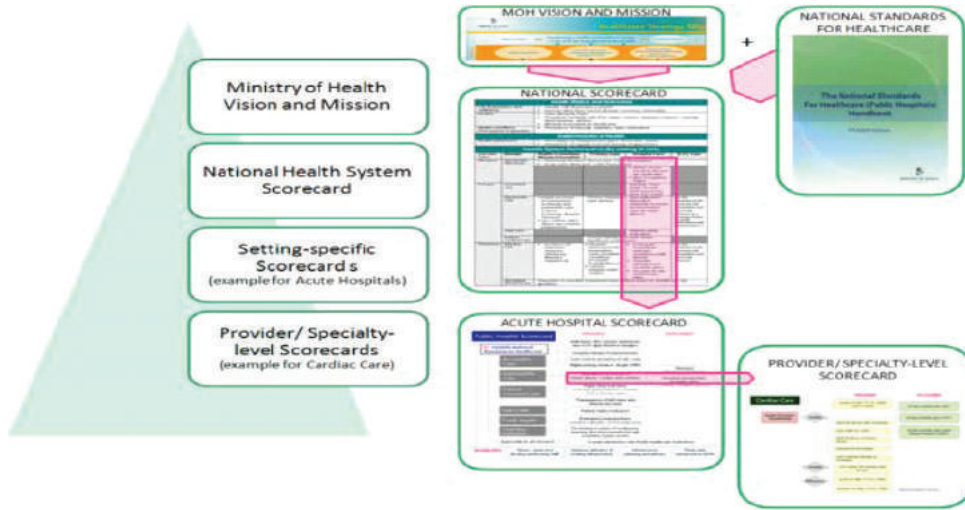
[Figure 23] Composition of Singapore's hospital performance measurement scorecard

Reference: Ministry of Health Singapore. STATE OF HEALTH Report of the Director of Medical Services 2003 - 2012. 2013.

[Figure 24] Scorecard of public hospitals in Singapore

Reference: The 5th Asia-Pacific International Business presentation(Sri Lanka, Colombo) 2016.11.

C) Targets of Evaluation

○ The targets of Singapore's hospital performance measurements included all public hospitals in 2008, then expanded to include community hospitals in 2010 and private hospitals in 2011. The Ministry of Health reported to continuously work and push for expanding this range to long-term care and primary medical care (Ministry of Health Singapore, 2013).

D) Managing Agent

○ The Healthcare Performance Offices (hereafter HPOs) that are operated through Singapore's Ministry of Health budget are organizations that are in each public hospital to manage indicators for quality improvement activities and hospital performance evaluations.

 − Institutions' performance to date is used to measure and monitor the performance of medical care institutions.

○ Singapore has also built clinical governance (hereafter CG) separate from HPOs that is responsible for administrative management. This CG was further developed when a bill was established in 2006 that composes management cooperatives responsible for patient safety and managing medical care quality at each hospital (Singapore General Hospital SingHealth, 2013).
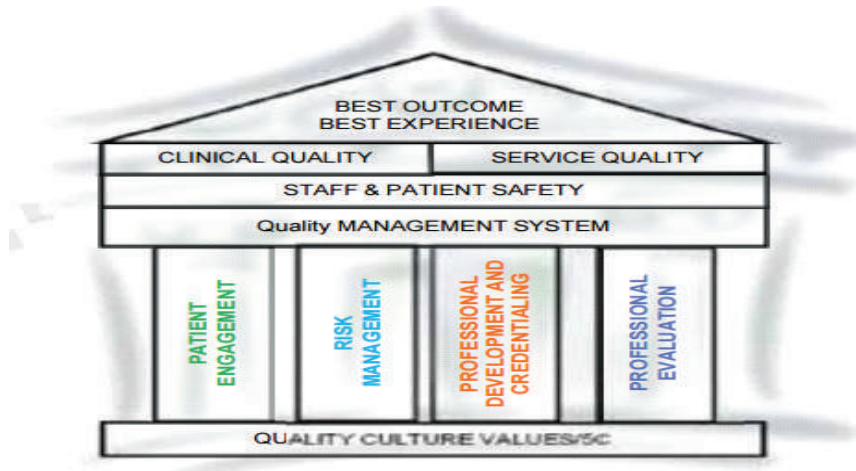
[Figure 25] Four cores of clinical cooperation systems
for fulfilling the value of quality in Singapore

Reference: Singapore General Hospital SingHealth. Clinical Governance Office -Quality in Care.
2013.

○ Singapore is pushing forward with managing patient safety and medical care quality improvements at the institutional unit by legally designating and building HPOs and CG.
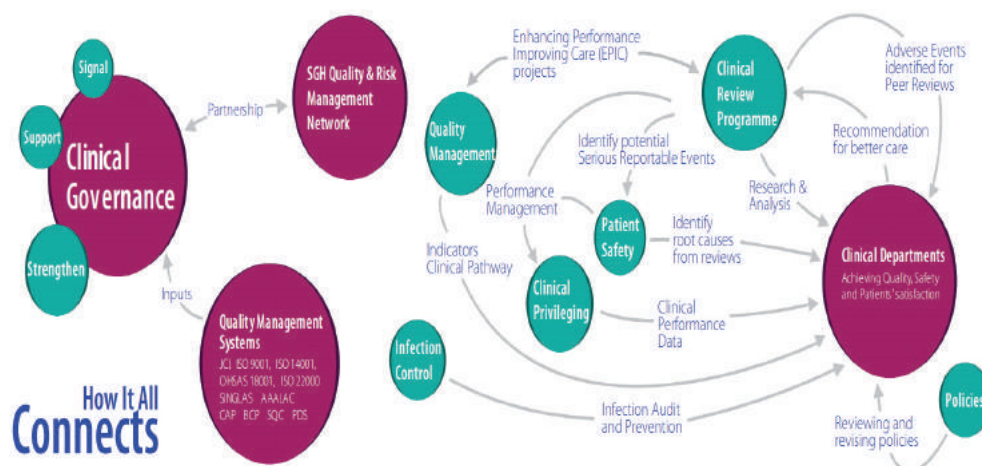
[Figure 26] Network of Singapore's CG

Reference: Singapore General Hospital SingHealth. Clinical Governance Office -Quality in Care. 2013.

E) Usage [2]

(1) Healthcare Quality Improvement and Innovation Funds

○ Healthcare Quality Improvement and Innovation Funds started in 2005 and $1 million has been made.

- This fund supports pilot-test patient safety, patient treatment, patient safety, medical care accidents, and quality improvement projects of hospital infection in the public hospital.s

○ In 2009, the Singaporean government merged with the "Health Innovation Fund" and developed into the "Healthcare Quality

2) Ministry of Health Singapore. STATE OF HEALTH Report of the Director of Medical Services 2003

Improvement & Innovation Fund (HQI2F)" system. Since then, a funding cap has been established, and $100,000 was provided per project annually for up to two years.

○ Currently, the top-down method is being shifted into the bottom-up method through the HQI2F Plus (+) project and will be expanded to include the long-term care domain through the Agency for Integrated Care starting in 2010. Furthermore, $4 million is being raised annually, and $11.1 million has been provided in support of 133 HQI2F projects. This is a remarkable clinical quality improvement result that was achieved in the Singaporean healthcare system.

○ Since 2007, a forum has been held twice a year to share the content of the HQI2F projects, and projects that receive awards are publicized through the media or international conferences.

(2) National & International QI Collaboratives

○ Annual Healthcare Quality Improvement Conference

○ Healthcare-Associated Infections & Infection Control

○ WHO High5s Project

F. Malaysia

1) Healthcare system

○ Malaysia's healthcare system model is relatively successful, and Malaysia is evaluated as a country that receives universal and comprehensive healthcare services at low cost, with rapid growth in healthcare (presentation from the WHO).

○ Malaysia established a 'tax-financed health system' and 'large government-owned healthcare delivery system' in 1980, and healthcare finances began to be managed by the government (Harvard T.H. Chan School of Public Health, 2016)

○ In early 2004, the public sector also created additional revenue through full-fee paying patients at public hospitals. The healthcare reformation goal that was established through the recent Malaysia Plan (2011-2015) was "1 Care for 1 Malaysia," which is being pushed forward to focus on patient-centered treatment services (Harvard T.H. Chan School of Public Health, 2016)
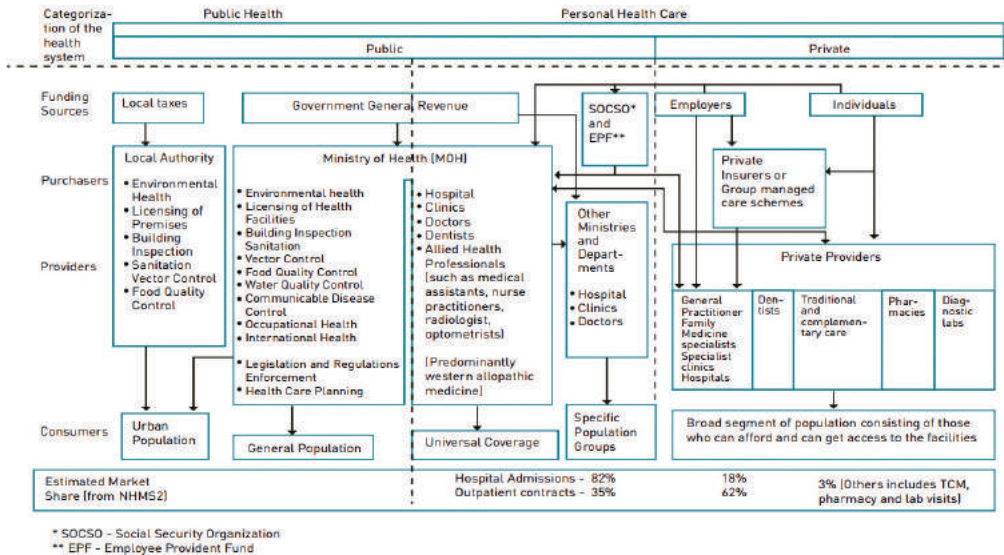
[Figure 27] Malaysia's healthcare system diagram
Reference: Asia Pacific Observatory on Health Systems and Policies. Malaysia Health System Review.
2013.

〈Table 23〉 Status of healthcare facilities in Malaysia (2015)

Types	Public	Private
1 Malaysia Clinics	334	–
Community Clinics	1,831	–
Health Clinics/Private Medical Clinics	1,061	7,146
Dental Clinics/Private Dental Clinics	56	1,470
Dialysis Centres	–	407
Ambulatory Care Centres	–	63
Hospitals	143	183
Maternity Homes	–	14

Reference: The 5th Asia-Pacific International Business presentation(Sri Lanka, Colombo) 2016.11.

○ Analyzing Malaysia's healthcare system through the Harvard Framework, medical care accessibility is high, but qualitative performance is intermediate, and efficiency performance is still lacking.

A health status, which is a final outcome, was achieved a high level along with the successful management of chronic diseases, extending average life expectancy, and decreasing infant mortality, but financial risk management and patient satisfaction are still insufficient (Harvard T.H. Chan School of Public Health, 2016).
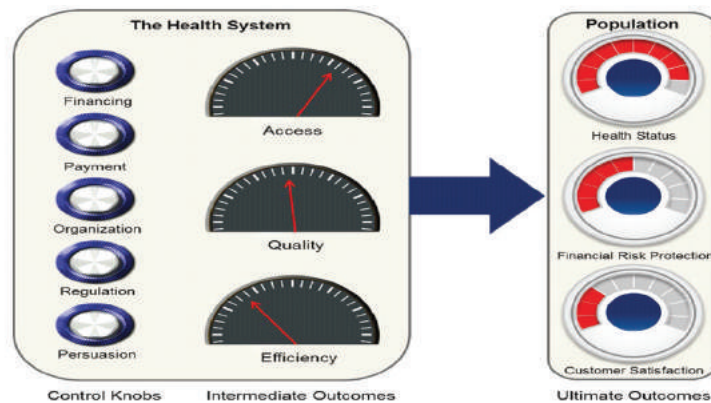
[Figure 28] Malaysia's healthcare system (Harvard Framework)

Reference: Harvard T.H. Chan School of Public Health.MALAYSIA HEALTH SYSTEMS RESEARCH VOLUME I. 2016.

2) Healthcare system performance evaluation

A) Background

○ Malaysia has presented their status by collecting data on patient safety accidents. The highest patient safety accidents involved drug prescription errors, surgical operation errors, and blood transfusion errors.
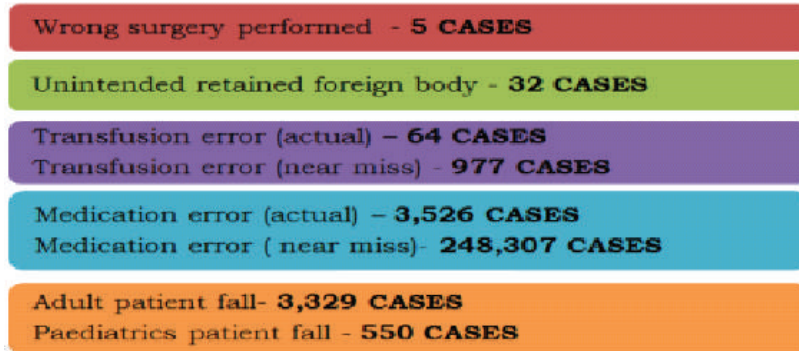
[Figure 29] Status of patient safety accidents in Malaysia
Reference: The 5th Asia-Pacific International Business presentation(Sri Lanka, Colombo) 2016.11.

○ Malaysia has established a Patient Safety Council under their Ministry of Health to build a safe healthcare system and is working to set and develop goals for patient safety strategies.

B) Objective

○ The goal of Malaysia's performance indicator measurements for patient safety indicate two phrases, namely "bird's eye view" and "dashboard." In other words, they are planning to establish a patient safety domain in real-time by creating a system that can monitor all public and private medical care institutions.

C) Performance measurement indicator

○ Malaysia's hospital performance measurement indicator consists of 7 goals and 19 indicators that calculate incorrect surgical operations, drug errors, blood transfusion errors, falling and remaining . Moreover, the target value and monitoring frequency differ for each indicator (MOH & Patient Safety Council of Malaysia, 2013).

Type of facility		Goal No	PI	Indicator	Target	Frequency of monitoring
		Strategic Direction 1				
		Ensuring systematic framework for health care sectors by integrating quality, safety and risk management				
Clinic	Hosp	1	1	Implementation of CG	CG Implemented	Yearly
		Strategic Direction 2				
		Managing major and significant aspect of safety risk to patients receiving health care by Implementing Global Patient Safety Challenges				
	Hosp	2	1	Hand hygiene compliance rate	$\geq$ 75% at each audit	Quarterly
	Hosp	3	1	Number of "wrong surgery" performed	Zero (0)	Monthly
	Hosp		2	Number of cases of unintended "retained foreign body"	Zero (0)	Monthly
	Hosp	4	1	Incidence rate of MRSA infection	$\leq$ 0.4%	Monthly
	Hosp		2	Incidence rate of ESBL - *Klebsiella pneumoniae* infection	$\leq$ 0.3%	Monthly
	Hosp		3	Incidence rate of ESBL - *E.coli* infection	$\leq$ 0.2%	Monthly
		Strategic Direction 3				
		Implementing evidence based best practice and safety measures				
	Hosp	5	1	Compliance rate for "at least 2 identifiers implemented"	100%	Bi-annually
	Hosp	6	1	Number of transfusion errors (actual)	Zero (0)	Monthly
	Hosp		2	Number of transfusion errors (near miss)	*	Monthly
Clinic	Hosp	7	1	Medication errors (actual)	Zero (0)	Monthly
Clinic	Hosp		2	Medication errors- (near miss)	*	Monthly
	Hosp	8	1	% of critical value notified within 30 minutes	100%	Monthly
Clinic	Hosp	9	1	% reduction in the number of falls (adult)	**	Monthly
Clinic	Hosp		2	% reduction in the number of falls (pediatric)	**	Monthly
	Hosp	10	1	Incidence rate of pressure ulcers	$\leq$ 3%	Quarterly
	Hosp w ICU	11	1	#Rate of CRBSI	<5 per 1000 catheter days	Monthly
	Hosp w ICU	12	1	#Rate of VAP	<10 per 1000 ventilator days	Monthly
		Strategic Direction 4				
		Assessing and Understanding Problems of Unsafe Care				
Clinic	Hosp w ICU	13	1	Implementation of Incident Reporting or other methods to investigate incidents	System Implemented	Yearly

[Figure 30] Malaysia's performance index matrix

Reference: Medical Development Division Ministry of Health & Patient Safety Council of Malaysia. Patient Safety Unit Quality in Medical Care Section. 2013.

D) Evaluation method and collection

○ Medical care institution
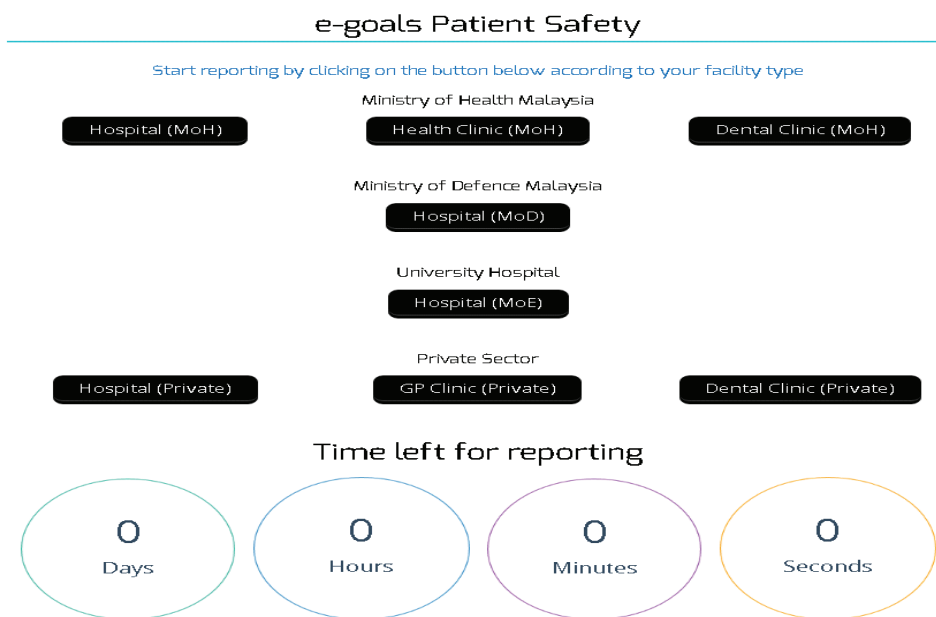
[Figure 31] Malaysia's patient safety reporting system (E-goals Patient Safety)
Reference: Availible URL from: http://patientsafety.moh.gov.my/v2/?page_id=263
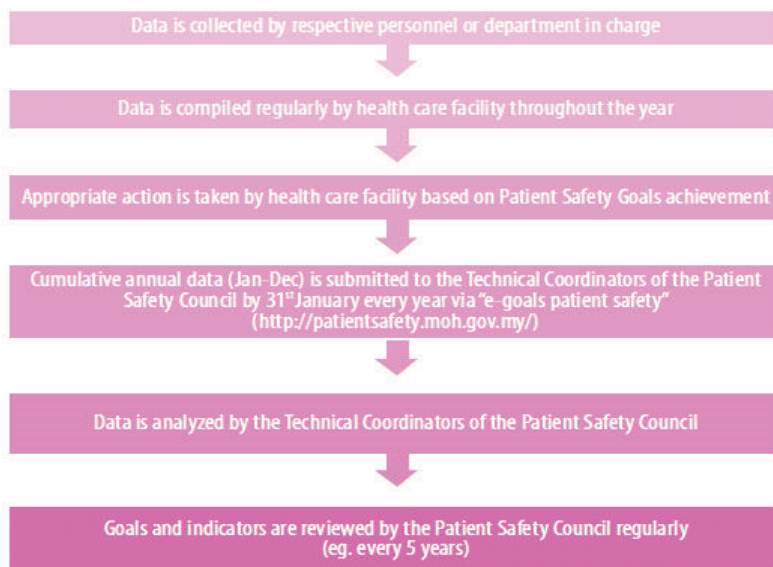
[Figure 32] Data collection process regarding patient safety in Malaysia

Reference: Medical Development Division Ministry of Health & Patient Safety Council of Malaysia. Patient Safety Unit Quality in Medical Care Section. 2013.

E) Usage

○ The annual patient safety hospital performance results are reported in writing on the Malaysian Ministry of Health patient safety website (patientsafety.moh.gov.my).

[Figure 33] List of patient safety hospital performance reports from Malaysia
Reference: The 5th Asia-Pacific International Business presentation(Sri Lanka, Colombo) 2016.11.

○ Malaysia has been using outcome-based budgeting since 2014. Future budgetary allocations are differentiated by subdividing performance measurement results based on each program.

G. Sri Lanka

1) General characteristics and healthcare systems

〈Table 24〉 Status of healthcare facilities in Sri Lanka

Types	Number
Teaching Hospitals	21
Provincial General Hospitals	3
District General Hospitals	19
BaseHospital Type A	25
Base Hospital Type B	50
Divisional Hospital Type A	70
Divisional Hospital Type B	141
Divisional Hospital Type C	281
Primary Care Units	475
Total	1,085

Reference: Sri Lanka, The 5th Asia-Pacific International Business presentation(Sri Lanka, Colombo) re-cite, 2016.11.

2) Healthcare system performance evaluation

〈Table 25〉 Core performance domains for healthcare facilities in Sri Lanka

Main Performance Domains			
1	Provision of safe water	11	Patient safety
2	Notification of communicable disease	12	Patients waiting time in OPD
3	Sanitation (General)	13	Monitoring Quality improvement programme (Quality of care)
4	Sanitation (Specific)	14	Community participation in hospital management
5	Maternal care	15	In-service training
6	Examination of in-patient by a HO/SHO	16	Intensive care
7	Efficiency of sterilization of instruments	17	Neonatal care
8	Diet Services	18	Operation theatre services
9	Nursing care	19	Responsiveness to specialized groups
10	Disaster preparedness	20	Standardized visuals

Sri Lanka, The 5th Asia-Pacific International Business presentation(Sri Lanka, Colombo) re-cite, 2016.11.

○ Reporting forms and guidelines were established for adverse events/accidents throughout 2014-2016 and implemented in all types of medical care institutions in 2016 following a pilot project.
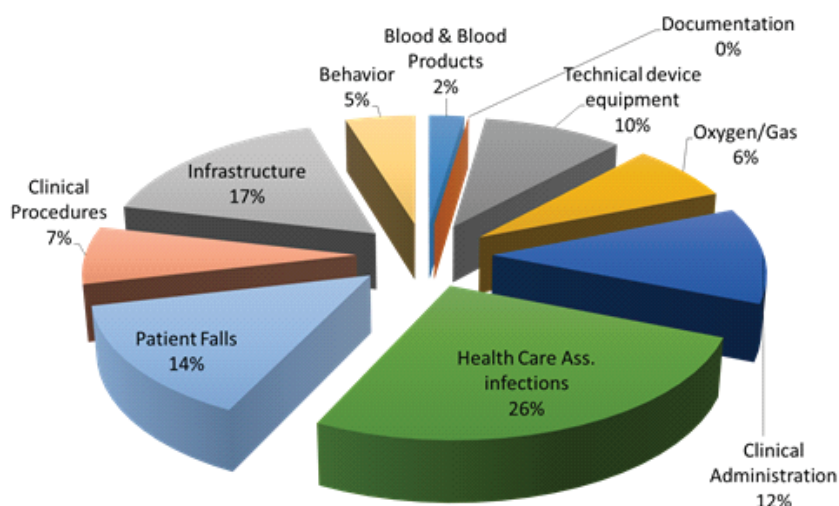
[Figure 34] Percentage of each type of adverse events
and accident report in Sri Lanka

○ In 2014-2016, important policies in the healthcare quality and safety domain included consumer and patient satisfaction, manageable systems and professional improvement, clinical effectiveness, risk management and safety, employee development and welfare, forming a culture for quality improvement, and quality improvement and patient safety-related research.

H. Views

○ Each country in the Asia-Pacific region has healthcare systems at considerably different levels, and they also differ greatly in the type of issues they encounter. In spite of this, they all show great interest in policies and performance evaluations related to medical care quality and patient safety.

- Aside from South Korea, Australia, the Netherlands, Singapore, and other countries with advanced healthcare systems with outstanding success, the other remaining countries in the Asia-Pacific region rarely have data collection system bases for evaluating hospital performance.

- Therefore, indicators related to performance at the national level are calculated rather than performance indicators at the hospital level, and the domains of calculated indicators are also extremely limited.

- These countries provide general healthcare services and establish standards from the aspect of patient safety and are implementing and using an accreditation system based on these, rather than a performance evaluation system based on data regarding the hospital or patient's medical care usage.

• In countries that are successfully operating medical care institution accreditations, there is an increased need for monitoring the performance and quality improvements of medical care institutions that have changed through recent accreditations, so changing its policy direction to develop a performance evaluation system such as clinical quality indicators.

- Malaysia and other similar countries have a systematic training system for patient safety accidents and accident reports, and they specify and manage the type of accident, reporting period, etc. that are required for each type of medical institution.

- This difference is considered to be related to the patient-level data can be collected at national level and the linkage with other information based on this.

○ Furthermore, many countries in the Asia-Pacific region are looking for ways to attract private medical institutions to quality and patient safety improvement policies. Since private medical institutions take up a considerably large proportion , there are difficulties in implementing national quality policies.

○ Even if the local or national governments operate their healthcare systems, they face some difficulties. Countries including India have implemented and enforced excellent healthcare quality policies, but it is difficult to find programs with a nationwide reach, and there are still difficulties even if this information can be collected at the national level.

○ Conversely, there are connections to relatively easy access to quality-related information such as South Korea and Australia and universal health security in some countries with well-established patient safety and quality evaluation system.

- Australia and New Zealand have even put together an atlas that shows the variables of each region through the hospital performance results such as in the United States and the United Kingdom and reduced the variables between regions to implement a policy that can improve quality nationwide.

- Despite limitations in the collection system for quality evaluation data at the hospital level, Australia implemented a HAC list through research on diagnosis data that are collected on a daily basis to build a system that can assess preventable complications and incidents related to patient safety.

- Furthermore, they have generated quality evaluation registries for each

disease and are working to improve the quality of certain specialized fields through these.

- Korea has a system that obligates performance evaluations regardless of whether a hospital is public or private and is making an effort to implement patient safety and patient experience evaluations.

- The biggest implication is that they went beyond a value incentive program project that used to connect limited results in evaluation domains that included specific diseases or procedures to a payment system but connected the hospital performance evaluations such as medical care quality and patient safety to a paradigm shift of optional medical fees from the perspective of guaranteed universal medical care such as the medical quality evaluation support fund.

- Above all, the most important aspect is the effort to clarify the hospital performance evaluation frame and develop and implement an appropriate evaluation indicator according to the goal that is being attempted building a hospital performance evaluation system in each country.

○ There are difficulties conducting the survey questionnaire that assesses the status of hospital performance evaluations in countries in the Asia-Pacific region because there are various departments that manage healthcare quality and patient safety in each country, and the relevant data are being managed in difficult structures for one department or a manager to collect.

- However, the process of writing and submitting the relevant data will help these countries to study ways to move forward regarding patient safety and quality improvement and to search for a system to adopt to collect necessary data.

- By continuously sharing activities for quality and patient safety in countries in the Asia-Pacific region and solidifying the network, it is

considered that the model that can be benchmarked by country can be well referenced and coordinated to complement the domains that are lacking in each country.

- For five years after the Quality Improvement Network Experts conference was held in the Asia-Pacific region and the debate regarding the healthcare quality began, the paradigm has shifted towards the implementation of patient-centered patient safety and patient experience evaluations, and many countries have improved their quality through efforts in implementing these policies. Moreover, the scope of the debate has expended through hospital performance evaluations and, despite some difficulties, countries in the Asia-Pacific region will lead quality improvements through favorable motives regarding healthcare quality and patient safety.

○ In order to improve the healthcare quality and patient safety in Asia Pacific region countries in the future, it is necessary to search the ways to activate this network to cooperate politically with a direction for Quality Improvement Network Experts conference.

Chapter 4 Research and Policy Cooperation Plans for Hospital Performance Evaluations of Asia-Pacific Countries

1. Build a survey system related to hospital performance evaluations

1. Build a survey system related to hospital performance evaluations

○ Representatives of member countries to respond to the survey reviewed the questions in advance and made revisions and supplementations before they filled out the questionnaire.

− Survey questions related to medical care quality policies and hospital performance were often difficult for one person to answer. Hence, a discussion is required within the country when answers are completed for the questionnaire. Additionally, completing the questionnaire may be delayed because the point of contact in the international organization of each member country and the person who answers the questionnaire are different people.

− To resolve these issues, there is an advance process for gathering opinions regarding the questionnaire from participants or some bureau member countries.

※ At the fifth Asia−Pacific Region Quality Improvement Network Conference, a gathering like the bureau conference system that is run by the OECD HCQI was created, and opinions that reflected a desire

to support network operations were gathered.

○ To secure the validity of the survey content, the results were analyzed, and the information to be presented was predicted and prepared in advance.

- If results are presented based on the current hospital performance evaluation questionnaire, the survey is filled out for each of the following domains.

Part 2: Hospital Performance Reporting

2.1 Systems of Hospital Performance reporting

Table 20. Overview of hospital performance reporting

Country	Hospital performance reporting program		Name of program	Purpose of program			Organizations responsible for operation of program			
	Exist ence	Nationally representative or not		Exter nal	Inter nal	Oth er	Gov ern me nt	Hosp ital	Pro fess ion als	Oth ers
Japan										
Republic of Korea	+	+	Quality assessm ent of healthca re benefit	+			+			
Malaysia										

Table 21. Conceptual framework of hospital performance program

Country	Existence of conceptual framework on hospital performance program	Domains of conceptual framework
Japan		
Republic of Korea	-	-
Malaysia		

√ After we look through the attachment file (conceptual framework) from participant countries, we might consider inclusion on the report of this table of contents.

Table 22. Partnership building of hospital performance program

Country	Existence	Member of partnership						
		Government	Hospital management	Professionals	Patients	Social Insurers	Private insurers	Other
Japan								
Republic of Korea	+	+	+	+	+	+		
Malaysia								

Table 23. Coverage of hospital performance program

Country	Coverage of program	No. of participant hospital	% of total hospital
Japan			
Republic of Korea	Whole country	3,141	100%
Malaysia			

2.2 Indicators of hospital performance program

Table 24. Indicators regarding mortality and re-admission

Country	Indicators based on mortality		Indicators based on re-admission	
	Existence	Examples	Existence	Examples
Japan				
Republic of Korea	+	-Fatality rate while hospitalized -Operative mortality rate	+	-Rate of re-hospitalization (7 days/ 30 days after discharge/ unplanned)
Malaysia				

Table 25. Indicators regarding complication rate and patient safety

Country	Indicators based on complication rate		Indicators based on patient safety	
	Existence	Examples	Existence	Examples
Japan				
Republic of Korea	+	-Incidence rate of surgery complication and adverse effect -Rate of re-operation due to bleeding or hematoma -Rate of re-operation due to infection	+	-Initial prophylactic antibiotic prescription rate within 1 hour before skin incision -3rd or higher generation cephalosporin antibiotics administration rate -Antibiotics prescription rate at discharge
Malaysia				

Table 26. Indicators regarding patient experience

Country	Indicators based on patient experience	
	Existence	**Examples**
Japan		
Republic of Korea	+	-Cleanliness, safety, relaxedness environment -Providing precaution and treatment plan after discharge
Malaysia		

Table 27. Indicators regarding efficiency

Country	Indicators based on patient experience	
	Existence	**Examples**
Japan		
Republic of Korea	+	-Hospitalization days per episode (Lengthiness Index, LI) -Medical costs per episode (Costliness Index, CI) -Average admission fee
Malaysia		

2.3 Examples of hospital performance indicator

√ After we look through the attachment file (indicator set) from participant countries, we might consider whether it is feasible or not.

2.4 Source of data for the hospital performance program

Table 28. Sources of data used to hospital performance program

Country	Use of administrative data	Type of data available (exclusion of administrative data)			
		Medical record	**Registry data**	**Survey data**	**Other**
Japan					
Republic of Korea	+	+	+		
Malaysia					

Table 29. Way of data submission from the hospital

Country	Self-reporting by individual hospital	Type of participation	
		Voluntary	Mandatory
Japan			
Republic of Korea	+		+
Malaysia			

2.5 Quality improvement through the hospital performance program

Table 30. Use of hospital performance information

Country	Feedback mechanism for individual hospital	Existence of reporting system publicly	Means of public reporting on hospital quality of care				Use of information linked to payment
			Internet website	Annual report	Media	Other	
Japan							
Republic of Korea	+	+	+	+	+		+
Malaysia							

Part 3: Patient experiences

3.1 Measurement of patient experiences

Table 31. Overview of measuring the patient experiences

Country	Existence of standard questionnaires	Existence of systematic measurement on hospital care	Existence of systematic measurement on primary care	Use of assessment results
Japan				
Republic of Korea	+ - Inpatient(Yes) - Outpatient(No)	-	-	-
Malaysia				

B. Establishing a system that enables seamless communication and adjustment

○ As mentioned before, a bureau or practical conference system was created targeting some of the participating countries in the APQIN. Opinions from the conference were prepared and adjusted in advance, and a mechanism that can encourage participation from member countries was established.

○ In the past, discussions took place based on a system where four organizations, OECD, WPRO, SEARO centered around the OECD Korea Policy Centre (& HIRA), communicated simultaneously.

- The disadvantages are that communication can be delayed due to the involvement of so many parties, and the project priorities may be different on each party side, resulting in differences in concentration. Further, it was difficult to deliver information due to frequent changes in personnel seamlessly, and the progress of projects changed according to personal characteristics.

○ The new communication system that was considered by the research team includes a three-entity structure with the OECD Korea Policy Centre (& HIRA), OECD, and WHO.

- This reduces the number of parties involved, which can reduce flaws in communication. Moreover, if the WHO plays the role of a mediator between the WPRO and SEARO, the project is expected to proceed more effectively than at present.

- This decrease in parties can reduce gaps in information resulting from changes in personnel.

- The communication route of member countries in the Asia-Pacific region can also become more diverse.

〈 As-is 〉　　　　　　　　　〈 To-be 〉
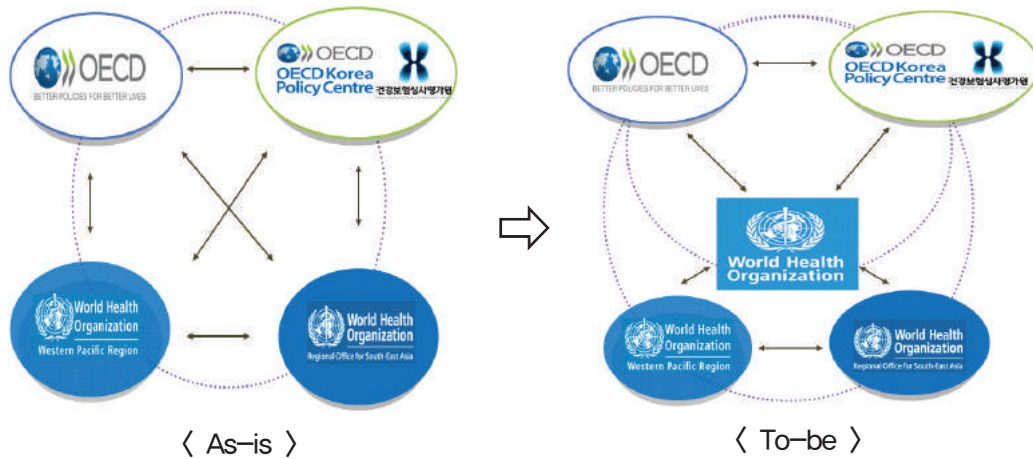
[Figure 35] Improvements in the communication system for the Asia-Pacific region quality improvement network hospital performance survey (proposal)

2. Evaluation of the quality improvement network in the Asia-Pacific region and future direction

○ Positive evaluations regarding the role of the Asia-Pacific region quality improvement network are as follows:

- It becomes a platform where countries can share their experiences and project progress, and also provides a stage where new for development can be acquired at the national level.

- It also creates a network of participants from many countries who have similar interests and questions.

○ Negative evaluations regarding the role of the Asia-Pacific region quality improvement network are as follows:

- There are almost no opportunities for communication throughout the year after the network conference, and there is a lack of a follow-up mechanism.

- There is a lack of progress in discussions due to a lack of continuity in the representatives and participants from each country.

- Not all countries have equal opportunities for presentation or discussion.

○ The future direction of the Asia-Pacific region quality improvement network is as follows:

- Swift feedback on the results of the network conference is expected. Conference data are requested in advance.

- Requests were made to develop and propose a performance measurement indicator set that the countries in the Asia-Pacific region can implement within a short period (such as within five years).

- If training programs or technical support for actual quality improvement workers can be provided, quality improvement will be effective in member countries. The needs review for this must be required.

- Continuous network activities are expected by establishing a web-based communication system, such as a group e-mail.

- Starting from the next network conference, a group debate should be prepared so that countries with similar concerns can share their mutual opinions and establish countermeasures.

- A practical conference system will be created focusing on main countries for the seamless progress of the network conference, and a way to strengthen active participation from the WHO headquarters will be sought.

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Appendix

Appendix 1. Questionnaire on the progress of the healthcare quality initiative of the countries in the Asia-Pacific region in 2013-2014

1-1. Part I. General questions on quality of care policies

1.1 *Overview of key quality of care policies*

We are interested in building a high level snapshot of key quality of care policies in countries in the Asia/Pacific. To this end, could you please outline:

- What you regard to be the *key policies and strategies aiming at quality of care (i.e. effective care, safe care, patient centred care)* in your country, briefly listingimportant policy documents such as national quality plans or any large(national or regional) quality/safety programmes.

- If present, specific quality or safety targets/goals set by your government and the corresponding timelines.

- The *major actors in assuring quality* of care in your country: please list these actors along with a brief description of their role and responsibilities towards quality of care.

1.2 *Legal framework for quality of care*

Please describe briefly the legal and regulatory framework for quality of care in your country:

- Describe whether there are *specific laws and regulations* on quality of care and briefly outline their content.

- Indicate the level of detail/specification of *legislation on the quality of care of professionals (physicians, nurses), quality of care of services (hospitals, outpatient clinics, long-term care facilities), quality and safety of technologies and drugs, and laws on patient rights.* Do your laws remain rather general or do they contain detailed quality and safety requirements and if yes, for which areas?

1.3   Professional certification/licensing and re-certification.

Well trained doctors and nurses constitute the backbone of the health care system. However, medical knowledge and skills need to be updated to assure high level performance of health care professionals. Policies related to licensing, (mandatory) continuous professional education and development (CME and CPD) and professional certification and re-certification can be put in place to assure professional performance. Please describe briefly the policies for certifying and licensing health care professionals (physicians, nurses etc) in your country as well as policies to improve the performance of already certified professionals:

- Where they exist, please describe *policies for mandatory continuous (medical) education, professional development and re-certification/licensing.*

- Please detail the *role of key government and professional organisations* responsible for executing these policies in your country.

1.4   Accreditation and other external quality assessment mechanisms

To assure the quality of care provided in health care organizations such as hospitals many countries have policies in place through which hospitals are systematically evaluated against pre-set standards; this process is called accreditation. Please describe briefly the various accreditation programmes that

exist in your country for hospitals and other health care services. In particular:

- Which organisations (government or private) are responsible for conducting *accreditation programmes*?

- Are the programmes and standards *modelled after one of the large international programmes, such as the program from the US (Joint Commission)*?

- Do you have national standards for hospitals that are used in the accreditation?

- Are the programs *voluntary or mandatory*? If they are voluntary, what is the coverage of the programmes?

- If the programmes work with different scoring systems, please *describe briefly the scoring system* for hospitals and the results of one recent year (i.e. percentage of hospitals that got the maximum score). What have been the *consequences* of the accreditation results for a hospital?

- In addition to accreditation programmes, is there also an organisation responsible for the enforcement of those programmes (e.g. *inspectorate of health*)? If so, what are its tasks?

- Are there initiatives with *ISO certification* in your countries health care system? If yes, for which types of services?

1.5   Medical devices, blood-products and pharmaceuticals

Assuring the safety of technologies used in health care is an important element of national quality policies. Once products are allowed to the health care market mechanism should be in place to assure their safe and appropriate use. This is particular true for medical devices, blood-products and pharmaceuticals.

Medical Devices:

Are technology assessment studies performed in your country to assess the added value of new technologies such as devices and are results of these Technology Assessment studies linked to decisions to reimburse the use of new devices.

Briefly describe existing policies to assess and assure the safety and appropriate use of medical devices in your country.

Blood-products:

Are standards on safe blood-use and preparation and handling of blood products available in your country and what mechanisms are in place to evaluate compliance to these standards.

Pharmaceuticals:

Are technology assessment studies performed in your country to assess the added value of new drugs and are results of these technology assessment studies linked to decisions to reimburse drugs.

Briefly describe existing policies to assure safe use of pharmaceuticals. Think about the risks of counterfeit drugs and vigilance systems to identify problems with pharmaceuticals.

1.6   National audit studies and performance reports

One way to assess the quality of care is the execution of audit studies on particular topics where quality problems are expected such as for example peri-natal death, mortality related to anesthesiology or major complications of particular types of surgery such as cardio-thoracic-surgery.

Have any specific national audit studies been performed to assess the quality of care in your country over the past four years (e.g. criteria-based assessment of quality of care on the bases of record review of topics such as post-operative mortality, perinatal death, adverse events of anaesthesiology, or

adverse events in hospital care)? If yes, which topics have been assessed? References to the reports would be appreciated.

1.7   Practice guidelines

The existence of evidence based practice guidelines is in many countries an important component of their quality policies. Please briefly describe the (national) programmes that exist in your country with respect to the development of (clinical) practice guidelines.   In addition, can you please address:

- Whether these programmes are *owned and executed by the government, health plans or professionals*.

- Whether guideline development programmes are based on the *principles of Evidence Based Medicine* (systematic literature reviews) and whether *cost-effectiveness* notions are considered when developing the guidelines.

- Whether guidelines address hospital care, mental health care, primary care and/or long-term care.

- The *mechanisms for disseminating guidelines* to influence clinical practice or the reimbursement of health care services

- Whether there are any *incentives in place to encourage compliance* with these guidelines.

- Whether *studies have been conducted to assess compliance* with the guidelines? If so, references to such studies would be appreciated.

1.8   Quality indicators

Please provide a brief description of the availability of indicators on quality of

care in your country.

- Which *types of indicators* are collected/used? You can reflect here on whether the indicators in your country address structure and/or process and outcome of care and whether they cover safety and effectiveness as well as patient experiences. Which types of services do these cover? (e.g. health system, primary care, hospital care and long-term care).

- Please briefly describe the underlying *information collection infrastructure* (registries, administrative databases, surveys, use of unique patient identifier, etc.) by filling in the separate questionnaire on data infrastructure (see part II)

- How do you *assure consistency* between quality measurement on macro (system-wide), meso (health care institutions) and micro (health care professions) level of the health care system. For example, is there a common organising framework for health information across each level?

- How is information on performance on quality of *care communicated back* to providers and used to leverage improvements amongst provider organisations and clinicians?

- Please provide a list of the quality indicators currently in use at national level.

1.9   The ability for patients to influence quality and policies on measuring patient experiences

- What opportunities and mechanisms exist for *patients to provide their feedback* on the quality of care they experienced in your countries health system, and to influence policy priorities for improving the quality of care?

- Do patient organizations (both general or disease specific) exist in your country? What is their role?

- Please describe briefly the policies in your country with respect to the *systematic measurement of patient experiences*. Are questionnaires, data-collection and reporting methods standardised nationally? Which stakeholders in the health care system are responsible for the measurement of patient experiences?

1.10 Public reporting

Please describe if and how performance of health care providers (hospitals, clinics, long-term care facilities and individual specialists) is reported publicly in your country.

- How do you ensure that there is *high quality public reporting* on the quality of care?

- To what extent has this information been *used* by consumers, financers and providers of care?

- Who is the "owner" of the information: e.g., the government, insurer, hospital management, professionals and/or patient organisations? Is performance information available on the internet?

- Have regular reports on quality of care been *influential in changing health policy and practices* in your country? If so, please provide details of how.

- Does your country also publish a regular national report on quality of care or the performance of the health care system?

1.11 Financial incentives

To what extent is quality of care taken into account in payment for health

care services, for example through Pay for Performance schemes? Please detail key policies and practices at the Government or health plan level which encourage quality in the commissioning/purchasing of services and in their delivery. In particular, we are seeking information on:

- *Which* indicators are used to determine payments, purchasing or commissioning: for example, the areas of clinical practice covered, the number of institutions involved, the frequency and type of measurement;

- *How* these quality measures influence payments, purchasing or commissioning?

1.12   Patient safety and medical malpractice

- Does your country have a national patient safety programme? If so, what topics does it address?

- Which organisations are responsible for dealing with patient safety and what are their roles?

- Do national procedures exist for reporting adverse events, never-events and errors? If so, how is this information used?

- How is medical malpractice addressed in your countries health system and your countries legal system? Please describe policies for monitoring, reporting and dealing with situations of medical malpractice and how these are related to (re)licensing.

1.13   Infection control policies

We are interested in understanding policy and implementation challenges towards improving infection control policies in your health system. To this end, could you please outline:

- Quality indicators and performance measures relating to *hospital acquired and other infections* amongst hospitals in your country today. Are these measures nationally standardized and publically reported?

- Current policies and programs in place – at either the national level or amongst individual providers – that seek to prevent the spread of infections in health care settings, and whether these have been successful or not? For example, infection control nurses, mandatory infection control committees in hospital, national guidelines and policies on the rational use of antibiotics, and relationships with patient safety policies.

1-2. Part II. General questions on quality of care policies

1. Is this data available at a NATIONAL level? N.B. The data custodian should be a national authority. Include data even when it does not cover 100% of the nation. See the glossary for a definition of each dataset.

Hospital in-patient data	Primary care data	Cancer registry data	Prescription medicines data	Mortality data	Formal long-term care data	Mental hospital in-patient data	Patient experiences survey data	Population health survey data	Population census or registry data	Other data
1										

2. For each type of data available at a NATIONAL level:

a) Which national authority is the custodian of this data? *N.B. The custodian is primarily responsible for data management, security and access.*

b) What estimated proportion of the target population or health service is covered by this data?

c) If the proportion is less than 100%, please explain which population groups or health services are excluded from the data. *For example, private hospitals are not included or the Northern region of the country is not included.*

Hospital in-patient data	Primary care data	Cancer registry data	Prescription medicines data	Mortality data	Formal long-term care data	Mental hospital in-patient data	Patient experiences survey data	Population health survey data	Population census or registry data	Other data
2.a										
2.b										
2.c										

For each type of data available at a NATIONAL level (hospital in-patient data, primary care data, cancer registry data, prescription medicines data, mortality data, formal long-term care data)

3. Please indicate if any of the following sources are used to create the dataset:
  a) Data entry from paper medical records
  b) Data extracted automatically from electronic medical records?
  c) Data entry from paper insurance claim records?
  d) Data extracted automatically from electronic insurance claim records?
  e) A survey questionnaire?
  f) Another information source: Please write in

4. Do you have standards or guidelines for collecting the data. *For example, a standard form for reporting data where common definitions are followed.*

5. Do the data elements adhere to a global health data standard or this data is coded by assigning standard codes using a classification system? *For example, SNOMED-CT is used for clinical terminology, HL7 for information exchange, coding diagnosis to an ICD9 or ICD10 code or coding a medication to a WHO ATC code. (See glossary for a definition of medical coding). Please report the standards in use in the green box.*

Hospital in–patient data	Primary care data	Cancer registry data	Prescription medicines data	Mortality data	Formal long–term care data
3.a					
3.b					
3.c					
3.d					
3.e					

3.f					
4					
5					

For each type of data available at a NATIONAL level (hospital in-patient data, primary care data, cancer registry data, prescription medicines data, mortality data, formal long-term care data, mental hospital in-patient data, patient experiences survey data, population health survey data, population census or registry data)

6. Does this data contain records for patients (persons)? *For example, each row of the database is a patient.(See glossary of terms definition of database record)*

7.a. Does this data contain records for patients (persons)?

7.b. If yes, is there a patient (person) unique identifier (ID) generated or used exclusively by the facility?

7.c. Is there a form of a national ID or health service ID system in place or could it be used to link this data to another data set?

8. Is this data used to regularly report on health care quality? *For example, regularly published quality indicators.*

9. If you answered Yes for any type of data, please provide examples of the indicators that are used to regularly monitor health care quality.

Hospital in–patient data	Primary care data	Cancer registry data	Prescription medicines data	Mortality data	Formal long–term care data	Mental hospital in–patient data	Patient experiences survey data	Population health survey data	Population census or registry data	Other data
6										
7.a										
7.b										

7.c									
8									
9									

10. Please provide up to three web links or references to any recent publications of health care quality indicators based on any of these datasets. *If these publications are not available in English, an English translation of the executive summary would be appreciated.*

11. Some countries are encountering difficulties regularly monitoring health care quality. Please indicate if your country is experiencing any of the following challenges and, if yes, please explain the nature of the challenge that you are facing.

 a) Legal or policy barriers to the collection or analysis of data. If yes, please explain the challenge you are facing.

 b) Concerns with the quality of the data that limit its usefulness for regular quality monitoring. If yes, please explain the challenge you are facing.

 c) Lack of resources or technical capacity for data collection, analysis and use. If yes, please explain the challenge you are facing.

 d) Other challenges

Yes or No		If yes, please explain the challenge you are facing.
11.a	→	Please explain why you have this opinion
11.b	→	

| 11.c | → | |
| 11.d | → | |

12. Thinking about the PAST 5 years. On a scale of 1 to 5, with one being much easier and 5 being much harder, would you say that it has become easier or harder to use personal health data to monitor health and health-care quality in your country?

1=much easier, 2=easier, 3=neither easier nor harder, 4=harder, 5=much harder

| | → | Please explain why you have this opinion |

13. Thinking about the NEXT 5 years, how likely is it that your country will be able use personal health data to regularly monitor any aspect of health care quality?

1= very likely, 2= likely, 3= unsure, 4=unlikely, 5=very unlikely

| | → | Please explain why you have this opinion |

14. Please use this box to add any additional information important to understanding the development and use of health data in your country. *For example, in some countries there may be important differences between the data available at a regional/state/provincial level and the data available at a national level.*

1-3. Part III: Quality Improvement Initiatives and Activities

Numerous policy initiatives to systematically evaluate and improve quality of care of health care services have been undertaken in a substantial number of countries in the region. Accreditation programmes for hospitals and the development of national quality improvement plans are the most common types of initiatives. Programmes to develop guidelines, standards and indicators as well as national initiatives to measure patient experiences and improve patient safety can also be identified.

Please describe initiatives and activities for quality and patient safety improvements in your country, including implementations of WHO's patient safety and quality improvement programmes and other relevant action-related programmes, in order to facilitate exchanges of good practices across countries. Some of the examples are in the section "5.5. Quality of Care Initiatives in the Asia/Pacific Region" of the WHO/OECD joint publication Health at a Glance Asia/Pacific 2012.

For your information, below is the list of some of WHO's patient safety and quality improvement programmes. If your country have already implemented, please check the item and describe the activities briefly:

- SAVE LIVES: Clean Your Hands

- WHO Surgical Safety Checklist and Manual

- WHO Patient Safety Curriculum Guide

- The adaptation and promotion of QA/QI trainings

- International Classification for Patient Safety (ICPS)

Appendix 2. OECD HCQI Project — Semi-structured interview guidelines regarding the hospital performance program (9.2015)

OECD HEALTH CARE QUALITY INDICATORS PROJECT

Guidelines for Semi Structured Interview on Hospital Performance Programs – September 2015

The interview will be of approximately 30 minutes duration.

The aim of the interview is to obtain information on hospital level performance monitoring and reporting in your country and to understand how hospital performance data and information is being used for policy, planning and performance improvement in your health system.

In preparing for this interview the OECD has sought to access published information on relevant hospital level performance programs, indicators and public reporting mechanisms in use in your country, including relevant websites, reports and metadata previously advised by the HCQI Expert Group member from your country.

The interview will be semi-structured and therefore while it will be informed by the areas of interest set out below, the interview will be adapted to reflect the specific circumstances in your country and in response to comments during the conversation.

I. Experiences in hospital performance monitoring and reporting
We are keen to gain a more complete understanding of the national and/or regional programs of hospital level performance that exist in your country through the interview. In particular we would like to:

 1. Confirm what programs exist, if any?

 2. Understand the scope and nature of existing programs?

For example, are both public and private hospitals included? Is there national coverage? Are both costs and quality monitored? What quality indicators are monitored? Are the indicators publicly reported? How frequently are they updated and reported? What is the average time lag? What are the main types of data that are used to calculate the indicators? Are they generally calculated by hospitals and then reported centrally or calculated centrally? How is methodological development of indicators coordinated and applied?

3. Explore your experiences in operating existing programs?

For example, how long have these programs been running? Have there been indicators that have been dropped for various reasons? Which indicators are considered to be particularly useful? Are there issues with maintaining consistency of the indicators across programs? What have been the main challenges in running these programs?

4. Identify any plans for future development of existing or new programs?

II. Use of hospital performance information

We would also like to gain an appreciation of the main uses of the data and information from the hospital level performance programs in your country. In particular we would like to:

5. Understand if the information is linked to other policy instruments?

For example, is the information used in executive performance contracts, organisational pay-for-performance initiatives, benchmarking and quality improvement programs?

6. Assess the impact of using the information?

For example, how successful has use of the information been in improving hospital performance, both in terms of overall system performance and individual hospital performance? What key issues need to be addressed to make use more effective?

Appendix 3. Hospital performance evaluation questionnaire for the Asia–Pacific region quality improvement network

1. UPDATES ON QUALITY STRATEGIES

Could you please have a look at the report on quality strategies in Asia-Pacific countries published by WHO and OECD in 2015 and provide an update of activities reported on your country in Part 1. (Quality of Care Policies- Tables 1-21) and Part 3. (Quality Improvement initiatives and activities). We would appreciate if you could report what changes on your country should be made in the tables (1-21) to provide a correct representation for the situation in 2016.

Part 1: Quality of care policies (in the report "Evaluating Quality Strategies in Asia-Pacific countries: survey results, 2015")

Contents	Table	Update (please describe if there are any changes)
1.1 Overview of quality of care policies	Table 2. Policies or documents for quality of care	
	Table 3. Organizations responsible for quality of care	
1.2 Legal framework for quality of care	Table 4. Legal and regulatory framework for quality of care	
1.3 Professional certification/ licensing and re-certification	Table 5. Policies for mandatory CME/CPD and re-certification	
1.4 Accreditation and other external quality assessment mechanisms	Table 6. Policies for accreditation and other external quality assessment mechanism	
1.5 medical devices, blood products and pharmaceuticals	Table 7. Technology assessment for medical devices	

Contents	Table	Update (please describe if there are any changes)
	Table 9. Technology assessment studies on drugs	
	Table 10. Pharmacovigilance systems	
1.6 National audit studies and performance reports	Table 11. National audit studies	
1.7 Practice guidelines	Table 12. Clinical practice guidelines	
	Table 13. Disseminating mechanisms, incentives, studies regarding CPGs	
1.8 Quality indicators	Table 14. Quality indicators and consistency assuring mechanisms	
1.9 The ability of patients to influence quality and policies on measuring patient experiences	Table 15. Systematic measurement of patient experiences	
	Table 16. Patient organizations	
1.10 Public reporting on quality of care	Table 17. Public reporting on quality of care	
1.11 Financial incentives	Table 18. Pay for performance	
1.12 Patient safety and medical malpractice	Table 19. Patient safety	
	Table 20. Adverse event reporting or medical malpractice addressing system	
1.13 Infection control policies	Table 21. Infection control policies	

Besides noted above, Please use a questionnaire that has been handed in last data collection (2013-2014) for reference in making out the modification as follows.

Part 3: Quality Improvement initiatives and activities (in "Evaluating quality strategies in Asia-pacific countries: survey results")

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2. HOSPITAL PERFORMANCE REPORTING

Could you please describe the existence of Hospital Performance reporting based on quality indicators in your country?

2.1 Overview of Hospital Performance programme

We are keen to gain a more complete understanding of the hospital performance programmes (national, regional or individual hospitals) that exist in your country through the survey. In particular we would like to:

Question	Answer
2.1.1 Is there a programme for Hospital Performance reporting in your country?	2.1.1 Yes ( ) / No ( )
a) Is the programme nationally representative?	a) Yes ( ) / No ( )

b) The name of the programme is:
c) What is the main purpose of
   the programme?
	b) ( )
	c) External monitoring ( )
	   Hospital internal monitoring ( )
	   Others ( )

2.1.2 Is there a conceptual framework of the Hospital Performance programme?	2.1.2 Yes ( ) / No ( ) Please attach the material about framework.

2.1.3 Who is running the program?	2.1.3 Government ( )
	   Hospital management ( )
	   Professionals ( )
	   Others ( )

2.1.4 Is partnership built for Hospital Performance programme?
  a) Who is participating?
	2.1.4 Yes ( ) / No ( )
	
	  a) Government ( )
	     Hospital management ( )
	     Professionals ( )
	     Others ( )

2.1.5 What is the coverage of the programme?
 	
  a) How many hospitals participated in the programme?
	2.1.5 Public hospitals ( )
	   Private hospitals ( )
	   Whole country ( )
	  a) No. of hospitals ( )
	     ( )% of total hospitals

2.2 Areas and indicators of Hospital Performance

Are these domains included in hospital performance programme? If yes, please present a concrete example of indicators.

Hospital Performance		Answer	Example of indicator
2.2.1 Domains of quality of care	a) Clinical effectiveness	Yes( ) No( )	
	b) Timeliness	Yes( ) No( )	

	d) Patient experiences	Yes( ) No( )	
	d) Efficiency	Yes( ) No( )	
	e) Any other ( )	Yes( ) No( )	
2.2.2 Approach to assessment	a) Structure	Yes( ) No( )	
	a) Process	Yes( ) No( )	
	b) Outcome	Yes( ) No( )	

※ Please append an attachment of operating indicator list which is used in hospital performance programme.

2.3 Source of data for Hospital Performance programme

Question	Answer
2.3.1 Is the Hospital Performance programme using administrative data? a) If not, what kind of data is used in programme?	2.3.1 Yes ( ) / No ( ) a) ( )
2.3.2 Is there a unique patient identifier existed?	2.3.2 Yes ( ) / No ( )

2.4 Quality improvement through the Hospital Performance programme
We would also like to gain an appreciation of the main uses of the data and information from the hospital performance programme in your country and linked to other policy instrument. In particular we would like to:

Question	Answer
2.4.1 Is the Hospital Performance information give feedback to individual hospital?	2.4.1 Yes ( ) / No ( )
2.4.2 Is the Hospital Performance information reported publicly?	2.4.2 Yes ( ) / No ( )
2.4.3 If public reporting on quality of care, what kinds of means are used (internet website, media, annual report)?	2.4.3 ( )
2.4.4 Is Hospital Performance information linked to payment? (i.g. P4P)	2.4.4 Yes ( ) / No ( )
2.4.5 Is Hospital Performance information using in policy making?	2.4.5 Yes ( ) / No ( )

3. PATIENT EXPERIENCES

Could you please provide a short description of activities related to measuring patient experiences in your country?

Question	Answer
3.1 Are there standard questionnaires on patient experiences available? a) If questionnaires on patient experiences available, please append a existing questionnaires.	3.1 Yes ( ) / No ( )
3.2 Are patient experiences on hospital care systematically assessed?	3.2 Yes ( ) / No ( )
3.3 Are patient experiences with primary care systematically assessed?	3.2 Yes ( ) / No ( )
3.3 How are the results of patient experiences used (i.g. public reporting, P4P, feedback)?	3.3 Yes ( ) / No ( )

Are there any other recent developments on hospital performance in your country you would like to report?

Appendix 4. Presentation at the 5th Asia-Pacific region Quality Improvement Network Experts Conference, Korea

4-1. Hospital Performance
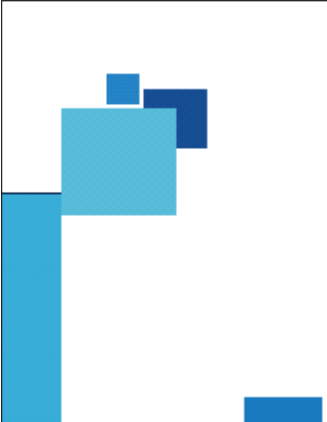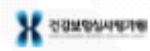
HOSPITAL PERFORMANCE & HIRA

WHY IS HOSPITAL PERFORMANCE IMPORTANT?

Health care delivery system

> Hospitals are the core and dominant providers in the health care delivery system.

> Hospitals can act as a coordinator within various kinds of providers for improving continuity of care.

Health care system performance

> Quality of acute care is critical for patient outcomes.

> Even when health care systems perform well, there can be serious variations in performance between hospitals.

CHARACTERISTICS OF HOSPITAL PERFORMANCE MONITORING OF HIRA

- Performance monitoring of HIRA based on the legal background
- Mandatory assessment for all providers within National Health Insurance
- Performance indicator development through the systematic process for various health conditions
- Performance score calculated by the provider level
- Public reporting and pay for performance using results of performance monitoring

5

HIRA's
HOSPITAL PERFORMANCE MONITORING

건강보험심사평가원

HISTORY OF HIRA's HOSPITAL PERFORMANCE MONITORING

2000–2005
Establishment of assessment system

2006–2010
Expansion to clinical quality assessment

2011–2015
Assessment of cancer and chronic diseases

2016–
Patient-centered, patient safety assessment

- Utilization monitoring
- Feedback of assessment results (since 2001)
- Public reporting (since 2005)

- Assessment item expansion (acute care, prescription)
- Clinical quality assessment
- Value incentive program (since 2007)

- Assessment item expansion (30 items in 2013)
- Cancer, chronic diseases, mental health, long-term care
- Quality improvement supporting program
- Hospital quality incentive scheme (since 2015)

- Patient experience area (inpatient experience including service by practitioner, treatment process, hospital environment, etc.)
- Expansion of hospital quality incentive scheme
- Certification
- Development of data system

RECENT MONITORING ITEMS

Area		Quality Assessment Items
In-patient	Acute Diseases	> Acute myocardial infarction (AMI) > Coronary artery bypass graft (CABG) > Ischemic heart disease > Acute stroke > Pneumonia > Intensive care unit
	Cancer	> Colorectal cancer > Breast cancer > Lung cancer > Stomach cancer > Liver cancer
	Major Surgery	> Prophylactic antibiotics for surgery > Surgical volume
Out-patient	Chronic Diseases	> Hypertension/Diabetes > Asthma/COPD
	Prescription	> Pharmaceutical benefits > Antibiotics for otitis media in infants and children
Institutional Level		> Long-term care hospital > Psychiatric disease (Medicaid) > Hemo-dialysis
Global		> Hospital standardized mortality rate > Hospital readmission rate > Patient experiences

Adopting 350 quality indicators in total

EXAMPLES OF HIRA QUALITY INDICATORS

Acute Stroke
- Rate of Intravenous thrombolytic agent (t-PA) administration within an hour
- Case mix adjusted length of stay per episode
- Whether the stroke unit is operational

Diabetes Mellitus
- Rate of patients who visit more than 1 time per quarter
- Rate of HbA1c test

Intensive care unit
- Number of nurses out of total number of beds
- Rate of satisfaction for technical equipment and equipped with an ICU facility
- Rate of ICU re-admission within 48 hours

INFORMATION FLOW FOR QUALITY ASSESSMENT
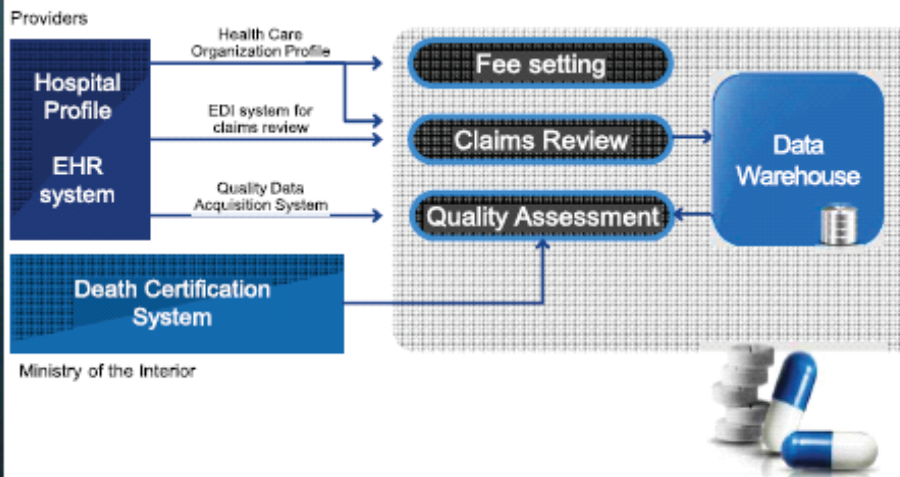
Providers

Hospital Profile

EHR system

Health Care Organization Profile

EDI system for claims review

Quality Data Acquisition System

Fee setting

Claims Review

Quality Assessment

Data Warehouse

Death Certification System

Ministry of the Interior

Slide 13

UTILIZING QUALITY ASSESSMENT RESULTS

Quality Improvement

Quality Improvement Support Program

- Result notification, Consultation for providers with lower performances
- QI Consulting
- QI Training
- QI Newsletter
- QI Community
- QI Competition and presentation

Slide 14

UTILIZING QUALITY ASSESSMENT RESULTS

Payment applications - Value Incentive Program

Needs	- Increased external demand for pay for performance - To encourage systematic improvement from providers services
Goal	- To provide people with efficient and safe health care services
Incentive	- Providers with high grades and significant improvements receive incentives - Providers under a minimum threshold receive disincentives - Incentive/disincentive amount is decided by the committee (±1%~±5%)

Value Incentive Program

Period	Item	Target	Area
2007~2010	AMI, cesarean section	Tertiary	Inpatient
2011	Stroke	General hospitals	Inpatient
2012	Prophylactic antibiotics for surgery	Hospitals	Inpatient
2013	Drug (antibiotics, prescription rate of injection, number of drug items)	Hospitals, clinics	Outpatient
2015	Hemodialysis	Hospitals, clinics	Outpatient

UTILIZING QUALITY ASSESSMENT RESULTS

Payment applications

Incentive for chronic diseases	- Hypertension, Diabetes - Almost 6,000 clinics received incentives - Total USD 10 million
Linked to fee schedule	- Long-term care hospitals
Hospital performance and UHC	- Hospital Quality Incentive Scheme

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UTILIZING QUALITY ASSESSMENT RESULTS

Payment applications – Hospital Quality Incentive Scheme

Implementing the policy for coverage expansion of insurance since 2014

> Conversion of out–of–pocket payment into insurance benefit according to hospital performance
> Almost USD 100 million were allocated from Sept. 2015–Aug. 2016.
> Almost USD 500 million were allocated from Sept. 2016–Aug. 2017.

Domains of Hospital Performance

	Quality of Care & Safety	Public Accountability	Coordination of care	Training	R & D
Weight	60%	10%	10%	10%	10%
Indicators	18	5	4	5	5

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UTILIZING QUALITY ASSESSMENT RESULTS

Certification

Tertiary care hospitals
- 43 tertiary care hospitals designated every 3 years across the country
- Recently, quality indicators embedded into the standard set

Specialty hospitals
- Almost 100 small hospitals designated every 3 years across the country
- Quality indicators embedded into the standard set

FUTURE DIRECTIONS OF HIRA's HOSPITAL PERFORMANCE MONITORING

Expansion and improving balance of QA domains
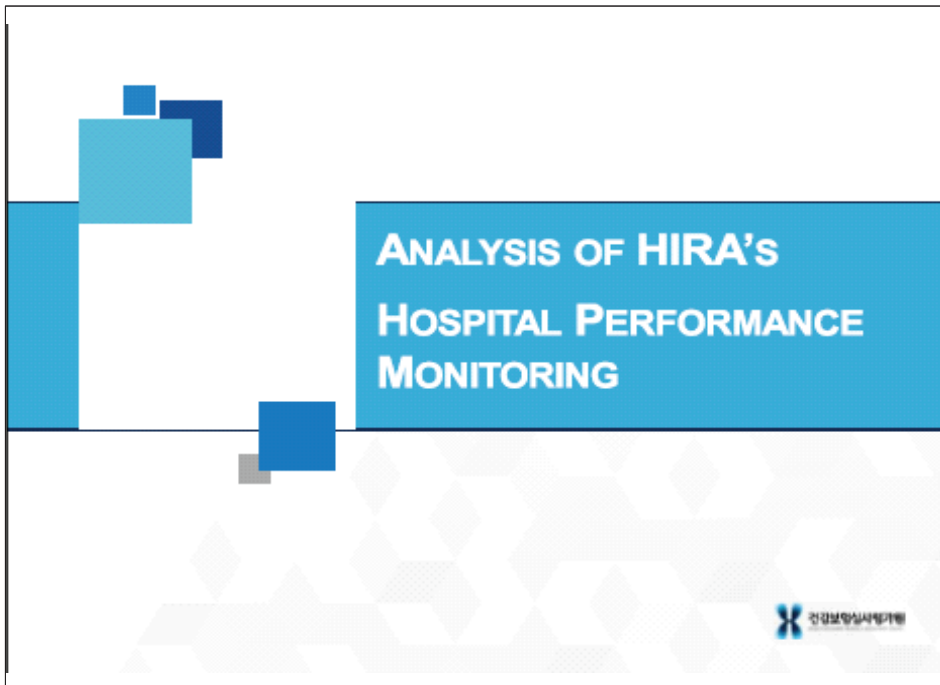
Management system for indicators

Quality data collecting system

Strengthening the incentive scheme

Collaborative system with experts, providers, etc.

ANALYSIS OF HIRA's HOSPITAL PERFORMANCE MONITORING

GENERAL CHARACTERISTICS

> Nationally representative

> Main purpose is external monitoring and accountability.

> Government is running the program.

> The coverage of the program includes the whole country.

Participating number of hospitals: 3,141

Tertiary care hospitals: 43

General hospitals: 287

Hospitals: 1,474

Long-term care hospitals: 1,337

APPROACH TO QUALITY ASSESSMENT

> 36 diseases and procedures, 347 quality indicators as of 2015

Structure Indicators 103 (13%)

Outcome indicators, 47 (29%)

Process indicators 205 (58%)
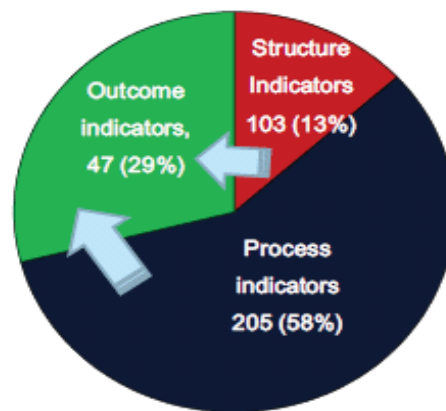
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DOMAINS OF HOSPITAL PERFORMANCE

Timeliness (15) — Without waiting

Effectiveness (227) — Without overuse and underuse

Safety (24) — Without complication and injury

Patient-centeredness (11) — Paying attention to the patient

Efficiency (35) — Without waste

Staff orientation (26) — Staffing and training

Reference: *J Quality Improvement in Health Care* 2016;22(1):12-27

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DOMAINS OF HOSPITAL PERFORMANCE

Timeliness (15)	• AMI: rate of primary PCI within 90 minutes of hospital arrival (from 120 minutes in 2010 to 90 minutes in 2011)
Effectiveness (227)	• AMI: fatality rate within 30 days after hospitalization • Rate of initial prophylactic antibiotic administration within 1 hour before skin incision
Safety (24)	• CABG: rate of re-operation due to bleeding or hematoma
Patient-centeredness (11)	• Colon cancer: rate of stoma care education
Efficiency (35)	• Acute stroke: rate of case mix adjusted length of stay per episode
Staff orientation (26)	• Lung cancer: whether the specialist workforce is engaged

Reference: *J Quality Improvement in Health Care* 2016;22(1):12-27

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CHANGES IN RESULTS OF QUALITY ASSESSMENT

Drop in antibiotics use for common cold
73.3% → 43.8% (2003, 2015)

Drop in injection prescription rate
38.6% → 18.6% (2003, 2015)

Drop in number of drugs in a prescription
4.32 → 3.76 (2003, 2015)

Prophylactic antibiotic received within one hour prior to incision
23.6% → 89.0% (2008, 2015)

Drop in AMI mortality rate
11.3% → 9.3% (2012, 2015)
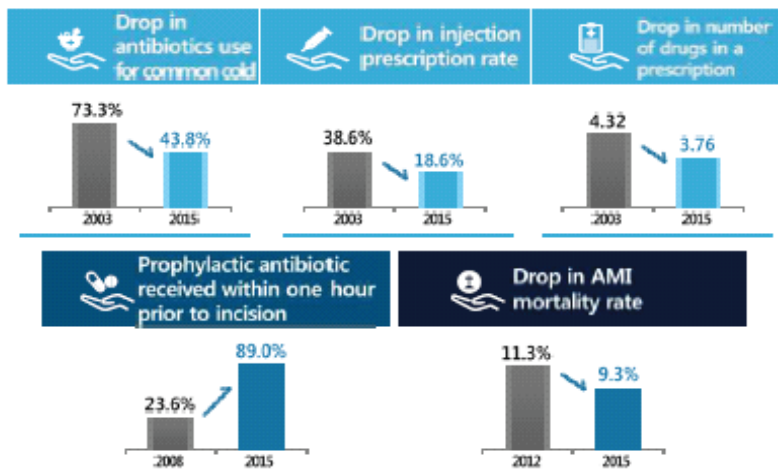
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SURVEY ON HOSPITAL PERFORMANCE

STRUCTURE OF SURVEY ON HOSPITAL PERFORMANCE

SHORT QUESTIONNAIRE TO UPDATE THE SITUATION ON QUALITY STRATEGIES, AND PROVIDE NEW INFORMATION ON HOSPITAL PERFORMANCE PROGRAMS AND MEASUREMENT OF PATIENT EXPERIENCES IN THE ASIA-PACIFIC REGION

Country	Republic of Korea

Please provide us with the contact information of the person primarily responsible for completing this questionnaire.

Name:	Chooon-Seon Park
Title:	Director
Organisation:	HIRA(Health Insurance Review & Assessment Service)
Postal address:	60, Hyeoksin-ro, Wonju-si, Gangwon-do, Korea
	Postal code: 26465
E-mail:	choonseonpark@gmail.com
Telephone:	82-33-739-0916

For questions contact:
WHO: ISD@wpro.who.int
OECD: niek.klazinga@oecd.org

PLEASE RETURN THIS QUESTIONNAIRE TO THE CONTACT PERSONS AT WHO & OECD BEFORE THE **30 JUNE 2016**

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STRUCTURE OF SURVEY ON HOSPITAL PERFORMANCE

2. Hospital performance reporting

2.1 Hospital performance reporting

2.2 Indicators of hospital performance

2.3 Source of data for the hospital performance programme

2.4 Quality improvement through the hospital performance programme

3. Patient experiences

2.1 Standard questionnaires

2.2 Systematic assessment for hospital care

2.3 Systematic assessment for primary care

2.4 Utilizing the results of patient experiences

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STRUCTURE OF SURVEY ON HOSPITAL PERFORMANCE

2. HOSPITAL PERFORMANCE REPORTING
Could you please describe the existence of Hospital Performance reporting based on quality indicators in your country?

2.1 Hospital Performance reporting
We are keen to gain a more complete understanding of hospital performance reporting either at national or regional level. Please fill in the following questions for the programme you consider the best illustration on what is going on in your country:

QUESTION		ANSWER	
2.1.1	Is there a programme for Hospital Performance reporting in your country?	Yes ( )	No ( )
2.1.1a	Is the programme nationally representative?	Yes ( )	No ( )
2.1.1b	The name of the programme		
2.1.1c	What is the main purpose of the programme?	( ) External monitoring/accountability ( ) Hospital internal monitoring/learning & improvement ( ) Other:	
2.1.2	Does the Hospital Performance programme have a conceptual framework that describes the domains on which performance is assessed ?	Yes ( ) Please attach available materials about the framework that is used.	No ( )

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STRUCTURE OF SURVEY ON HOSPITAL PERFORMANCE

	QUESTION		ANSWER
2.1.3	Who is running the programme?		( ) Government ( ) Hospital ( ) Professionals ( ) Others:
2.1.4	Is a partnership built for the Hospital Performance programme?		Yes ( )　　　No ( )
	2.1.4a	Who is participating?	( ) Government ( ) Hospital management ( ) Professionals ( ) Patients ( ) Social Insurers ( ) Private insurers Others: HIRA
2.1.5	What is the coverage of the programme?		( ) Public ( ) Private ( ) Whole country
	2.1.5a	How many hospitals participated in the programme in 2015?	1.　Number of Hospitals: 2.　Total % of Hospitals:

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STRUCTURE OF SURVEY ON HOSPITAL PERFORMANCE

2.2 Indicators of Hospital Performance
Are the following types of indicators included in your hospital performance programme? If yes, please present a concrete example:

2.2.1	Indicators of Hospital Performance		Answer	Example of Indicator
	2.2.1a	Indicators based on Mortality Data	Yes( ) No( )	
	2.2.1b	Indicators based on Hospital Re-admission rates	Yes( ) No( )	
	2.2.1c	Indicators based on Complication rates	Yes( ) No( )	
	2.2.1d	Patient Safety Indicators	Yes( ) No( )	
	2.2.1e	Indicators based on Patient Experiences	Yes( ) No( )	
	2.2.1f	Efficiency Indicators	Yes( ) No( )	

STRUCTURE OF SURVEY ON HOSPITAL PERFORMANCE

2.3 Source of data for the Hospital Performance programme

2.3.1	Question	Answer
	Is the Hospital Performance programme using administrative data?	Yes ( ) No ( )
	2.3.1a If not, what kind of data is used in the programme?	
2.3.2	Is the Hospital Performance programme based on self-reporting by individual hospitals?	Yes ( ) No ( )
	2.3.2a If yes, is self reporting voluntary?	Yes ( ) No ( )

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STRUCTURE OF SURVEY ON HOSPITAL PERFORMANCE

2.4 Quality improvement through the Hospital Performance programme
We would also like to know how the hospital performance information is used:

	Question	Answer
2.4.1	Does the Hospital Performance programme provide feedback to individual hospitals?	Yes ( ) No ( )
2.4.2	Is the Hospital Performance information reported publicly?	Yes ( ) No ( )
2.4.3	If public reporting on hospital quality of care exists, what kinds of means are used (internet website, media, annual report)?	
2.4.4	Is Hospital Performance information linked to payment? (i.g. P4P)	Yes ( ) No ( )

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STRUCTURE OF SURVEY ON HOSPITAL PERFORMANCE

3. PATIENT EXPERIENCES

Could you please provide a short description of activities related to measuring patient experiences in your country?

Question	Answer	
3.1 Are there standard questionnaires on patient experiences available? a) If questionnaires on patient experiences are available, please attach an example.	Yes ( ) - Inpatient( ) - Outpatient( )	No ( )
3.2 Are patient experiences on hospital care systematically assessed?	Yes ( )	No ( )
3.3 Are patient experiences with primary care systematically assessed?	Yes ( )	No ( )
3.4 How are the results of patient experiences used (ex: public reporting, P4P, feedback)?	None	

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UTILIZATION OF SURVEY RESULTS

> Examining hospital performance issues in the Asia-Pacific region

> Provide benchmarks for QA priority setting in each country

> Showing the future direction for quality networking in the Asia-Pacific region

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4-2. Connected experiences with universal health coverage and hospital performance

DOMAIN 1: QUALITY OF CARE & SAFETY (2)

Sub-domain	Objective	Measurement
Outstanding treatment effects	Provision of evidence-based service for inpatient care	- Colorectal cancer, breast cancer - Acute myocardial infarction (AMI) - Coronary artery bypass graft (CABG) - Acute stroke
	Provision of evidence-based service for outpatient care	- Hypertension - Diabetes mellitus
	Provision of evidence-based service for vulnerable populations/conditions	
	Reduction of major diseases' mortality rate	
Patient-centeredness	Improvement of patient experience	

DOMAIN 2: PUBLIC ACCOUNTABILITY

Sub-domain	Objective	Measurement
Equity in Health Care Utilization	Achievement of access and quality of care for vulnerable populations	- Utilization of medical aid inpatients - Utilization of medical aid outpatients
	Achievement of access to essential health-care services	- Emergency physician-to-patient - Emergency nurse-to-patient - Ratio of critically-ill (severe) emergency patients
Sustainable Health Insurance	Improvement of sustainability in NHI	

DOMAIN 3: COORDINATION OF CARE

Establishing role of different provider	Enhancement of inpatient services with severe condition	- Ratio of adult ICU to Pediatric ICU - Administration of NICU - Ratio of inpatients with severe condition - Ratio of outpatients to inpatients

DOMAIN 4: TRAINING

Sub-domain	Objective	Measurement
Training system	Implementing systematic training program	- Education committee for trainees - Filling rate of medical residents and interns - Significant professors and directors
High-quality training program	Training as competent specialist	- Support for academic activities of medical residents and interns
Safe environment		

DOMAIN 5: R&D

Reinforcement of R&D for medical development	Effort for high-quality R&D	- Research funds account - Implementation of clinical trial center - No. of physicians exclusively charged R&D
	Superior research finding	- No. of intellectual property rights - Clinical trials

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GRADE FOR REIMBURSEMENT (1)

Assessment Grade

Regrouping & calculating composite

- Regrouping (3):
  - Group 1: Quality of Care & Safety, Public Accountability, Coordination of Care
  - Group 2: Training
  - Group 3: R&D
- Calculating composite score:
  - Composite score: standardized score of individual indicators × weight
- Grading:
  - Group 1: grade 1~5
  - Group 2 & 3: grade 1~3
- Exclusion criteria for grading:
  - Group 1: No result for ≥ half of indicators
  - Group 2 & 3: No results

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GRADE FOR REIMBURSEMENT (2)

Grade distribution according to rank

Group	Quality of Care & Safety Public Accountability Coordination of Care	Training	R&D
Grade 1	≥ 90.0%ile	≥ 70.0%ile	≥ 80.0%ile
Grade 2	80.0%ile ~ 90.0%ile	50.0%ile ~ 70.0%ile	50.0%ile ~ 80.0%ile
Grade 3	70.0%ile ~ 80.0%ile	< 50.0%ile	< 50.0%ile
Grade 4	50.0%ile ~ 70.0%ile		
Grade 5	< 50.0%ile		
Exclusion	No result for ≥ half of indicators	No results	

REIMBURSEMENT

Payment application

Whom to buy?
- Tertiary & General hospitals
  - Year 2015: 266 of 316 eligible hospitals
  - Year 2016: 262 of 322 eligible hospitals

What to buy?
- Retrospective hospital performance
- Quality of Care & Safety, Public Accountability, Coordination of Care, Training, R&D

How to buy?
- P4P: Differential add-on fees per office visit or hospital day by performance grades
- Incentive only

How much to pay?
- Aver. $230,000 per hospital for 8 months