

Medical Data Vision Co., Ltd. | 3902

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A Pioneer in the Accumulation, Use, and Application of Big Data in the Medical Field Boasting the Largest Database of Medical Data in the Private Sector

Business Summary

【Business model】

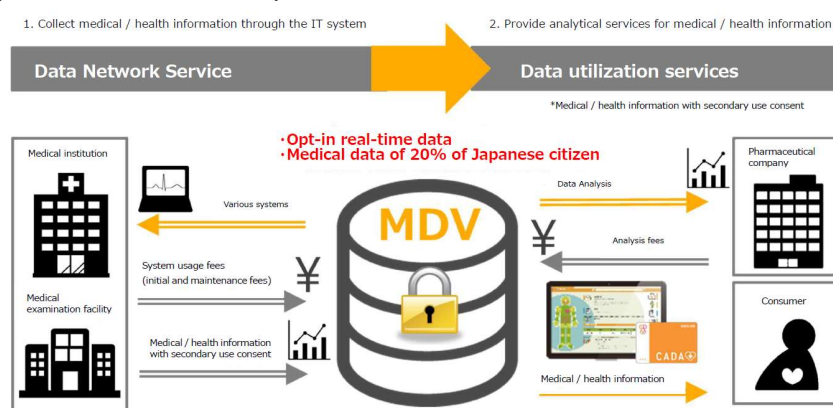
Medical Data Vision aims to improve the quality of medical treatments through the unification and utilization of medical and health data. As a pioneer in the field of utilizing medical big data, MDV has the largest patient medical database in the private sector. As of January 31, 2019, this database has information on roughly 26 million people, roughly one-fifth the population of Japan. The firm consists of two key business segments:

▼ Data networking services

This segment provides systems to medical institutions as a means to accumulate and create databases of medical data. Its earnings consist primarily of initial fees and maintenance fees for the systems it offers. Its current flagship system is CADA-BOX (discussed below).

▼ Data utilization services

This segment offers various analytic services to pharmaceutical firms and other companies, using the databases the firm has compiled. Its earnings consist primarily of analytics and research fees charged to pharmaceutical companies.



【Index】

Market Cap.	JPY 41.7 bn
Stock price (2019/4/17)	JPY 1,041
PBR	12.7 x
PER (Est.)	149.1 x
Dividend yield	-
ROE	2.2%

【Key products】

▼ Data networking services

In addition to Eve and Medical Code—analytics systems that support hospital administration—the firm offers CADA-BOX, a solution for hospitals that is meant to gather electronic medical records. CADA-BOX is a key system for the growth of the data utilization services described next.

▼ Data utilization services

MDV Analyzer is a system for readily analyzing drug prescription data. Ad Hoc Research Services meet the analytics needs of individual pharmaceutical firms.

Results trend

(Millions of yen, yen)

	Sales	Operating income	Ordinary income	Net income	EPS	DPS
FY 2017.12	3,225	569	565	354	8.86	0
FY 2018.12	3,577	351	351	69	1.74	0
FY 2019.12 (Est.)	4,250	500	500	279	6.98	0

Business Summary

【Strengths】

▼A network of mid-sized and large hospitals

Approximately 45% of mid-sized and larger hospitals (specifically, DPC hospitals*) have implemented the Company's management support system. The Company is accumulating data based on relationships of mutual trust with the hospitals in its network.

▼A large database for medical data

The Company has medical data for more than 26 million individuals, equal to 1/5 of the Japanese population. (This figure is limited to data for which the Company has acquired consent for secondary use.)

▼The knowledge and personnel needed for medical big data

The Company has the know-how and personnel needed to build medical big data systems, and it is also mastering the knowledge of how to use these systems.

【Business climate】

The Japanese government is promoting the use of medical data as part of its policies for addressing strained public health care finances and the “super-aging” society. The Investments for the Future Strategy 2017, announced in June 2017, recommends the health care/medical/nursing care sectors as the first strategic investments for Society 5.0. The September 2017 revisions to the Personal Information Protection Act prohibit business operators from providing third parties with personal information that requires special consideration if the data subject opts out. However, the Next-Generation Medical Infrastructure Act, enacted in May 2018, enabled such information provision, smoothing the way to further the social climate needed for using medical information.

【Competition】

There are no other companies that have as much real medical data and that are utilizing and monetizing such data.

MDV feels a sense of competitiveness with M3, but M3 develops its business primarily around its physician network, so its starting point differs from MDV's business development through medical data. Moreover, MDV's strength lies in its relationships with mid-sized and larger general hospitals. Its predominance is likely also due to its focus on cancer and other diseases that require advanced medical treatments, as well as on patients who have moderate to serious medical conditions.

There are companies that compete with MDV's data networking service, Eve. These two firms are Girasol and Nissay IT. MDV's current market share ($\approx$ market share for DPC hospitals) is roughly 45%.

【Focus Point】

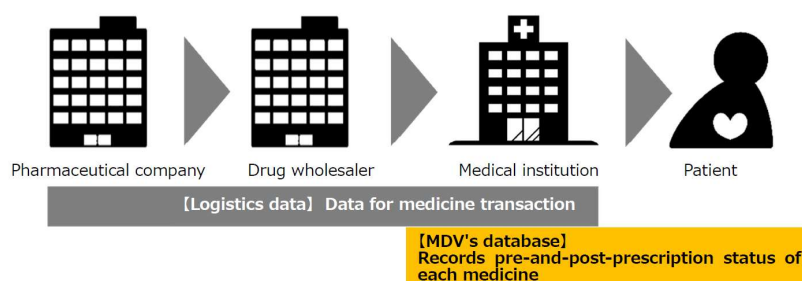
The purpose of the data networking services business is to build databases that can grow the data utilization services business. In data networking services, investors should primarily focus on the number of installations of CADA-BOX, the system for gathering electronic medical records. At the same time, the best indicator of its existing business stability is the growth in Ad Hoc Research Services, a product in the data utilization services segment.

【DPC hospitals】

DPC hospitals are those subject to the comprehensive rating system (the DPC system) of medical payments for inpatient treatments during acute phases. As of April 2018, 1,730 of roughly 7,300 hospitals in Japan are subject to this system. (details is explained below)

MDV's Data

MDV possesses medical data generated from actual medical treatments. The debut of the medical databases MDV has built enables the analytics of patient characteristics, disease conditions, and the procedures, surgeries, and prescriptions physicians handle daily. MDV's current data is mostly DPC data (limited to data for which medical institutions have consented to secondary use). However, to improve the diversity and real-time nature of medical data, the firm started gathering electronic medical records (limited to data for which individuals have consented to secondary use) in 2016, and it is starting to get data from presymptomatic domains, such as health check-up data. By gathering these types of data, the firm hopes to rapidly grow its data utilization services business.



▼ DPC data

DPC data is patient medical data mostly concerning information from the time of admittance, and hospitals that have implemented the DPC system (explained on the next page) periodically submit DPC data to the Ministry of Health, Labor and Welfare. DPC data include disease conditions, treatments performed, and prescription information on a daily basis. MDV's DPC data has had its personal identifying information removed by the medical institutions.

As of April 2018, 1,730 of the roughly 7,300 general hospitals in Japan are DPC hospitals, and 45% of these hospitals have installed MDV's systems. The DPC hospitals account for 55% of the total general hospital bed capacity (the number of beds other than the sickbeds of chronic patients who require long-term care).

▼ Electronic medical records (Opt-in real-time data)

MDV's electronic medical records include not only data from the time of admittance but also outpatient data, health screening data, and imaging data. Acquiring electronic medical records allows MDV to have more diverse data in real time. The growth in the number of CADA-BOX installations leads to accessing more electronic medical records.

【The Current State of Electronic Medical Records】

The 2015 revisions to the Japan Revitalization Strategy have a stated goal of raising to 90% the nationwide rate of electronic medical records in general hospitals with at least 400 beds. According to research by Seed Planning, the penetration rate of electronic medical records in hospitals was roughly 38.9% in 2016. By hospital size, large hospitals with at least 400 beds have the highest penetration rate, at 76.4%. Midsized hospitals of 100 to 399 beds are at 43.7%. MDV's clients—midsized and larger hospitals—have high penetration rates, which should only help the firm's focus on promoting further penetration. (See <https://www.seedplanning.co.jp/press/2017/2017080301.html>)

	DPC data	Opt-in realtime data
Sex	○	○
Age	○	○
Name of illness	○	○
Severity	○	○
Medication inf.	○	○
Surgery, treatment inf.	○	○
Findings	×	○
Image	×	○
Inspection results	△	○
Realtime-ness	×*	◎

(*Data updated at 3 months ago)

Data networking services

This segment provides systems to medical institutions as a means to accumulate and create databases of medical data. Its earnings consist primarily of initial fees and maintenance fees for the systems it offers. The main products for the data networking services segment are EVE and Medical Code, hospital management support systems; and CADA-BOX, a system for hospitals that includes functions for patients. Of these, CADA-BOX holds the key to MDV's business growth. The firm hopes to gather electronic medical data through CADA-BOX and build the foundation for its next data utilization businesses.

【POINT】

MDV's growth driver is unequivocally its data utilization services.

The role of the data networking services is to create the data platforms needed to rapidly grow the data utilization services.

【Competition】

EVE's competitors are similar analytic systems provided by Girasol and Nissay Information Technology. Medical Code and CADA-BOX do not currently have any competition worthy of note.

【Products in the data networking services segment】

Product name	Summary	Price	Clients
EVE	These products allow medical institutions to analyze the income balance between billing for services rendered and for DPC, and to analyze medical diagnoses using the number of days patients are hospitalized, capital allocations to medical resources, and other metrics. Through benchmarking, medical institutions can get an understanding of their strengths and weaknesses, compared to other hospitals, and formulate policies for medical diagnoses and facility management.	Initial introduction cost : 4 million yen maintenance fee : 50,000 yen / month	801 hospitals
Medical Code	These systems enable analytics for cost management and all other matters related to hospital management. They provide techniques for improving operations through the use of cost accounting and cost data by patient or by day. The Company also adds functions in response to user comments and helps its users resolve various administrative issues.	Initial introduction cost : 8.2 million yen maintenance fee : 100,000 yen / month	274 hospitals
CADA-BOX	This system is equipped with Karteco, which allows patients to view and manage their own diagnosis data, and CADA Payments, a service for the deferred payment of medical fees through which patients can freely configure their payment terms. Patients use the system by connecting it to their existing electronic health records.	Initial introduction cost : 20 million yen maintenance fee : 500,000 yen / month	8 hospitals

Data networking services

【Sales Strategy】

▼ EVE

The Company does not expect to see much growth in the number of hospitals that use this system, as it is already used by 45% of hospitals subject to DPC, but the Company maintains its market share through added value and organic growth from additional functions. In FY2019, MDV established its new Customer Support Office as part of its focus on preventing contract cancellations through an increased frequency of visits to hospitals.

▼ Medical Code

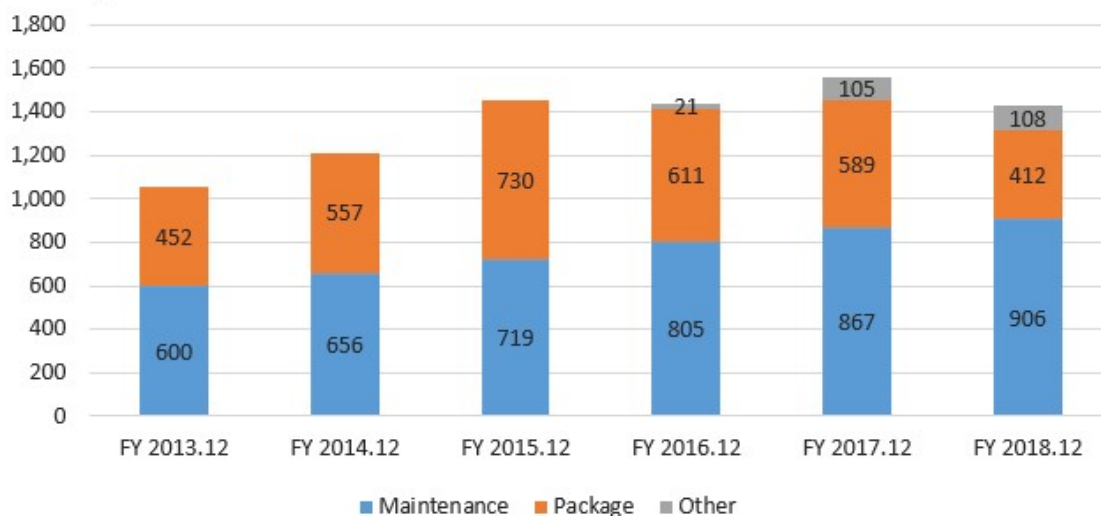
With its cost management functions, Medical Code complements EVE. The Company plans to sell Medical Code to more than 800 hospitals that have already installed EVE. However, the Company needs to raise awareness among hospitals about the importance of cost accounting, so the rate at which hospitals adopt Medical Code will gradually uptick.

▼ CADA-BOX

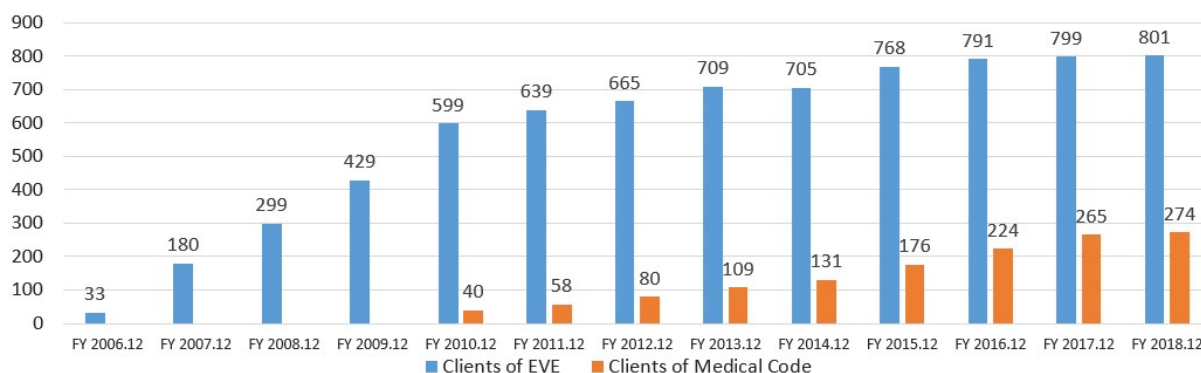
This system serves as the foundation for future business growth, and its progress definitely deserves a spotlight. The Company aims to install this system in 300 hospitals in the next five years.

Data Network Services Sales Trend (Breakdown)

(Millions of yen)



Number of hospitals introduced



Data utilization services

This segment offers various analytic services to pharmaceutical firms and other companies, using the databases the firm has compiled. Its earnings consist primarily of analytics and research fees charged to pharmaceutical companies. The primary products in the data utilization services segment are MDV Analyzer and Ad Hoc Research Services. MDV Analyzer sales post as annual usage fees, while Ad Hoc Research Services are determined by project.

【Data utilization services】

Product name	Summary	Price	Clients
MDV analyzer	A web-based analysis system that analyzes the daily status of drug prescriptions at medical institutions that treat acute conditions This system offers frequently used standard analysis functions, including tallies of the number of patients by age and information on specific drug or illness interactions.	annual fee 20 million yen for 1 company	17
Ad Hoc Research Service	This service responds to individual needs that MDV Analyzer cannot handle. The Company conducts custom, targeted research at the request of its clients.	4 million yen per project. Price depends on the project. Some exceeds 10 million yen	

【Sales Strategy】

▼ MDV analyzer

This system provides standard, web-based analyses of medical data the Company possesses.

Clients of MDV analyzer : 17

▼ Ad Hoc Research Service

This service provides custom research and data that meet the requests of the Company's clients by using data it possesses. As demand for data utilization is currently emerging, the use of this service is rapidly growing. Potential demand is high, and this service promises to be the most significant driver of Company performance for the time being. Its transactions are mostly with international and domestic pharmaceutical firms, but it is looking to increase the number of transactions it conducts with each company.

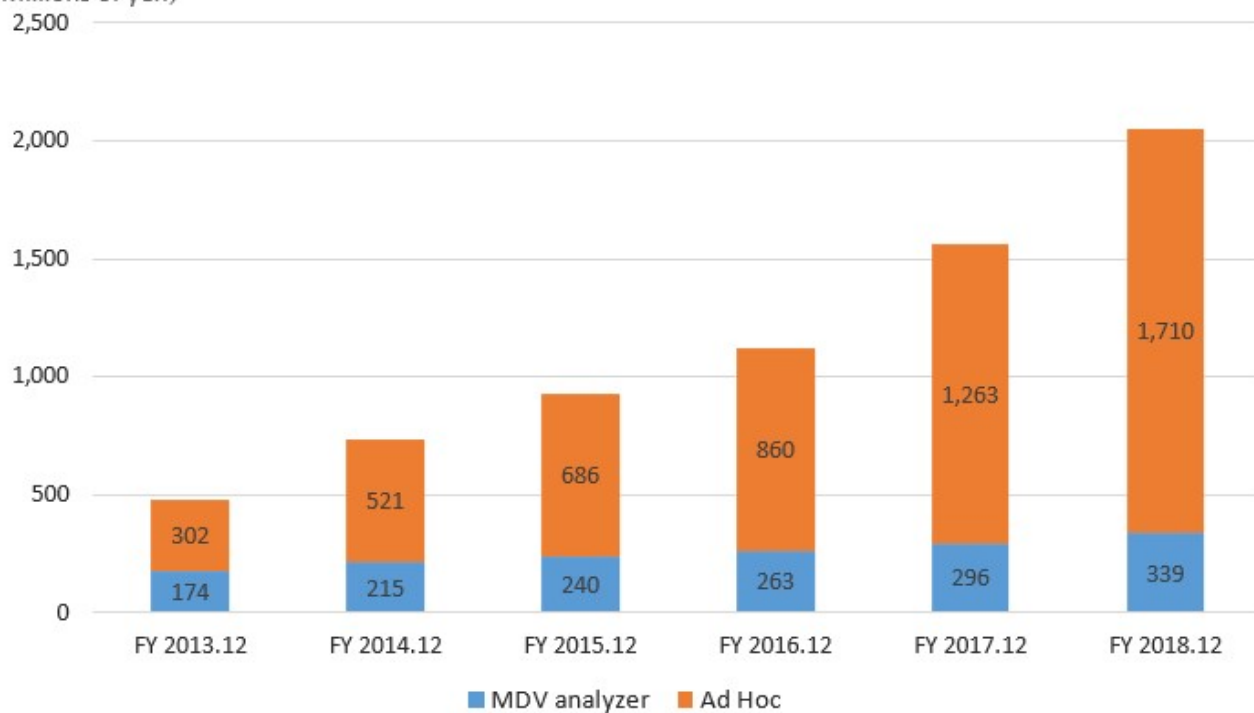
【Competition】

JMDC (an unlisted subsidiary of Noritsu Koki; formerly Japan Medical Data Center) has a five-month time lag when analyzing the receipts it collects from more than 100 health insurance associations nationwide. IQVIA (formerly IMS) has pharmaceutical sales data from health insurance companies and dispensing pharmacies.

Data utilization services

Data utilization services Sales Trend (Breakdown)

(Millions of yen)



CADA-BOX

CADA-BOX is a system that will be the focus of the Company's medium- to long-term drive for growth. It connects to existing electronic medical data systems to acquire their data. Through this data acquisition, MDV hopes to build a foundation for its next data utilization businesses. CADA-BOX consists of two functions: Karteco and CADA Pay. CADA-BOX leads to reductions in wait times, in explanations from physicians, and in treatment costs, which are the top-ranked complaints patients have about medical care. For hospitals, the improved service promises more patients, due to increased patient satisfaction and greater trust.

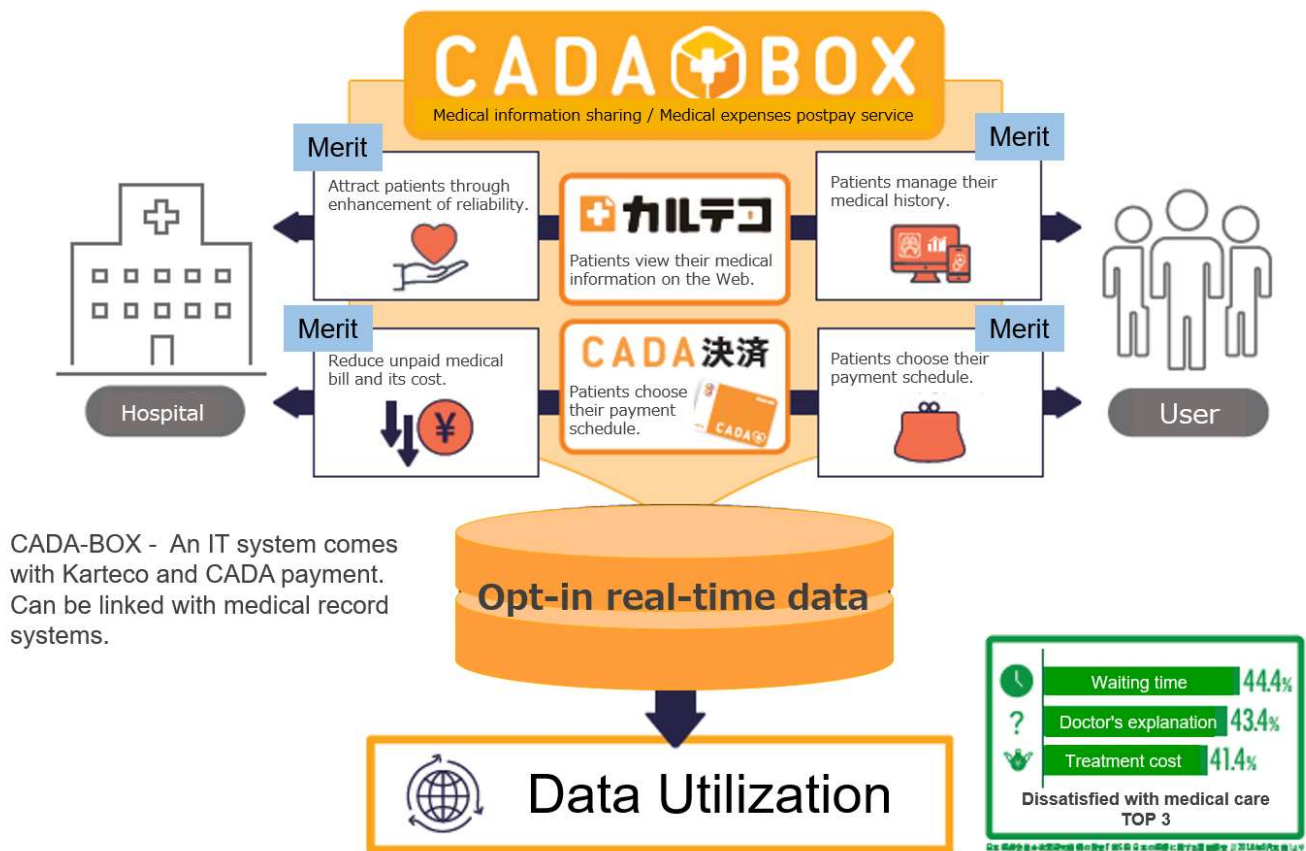
▼ Karteco: A medical diagnosis data viewing and management service for patients

This web-based service allows patients to store and view some medical information. They can browse information about their illnesses and conditions, their prescriptions, the results of medical tests, and other information. By sharing some medical data, medical institutions can expect active patient participation in treatments, more solid relationships built on mutual trust between patients and medical practitioners, and the promotion of preventative medicine. However, patients cannot access information that physicians have decided, for various reasons, not to share.

▼ CADA Pay: Medical fee payment system

Patients can freely configure their payment terms to suit their financial situations, eliminating the need to pay their medical fees in cash. For instance, patients can choose to make a single payment or to pay in installments, and they can set the payment date to the day they receive their paychecks or their pension payments. After receiving treatment, patients can go home without waiting for their bills. Medical institutions can reduce their daily payment processing tasks, reducing the labor needed for billing patients and following up to ensure payment. CADA Co., Ltd., an MDV subsidiary, offers the service. Patients apply for CADA Pay at an affiliated medical institution, and after CADA reviews the application, it grants the payment function to the CADA Card.

CADA-BOX



[hospitals/users Benefits]

▼Benefits to hospitals

- Earns trust by making medical diagnoses available to patients
- Reduces labor costs by simplifying the accounting process
- Mitigates the risks of uncollected medical fees
- Leads to long-term growth in patient numbers

▼Benefits to users

- Allows users to review their own medical histories
- No need to wait to pay after receiving treatment
- Allows users to freely set their payment terms for medical fees

CADA-BOX

【Karteco image】



The screenshot shows a web interface for 'カレテコ' (Karteco). It features a patient profile with a green human figure icon, a list of symptoms, and various medical data points. A legend on the right explains the icons used in the interface.

- Consultation / data update date
Shows patients and date of Karteco data update
- Medical institution information
Shows medical institution name, address and phone number
- Symptoms list
Patients register her main complaint, etc.
- Injury name
- Inspection results
Display test results
- Medications
Shows drugs used during medical examination
- Treatment, surgery
Display procedure, operation order
- Prescribed medicine
Display contents of prescription order
- Note
Patients can register their own notes

【Usage image】



CADA-BOX

【Introduction situation】

▼ Finished implementation :

5 hospitals

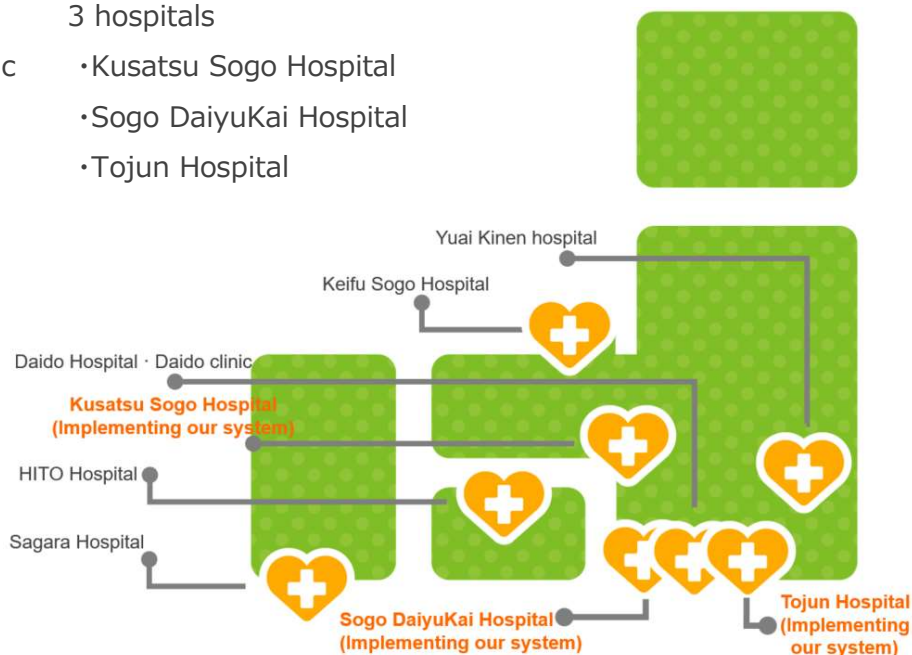
- Daido Hospital · Daido clinic
- Keifu Sogo Hospital
- HITO Hospital
- Sagara Hospital
- Yuai Kinen hospital

▼ On Implementation :

3 hospitals

- Kusatsu Sogo Hospital
- Sogo DaiyuKai Hospital
- Tojun Hospital

*New clients in 2018 is in red letters.



As previously mentioned, CADA-BOX holds the key to future business growth. However, the fact is that the pace at which it is progressing is slightly behind the curve. According to MDV, CADA-BOX has received high praise from hospitals, but the following three reasons are preventing its implementation from speeding up.

1. Lack of cost-effectiveness results
2. The herd instincts of hospitals
3. Lack of new business development

While cost effectiveness is necessary at the time of final settlement, operating hospitals have just recently started using all functions, including CADA Pay, so they have not been able to achieve cost effectiveness. However, this is not likely to be much of a problem because cost effectiveness will naturally be gained after some time has passed.

The “herd mentality of hospitals” ultimately refers to a sense that hospitals will only adopt good products if other hospitals do so first. Although this issue is related to cost effectiveness, according to MDV, this problem should no longer be an issue once it has installations in approximately 30 hospitals. Currently, it has completed installations in eight hospitals, and it should reach the 30-hospital mark if it can complete 22 installations, which is its target for FY2019.

As for the lack of new business development, hospitals that focus on the idea of “sharing medical data with patients” tend to quickly pay to install the system, but MDV is not developing new business to the point at which it can find such fast-acting hospitals. At present, 80% of its sales resources are focused on new business development.

Main subsidiary

【MDVTrial Co., Ltd. (formerly Cosmex Co., Ltd.)】

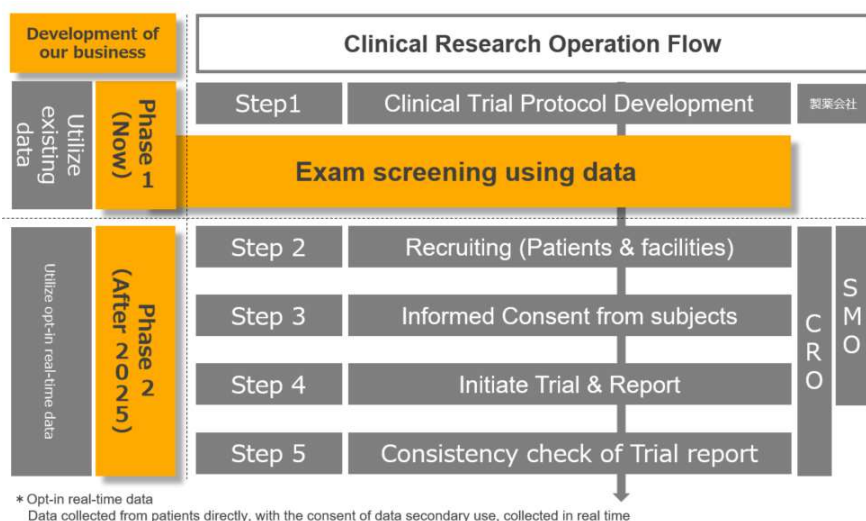
This firm engages in trials using MDV's data.

In June 2017, MDV acquired all the shares of Cosmex Co., Ltd., and turned it into a subsidiary. On July 1, 2018, it changed its name to MDVTrial. From its founding in January 2000, Cosmex had operated an SMO business. After becoming MDV's subsidiary, it began a data utilization business through which it uses medical big data that MDV has accumulated.

MDVTrial is planning to expand its business through the following approach: First, it will start recruiting clinical trial subjects using the data to which it has access. Conventional SMOs cannot screen in advance the subjects they recruit, so they need time to find—through excruciatingly laborious methods—patients and facilities, often leading to delays in their clinical trials. According to a US study, the costs for recruiting subjects account for roughly 30% of the total clinical trial expenses.

Using MDV's data, it may be possible to recruit subjects efficiently and at a low cost. Then, after CADA-BOX installations have made more progress and the firm has accumulated more opt-in real-time data, it will expand its business to cover all aspects of CRO operations.

With solid reviews from pharmaceutical companies, the company will start accepting orders at full capacity in FY2019. It is also eyeing a partnership with a major clinical trial operator.



【SMO/CRO】

▼ Site management organization (SMO)

These organizations contract with facilities that conduct clinical trials (medical institutions) and support complex clinical trial operations so as to facilitate trials that are in proper accordance with GCP (ministerial ordinances regarding standards for pharmaceutical clinical trials).

▼ Contract research organization (CRO)

While these organizations support clinical trials like SMOs, CROs directly support pharmaceutical firms.

【Competition】

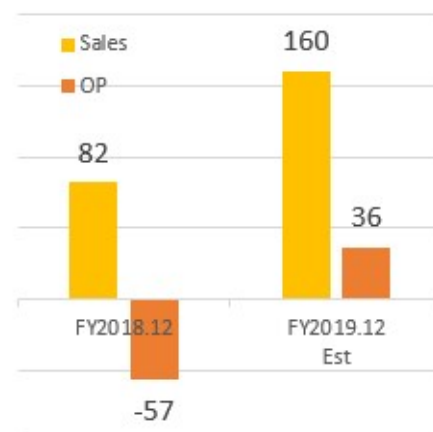
▼ EPS Holdings

This firm is primarily a CRO, and it also engages in SMO and central selling organization (CSO) operations. Its strength lies in cancer and neurological clinical trials.

▼ CMIC

This company is Japan's leading CRO. It shares the industry's top spot with EPS. It supports all aspects of pharmaceutical development.

【Results】



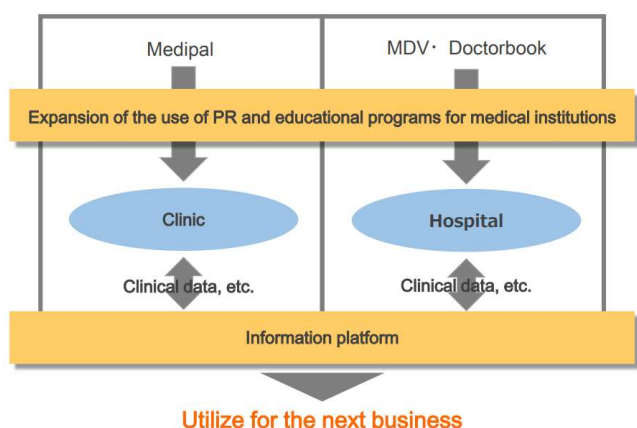
Main subsidiary

【Doctorbook Inc.】

This firm manages media on medical information for patients, medical institutions, and physicians. It became a subsidiary of MDV in January 2017. It has registered 10,000 of the roughly 100,000 dentists in Japan. Because a condition of registration is a referral from another doctor, many so-called “key opinion leaders” (KOLs) are registered with the firm.

In addition to offering physicians paid videos of top doctors performing medical procedures, the firm also provides promotional services to corporations. By joining the Medical Data Vision group, Doctorbook intends to expand its business by leveraging not only its network of dentists but also MDV's network of clinical physicians. It is already building a network of several hundred KOL clinical physicians.

In its latest development, on January 30, 2019, the firm announced a capital/business partnership with major medical equipment wholesaler Medipal Holdings. Fusing the know-how of Medipal, MDV, and Doctorbook, the three companies are building Clinical Cloud by MEDIPAL, a portal for medical data. By partnering with Medipal, a powerhouse in the clinical sector, MDV is taking its first step into this sector, with its ultimate aim of creating databases of clinical medical data. To realize this aim, Doctorbook will first create videos and other content showing the techniques of clinical doctors and lectures by KOLs, as well as evidence related to the drugs that pharmaceutical companies oversee. Then it will provide this content to medical institutions as part of PR and educational programs. At the same time, MDV plans to leverage the diagnostic analytics know-how it has cultivated with Eve and Medical Code, and offer data analytics services to clinics.



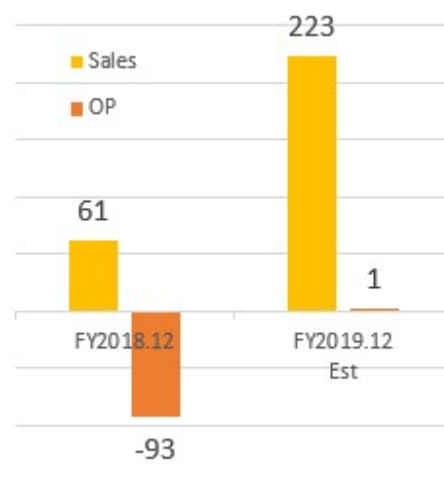
Moreover, the partnership plans to leverage MDV's collection of health check-up and health screening data, as well as its network of clinical physicians, and to develop SCAPO, a service through which patients can receive advice from physicians in relation to their health check-up and health screening results.

【Competition】

Other companies with networks of physicians include M3 and MedPeer (of the roughly 300,000 physicians in Japan, M3's network has approximately 270,000 registered physicians, while MedPeer has approximately 120,000). In contrast, MDV takes advantage of its existing network—built on its relationships of trust with mid-sized and larger hospitals—and curates a network that focuses on doctors working in public practice.

If this network grows, the firm could have an opportunity to significantly expand its patient-oriented services, on top of services for companies that aim to take a direct approach with doctors working in public practice.

【Results】



Market size

The medical big data market is still in development, so it is difficult to generate accurate figures. However, in the data utilization service segment—key to MDV's business growth—the firm could take a considerable share of an existing market with data utilization services that did not exist before. There are two markets in which this possibility is particularly notable. One is the market for the Ad Hoc Research Service, and the other is for clinical trials.

▼ Ad Hoc Research Service

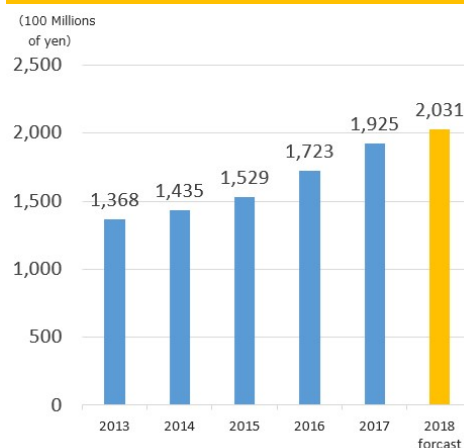
Sales data provided by IQVIA can be used to estimate the size of the market in which MDV operates. Currently, the market is worth approximately ¥15 billion. In this market, MDV could improve its market share by having its client companies understand how much added value its data represent. For instance, using the firm's data, client companies could learn how prescriptions are handled on-site—information that cannot be gleaned from sales data. If pharmaceutical manufacturers discover anything unexpected about prescriptions from this data, they can consider adapting their marketing campaigns to how their drugs are actually used. We believe that the firm could not only capture the existing sales data market but also create new markets by promoting data utilization projects to its client companies.

▼ Clinical trials (CRO/SMO)

Pharmaceutical companies continue to reduce costs by outsourcing their development businesses. The trends of reducing the costs of developing a single new drug and moving company resources toward basic research, pre-clinical testing, and other high-value-added areas are leading to growth in the outsourcing market, which should continue into the future. Because of this trend, the CRO market is growing. In 2018, the market forecast was ¥203.1 billion. Japanese CRO market leaders CMIC and EPS Group together command roughly 30% of the market. The market has yet to be oligopolized, so the number of market participants is increasing as the market grows.

By leveraging its characteristic big data approach, MDV promises faster growth than the rest of the market. A study by the US Tufts Center for the Study of Drug Development (CSDD) reports that 30% of clinical trial costs go to recruiting subjects and that 80% of projects fail due to the inability to find subjects. Recruiting subjects is of great importance to clinical trials, and we believe that recruiting that takes advantage of MDV's data not only lowers costs but also provides promising options for the future of clinical trials.

【Total sales of Japan CRO Association members】

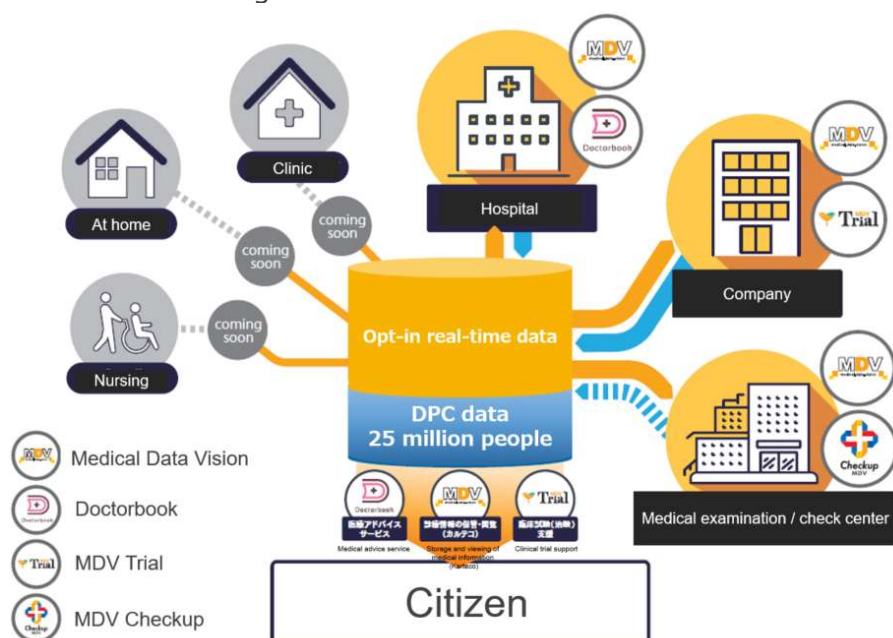


The Group's Medium- to Long-term Strategy

Through its centralization of medical and health-related data, MDV is aiming to offer data utilization that leads to improved medical treatments and new benefits for patients. Therefore, in the medium to long term, MDV plans to accumulate and centralize various types of data in the medical and health care sectors (including nursing care and at-home care), as shown in the diagram below. Then, using this data, it will develop new data utilization services.

▼ Data accumulation and centralization

First, MDV focuses on gathering, via CADA-BOX, electronic medical data for which individual consumers have granted consent. It hopes to have installed CADA-BOX in 300 hospitals by 2025. In autumn 2018, the firm announced that it was starting to acquire health check-up and health screening data—presymptomatic data—by promoting the installation of Kenshin BOX, a data system for health check-up and health screening centers, and the health check-up facility version of CADA-BOX. When consumers receive check-ups at health check-up facilities, the facilities ask individuals to consent to the secondary use of their data. MDV can combine this data with the medical data it has been gathering from patients with diseases to create a unified database that includes presymptomatic data. Moreover, it has started a partnership with the Medipal group to gather data from clinics, thereby taking the first steps toward its goals (announced in January 2019). After that, it will turn to two completely unexplored fields: at-home care and nursing care. MDV plans to supplement data in both fields through partnerships or M&A, rather than starting its business from scratch.



▼ Data utilization

For the time being, MDV will focus its data utilization efforts on first expanding its clinical trials business and promoting the doctor advice service, SCAPO.

The DPC system

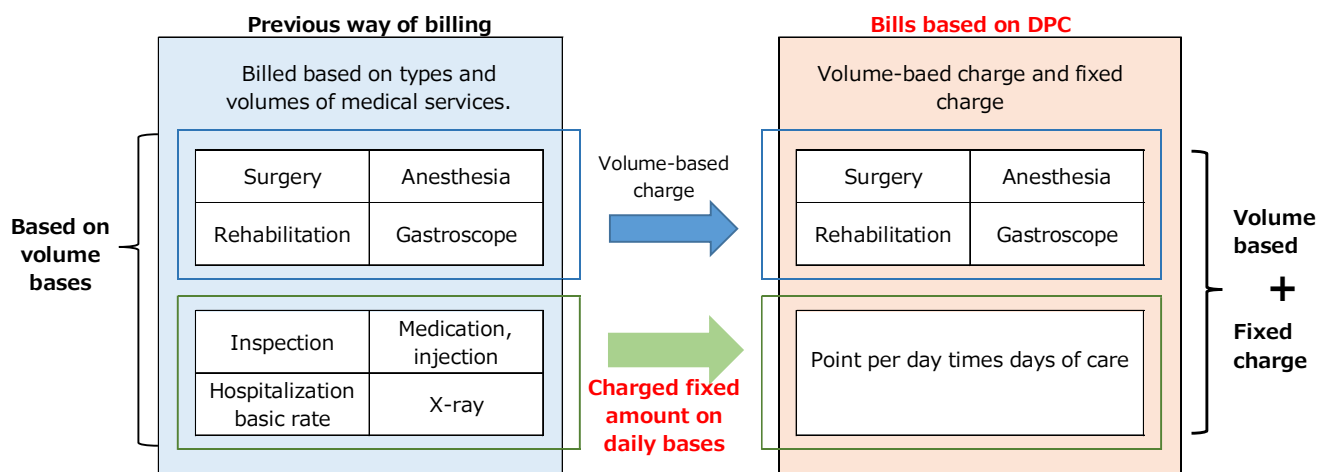
▼ The DPC system

The DPC system is a comprehensive rating system for medical payments that targets inpatient medical treatments for acute-phase illnesses. Under this system, the portions of medical fees with comprehensive ratings (per diem hospitalization fees that are defined according to category) have fixed prices, and these portions are combined with the fees for services rendered, determining the final medical fees. Some medical payments are fixed, so hospitals need to provide efficient and effective treatments for their patients. For medical institutions, providing efficient treatments leads to increased income.

For patients, treatments are determined by category, meaning that they can expect effective treatments that use evidence-based medicine (EBM). In other words, this system asks medical institutions to provide effective, high-quality treatment that will benefit their patients.

▼ DPC billing

DPC billing includes approximately 1,600 categories—according to disease name, treatment details, and other factors—for inpatients using the DPC system. The medical payments are billed using these categories.



Performance trend

MDV's performance for FY12/2018 included sales of ¥3.577 billion (+10.9% YoY) and operating profits of ¥208 million (-38.2% YoY). By business segment, data networking services earned ¥1.467 billion (-6.6% YoY), while data utilization services earned ¥2.110 billion (+27.6% YoY). Revenue and profits both outperformed the downwardly revised forecasts the firm announced on November 12, 2018.

A notable contributor to the data utilization services business was the growth of Ad Hoc Research Services in Q4. On the other hand, it had only three new CADA-BOX installations, compared to its target of 24 hospitals, and the firm was unable to start its data-based clinical trial business or its business using health check-up and health screening data.

	(Millions of yen)					
	FY 2014.12	FY 2015.12	FY 2016.12	FY 2017.12	FY 2018.12	FY 2019.12 Est
Sales	1,951	2,414	2,632	3,226	3,577	4,250
Data Network Service	1,213	1,449	1,438	1,571	1,467	1,749
Package	557	730	611	593	412	
Maintenance	656	719	805	872	906	
Other			21	105	108	
Subsidiary				26	67	229
Data utilization services	737	963	1,194	1,654	2,110	2,500
MDV analyzer	215	240	263	296	339	
Ad Hoc Survey Service	521	686	860	1,263	1,710	
Subsidiary				49	60	160
Cost of sales	385	516	458	620	797	
Gross profit	1,566	1,897	2,174	2,606	2,779	
GPM	80.3%	78.6%	82.6%	80.8%	77.7%	
SGA	1,305	1,615	1,743	2,037	2,428	
Operating income	261	282	431	569	351	500
OPM	13.4%	11.7%	16.4%	17.6%	9.8%	11.8%
Ordinary income	249	280	416	565	351	500
Net income	135	164	178	355	69	279

Source : Company data

Performance trend

For FY12/2019, MDV forecasts sales of ¥4.250 billion (+18.8% YoY) and operating profits of ¥500 million (+42.2% YoY). The plan is for the high growth of the data utilization services business to drive performance. The firm continues to realize, through its business development efforts, latent needs for its data utilization Ad Hoc Research Services, which is driving its performance. Using seminars and other sales activities, the company is growing its sales to multiple departments within pharmaceutical firms and increasing the number of repeat users, thereby uncovering a potential need. MDV announced that its subsidiary MDV Consumer Healthcare, the main cause of last year's downward revision, ceased all operations and withdrew from its business on January 15, 2019. This will have nearly zero impact on performance after FY12/2019.

▼ Key Strategies

MDV will focus on the following two strategies:

1. Increasing the number of orders for CADA-BOX

The firm aims to get orders for CADA-BOX from 22 hospitals and to post sales from 13 hospitals.

As previously discussed, the three main reasons behind the lack of progress in installations are as follows:

① A lack of cost-effectiveness results, ② the herd mentality of hospitals, and ③ the lack of new business development.

To respond to these causes, the company is devoting 80% of its total sales calls this year to business development and seeks to improve its sales efforts by narrowing down its targets to hospitals run by directors/chairpeople who agree with the idea of sharing medical data. If it can add another 22 hospitals to the eight hospitals that have already installed CADA-BOX, it should lead to the start of phase 2: clinical trials.

2. Making subsidiaries profitable

MDVTrial will start serious efforts to win orders in its data-based clinical trial business. Last year, it needed time to prepare contracts and the like, but now that everything is in place, the firm will start focusing on getting orders from pharmaceutical companies this year.

▼ New initiatives for existing businesses

To maintain Eve's market share and to promote new Medical Code installations, MDV will establish a new agency sales team. Because midsized and larger hospitals understand the DPC system and are sufficiently aware of Eve, the firm decided that it could leave these products to sales agencies. It will also create an internal Customer Support Office, and it intends to focus on maintaining market share and introducing new products through improved support of its existing users.

Quarterly Results

By quarter, MDV's performance trended upward in the second half of the year. This trend reflects the fact that many foreign pharmaceutical manufacturers, which are using data utilization services, settle their accounts in December.

A particularly significant contributor to this trend is the highly profitable Ad Hoc Services in the firm's data utilization services business.

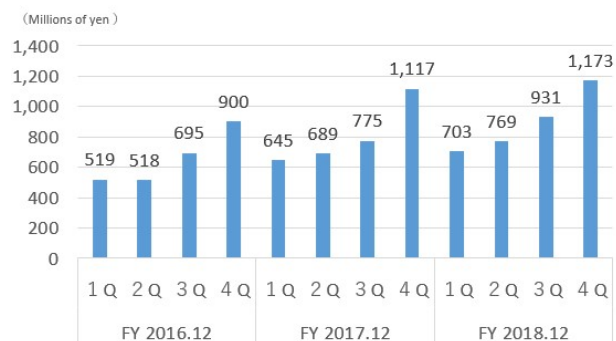
Results trend (Quarterly)

(Millions of yen)

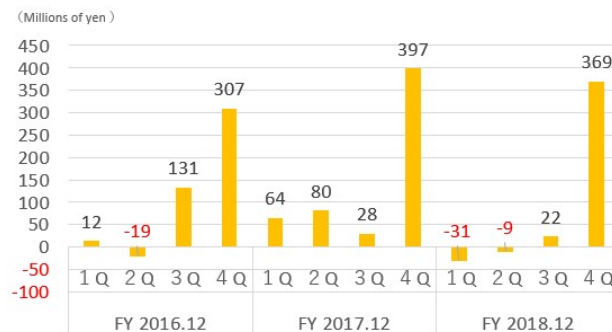
	FY 2016.12				FY 2017.12				FY 2018.12			
	1 Q	2 Q	3 Q	4 Q	1 Q	2 Q	3 Q	4 Q	1 Q	2 Q	3 Q	4 Q
Sales	519	518	695	900	645	689	775	1,117	703	769	931	1,173
Operating income	12	-19	131	307	64	80	28	397	-31	-9	22	369
business												
Data utilization services	201	214	317	461	335	297	367	653	393	357	527	833
Data Network Service	317	303	378	439	309	390	408	462	310	411	403	340

Source : Company data

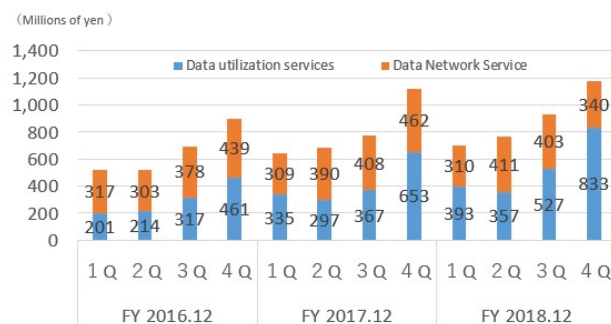
Sales (Quarterly)



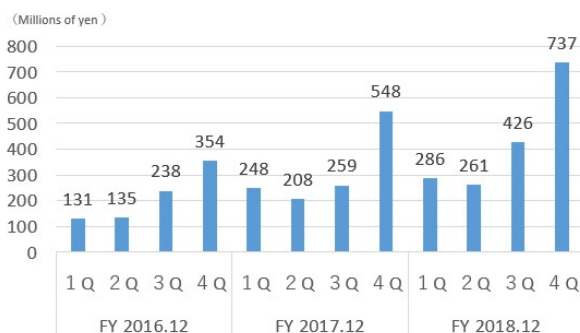
Operating income (Quarterly)



Business Sales (Quarterly)



Ad Hoc Sales (Quarterly)



Performance of each business segments

							(Millions of yen)
	FY 2013.12	FY 2014.12	FY 2015.12	FY 2016.12	FY 2017.12	FY 2018.12	FY 2019.12 Est
Sales	1,530	1,951	2,414	2,632	3,226	3,577	4,250
(YoY)	31.1%	27.5%	23.7%	9.0%	22.6%	10.9%	18.8%
Data Network Service	1,053	1,213	1,449	1,438	1,571	1,467	1,749
(YoY)		15.2%	19.5%	-0.8%	9.2%	-6.6%	19.2%
(% of Sales)	68.8%	62.2%	60.0%	54.6%	48.7%	41.0%	41.2%
Maintenance	600	656	719	805	867	906	
(YoY)		9.3%	9.6%	12.0%	7.7%	4.5%	
(% of Sales)	39.2%	33.6%	29.8%	30.6%	26.9%	25.3%	
Package	452	557	730	611	589	412	
(YoY)		23.2%	31.1%	-16.3%	-3.6%	-30.1%	
(% of Sales)	29.5%	28.5%	30.2%	23.2%	18.3%	11.5%	
CADA-BOX				20	75	57	
(YoY)					275.0%	-24.0%	
(% of Sales)	0.0%	0.0%	0.0%	0.8%	2.3%	1.6%	
Other				1	13	23	
(YoY)						76.9%	
(% of Sales)	0.0%	0.0%	0.0%	0.0%	0.4%	0.6%	
Subsidiary					26	67	229
(YoY)						157.7%	241.8%
(% of Sales)	0.0%	0.0%	0.0%	0.0%	0.8%	1.9%	
Data utilization services	476	737	963	1,194	1,654	2,110	2,500
(YoY)		54.8%	30.7%	24.0%	38.5%	27.6%	18.5%
(% of Sales)	31.1%	37.8%	39.9%	45.4%	51.3%	59.0%	58.8%
MDV analyzer	174	215	240	263	296	339	
(YoY)		23.6%	11.6%	9.6%	12.5%	14.5%	
(% of Sales)	11.4%	11.0%	9.9%	10.0%	9.2%	9.5%	
Ad Hoc Survey Service	302	521	686	858	1,263	1,710	
(YoY)		72.5%	31.7%	25.1%	47.2%	35.4%	
(% of Sales)	19.7%	26.7%	28.4%	32.6%	39.2%	47.8%	
Other			36	71	45	0	
(YoY)					-36.6%	-100.0%	
(% of Sales)	0.0%	0.0%	1.5%	2.7%	1.4%	0.0%	
Subsidiary					49	60	160
(YoY)						22.4%	166.7%
(% of Sales)	0.0%	0.0%	0.0%	0.0%	1.5%	1.7%	

Source : Company data

Financial Statements

○Balance sheets

(Millions of yen)

	FY 2014.12	FY 2015.12	FY 2016.12	FY 2017.12	FY 2018.12
Assets					
Current assets					
Cash and deposits	1,799	1,752	1,959	1,798	1,675
Accounts receivable-trade	433	597	770	794	949
Deferred tax assets	7	8	9	30	26
Other	4	26	49	87	135
Current assets	2,275	2,416	2,797	2,864	2,799
Noncurrent assets					
Property, plant and equipment	119	97	106	173	224
Intangible assets	146	195	127	476	369
Investments and other assets	111	206	161	239	473
Noncurrent assets	377	497	394	888	1,066
Assets	2,659	2,919	3,194	3,752	3,866
Liabilities					
Accounts payable-trade	53	64	40	40	28
Current liabilities total	362	408	364	551	544
Noncurrent liabilities	26	21	20	37	44
Liabilities	387	429	384	588	587
Net assets					
Shareholders' equity	2,272	2,490	2,810	3,164	3,278
Net assets	2,272	2,490	2,810	3,164	3,278
Liabilities and net assets	2,659	2,919	3,194	3,752	3,866

Source : Company data

Financial Statements

○Statements of income

(Millions of yen)

	FY 2014.12	FY 2015.12	FY 2016.12	FY 2017.12	FY 2018.12
Net sales	1,951	2,414	2,632	3,226	3,578
Cost of sales	385	516	458	620	798
Gross profit	1,566	1,897	2,174	2,606	2,780
GPM	80.3%	78.6%	82.6%	80.8%	77.7%
Selling, general and administrative expenses	1,305	1,615	1,743	2,037	2,428
Operating income	261	282	431	569	352
OPM	13.4%	11.7%	16.4%	17.6%	9.8%
Non-operating income	1	0	1	0	0
Non-operating expenses	13	3	16	4	0
Ordinary income	249	280	416	565	352
Extraordinary income	0	0	0	0	0
Extraordinary loss	4	18	122	18	37
Income taxes	109	98	116	193	254
Net income	135	164	178	355	69

Source : Company data

○Cash flow statement

(Millions of yen)

	FY 2014.12	FY 2015.12	FY 2016.12	FY 2017.12	FY 2018.12
Cash flows from operating activities	206	118	196	486	120
Cash flows from investing activities	-108	-218	-145	-740	-272
Cash flows from financing activities	1,022	53	140	-8	28
Cash and cash equivalents	1,799	1,752	1,959	1,698	1,575

Source : Company data

○Financial indicators

	FY 2014.12	FY 2015.12	FY 2016.12	FY 2017.12	FY 2018.12
ROE	8.0%	6.9%	6.7%	11.9%	2.2%
ROA	0.0%	0.0%	0.0%	0.0%	0.0%
CAR	85.4%	85.3%	88.0%	84.3%	84.8%
Current ratio	629.0%	592.7%	769.0%	520.0%	514.9%

Source : Company data

Corporate History

Before founding the Company, Group CEO Iwasaki was involved in a project for the medical industry at the multimedia/IT-related firm for which he worked. During his research, he learned about the state of the medical industry and its problems, and he felt an impending dread that a crisis in the medical industry would lead to future collapse in Japan. At that point, he resolved to be a part of the solutions for the industry's problems. MDV was founded in 2003 by way of JMDC (formerly, Japan Medical Data Center). Coinciding with the implementation of the DPC system, the Company developed an administrative support system for DPC hospitals. MDV began actively holding user conferences and other study groups as the number of hospitals that installed its systems grew, furthering its trust-based relationships with them. By building relationships of mutual trust and continuing its marketing efforts, the Company has taken approximately 45% of the DPC hospital market. It continued to install systems and accumulate data, and now it has built a database covering 26 million individuals. After releasing its systems, the Company needed time to increase its user base, and it even had a temporary cumulative loss of ¥900 million at one point. After discussing future plans for data utilization with industry leaders and companies that it thinks will need such services in the future, MDV approached some of these companies for investments. In 2006, the Company received investments from major wholesaler Medipal Holdings (then called Kuraya Sanseido), Mitsubishi Trading, pharmaceutical development supporter CMIC, and medical device manufacturer Fuji Film. MDV was listed on the TSE's Mothers Index in 2014, and it was assigned to the TSE's section one in November 2016.

Company Profile

Name	Medical Data Vision Co., Ltd.
Code	3902
Established	Aug-03
Capital	987,156,800 yen (December 2017)
Head Office	Sumitomo Real Estate Kanda Building 10F Chiyoda-Ku, Kanda, Mitoshiro-Cho 7 Tokyo, Japan
Business	Development, production, sales and maintenance of medical information integrated system. Analysis, investigation and consulting of various medical data. Management consulting for medical institutions. Operation and provision of various medical data. Planning, design, development and management of portal site. Employment introduction business (13-yu-302515) based on the employment security law.
Employees	220 (Dec 2018)

Shareholder composition

On Dec 2018, Shareholders of MDV is as follows. (Largest shareholder is FUJIFILM as it was discussed in corporate history.)

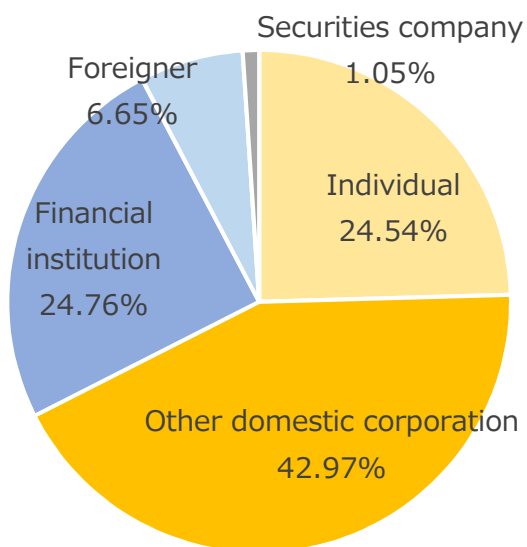
Issued stocks and number of shareholders

Issued stocks and number of shareholders	40,027,526
Total number of share holders	6,585

Major shareholders

Name	Owned share (%)
FUJIFILM Corporation	28.21
Japan Trustee Services Bank, Ltd. (Trust account)	13.34
Medipal Holdings Inc.	8.02
Takahiro Suzuki	3.87
Mitsubishi Corporation	3.19
Japan Master Trust Bank, Ltd. (trust account)	2.93
Hiroyuki Iwasaki	2.89
CMIC Holdings Co., Ltd.	2.39
Takahiro Yamaguchi	2.39
Japan Trustee Services Bank, Ltd. (9 trust accounts)	1.97

Shareholder Distribution



Risks

▼ CADA-BOX installation delays

Currently, MDV continues to actively conduct sales activities for the installation of CADA-BOX. But if it does not make progress as planned, it will struggle to develop new data utilization services.

However, according to the firm, if it can install CADA-BOX in approximately 30 hospitals, it will be a small start, but it will enable the development of new data utilization services.

▼ Medical system revisions

The Japanese government's growth strategy, the Japan Revitalization Strategy Rev. 2015, states that for the focal period that continues until 2020, the government should thoroughly promote ICT utilization in the medical field.

Furthermore, the new growth strategies formulated in Investments for the Future Strategy 2017 coincide with MDV's approach of using big data in the medical field. From these strategies, it is evident that the use of big data in medical applications is a key component for promoting the government's growth strategy. It is highly likely that MDV's lead in the use of medical big data will provide a tailwind to its businesses that target private companies.

However, if there is a significant backlash against using medical data (though, at present, the likelihood of this is low), it could have a negative impact on the firm's business progress.

▼ Data leaks

A leak of data gathered using CADA-BOX is a considerable risk for the firm, as it could make it difficult to continue its business. The company is building highly secure environments inside and outside its facilities.

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