

Progress report 2022

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Brief Summary

The Department of Healthcare Quality Assessment (HQA) was established in 2006 in collaboration with the Departments of Cardiothoracic Surgery, Health and Social Behavior, and Pediatric Surgery. It conducts collaborative research with National Clinical Database (NCD), Nipro Corporation, Johnson and Johnson K.K, and Intuitive Surgical Sàrl.

The objective of providing healthcare is to provide high quality healthcare services to all patients. Institute of Medicine states that health care reform should focus on improving the patients' health as well as health care values that they think are important. "Quality improvement initiative," therefore, needs to adjust the healthcare systems to accommodate the fee-for-service perspectives while improving the clinical environment for both patients and providers.

Research Activities

Department of Healthcare Quality Assessment (HQA) has been actively collaborating with healthcare professionals and various clinical committees as they play key roles in the quality improvement initiatives in the field. In such positive environment driven by the patient-centered philosophy, the patients receive more satisfying care, physicians are rewarded for their excellence, and healthcare costs are sustained. To accomplish these goals, there are 3 principles that navigate us through the journey: (a) the topmost value should always be on that of patients, (b) all medical practices should be organized around medical conditions as well as the care cycles of the patients, and (c) the results---risk-adjusted outcomes and medical costs spent---must be scientifically measured and evaluated.

In April 2010, the Japan Society of Surgery and 10 related surgical societies founded the National Clinical Database (NCD), which is an all-Japan endeavor that aims to build a large-scale, comprehensive clinical registry that utilize the "big data" to improve the quality of surgery as well as advance surgical sciences in Japan. HQA has been playing important academic roles in the project since its birth. The actual data entry started from January 1st, 2011, and since then NCD has been collecting data on more than 95% of all surgical operations across Japan in collaboration with the clinical societies. NCD is also connected with the participating societies' board of certification systems, which makes it unique among other large-scale clinical registries in the world. Today, more than 5,400 hospitals and clinics are participating in NCD with the accumulated data of 20 million cases (approximately 2 million each year).

HQA has developed risk models for different groups of surgical procedures that help us develop several practical tools aimed for medical professionals in the joint research activity with Japan Cardiovascular Surgery Database (JCVSD). One of those tools is JapanSCORE, which allows users to calculate a patient's post-operative risk of mortality and morbidities. Another tool called RiskCalculator returns a medical professional the calculated risk of mortality and morbidity in a real-time manner after s/he inputs a minimum number of pre-operative risk information. Both tools can be used in medical team meetings as well as in sessions with patients to reach better informed consent. Just like JCVSD's JapanSCORE and RiskCalculator, feedback tools based on the NCD data have been provided to different subspecialty surgical areas including the gastroenterological surgery and thoracic surgery. All of these activities help Japan's healthcare quality initiatives in various places, and HQA is proud to take part in it.

HQA also has conducted evidence-based policy analysis to help federal and local government to develop better healthcare policy-making. It is an academic activity that contributes in a different angle to the endeavor of healthcare quality improvement than those with healthcare professionals in the field described above. In 2012, HQA started participating in a series of research to evaluate the validity of Japan's cancer control policy framework using various stakeholders' perspectives. Interview as well as questionnaire studies were conducted in accordance with the Basic Plan for Implementing Cancer Control administered by the Japanese Government. Since 2014, HQA has been participating in the post marketing surveillance studies using nationwide registries, in collaboration with PMDA (Pharmaceuticals and Medical Devices Agency), Academic societies and device manufacturers. Also, starting in 2017, HQA has led a new initiative at NCD of collecting diagnosis procedure combination data and insurance claims data from participating facilities. Data on the use of medical products as well as on billings from these data are being used to supplement the clinical information collected in the registries for conducting clinical and health services research.

Future Directions

Clinical databases like NCD are the core components of quality improvement initiatives across the multiple subspecialties. HQA supports NCD's systematic data collection, data management, practical analyses, and the development of useful feedback systems. Recently, non-surgical fields such as clinical oncology are also joining NCD and this trend has become stronger. Our benchmarking projects backed up by NCD's big data will keep driving the quality improvement activities in many healthcare fields.

Increasing numbers of clinical research output has been coming out of the detailed analyses on NCD data in collaboration with each specialty field. Besides professional societies, medical device firms have started the operation of their post-marketing surveillance studies in collaboration with NCD. Working with NCD, the industry, PMDA, and the related medical societies, HQA helps the project move forward through academic support. Furthermore, HQA has been involved in international collaborative research work with database activities such as American College of Surgeon's NSQIP and Asian Cardiac Database while contributing to the quality improvement activities in different regions of the world.

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