Featured Articles

Hospital Management Solutions Implemented in Partnership

Koji Hirata, Ph.D.
Kazuaki Mukai
Asuka Kihana
Yuta Miyakawa
Hiromitsu Negishi

OVERVIEW: Hospital management solutions from Hitachi constitute a service business that helps improve operational efficiency at hospitals by Hitachi acting as a partner engaged in comprehensive and ongoing activities that relate to the various management challenges that hospitals need to deal with, including optimizing the operation of hospital infrastructure such as diagnostic imaging systems and operating theaters, improving the efficiency of hospital workflows, and managing patients in ways that include working with the community to manage hospital admissions. One of the core elements of this is a service business launched a few years ago that focuses on supporting the operation of diagnostic imaging centers. For hospitals in Japan and elsewhere, Hitachi is seeking to establish relationships with administrators, clinical departments, and radiology departments, and to identify and overcome the challenges facing hospital administration, through efficient hospital administration, particularly in radiology departments.

INTRODUCTION

IT was in the late 1980s that debate got underway at a national level in Japan about the need to take steps to deal with changes in the conditions under which hospitals operate, including the aging of the population, changing patterns of ill health, and wider use of advanced medical equipment.

Studies into the modernization and regularization of hospital management conducted by Japan's then Ministry of Health and Welfare with the aim of improving hospital functions and patient service led to the establishment in 1986 of a discussion group on the modernization and regularization of medical administration, which published a report of its findings the following year[(1)]. This report identified three requirements for future medical administration: (1) Improve the managerial skills of hospital managers, (2) Rationalize practices and improve efficiency, and (3) Tailor management to the needs of the community. In 1988, a report from the Medical Business Review Committee noted the importance of consulting to hospital management.

Now, 30 years after these developments, the scope of the hospital management consulting market has expanded such that the value that consultants can provide to hospitals and the value that hospitals seek from consultants have both become more diverse, encompassing things like finance, organizational management, and recruitment, and this has resulted in the market growing into one that requires an even greater level of differentiation.

The vision underpinning Hitachi's healthcare business strategy is to build a society in which everyone can live in good health, safety and security. To realize this vision, Hitachi is pursuing a healthcare innovation business in which patients, medical institutions, insurers, and local government play a role as stakeholders. Its aim is to improve the quality and efficiency of healthcare by operating service businesses that optimize all stages of the care cycle at hospitals and in community healthcare (see Fig. 1).

PROGRESS ON HOSPITAL MANAGEMENT SOLUTION SERVICES INVOLVING COLLABORATIVE CREATION WITH CUSTOMERS

Hospital management solution services from Hitachi constitute a service business based on collaborative creation with customers that helps improve operational efficiency at hospitals by Hitachi acting as a partner and engaging in comprehensive activities that relate to the various management challenges that hospitals

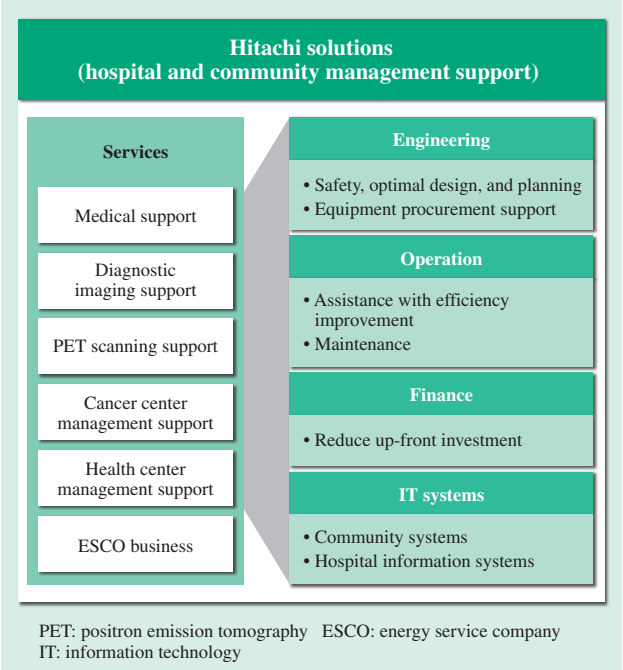

Fig. 1—Hospital and Community Healthcare Solutions Targeted by Hitachi.
Hitachi supplies services for hospital and community healthcare that optimize all stages of the care cycle.

need to deal with, including optimizing the operation of hospital infrastructure such as diagnostic imaging systems and operating theaters, improving the efficiency of hospital workflows, and managing patients in ways that include working with the community to manage hospital admissions.

Hitachi sees these activities as part of the consulting services it offers for medical administration, with the aim being to work with customers to deliver improvements in three particular areas, namely (1) hospital management, (2) the quality of healthcare, and (3) patient satisfaction.

The following sections describe examples of these activities.

Ways of Improving Hospital Administration

At a hospital where it provided a positron emission tomography (PET) support service[(2)], Hitachi started work in early FY2000 on suggesting and implementing improvements aimed at hospital-wide optimization by liaising between managerial and clinical staff.

Initially, to proceed with improvements in hospital administration in accordance with policies set by the hospital manager, improving clinical efficiency in ways that lead to higher profitability was set as the goal of the administrative improvement activities, meaning the implementation of an environment in which clinical staff could focus on their core medical duties. Accordingly, top priority was given to hospital-wide optimization in accordance with policies set by the hospital manager.

While the project adopted performance-related payment as the basis for charging for services relating to administrative improvement activities, a feature of Hitachi's approach is that it also involved priming administrative improvements through up-front investment in manpower costs and resources such as information technology (IT). This approach was intended to provide greater clarity in the sharing of risks and benefits between Hitachi and the hospital and is seen as a useful way to keep both parties motivated to work together on administrative improvements. Furthermore, another feature of Hitachi's involvement was that it went beyond merely suggesting and proposing improvements to hospital administration and included continuing to work with the hospital on the joint implementation of initiatives until the actual improvements to hospital administration became clearly evident. This included working at the hospital to support these actions and ongoing work with clinical staff after actions had been implemented to assess their effectiveness (see Fig. 2).

Hitachi worked with the hospital's stakeholders on measures for dealing with a number of challenges. This article describes two such examples involving establishing practices for facilitating early discharge and supporting hospital admissions, and initiatives for making better use of available surgery slots.

(1) Establishment of practices for facilitating early discharge and supporting hospital admissions

An inability to properly coordinate patient discharges meant that a surgical ward was unable to increase the number of new admissions it could accept, leading to an ongoing problem with poor ward turnover. Following consultations with doctors, nurses, and other staff, Hitachi identified the current practice of placing busy doctors in charge of determining where patients were to be transferred and of coordinating the transfer process, and the small number of candidate hospitals to which patients could be transferred, as being among the potential reasons for this poor coordination of patient discharges. In the case of the admission of new patients, in addition to these problems with coordinating hospital transfers, the investigation also uncovered a new problem whereby the ward admissions process was taking too long due to increases in the number of patients transferred from other wards and the number of pre- and post-operative patients.

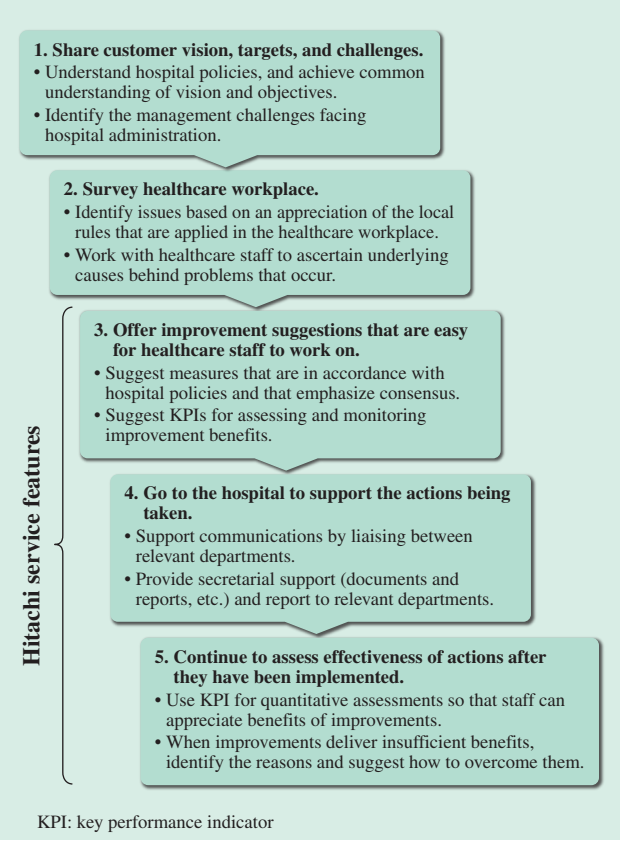

Fig. 2—Features and Flowchart of Hitachi's Hospital Management Solution Service.
In addition to surveys and advice, Hitachi's hospital management solution service features ongoing support.

To take on the problem of poor coordination of patient discharges, a nine-month trial was conducted during which authority for the job of coordinating transfers, previously the responsibility of doctors, was reassigned to the ward's medical social worker who works for the community healthcare liaison department. The trial achieved an increase in the number of transfer coordination cases from 43 prior to the reassignment of the social worker to 111 after they became involved. In addition to demonstrating that early intervention by the social worker can reduce the workload for doctors, these results also led to faster transfer coordination processing. With regard to making additional hospitals available as potential transfer destinations, a number of candidates chosen jointly by the community healthcare liaison department and Hitachi were visited to make new destinations available for patient transfers. Similarly, to deal with the inability to increase the number of new admissions, a seven-month trial was conducted in which the community healthcare liaison department took on some of the work of processing admissions that was previously administered by ward nurses. The trial demonstrated that this led to faster admissions processing, with the number of admissions increasing from 309 prior to community healthcare liaison department involvement to 358 afterwards. Furthermore, collating information on the above transfer coordination and admissions processing in the community healthcare liaison department enabled the management of admission and discharge for each patient to be consolidated.

(2) Making better use of available surgery slots

It goes without saying that the more operations a hospital performs the better it is for hospital revenue. Accordingly, with the aim of increasing the number of operations performed at the hospital described above, a study was launched to look at changes aimed at optimizing surgery slots and encouraging the use of free slots based on a proposed target for the number of operations.

Hitachi consulted with ward medical directors for 23 clinical departments and 28 departments that use operating theaters and collated the number of doctors, patients waiting for surgery, and duration of wait for each department, whether they wanted to increase or decrease the number of surgery slots, and their comments and suggestions for surgery departments.

When Hitachi analyzed the information collected on the number of doctors, patients waiting for surgery, and duration of wait for each department, and whether they wanted to increase or decrease the number of surgery slots, those clinical departments (including orthopedics, neurosurgery, gastrointestinal, and cardiovascular) with a large number of doctors, patients waiting for surgery, and long wait times tended to have a higher demand for increasing the number of surgery slots, indicating that they should be given priority for increasing the number of surgery slots. On the other hand, those clinical departments that tended to have a comparatively smaller number of patients waiting for surgery and shorter wait times, and those where the scheduled surgery times are less than the available surgery slots, in other words those departments that have a low key performance indicator (KPI) for planned utilization (for the purposes of this article: scheduled surgery time/available surgery time) (otolaryngology 15%; ophthalmology 18%; plastic surgery 25%), tended not to have a strong need for additional surgery slots, and consideration was given to whether it would be desirable to combine the available surgery slots in these departments with the available surgery slots in other departments with a similar tendency so that they operate as shared slots.

Based on suggestions derived from the results from the actual data collected and analyzed by Hitachi, hospital administrators undertook a revision of surgery slots for the first time in about a decade.

The feedback from clinical departments also indicated problems such as the difficulty of obtaining informed consent from patients and coordinating surgery schedules due to the short time between making a provisional reservation for an operating theater and its actual use for surgery, which is only seven days under current operational rules, and issues such as lack of clarity as to whether or not slots are genuinely available when viewing electronic medical records from IT terminals in clinical departments because the information on the availability of free surgery slots does not match the information for slots available in the surgery department itself. In response, Hitachi looked at how to encourage the use of free slots by making it easier to book surgery from a clinical department. This led to a change in practice whereby the time between a provisional reservation being made for an operating theater and its actual use was doubled to 14 days to provide an environment in which it is easy to book a free operating theater slot. They also established an environment in which the date for surgery can be decided between the patient and doctor face-to-face by giving doctors in clinical departments the ability to check the availability of free slots in realtime during patient consultations by making a specification change so that the availability of anesthesiologists can be understood from electronic medical records in a way that can indicate free operating theater slots. These initiatives succeeded in improving the utilization of surgery slots.

OPERATIONAL SUPPORT SERVICE FOR DIAGNOSTIC IMAGING CENTERS

Whereas the hospital management solution service described above is an all-encompassing initiative that undertakes improvements in a strategic manner by taking a broad view of all hospital activities, the operational support service described in this section is targeted specifically at diagnostic imaging centers.

The operational support service for diagnostic imaging centers incorporates know-how and experience gained in the hospital management solution business and has the following three features.

(1) Installation of diagnostic imaging systems

Hitachi installs diagnostic imaging systems from the hospital's vendor of choice. Hitachi provides engineering support to ensure that the latest equipment operates at the time of installation together with other added value such as formulating a 10-year business plan. The latest equipment is installed under Hitachi ownership, which has the advantage of reducing the hospital's high property tax burden.

(2) Support for overcoming hospital problems

Hitachi helps overcome problems that hospital staff are unable or find difficult to deal with, including coordinating the different hospital departments, promotional work, and setting operating targets for the diagnostic imaging center that include indicators of the ability to attract patients.

(3) Risk sharing

The use of performance-based service fees means that Hitachi takes on a level of risk similar to the hospital, providing a mechanism for support over a long period of time until operating targets are achieved.

The operational support service for diagnostic imaging centers is based on the assumption that support for the hospital will typically continue for 10 years and involves three steps until the results are achieved (see Fig. 3).

In the first step, Hitachi spends three months proposing operating targets and plans for the diagnostic imaging center to the hospital. To set targets that can be agreed to by both hospital administrators and frontline staff, a project team is set up with members from both the hospital and Hitachi to first identify the operational issues by analyzing data on current circumstances and to set targets that the hospital can achieve. Meanwhile, Hitachi also consults with everyone from hospital administrators to frontline staff to identify workplace issues. Once all of this information has been collated by the project team, 10-year operating targets and plans are prepared for the diagnostic imaging center.

Once agreement on these operating targets and plans has been reached between the hospital and Hitachi, the second step is for the two partners to work together to achieve the operating targets, typically over a three-year timeframe. The focus during this stage is on increasing the number of outpatient tests performed. This involves providing ongoing support that includes improving test bookings, introducing support staff, installing the latest diagnostic imaging systems, and promotional advertising.

The third step is to support stable operation of the center over a seven-year period to keep achieving the operating targets. This provides long-term support for maintaining the practices that continue to deliver

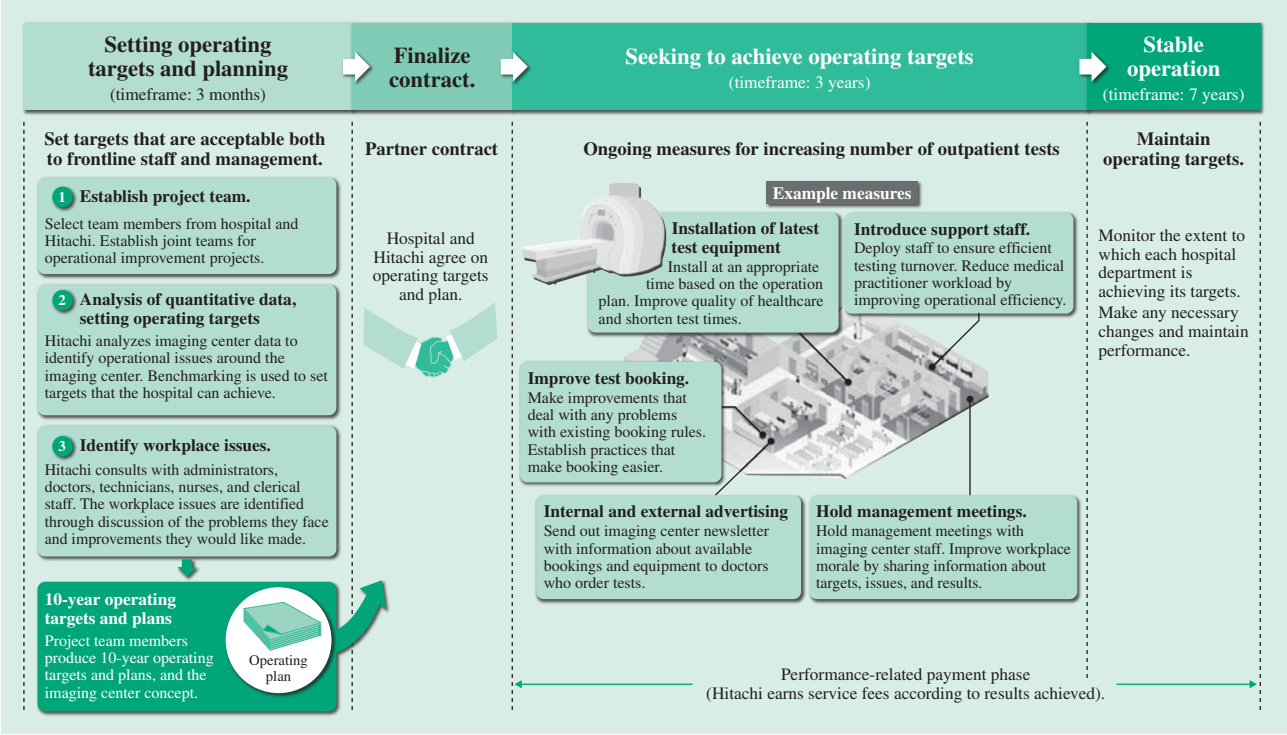

Fig. 3—Flowchart of Operational Support Service For Diagnostic Imaging Centers.
The figure shows an example of measures taken to achieve hospital operating targets. Hitachi works with the hospital to formulate solutions to healthcare workplace issues and supports both the initial and ongoing achievement of operating targets.

results while making course changes as needed by monitoring how well each of the hospital departments achieves its targets.

CONCLUSIONS

Hitachi is deploying its healthcare innovation business outside Japan as part of a strategy of accelerating the expansion of its overseas business. In accordance with this strategy, Hitachi is trialing a "market-in approach" in China and India in keeping with community needs based on business experience in Japan.

In China, Hitachi is seeking to market solutions for business efficiency improvement based on past experience to potential partner hospitals against a background of public hospitals being privatized at an accelerating rate in accordance with national policy.

In India, responding to the ongoing government-led provision of hospital infrastructure, Hitachi is seeking to investigate opportunities for healthcare solution services in that country by participating in an international demonstration project organized by Japan's New Energy and Industrial Technology Development Organization and working on a hospital energy efficiency project of the All India Institute of Medical Sciences.

In the future, Hitachi intends to expand these businesses as part of its Social Innovation Business, which is being promoted in accordance with its announced global community strategy.

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ABOUT THE AUTHORS

Koji Hirata, Ph.D.
Advanced Medical Services Department, Healthcare Solutions and Services Division, Healthcare New Business Development Office, Healthcare Company, Hitachi, Ltd. He is a pharmacist and currently engaged in business development of healthcare solution services.

Asuka Kihana
Advanced Medical Services Department, Healthcare Solutions and Services Division, Healthcare New Business Development Office, Healthcare Company, Hitachi, Ltd. She is a radiological technologist and currently engaged in business development of healthcare solution services. Ms. Kihana is a member of The Japan Society of Ultrasonics in Medicine.

Hiromitsu Negishi
Advanced Medical Services Department, Healthcare Solutions and Services Division, Healthcare New Business Development Office, Healthcare Company, Hitachi, Ltd. He is currently engaged in business development of healthcare solution services.

Kazuaki Mukai
Advanced Medical Services Department, Healthcare Solutions and Services Division, Healthcare New Business Development Office, Healthcare Company, Hitachi, Ltd. He is currently engaged in business development of healthcare solution services.

Yuta Miyakawa
Advanced Medical Services Department, Healthcare Solutions and Services Division, Healthcare New Business Development Office, Healthcare Company, Hitachi, Ltd. He is a certified social worker and currently engaged in business development of healthcare solution services.