

### The Adoption of Design Thinking in Government Information Systems: An Empirical Study of The Revisions of Notifiable Disease Surveillance System

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#### Abstract

The Notifiable Disease Surveillance System (NDSS) is one of the important information systems in Taiwan Centers for Disease Control (TCDC), which has been implemented since 1993. In order to provide better service, we need to complete an upgrade and revision of this system. The conventional revision methods often focus on the development of technical levels and lack of concern for business processes, user experience, and service quality.

In this study, we adopted Design Thinking and the Open Policy Making toolkit along with specialists at the Public Digital Innovation Space (PDIS) in order to understand wider aims and needs, recognize underlying drivers and challenges, and generate ideas that correspond with the user needs. We derived 6 principles for system revision: (1) users from medical institution can conveniently complete the notification and specimen submission, (2) public health users can timely obtain data in considering both accuracy and completeness, (3) users may reach the service using mobile devices, (4) a well-developed architecture for the response to business requirements, (5) high system flexibility, and (6) high system availability.

After analysis, we decided that the NDSS platform should be comprehensively re-designed to provide a better user experience and system service.

In this research, we explored the problems and resolutions to update the interface based on user needs. We suggest inviting users to participate in the service design and policy making phase to update the government information systems.

**Keywords:** Notifiable Disease Surveillance System, design thinking, service design, open policy making

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