Patients enter their details and symptoms on a tablet terminal

More Efficient Medical Inquiries *Using* **AI**

A new AI-driven medical inquiry service has been launched that is expected to reduce the burden of clerical work for doctors, leaving them more time for patients.

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MANY medical institutions have difficulty reducing doctors' long working hours and patients' long waiting times. One cause is the inefficient management of medical records. During an examination, a doctor verbally confirms the details of the handwritten medical questionnaire completed by the patient in the waiting room and then enters the results into the electronic medical record after the examination.

Dr. Abe Yoshinori, a practicing physician and CEO of Ubie Inc., says, "Doctors are so busy with the clerical work of updating electronic medical records that they cannot focus on medical examinations—their main work." AI-based Patient Interview System "AI-Monshin" developed by the namesake company solves this problem.

AI-Monshin is software that converts information entered by patients on tablet terminals into proper technical terms and displays it on doctors' computers. If patients enter their age, sex and symptoms while waiting for an examination, AI will choose optimum items from 3,500 types of question data and display around twenty questions on the tablet. Patients choose from the items displayed and answer the questions, a process which takes around three minutes. The answers are displayed on doctors' computers as text using medical terms.

Ubie Inc. created an algorithm that optimizes

Abe Yoshinori, MD. Ubie Inc CEO

Data entry screen explaining that if the patient enters the word "head," a range of possible symptoms will then be displayed

Some of the range of data entry options

A patient's medical records are accessible to doctors using the app

the data entry options for each patient by learning from 50,000 pieces of paper data. Unlike conventional medical questionnaires that ask all patients the same questions, the software enables doctors to obtain accurate information from each patient, which can reduce the average inquiry time from 10 to 3.5 minutes. The system is currently being introduced at more than 100 hospitals, which have reported, "The reduction of inquiry time has enabled us to secure more time to communicate with patients." "At medical institutions that have introduced AI-Monshin, when patients enter the examination room, possible names of their ailment have already been displayed on the doctor's computer. This knowledge facilitates

the doctor's decisions on treatment policies. The software can predict the name of a disease with high precision, from more than 1,100 possibilities," says Abe.

In addition, the company has constructed a system for taking photos of drug data books that contain necessary information for medical workers, such as the history of drug use, medical history and allergies, and letters of introduction from other medical institutions using a tablet terminal at the reception desk and displaying these details on doctors' computers. The company is also constructing a system for automatically incorporating the details of inquiries into electronic medical records in collaboration with an electronic medical records developer.

One encounter with a patient when Abe was an intern inspired him to develop AI-Monshin. The patient, who had started to find blood in their stools two years previously, had said, "My condition was not very bad. I was so busy that I was not able to go to the hospital, but I later felt a pain in my back and sought medical advice." An examination revealed that large intestine cancer had metastasized to the patient's bones. Abe says there was nothing he could do.

The experience made him aware of the importance of providing the right treatment to patients at the right time.

Abe says, "I have the idea of constructing a system for users who feel comfortable making medical inquiries at home. If you feel unwell, enter your symptoms into the smartphone app. The data will be sent to the hospital and you can easily consult with a doctor. I also intend to provide multilingual solutions to people all over the world in the future."
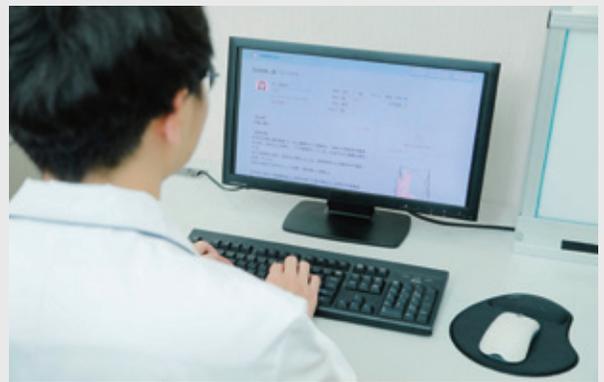
A doctor refers to a patient's symptom entries