Research on promoting the utilization of micro data such as statistics that contribute to post-corona suicide countermeasures

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Summary:

With the aim of developing an exploratory data analysis environment that contributes to EBPM for comprehensive suicide countermeasures, the research group conducted the following four R&D activities to accelerate the promotion of the use of microdata in government.

First, the group supported the development of on-site facilities that enable the use of official statistical microdata collected by the Ministry of Internal Affairs and Communications, the Ministry of Health, Labour and Welfare, and other ministries for comprehensive suicide policies. The establishment and approval of the facility at the Graduate School of Health Management, Keio University, was realized, and software and other equipment enabling exploratory risk analysis were installed in the facility. The research team also developed on-site facilities at the Research Organization of Information and Systems, Tama University, and Rissho University, which were established by the research group by FY2021. In

addition, a proposal was made to the Science Council of Japan to enable exploratory policy analysis at on-site facilities for administrative information as well, which was adopted.

Next, we applied to the National Statistics Center, the on-site facility management organization, for analysis of official statistical microdata from the Ministry of Internal Affairs and Communications, the Ministry of Health, Labour and Welfare, and the Cabinet Secretariat at our on-site facilities in order to understand the actual number of suicides before and after COVID-19 infection and to verify countermeasures, and this was approved. The research team conducted exploratory data analyses of the current status of suicide and found risk factors using public statistical microdata, including sensitive personal information such as cause-of-death information, detailed lifetime information and health information, at an on-site facility available to the research team.

Third, a pseudo-microdata synthesis method was developed to allow exploratory analysis of statistical microdata outside the on-site facilities. Anonymization methods were also developed to reduce the risk of leakage of sensitive personal information from the results of data analysis at the on-site facilities, and a security evaluation of confidentiality was conducted.

Fourth, we demonstrated the effectiveness of the latent class model as an exploratory data analysis method that contributes to EBPM.