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Results of Joint Research with Osaka Metropolitan University Using the REZULT Medical Big Data Platform

Healthcare Expenditure Reduction Due to a New Railway Station

The Future Co-Creation Laboratory of Japan System Techniques Co., Ltd. (JAST) and Haruka Kato, a senior lecturer at the School of Human Life and Ecology of Osaka Metropolitan University, are conducting a joint research program concerning healthcare that utilizes medical big data. As part of this program, JAST and Mr. Kato have announced the results of an analysis using JAST's REZULT medical big data platform to study how a new railway station lowers expenditures for healthcare. The details are as per attached.

This matter will have only a negligible effect on JAST's results of operations. An announcement will be made promptly if there is any additional information that should be disclosed.

Launch the Future

NEWS RELEASE

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■ The Joint Research Program

For this analysis, Sojiji Station was used as the example for a study of how a new station can lower healthcare expenditures. Sojiji Station is on the JR Line in the Osaka prefecture city of Ibaraki. By using the REZULT medical big data platform, analysis resulted in a statistically significant decline of 99,257 yen (95% confidence interval (see note 1) of 62,119 yen to 136,194 yen) in cumulative healthcare expenditures of residents living near Sojiji Station during the first four years after the station opened.

Osaka Metropolitan University performs the role of an urban think tank that has a broad range of knowledge concerning large cities. By using the evidence based policy-making (EBPM) methodology, research teams at the university are developing methods for assessing the social impact of community creation projects.
This research program took place in Osaka, where the population is declining as Japan's population ages and the number of children decreases. Our work resulted in a very important method for using healthcare expenditures to evaluate the social impact of community creation projects.

Haruka Kato, Senior Lecturer

The results of this research program were reported in the online version of Journal of Transport & Health dated April 9, 2024. (https://doi.org/10.1016/j.jth.2024.101808)

■ Background of the Research Project

As Japan's population declines, the country is implementing the Compact Plus Network policy for the realignment of large cities including their public transportation networks centered on railway stations. New stations can have many effects, such as an increase in real estate prices. Based on the population approach (see note 2), adding stations has been shown to significantly alter the activities of nearby residents. However, it was not known until now if new stations are able to hold down healthcare expenditures of these residents, which has the potential of helping slow the current rapid growth of these expenditures in Japan.

■ Upcoming Activities

JAST and the Osaka Metropolitan University Graduate School of Human Life and Ecology have an agreement for cooperation in several areas. Activities are under way to develop new preventive healthcare programs for extending healthy life expectancy and to determine ways to improve the quality of life of people of all ages. The objective is to make a contribution to the entire healthcare sector by using research projects conducted with local governments, companies and other partners. The results of this research program will be used for joint programs by companies and academic institutions for the development of methods to assess the social impact railway stations and other components of neighborhood creation activities that are part of smart city projects.

■ REZULT Medical Big Data Platform

Use this URL for more information.
https://www.jastlab.jast.jp/rezult_data/

■ Profile of Haruka Kato

October 2023-Present	Senior Lecturer of the Graduate School of Human Life and Ecology at Osaka Metropolitan University
April 2022-September 2023	Assistant Professor of the Graduate School of Human Life and Ecology at Osaka Metropolitan University
April 2020-March 2022	Assistant Professor of the Graduate School of Human Life and Ecology at Osaka City University
April 2019-March 2020	Contract Assistant of Mukogawa Institute of Esthetics in Everyday-Life at Mukogawa Women's University
April 2016-March 2019	Ph.D., Kyoto University Graduate School of Design Cooperative Program (Kyoto University Graduate School of Engineering)

■ The Future Co-Creation Laboratory of JAST

The Future Co-Creation Laboratory of JAST is engaged in the co-creation digital transformation (DX) by using partnerships with companies, academic institutions and local governments. Activities involve the development of new products and services by using JAST's REZULT medical big data platform and working closely with partners and customers. Main objectives are the growth of data held by JAST and its corporate value and the creation of more methods for solving the problems of customers.

Operations of The Future Co-Creation Laboratory also contribute to accomplishing Sustainable Development Goals number three, good health and well-being, and nine, industry, innovation and infrastructure. These activities include the use of medical big data to enable people to stay healthy and the use of alliances with the academic sector for joint research and the development of products.

*1 95% confidence interval

Confidence interval is an indicator commonly used in statistics, showing the mean value as a line (interval) and used when estimating an average for a large volume of data. A 95% confidence interval is the range that can be expected to include the true figure 95 out of 100 times if the testing process is repeated many times.

*2 Population Approach

Population approach is a concept that is frequently used in the fields of public health and preventive medicine. The aim of this approach is to determine ways to improve the health of a large group or community rather than for individuals one by one.

■ Inquiries

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The Future Co-Creation Laboratory
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