

# ASCVTS Database

Asian Cardiovascular Surgery Database was proposed in 1999 at the ASCVS Council Meeting at Singapore hearing about successful cardiovascular surgery database from STS (The Society for Thoracic Surgeons). At first the Japanese Society for Cardiovascular Surgery and the Japanese Association for Thoracic Surgery started Japanese Cardiovascular Surgical Database from 5 Institutes in Japan. Participant institutes were increasing gradually with collecting data. In 2010 Japanese Cardiovascular Surgical Database Organization supported establishment of National Clinical Database (NCD) in Japan which includes database in all surgical fields in Japan, gastroenterological surgery, thoracic surgery, breast surgery, cardiovascular surgery, vascular surgery et al. As NCD was linked with Surgical Board system, it is estimated that almost all data were inputted in NCD in Japan.

In 2010 ASCVTS Database was established in the network with Japan, Korea, Singapore and Bangladesh. This database was established mainly based on Japanese Cardiovascular Surgical Database which is one of major participants of NCD and is expected to spread to the all area in Asia.

NCD (National Clinical Database) is a cutting-edge, nation-wide project that collects surgical treatment cases across Japan in order to improve the quality of healthcare services provided for patients. Registered data includes details of patient information (anonymous), medical tests, diagnoses, treatment, and surgical procedures. Since NCD was established, approximately 1,000,000 cases are registered every year. As its clear features and operation, NCD could become the model registry for many large-scale clinical databases in Asia. Explanation follows below on what NCD is all about:

## <<Unique features of NCD>>

NCD has several distinctive features that are rarely seen in other similar projects.

### **1. Managed by major medical associations in Japan**

NCD is governed by a committee whose members are representatives of medical associations related to surgery such as Japan Surgical Society, the Japanese Society for

Cardiovascular Surgery, the Japanese Association for Thoracic Surgery, the Japanese Association for Chest Surgery, and the Japanese Society of Gastroenterological Surgery. The council supervises the daily operation of NCD and decides its future direction.

## **2. Led by clinicians in the field**

A federal agency frequently operates a large-scale registry project like NCD. However, NCD is strictly initiated and led by clinicians who actually consult with patients and perform surgical treatment for them on daily basis. Although being supported by some federal funds, it is the surgeons who register the cases as well as make decisions such as what items to be included in the system and how to utilize the database.

## **3. Linked with Board of certification systems of specialists**

To acquire specialist Board certifications issued by medical societies participating in the NCD project, surgeons need to apply with their cases that are officially registered on NCD. There are increasing numbers of medical associations that are switching to NCD because of more simple process of Board certification.

## **4. Covers approximately 95% of surgical cases in Japan**

3,900 hospitals and other healthcare institutions have been participating in the NCD project and approximately 95% of all the surgical cases in Japan are covered (June, 2013). This is extremely high coverage and is certainly very rare in the world.

## **5. Secures the data quality using various measures**

NCD is strict in maintaining quality of data and exercises the best possible countermeasures against data fraud. Besides the validation check on each case entry into the system, the project runs cutting-edge statistical techniques on the database to detect any trace of data inconsistencies. For suspicious cases, a special team of researchers is dispatched to the hospitals for further investigation. Such a rigorous policy for maintaining data quality is essential for NCD to be one of the most reliable clinical data repositories in the world.

## **<<Outcomes of NCD>>**

With the qualified data and analysis provided by NCD, we are reaching at several outcomes all of which produce better healthcare results for the ultimate beneficiary of

the system: the patients.

**1. Hospitals can use the benchmarking data to improve their service levels.**

Surgical performance data in a department at a hospital, compared with that of other hospitals, is an excellent source for improvement. Quality indices that are severity-adjusted or otherwise statistically optimized can work as measuring rods for the hospitals to learn their strength and weakness, which in turn set them in a quality improvement cycle. Such benchmarking based on qualified data in the field accelerates the performance improvement, as systematic review of scientific literature reports.

**2. Healthcare professionals can make a better assessment on patients at pre-/post-surgery.**

More accurate mathematical models emerge from the analysis of NCD for risk assessment on particular surgical procedures. Equipped with the predictions of mortality and complications as well as detailed prognosis scenarios, the clinicians are better prepared for shared decision making with their patients and the families.

**3. Medical societies can propose evidence-based healthcare policies to the government.**

Analysis on NCD will reveal details of the current conditions of healthcare system in Japan. It will enable the medical associations to make powerful, evidence-based proposals in such themes as institutional settings suitable for better healthcare services in rural areas, strategic allocation of surgeons across Japan, and what types of medical protocols to promote among similar procedures. Also, NCD is planning forward on collaboration with primary care physicians, professionals in community-based healthcare, insurers, and local government

**4. Various medical associations can work together for quality improvement in healthcare.**

It is rarely seen in/outside Japan for professional associations across different medical fields work closely in collaboration for a single objective. It has, however, turned possible because of NCD. The project has attracted the specialists across the fields via medical associations, healthcare institutions, and board of certification systems. NCD is not only about the power of data. It also is the unifying force.