

# News Release

FOR IMMEDIATE RELEASE

## **Hitachi Commences Provision of Risk Simulator for Insurance that Predicts the Risk of Hospitalization Related to Eight Lifestyle Diseases Using Medical Big Data**

*Use of the analysis knowhow obtained through joint research with Dai-ichi Life and support of the health business for Hitachi Health Insurance Society*

**Tokyo, October 3, 2018** --- Hitachi, Ltd. (TSE: 6501, "Hitachi") today announced the successful development of the Risk Simulator for Insurance<sup>\*1</sup> (hereinafter "the service"), which predicts and simulates future hospitalization related to lifestyle diseases using medical checkup data and health insurance claim data<sup>\*2</sup>. Provision of this service will commence on October 3.

This service predicts the possibility and number of days of hospitalization related to eight lifestyle diseases<sup>\*3</sup> and compares the risk with the health condition that is arbitrarily specified as a reference value using information obtained from joint research<sup>\*4</sup> on the use of medical big data with The Dai-ichi Life Insurance Company, Limited ("Dai-ichi Life") and artificial intelligence (AI) originally developed based on the data analysis knowhow accumulated in the insurance business support service for Hitachi Health Insurance Society, in combination with over 200 factors, including a variety of test results and questions about lifestyle/prescription use during medical checkups, and items for disclosure related to medical history (anamnesis) required for the purchase of general life insurance policies.

The service permits accurate prediction in consideration of the influence of multiple complex factors that inhibit health, aiding the business of life insurance companies, such as the validation of insurance application acceptance criteria and the development of a variety of products and services. Additionally, the model provides a wide range of uses in a variety of healthcare industries; for example, guidance from a health insurance union and the creation of disease prevention services in health promotion industries.

Recently, demand has been growing for more advanced business operation and new service creation using medical big data mainly in life insurance companies and health promotion industries due to the development of AI and other digital technology. However, issues remain such as the training of data scientists with advanced technical knowledge and the securing of time for analysis, because knowhow and skills for digital technology and data analysis are required to obtain effective analysis

results from medical big data.

Hitachi has accumulated advanced data analysis knowhow since 2014, when the company developed the medical expense prediction technology\*<sup>5</sup> based on medical checkup results and health insurance claim data for about 110,000 people from Hitachi Health Insurance Society. The technology is used to improve health of members and offer guidance on reducing medical expenses. Hitachi started joint research with Dai-ichi Life in 2016. The joint research project resulted in the development of a quantitative evaluation model for predicting the possibility and duration of hospitalization related to lifestyle diseases based on the medical big data of about 10 million people accumulated by Dai-ichi Life in combination with the technology and knowhow of both companies. The companies are promoting the application of medical big data analysis to the life insurance industry, for example, the expansion of insurance application acceptance criteria based on this model.

Hitachi will commercialize and distribute the AI that permits the prediction of the risk of future hospitalization arising from lifestyle disease based on medical checkup and health insurance claim data. It will promptly calculate analysis results by inputting such information as test values, lifestyle, prescription use, and medical history, while reducing such investments as data purchase, analysis consignment fees and environment arrangement. As a result, more time will be used for discussing usage methods for businesses.

Currently, Risk Simulator for Insurance pertains to eight diseases, including diabetes and cerebrovascular diseases. Hitachi will roll out the service more broadly as one of the solutions with Lumada that accelerates digital innovations, considering the enhancement of functions, such as the increase of handled diseases and the expansion of the simulation scope, including surgical operation and medical expense prediction, to make society healthier and more comfortable.

\*1 Risk Simulator for Insurance is a trademark or a registered trademark of Hitachi, Ltd. in Japan.

\*2 Data from the statement of medical service fees that a medical institute charges an insurer (for example, the municipal government and a medical insurance union) for covered medical services that a patient receives.

\*3 Diabetes mellitus, cerebrovascular diseases, renal diseases, cardiovascular diseases, hypertensive diseases, pancreatic diseases, hepatic diseases and malignant neoplasm.

\*4 News Release (August 31, 2017) "First Joint Research Project by Hitachi and Dai-ichi Life Insurance Expanded Life Insurance Application Acceptance Criteria" <http://www.hitachi.com/New/cnews/month/2017/08/170831.html>

\*5 Technology for predicting the incidence of lifestyle disease and total medical expenses jointly developed with Hitachi Health Insurance Society. Anonymized medical checkup data and health insurance claim data was used for the development of the technology to prevent personal identification.

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Information contained in this news release is current as of the date of the press announcement, but may be subject to change without prior notice.

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