Care Solution That Benefits Aging Society

● Hitoshi Hatakeyama

In response to the rapid aging of society and the diversification of user needs, the Japanese nursing-care insurance system and the care service industries have been undergoing continuous transformation. Likewise, the demands of the care service providers for their business support systems are also changing. When Japan's first nursing-care insurance system went into effect in April 2000, Fujitsu began offering care service providers the business support package HOPE/WINCARE. Ever responsive to the needs of the time, we have provided new functionality such as reliable billing, improved efficiency in billing paperwork, care record sharing and data editing, and form creation through processing. We have helped to increase work productivity and have continuously striven to improve functionality. Moreover, in February 2010, we released HOPE/WINCARE-ES as a new product in the HOPE/WINCARE series. The concept was twofold: to provide more comfortable operation and to utilize records to achieve quality improvements in care service. This paper describes Fujitsu's care solutions based on the HOPE/WINCARE series.

1. Introduction

The nursing-care insurance system was enforced in April 2000 as a system to support nursing care in a united and nationwide effort. The aim was to allow aged people to live independent lives in familiar places even after they started to need long-term care. Significant system reform followed, and a preventive service in the long-term care system was introduced. It is intended to allow aged people who are likely to need long-term care to continue living the same way as they always have, as much as possible. There is a trend toward reducing social security expenses, with the falling birthrate and aging population in the background. However, in system reform, the government has tended to downwardly revise nursing-care payments compared with the previous fiscal year, until the nursing-care payment revision in 2006. In the next reform in 2009, the payments were upwardly revised for the first time to improve the treatment of nursing-care staff.

Meanwhile, the demands that care service providers place on their business support systems have been changing along with the trends of the system and industry. Previously, billing computers (computers used for processing nursing-care payment claims) were mainly used at the start of the system. They are now used in a more advanced way, aiming to utilize care records and statistics to improve the quality of care services. Fujitsu released HOPE/WINCARE (hereafter WINCARE), a business support package for care service providers, as a care solution in September 1999 and has since been offering products that meet the demands mentioned above.

This paper describes the solutions provided so far by WINCARE in response to the nursing-care insurance system and industry trends, and how the demands can be met in the future.

2. Market trends and history of nursing-care insurance

Figure 1 shows the relationship between the changes in the elderly population and nursing care service market. Those aged 65 or older numbered 22 million in 2000, when the nursing-care insurance system was enforced, but they have increased to about 29.5 million as of 2010 and this figure is estimated to grow 1.6 times to reach 36 million in 2020.[1] This is equivalent to 29.2% of the entire Japanese population, which means that the super-aging society has progressed so that one in three people are elderly. From an international viewpoint, Japan's rate of aging is estimated to be the highest by far when compared with other advanced nations, whose populations have an average elderly percentage of 19%.

The number of people certified as requiring care, the number of care service providers and the care benefit value are also increasing along with the rising elderly population[2)–4)] and the number of people certified as requiring care has been hovering at about 16% of the elderly population. The number of people who actually use the services is about 3.95 million in 2010, 80% of those certified as requiring care. The care benefit value is the total amount of money paid out of the insurance fund when recipients use the nursing-care insurance services.

While the number of care service providers has been on the increase, many service providers have stopped doing business because of the system revisions that kept decreasing the nursing-care payments. Corporate mergers and acquisitions and business tie-ups have often taken place as well. On the other hand, the individual care offices have been made smaller because the system seeks to ensure service resources based on daily living areas. In this way, the trend has been for corporations to become larger and offices to become smaller, and this is expected to continue in the future.

The history of nursing-care insurance is shown in **Table 1**. Payments made in the nursing-care insurance system are revised every three years. The revisions kept decreasing the payments until the one in 2006. In response to the shortage of nursing care workers, however, the revision in fiscal year 2009 increased the payments for the first time. Still, increasing the payments from the previous amount alone is not quite enough to improve the treatment of nursing care workers. In addition, a subsidy for

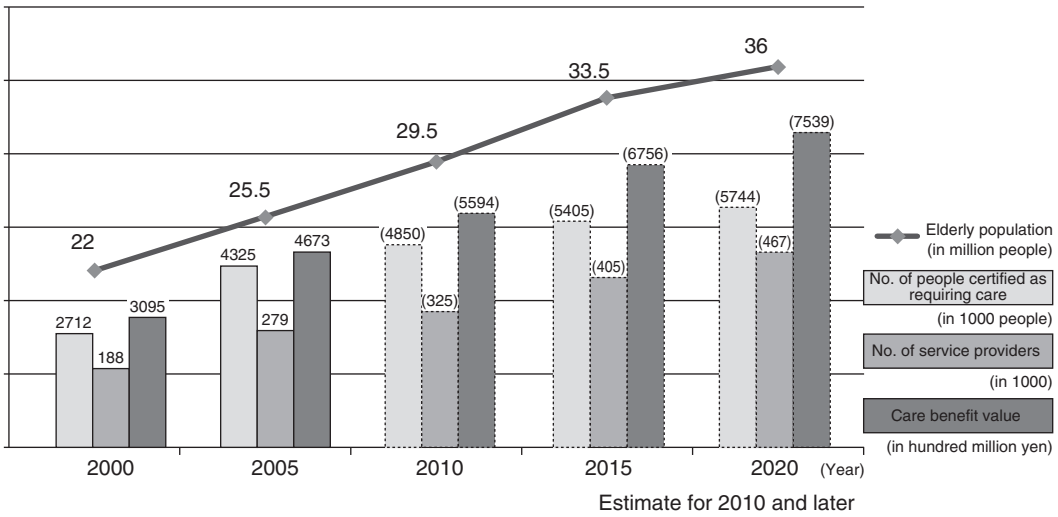

Figure 1
Changes in elderly population vs. care service market.

Table 1
History of nursing-care insurance.

Year	System reform	Industry trend
2000	● System enforced	
2002	Unification of maximum payment	Dramatically increased participation from other sectors
2003	● Payment revision (decrease)	Intensification of activities to reduce paperwork
2005	Start of personal payment for food and boarding expenses	
2006	● Payment revision (introduction of preventive service to long-term care)	Difficulty in ensuring and keeping nursing-care workers
2008	Long-stay beds-converted health facilities for the elderly	Acceptance of foreign care workers based on EPAs
2009	● Payment revision (increase)	
2010		Improvement of treatment and introduction of career improvement system
2012	● Payment revision (scheduled)	

improving the treatment of nursing-care staff, which an organization can receive only if it has introduced a system of career improvement for the workers, has been implemented at the same time. The industry's job turnover is also high at 18.7% in 2008, where the average of all industries is 14.6%. This is the third highest following the restaurant and lodging industry and other service industries. It is likely that nursing-care staff will be in even shorter supply in the future and, as a measure to address this issue, the acceptance of Filipino and Indonesian nurses and nursing care workers started in fiscal 2008. This was based on the conclusion of Economic Partnership Agreements (EPAs) with those countries, although the number of people accepted is still small. Revisions are often made in addition to the triennial payment revision. With revisions of related systems such as the tax system and medical insurance counted in, a revision of some sort is made almost every year. The paperwork that service providers have to do increases every time a revision is made, and so they have started turning their attention to improving the efficiency of the management and recording processes and billing paperwork. This has put the spotlight on ICT solutions as a means of improving management.

3. Changes in demands for business support systems

Computer systems have now become indispensable to nursing-care service providers. The government designed the nursing-care insurance system by assuming that computer systems would be used even before the start of the system. Examples of such features of the system include the use of computers to make a primary judgment on the certification of long-term care needs and payment claims via transmission and electronic media. In this section, we divide the changes in the demands for business support systems into four phases and explain the solutions offered by WINCARE in the respective phases.

1) Phase 1: Demand for reliable billing

Nursing-care payment claim processing and user billing are important processes that have a major impact on the subsequent continuation of business and many business support systems in the first phase focus on this issue. One representative system is *Kaigo Denso Soft* (nursing-care information transmission software) provided by the All-Japan Federation of National

Health Insurance Organizations. This software is equipped with a function to send billing data via ISDN lines.

WINCARE was released in September 1999 and the first nursing-care payment claims were made with the system in May of the following year. They were the first nursing-care payment claims made after the nursing-care insurance system went into effect, and there were concerns about possible misinterpretation and form nonconformity in making the claims. However, the system proved capable of reliably issuing bills and won high commendation from national health insurance organizations and local governments as well as customers.

2) Phase 2: Demand for improved efficiency in billing paperwork

Around 2003, when the first payment revision was made, payment claim processing had become a common function and the requirements demanded by the revision, such as functions to manage records and additional conditions, gained importance. In addition, systems that allow information to be easily viewed and input started to be called for around this time to meet the demand for more efficient paperwork. In the first phase, when the major demands related to payment claims arose, the need was for professional systems that can be conveniently used by those with knowledge. In the second phase, however, systems that are user-friendly and can be easily used by anybody started to prove useful.

For WINCARE in the second phase, we focused on enhancing the collective processing functions for improved efficiency in billing paperwork. In particular, we added a function to allow collective registration and deletion of many users of items relating to additional information and personal payments. Traditionally, these needed to be input for each user. We also added a convenient function that collectively creates billing information based on the conditions of service use. These additions were acknowledged as allowing staff to reliably process paperwork in a short time and were rated highly. With WINCARE V2, which was released in September 2004, process functions were provided based on the concept of "simple and quick to use" also in the field of care records. Representative of those functions are the capability to input body temperatures and blood pressures of many facility residents simply by clicking on panel buttons that already show the measured values, and the function to collectively input records of bathing, recreation, rehabilitation, and such like from the list of planned users. With the record input function, any abnormal body temperature and blood pressure registered as vital records were automatically posted in the bathing, recreation and rehabilitation records. This prevented duplicate input and allowed for well-grounded record input.

3) Phase 3: Demand for higher service quality

The revision in 2006 introduced the concept of long-term care prevention. A system in which a service provided that has helped to improve the level of care required is rewarded with addition as an incentive fee was also introduced. By this time, new demand arose for effectively using data to improve the quality of services, which are the main business, in addition to improving efficiency. Specifically, there was a demand for editing and processing data maintained in the system to create worksheets and use them as reference materials in evaluating and analyzing the content of support.

To improve the quality of nursing-care services, it is important to evaluate the effect that the support and services provided have on the users. Such evaluation also needs to be based on set targets and plans need to be made for improving planning and services. To address this need, WINCARE offered care summarizer, which allows people to easily view various care and progression records, as an evaluation support tool. This has made it possible to readily check various records and the conditions of users and

easily conduct evaluation. In addition, the form interface function, which is capable of outputting user attribute information and daycare service information to external data files for editing, and processing the information to be offered to service providers for free use, was also provided.

4) Phase 4: Demand for regional cooperation and networking

The payment revision in 2009 was mainly intended to promote functional specialization and cooperation between medical and nursing-care services. The next revision in 2012 is expected to take place at the same time as the medical fee revision and even further cooperation will be called for. The Regional Comprehensive Care Study Group Report, published in May 2009, also requires integrated provision of medical, nursing-care and welfare services in daily living areas (regional comprehensive care). The paths of regional medical cooperation, which we expect to develop in the future, include nursing-care services. And the role played by ICT solutions is significant in the effective functioning of cooperation networks. Unlike the self-contained needs up to the third phase, the fourth phase will see a new dimension with the construction of a system for outside use to share and utilize information in cooperation with other offices.

4. Outline of solutions provided by new product

Fujitsu announced HOPE/WINCARE-ES (hereafter WINCARE-ES) as a new product in the HOPE/WINCARE series in February 2010. This section describes how WINCARE-ES meets the demands placed on systems.

1) Even more comfortable operability

As mentioned earlier, the user-friendliness of system operation is a major evaluation criterion in selecting a system. WINCARE-ES has restructured processes by consolidating information that traditionally involved more than one process. For example, user attribute information, insurance information and long-time care certification information, which required three separate processes for registration, can now be registered on one screen while checking a nursing-care insurance certificate. Services for facilities are provided with ingenious features. They include the integration of processes for managing residents that go out and sleep out and the managing of providing meals, for enhanced ease of use. This successfully provides easy-to-understand functions suitable for operation. In addition, the complicated process menu has been reviewed and changes have been made to allow a series of processes to be smoothly executed without having to open another submenu. The structure of the menu screen has been completely revised as well to make it easier to understand. A conceptual image of the new menu screen is shown in **Figure 2**. Switching between screens is accomplished by a single click based on the grouping by process and user. And, to select a user, a function is provided for each service that allows a list of relevant users to be easily associated with the menu. The history information of the selected user is constantly updated and the process can be started simply by selecting from a list. Starting one process previously took up to six steps, but with these functions it can now be accomplished in only one. Reducing the number of steps to start a process has reduced the burden of clerical work and lowered training costs.

2) Further utilization of data

The form interface function offered by the existing products has been enhanced to provide a function allowing easy customization of care record slips, daily logs and statistics forms. Forms can be easily customized by using spreadsheet software and a variety of representations such as graphs have become available. Form customization supports the addition and deletion of items as well as layout change, which makes the product flexibly adaptable to changes in the use of forms to respond to revisions.

3) Improved nursing-care service quality

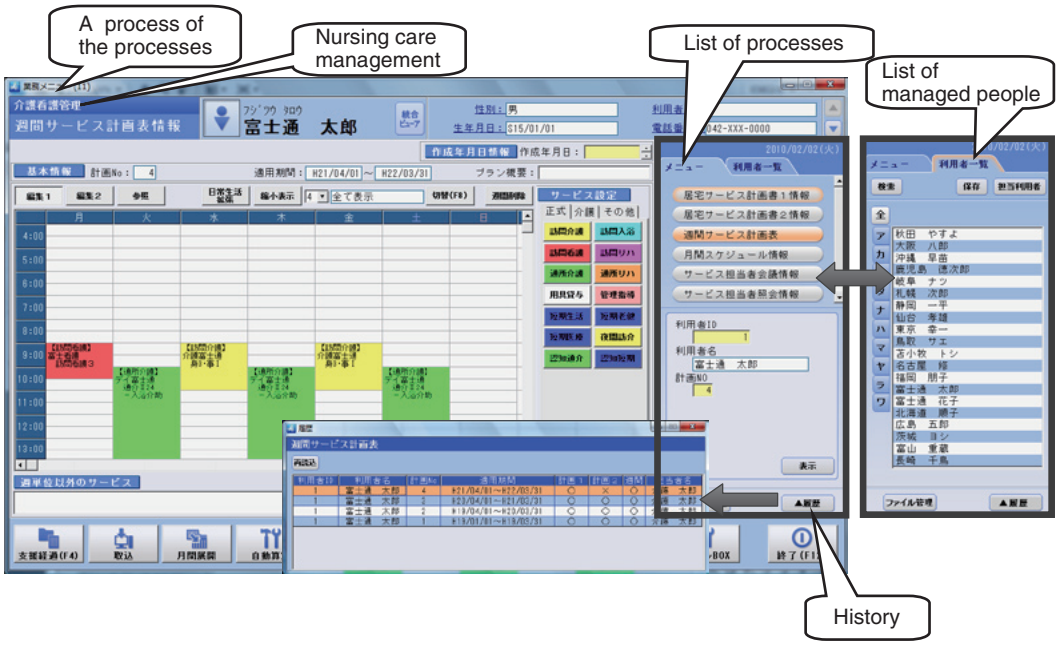

Figure 2
Screenshot of new menu screen.

The tool to allow multiple providers to share care records, which was offered as the care summarizer, has been functionally enhanced by a large degree as the integrated viewer. It has been positioned as the core function of the product. The integrated viewer allows the staff to switch to the original process screen where a record was registered with a single click. It also provides other important functions to allow for team care with cooperation between different job functions such as linking with temperature chart information containing body temperature and blood pressure records and comment sharing between staff members. The temperature chart linking function has made it possible to check and evaluate the conditions of users from various perspectives. For example, the flow of confirming the improved conditions of a user and identifying the reasons can be described as follows. When a sign of improvement (stabilized or normalized vital values) is found by using the vital sign viewing function of the integrated viewer, it shows that the user received a family visit a little earlier. Moreover, the function to link the integrated viewer to the process screen helps to find out who visited and what exchange took place based on the visit and care records. The observation and evaluation in the cause-and-effect relationship and how the condition improves can be reflected in care plans. Conversely, times when a person's condition gets worse can also be investigated in an attempt to work out preventive measures.

Nursing-care services that are networked and based on regional cooperation in the fourth phase require information to be shared with other offices. This is important as corporations become larger and offices become smaller. The integrated viewer provides an ideal function as a tool for sharing information and linking between offices and hubs. It can be used as a nursing-care information network within a corporation. In particular, cooperation with medical institutions will further gain importance in the future, and the linking with HOPE/EGMAIN-NX, an electronic medical record system for mid-level hospitals, is provided as a standard function.

4) Reduction of system maintenance burdens

As a measure for relieving the workload of

system maintenance placed on customers, we have provided a service where information can be revised in accordance with system revisions for the customer environment via lines from the update center. One major problem was that customers with offices in remote places had a heavy workload in terms of maintenance work because of frequent system revisions. WINCARE-ES is capable of reducing this workload by taking advantage of networks to directly provide revision information for the customer environment at each hub.

5. Future challenges

Nursing-care service providers have seen a trend in which corporations have become larger and offices have become smaller. They will require functions allowing a large number of hub offices to be managed. For example, a system of collectively processing medical bills and user bills for multiple offices and reporting the results to individual offices will be essential. Recently, demonstration experiments have been conducted in which billing paperwork, call center functions, material procurement and other processes are integrated into a business center for the individual region to be outsourced. This is exemplified by the government's Visiting Nursing Support Program 2009. These activities are tending to increase and have been expanding to other nursing-care service fields such as special elderly nursing homes. We intend to make our system available for such shared use of centers by means of networks.

6. Conclusion

This paper has described Fujitsu's care solutions realized by the HOPE/WINCARE Series.

We expect the nursing-care market to further expand and diversify due to the aging of the baby boomers in Japan. Nursing-care service providers will be required to flexibly meet various demands and we expect the role of business support systems to become even more important. Fujitsu is committed to making contributions to society together with customers through care solutions so as to respond to changes in the social environment and meet the various demands of the elderly.

References

1) Japan Organization for Employment of the Elderly and Persons with Disabilities: Aged Society Statistics Outline (2009), 2 Population 2-1 Population Changes and Outlook. (in Japanese). *http://www.jeed.or.jp/data/elderly/statistics/statistics01.html*
2) All-Japan Federation of National Health Insurance Organizations: Situation of Certified Persons and Recipients. (in Japanese). *http://www.kokuho.or.jp/statistics/st_kaigo.html*
3) WAM NET: Nursing-Care Service Provider Information Statistics. (in Japanese). *http://www.wam.go.jp/wamappl/jigyosha/00jigyosum.nsf/aSelectMonth?OpenAgent&y=2010*
4) All-Japan Federation of National Health Insurance Organizations: Situation of Care Benefits. (in Japanese). *http://www.kokuho.or.jp/statistics/st_kaigo.html*

Hitoshi Hatakeyama
Fujitsu Ltd.
Mr. Hatakeyama is engaged in planning and sales expansion of a package system for nursing-care service providers.