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# JAST making medical "big data" service JMICS available to third-party medical insurance claim checking service providers via the cloud

From October 2013, Japan System Techniques Co., Ltd. (JAST) has decided to make JMICS (its proprietary automated electronic health insurance claims checking and analysis system software) and related services available to several third-party claims checking service providers via the cloud. By working with these third-party partners, JAST believes it can provide one-stop service to a wider range of insurers.

JMICS is an advanced claims checking and analysis system developed in-house that has no domestic equal yet. In just two and a half years after its commercial launch, JAST's list of insurer clients has grown to over 50. JMICS's medical fee reimbursement claim checking service now processes upwards of 2.5 million claims each month. JMICS's basic analysis service can also compile and analyze data for over 100 million claims each year for a single client. JAST believes that such services are a perfect fit for the current medical big data-driven era.

JAST has mainly made JMICS available to client insurers as a cloud-based service up until now. With this latest move, JAST now makes JMICS available to other third-party medical insurance claim checking service providers. JAST believes that collaborating with these providers will help it develop even more advanced systems, and enable it to quickly double the number of claims it processes. By establishing a reputation within the claims checking industry for providing top-class, powerful claims checking services as well as an extensive range of analytical functions, JAST believes it can offer high-quality, one-stop services to a wider range of insurers.

The service that JAST will provide is a concrete example of the medical big data-driven initiatives that the National Council on Social Security System Reform and Ministry of Health, Labour and Welfare would like insurers to undertake, as articulated in debates held by the former and the "data-driven health plan" proposed by the latter. Various parties are holding high expectations that JAST's service will support a wide range of new initiatives by insurers who are working to ensure the healthy management of Japan's universal healthcare system.

# Features of JMICS's one-stop service

(1) Framework bringing together IT specialists and medical professionals

A framework that includes software engineers well-versed in analysis of medical data, as well as support from cooperating medical professionals.

(2) Quick response to changes in the environment (e.g., regulations)

Always providing the most up-to-date, optimized service that reflects the latest developments (e.g., revisions to the medical services reimbursements scheme or change in the list of treatments or drugs eligible for reimbursement, inclusion of new drugs eligible for reimbursement, or additions to the list of procedures or treatments covered by insurance).

(3) Airtight security, business continuity planning (BCP)

The long-term storage of medical big data in large databases stored at data centers that have airtight security and BCP in place.

- (4) Flexible response to diverse customer needs
- Maintaining the flexibility to find the best mix of all services to satisfy diverse customer needs.
- (5) Comprehensive package that provides both the review and analysis of insurance claims Using advanced ICT infrastructure to provide multi-faceted analysis.
- (6) Track record of processing large amounts of data

A track record of stable operation in processing extremely large amounts of data, such as an analysis of roughly 100 million data records in a single year for one prefecture's national insurance program and over-75 elderly healthcare program.

# Overview of new JMICS service that makes comprehensive use of medical big data

In order to better fulfill their roles as insurers, JAST believes that its clients will have to maintain a balance between (1) promoting healthier lifestyles and helping patients regain or maintain their health, while also (2) optimizing medical expenditure. JAST has already begun introducing various analytical functions into its services and plans to run them through a plan-do-check-act (PDCA) cycle. The aim is to improve operations further by combining precise analysis at the planning stage (Plan) with an equally rigorous analysis of results after the execution stage (Check).

Below we introduce some concrete features of our services lineup that have produced results.

- (1) Medical fee reimbursement claim checking services
- (a) Helping insurers reduce claims paid by speedily verifying the accuracy of all insurance claims by computer, then asking healthcare providers to resubmit claims for categories that were not approved
  - Subcontracted insurance claims checking service: Covers the review of insurance claims outsourced to JAST.
  - Cloud-based insurance claims checking service: Third-party insurance claims checking service providers and insurers processing claims remotely by using JMICS over the cloud.
- (b) Medical fee notification service: Providing a patient with the details of an insurance claim either by printed document or via the Internet, and alerting them if some detail of the claim requires further verification
- (c) Insurance claims checking service for work done by bonesetters
- (d) Processing of claims for medical care provided overseas
- (2) Basic analysis service

Preliminary research to grasp current situation and develop suitable proposals, as well as cataloging trends over several years and performing a comparative analysis of metrics versus other insurers.

- (3) Service encouraging the appropriate use of medical care
- Services aiming to reduce redundant medical expenditures and damage to patients' health from the abuse of prescription medications by promoting the appropriate use of visits to medical institutions.
- (4) Services helping to promote the use of generic drugs
- Services to help reduce expenditure on prescription drugs by encouraging patients to switch to generic drugs. This is accomplished by providing insurers with a precise analysis of region, dispensing pharmacies, and drug types, and by providing personalized notifications to patients via printed documents or the Internet.
- (5) Services to help prevent illness

Services aiming to reduce the incidence of disease or illness by proposing and executing timely initiatives, something made possible by analyzing the pathogeny of diseases for which effective preventive measures exist.

# (6) Services to prevent lifestyle diseases or keep them from becoming serious

Bringing together medical checkup data and insurance claims to provide an analysis of patients who are currently suffering from lifestyle diseases, or on the verge of falling ill. Providing medical advice according to health risk level, including instruction on restoring health, encouraging patients to seek out medical help, and guidance on preventing the illness from becoming serious.

# (7) Other services provided

#### (a) Mental health care service

After analyzing the onset of the disease, providing a complete range of support services to help patients return to the workplace after suffering from mental illness. Initiatives ranging from primary prevention (keeping workers from falling ill) and secondary prevention (early detection and quick response), to providing counseling.

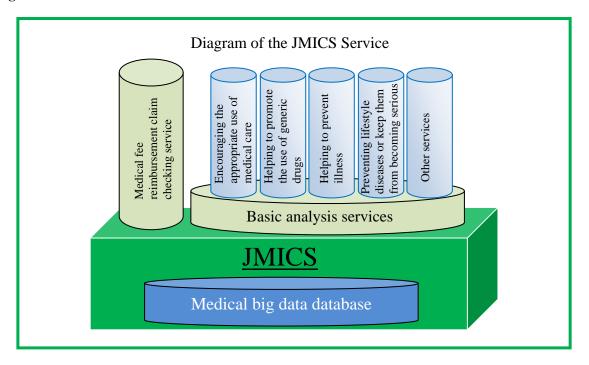
#### (b) Data search services

Providing a system that enables an insurer to search its internal records and display the following information: the likely content of an insurance claim when various healthcare services are provided, as well as medical checkup results listed in chronological order.

#### (c) Providing patients with information online

Service providing insured patients with the latest information 24 hours a day over a PC or smartphone Internet connection. Types of information include: notices of payment to medical institutions by the insurer; notices designed to promote greater use of generics; patient medication history; and warnings that the excessive use of medications or the danger of seeking treatment from multiple healthcare providers (or excessive visits to a single provider) could be hazardous to one's health. JAST is considering focusing on better ways of using personal health records (PHR) to promote health, such as adding medical checkup data and other details to the list of information patients can view online. This could help individuals manage and consolidate their medical information.

# Diagram of the JMICS Service



# Results for the medical big data business (as of September 30, 2013)

- (1) Health Insurance Association: 40 associations, Mutual Aid Association: 5 associations, National Health Insurance: 4 local governments, Extended Association for Medical Insurance System for the Elderly Aged 75 or Over: 1 branch, Welfare Public Assistance: 4 local governments, etc., totaling 54 organizations
- (2) Major organizations of that have outsourced insurance claim checking to JAST

Headquarters for Mutual Aid Associations of Public School Teachers:

1,400,000 per month (largest scale for mutual aid associations in Japan)

Osaka City Welfare Public Assistance:

300,000 per month (largest scale for welfare public assistance organizations in Japan), etc.

(3) Claims processed

Number of insurance claims checked per month: roughly 2.5 million Amount of data analyzed during a single analysis of medical expenditure: roughly 100 million (maximum)

# Name of JMICS one-stop service

Brand name: JMICS (<u>J</u>AST <u>M</u>edical <u>I</u>nsurance <u>C</u>hecking <u>S</u>ystem) Service Name in Japanese: JAST Iryou Hoken Tenken Bunseki System Service

JAST: abbreviation for Japan System Techniques Co., Ltd.

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URL <a href="http://jmics.jp/">http://jmics.jp/</a> (website of the JMICS Service)

http://www.jast.jp/ (website of Japan System Techniques Co., Ltd.)