In medical care that is strongly linked with the community, Toyama National Welfare Federation of Agricultural Cooperatives Takaoka Hospital aims to provide reliability, confidence, and satisfaction to the patients. Working jointly with TDC (Toyama Data Center), Takaoka Hospital introduced a mobile PC system for the nurses of their Nursing Visit Station. The PC they selected was the TOUGHBOOK W Series.

Nursing visits generate many records and documents. It is very important to have an effective means of entering, managing, and being able to access nursing visit data.

Mr. Ogino, who says, "A mobile PC is essential on nursing visits."

Nursing Visit Station staff who use TOUGHBOOK computers (from left: nurses Takeuchi, Hiki, Ichitani, and Yoshioka).

Takaoka Hospital is a general hospital that provides acute-phase care for Takaoka City and the surrounding area. The acute phase immediately follows the onset of illness or occurs when an illness takes a sudden turn for the worse, and proper healthcare calls for a responsive medical system that is prepared for any eventuality. Appropriate diagnosis, medical treatment, and surgery require highly trained medical staff and advanced equipment. In addition to the usual wards, Takaoka Hospital also has special facilities such as an intensive care unit and a medical emergency center.

On the other hand, from 1987 the hospital has operated a nursing visit service for patients who require treatment at home or who cannot attend out-patient clinics. In July 1999, this was organized into a nursing visit system. At present, four nurses provide round the clock care for about 80 patients who require care at home.

Mr. Maeda, from Toyama Data Center, who had a hand in building the nursing visit system.

Starting with the introduction of electronic medical record keeping, Takaoka Hospital has been a leader among local medical institutes in the adoption of IT. This implementation has advanced as far as the Nursing Visit Station, where data concerning patient condition, medical procedures and nursing service are entered in computer records, and nursing plans and the processing of bills for home care are handled electronically. It became possible for nursing staff to consult, using PDAs (personal digital assistants), health data and treatment history for the patients they visit.

"In a clinical setting, accurate record keeping is of the utmost importance. That being the case, it is most effective to record data at the place where treatment is administered. Even the visiting nurses were provided with PDAs as data entry terminals." (Medical Information Section Chief Koji Ogino)

Problems arose, however, with the PDA system. When the nurses returned to the hospital from visits, it was taking 30 min per person to enter the PDA records in the hospital database. This was generating about 10 hours per nurse per month in the Nursing Visit Station.

"There was only one interface for PDAs, so only one person at a time could upload records to the hospital database. In addition, the transfer was slow. The thing that was really taking time was waiting for the previous person to finish the task." said. Nursing Visit Station Administrator Tomoko Hiki. What is more, on visits, there were some practical difficulties. In the system in use at that time, data for all the patients was stored in the PDA, and the more the data accumulated, the slower the PDA became. Sometimes the PDA forced the user to wait for more than a minute before displaying the requested data. After this experience, when it was time came to upgrade the system, we knew the time had come for a thorough rethinking of the Nursing Visit Station. That's when the mobile terminal was changed from PDA to TOUGHBOOK W Series.
Decisive points: Lightweight, robustness, design

TDC (Toyama Data Center) were called into build the new Nursing Visit Station system. "We adapted our own "Fukushi no Kokoro", translated "Heart of welfare" package software. Out of the several PC options that we provide, the TOUGHBOOK W Series has proved by far the most popular." (TDC System Development Section Chief Ryusho Maeda).

"Light weight could not be the only basis of choice. On house calls, the nurses have to take various other medical equipment, besides a PC. While they travel to patients by car, they still have to carry all their equipment to the room where the patient receives treatment. So, yes, the PC should be as light as possible. Even so, every day, on every call, it has to be carried along with the medical equipment. So we gave as much priority to the ability to withstand knocks and shocks. Naturally, we also looked independently and compared PCs made by other makers. The decision went to the TOUGHBOOK W Series because it seemed the best in terms of reliability." (Ms. Ogino)

Besides routine records, we also use the PC for nursing plans and medical insurance processing

We asked how the TOUGHBOOK W Series was used.
In the morning, after downloading patient data for the day's scheduled visits into her TOUGHBOOK W Series computer, the nurse begins her rounds. During each nursing visit, blood pressure, body temperature, pulse, and other medical data is recorded. As necessary, case history can be displayed, including past treatment and condition, and instructions from the doctor to the nurse can be checked. When the morning rounds are over, the nurse returns to the hospital. After lunch, she leaves for the afternoon round of house calls. After 4 PM, when the final call has been completed, the nurse returns to the hospital and uploads the day's new patient data via the hospital LAN. If there is any other information, such as changes in the patient condition or treatment administered, or information about family caregivers, more detailed entries can be made and registered in the central database.
The staff also have to submit various other routine administrative documents. For example, daily work records, a nursing plan prepared at least once per month, a report to the physician in charge, and billing information that the hospital needs to claim from the national health insurance system for payment for medical treatment. Since the system has been set up so that all of these can be processed on the mobile W Series computers, documentation is carried out really smoothly.

Now that fruitless waiting is no longer necessary, time is used effectively

When asked about usability, a typical response is, "The computer is tough and light, it's easy to use, and you're not kept waiting when you need to use it. If you want to see anything in the case history, it's on screen and instantaneously." (Nursing Visit Station Head, Hiromi Takeuchi).
Finally, don’t forget how easy it is to make a LAN connection from TOUGHBOOK W Series computers to the hospital network. Uploads to the hospital database are much faster, and all the staff are delighted about the improvement. They don’t waste time waiting around, and are able to make effective use of the time that has been freed up. Now they can enter other database information, process documents, draw up the next day's schedule, prepare hand-over notes, and do other tasks. These days they can manage to finish up soon after the regular end of work, and are usually on their way home by half-past five.
This is a huge benefit from the hospital administration point of view. If overtime is no longer necessary, labor costs are reduced and the business side runs more efficiently.
At the hospital, the TOUGHBOOK W Series has become an essential tool that helps, in many ways, visiting nurses to do their jobs effectively. Ms. Hiki brought the interview session to an end with ringing words: "Because we can properly and promptly keep records, besides providing information to doctors, staff, and care managers in the hospital, our PC-based documents can also be made available to other hospitals and facilities. I believe that this keeping of accurate information enables us to provide patients with high-quality care. That's not to say that we are interested in keeping records for their own sake. What we want is to get them out of the way with as little fuss as possible. THE TOUGHBOOK W Series has granted that wish. My computer has become a partner that I just couldn’t live without. I am sure that as we get better at using computers, we can work out how to make this system work even better for us."
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<th><strong>Customer</strong></th>
<th>Toyama National Welfare Federation of Agricultural Cooperatives Takaoka Hospital</th>
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<td><strong>Address</strong></td>
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<td><strong>Software inquiries</strong></td>
<td>TDC (Toyama Data Center, Co., Ltd.)</td>
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