

Historical GIS for Visualizing the Diffusion Process of Vaccination against Smallpox in Central Japan

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In order to visualize the diffusion process of vaccination against smallpox, we have developed a historical GIS for the village vaccination reports submitted to the Governor of Ashigara Prefecture from village heads in 1875. With this system, we propose a hypothesis that during the four months as of January 1875, some vaccinators formally appointed by the prefectural Governor vaccinated young people less than twenty-five years old except those who recovered from smallpox and sickly infants.

In January 1875, Mr. Tadatoshi Kashiwagi, the Governor of Ashigara Prefecture, ordered village heads to submit the village vaccination reports listing children and youth under twenty-five years old, the names of vaccinated and unvaccinated people, as well as those infected smallpox. The village vaccination reports provided the following information: name of the household head, address, name of household members under twenty-five years old, age, date of vaccination, the vaccinator's name and address, date when a smallpox case was diagnosed, the reason why he/she was not vaccinated.

The data analysis system for the village vaccination reports is a new part of DANJURO (<http://kawaguchi.tezukayama-u.ac.jp>). The system composed of the image database of the reports, application programs for outputting demographic indicators, and historical GIS for visualizing the diffusion process of vaccination. We have stored up the village vaccination reports of sixteen villages in Ashigara-Kami, Ashigara-Shimo, Tsukui, Yurugi and Ohsumi Counties in Ashigara Prefecture. With the historical GIS, user can obtain animated maps of the corresponding indicators by village including the number of children who survived from smallpox, the number of persons who had received initial, second, and third vaccination, and the percentage of those who unvaccinated, vaccinated, and recovered from smallpox.