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## **NTT Medical Center Tokyo and UBIC Conduct Joint Research on AI-Based System to Mitigate Patients' Risk of Falling**

### **A Move Towards Preventing Unexpected Adverse Events in the Healthcare Field**

NEW YORK, March 16, 2015 (GLOBE NEWSWIRE) -- NTT Medical Center Tokyo and UBIC, Inc. (Nasdaq:UBIC) (TSE:2158) ("UBIC" or "the Company"), a leading provider of international litigation support and big-data analysis services, announced today that they have conducted a joint research program concerning a system designed to mitigate patients' risk of falling in a broader effort to prevent unexpected adverse events in the field of healthcare. The development of this system represents a pioneering initiative to detect signs of potential falling by using AI technology to analyze electronic medical records, thereby reducing the number of cases of in-hospital injury. Through this initiative, NTT Medical Center Tokyo and UBIC aim to drastically enhance the ability of doctors and nurses to ensure a safe environment for patients in an efficient manner.

Preventing patients from falling, among other unexpected adverse events that may occur in hospitals, has been a pressing challenge as the average age of hospitalized patients has increased. Various preventative measures have already been taken, including forecasting the risk of falling by expressing each patient's risk as a score through an assessment tool based on symptoms and other factors that could cause adverse events. Another preventative measure is installing bedside sensors. However, adverse events have not yet decreased sufficiently. The average period of stay for patients using ordinary beds at NTT Medical Center Tokyo from October 2013 to September 2014 was 10.6 days, with around half of the hospitalized patients discharged within six days. A solution that makes it possible to quickly identify each patient's risk of falling was needed.

The joint research program began in February to detect signs indicating the possibility of an individual patient's fall using UBIC's AI technology, which made it possible to accurately identify relevant information from among a huge amount of text data. Electronic medical records of the patients who had experienced falls were used as teaching data so that the computer could calculate and display the risk score for each patient. In this way, high-risk patients could be quickly identified by risk level (for further details, see below).

Assessing the research results, an official at the Department of Medical Safety of NTT Medical Center Tokyo commented, "Looking back on the cases of falling, we know that well-experienced medical staff had often noticed signs of risk from their tacit knowledge previous to the event. The present system can identify such signs in ways similar to human tacit knowledge from a large amount of text information derived from electronic medical records. Therefore, it is very likely to be more efficient and useful for patient care than other existing adverse event prevention measures."

Based on the research results, NTT Medical Center Tokyo aims to introduce the system by the end of fiscal 2015 (early 2016), after conducting an operational test using a more practical data analysis method.

Outline of the joint research:

Subject: Electronic medical records held at NTT Medical Center Tokyo (text data of 16,749 patients-per-day)

(Note: The data does not contain personal information that would make it possible to identify individual patients.)

Period: February 2015

Using AI technology, a total of 16,749 patients-per-day of text data containing descriptions written freely by medical staff were analyzed in order to calculate the risk of fall for each patient. Around 1,000 patients-per-day of text data were selected and scored to be a high risk because they contained indicators of disturbance of consciousness (decline of alertness, delirium, etc.), which is highly likely to lead to

Outline: a fall.

The present result shows the AI technology is helpful to prospectively detect the risk of individual patients to experience an unexpected

Result: adverse event.

The Virtual Data Scientist (VDS), which is the AI software program used in this research, incorporates expert judgment, known as tacit knowledge, and utilizes it for big data analysis. The judgment of experts in specific business domains and know-how accumulated through surveys can be incorporated and applied to analysis. In their joint research, NTT Medical Center Tokyo and UBIC aim to develop a system to support the realization of better quality patient care by forecasting unexpected in-hospital adverse events based on knowledge learned from the medical staff and relevant data selected from among electronic medical records.

NTT Medical Center Tokyo and UBIC will cooperate with the NTT group to contribute to the medical world by providing new AI-

based solutions in order to enhance patient safety and reduce the burden of patient care on medical staff.

## **About NTT Medical Center Tokyo**

NTT Medical Center Tokyo is a hospital directly operated by NTT East Corporation that upholds the following ideal: "As a symbol of NTT East Corporation's social contribution, we contribute to the well-being of all people who use the hospital through the provision of healthcare services as well as all people who work at the hospital." It is implementing the improvement of patient safety and quality of health care, which is required by the Joint Commission International (JCI), an international organization evaluating patient safety and quality of health care. NTT Medical Center Tokyo is devoting efforts particularly to six international goals for patient safety (identifying patients correctly, improving effective communication, maintaining the safety of high alert medications, ensuring the right-site, right-patient, right-procedure surgery, reducing the risk of healthcare-associated infections and reducing the risk of patient harm from falls).

NTT Medical Center Tokyo was opened in 1952 as Kanto Teishin Hospital, and it was designated as a medical institution authorized to treat patients with health insurance coverage and opened to the general public in 1986. In line with the reorganization of the NTT group, it was renamed NTT Medical Center Tokyo in 1999.

Specific Data on NTT Medical Center Tokyo (As of December 1, 2014):

Number of beds in use: 592

Number of outpatients: 2,117 per day; number of in-patients: 452 per day (both figures are for fiscal 2013).

Average period of stay: 10.6 days (ordinary beds)

Number of doctors: 189 (including those working on a permanent basis and trainee doctors); Number of nurses: 702 (those working on a permanent basis)

URL: <http://www.ntt-east.co.jp/kmc/en/>

## **About UBIC, Inc.**

UBIC, Inc. (Nasdaq:UBIC) (TSE:2158) supports the analysis of big data based on behavior informatics by utilizing its proprietary AI-based software program, "VIRTUAL DATA SCIENTIST" or VDS. Developed by UBIC based on knowledge acquired through its litigation support services, the VDS program incorporates experts' tacit knowledge, including their experiences and intuitions, and utilizes that knowledge for big data analysis. UBIC continues to expand its business operations by applying VDS to new fields such as healthcare and marketing.

UBIC was founded in 2003 as a provider of e-discovery and international litigation support services. These services include the preservation, investigation and analysis of evidence materials contained in electronic data, and computer forensic investigation. UBIC provides e-discovery and litigation support by making full use of its data analysis platform, "Lit i View®", and its Predictive Coding® technology adapted to Asian languages.

For more information about UBIC, contact [usinfo@ubicna.com](mailto:usinfo@ubicna.com) or visit <http://www.ubicna.com>.

## **Safe Harbor Statement**

This announcement contains forward-looking statements. These forward-looking statements are made under the "safe harbor" provisions of the U.S. Private Securities Litigation Reform Act of 1995. These statements can be identified by terminology such as "will," "expects," "anticipates," "future," "intends," "plans," "believes," "estimates" and similar statements. Among other things, the amount of data that UBIC expects to manage this year and the potential uses for UBIC's new service in intellectual property-related litigation, contain forward-looking statements. UBIC may also make written or oral forward-looking statements in its reports filed with, or furnished to, the U.S. Securities and Exchange Commission, in its annual reports to shareholders, in press releases and other written materials and in oral statements made by its officers, directors or employees to third parties. Statements that are not historical facts, including statements about UBIC's beliefs and expectations, are forward-looking statements. Forward-looking statements involve inherent risks and uncertainties. A number of factors could cause actual results to differ materially from those contained in any forward-looking statement, including but not limited to the following: UBIC's goals and strategies; UBIC's expansion plans; the expected growth of the data center services market; expectations regarding demand for, and market acceptance of, UBIC's services; UBIC's expectations regarding keeping and strengthening its relationships with customers; UBIC's plans to invest in research and development to enhance its solution and service offerings; and general economic and business conditions in the regions where UBIC provides solutions and services. Further information regarding these and other risks is included in UBIC's reports filed with, or furnished to the Securities and Exchange Commission. UBIC does not undertake any obligation to update any forward-looking statement, except as required under applicable law. All information provided in this press release and in the attachments is as of the date of this press release, and UBIC undertakes no duty to update such information, except as required under applicable law.

CONTACT: UBIC Global PR

UBIC North America, Inc.

Tel: (212) 924-8242

[global\\_pr@ubic.co.jp](mailto:global_pr@ubic.co.jp)