

Innovative Research Program on Suicide Countermeasures in FY2022: Report on Commissioned Research Results

Field 3: Suicide countermeasures using big data, AI, etc.

Topic number : R4-3-3

Research topic:

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

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Summary:

The following four research activities were conducted with the aim of accelerating the promotion of the use of statistical microdata that contributes to Evidence Based Policy Making (EBPM) for comprehensive suicide prevention:

The first activity is the formation of an "on-site center" that enables effective policy use of official statistical microdata from the Ministry of Internal Affairs and Communications (MIC), the Ministry of Health, Labor and Welfare (MHLW), and other ministries related to comprehensive measures against suicide, in other words, a center that enables exploratory data analysis of official statistical microdata. In addition to expanding the data analysis environment at the three existing centers at the Research Organization of Information and Systems, Tama University, and Rissho University, which are easily accessible to researchers in this research group, approval for the establishment of an on-site center at the Graduate School of Health Management, Keio University, was achieved by the end of March 2023.

Second is the selection of micro data to be analyzed at the on-site center for comprehensive suicide prevention. The microdata to be applied for in the end of March 2024 by this research group and analyzed at the existing on-site centers are the Basic Survey of Social Life of the Ministry of Internal Affairs and Communications, the Labor Force Survey of the Ministry of Internal Affairs and Communications, the Vital Statistics Survey of the Ministry of Health, Labour and Welfare, the Population Census of the Ministry of Health, Labour and Welfare, the Cabinet Secretariat, and the National Health Insurance Survey of the Ministry of Health, Labour and Welfare.

Third is the development of pseudo-micro data and support tools to facilitate the analysis of sensitive information at on-site centers. We created pseudo-microdata that retains the structure of microdata to facilitate the use of statistical microdata by the public and academic sectors in general, which will also accelerate the EBPM research using on-site centers. We also developed an anonymization algorithm that enables the release of detailed regional information from the microdata, and evaluated the security of confidentiality.

The fourth activity is microdata analysis for comprehensive measures against suicide. We conducted an analysis study of public statistical microdata for comprehensive measures against suicide as a prototype for microdata analysis after the end of March 2023, and demonstrated the effectiveness of the latent class model as a powerful model for public microdata analysis for EBPM. We demonstrated the effectiveness of the latent class model as a promising model of public

microdata analysis for EBPM.