

Topic-Setting Program to Advance Cutting-Edge  
Humanities and Social Sciences Research

(Responding to Real Society)

Progress Report  
(Summary of Final Report)

Urban Planning Centered around Hospitals

Core-Researcher: Yukiko Ito

Institution: Tokyo Gakugei University

Academic Unit: Department of Economics

Position: Associate Professor

Research Period: FY2013 - FY2015

## 1. Basic information of research project

Research Area	Scientific Practice on an Enforcing the Endogenous Activity of the Community and Specialist towards Realization of Convivial Society
Project Title	Urban Planning Centered around Hospitals
Institution	Tokyo Gakugei University
Core-Researcher (Name, Academic Unit & Position)	Yukiko Ito, Department of Economics, Associate Professor
Project Period	FY2013 - FY2015
Appropriations Plan (¥)	FY2013      1,860 thousand JPY
	FY2014      3,780 thousand JPY
	FY2015      3,151 thousand JPY

## 2. Purpose of research

In this research, we aim to share data among researchers, local governments, and health care providers so that we can realize “urban-planning centered around hospitals (UPCH).” For UPCH, we target a medium-sized (population of 100,000~300,000) regional cities. As the population decreases, it is imperative to concentrate all functions to a single center of the city, rather than having each function dispersed to various parts.

A health-care would certainly be one such function. However, unlike other services, health-care service is not easily adjustable, both in terms of quality and quantity (Toyoda, Nakagawa (2014)), and it is representative of problems facing rural areas. Therefore, we propose we make it an utmost priority to move hospitals to the center of the city, so that they serve as the center-piece of the city for generations.

To realize this, the members of this project have been interviewing various regions since 2009, and we have determined that we need more detailed empirical analyses for each region and more realistic urban design which is visibly superior to incremental adjustments. More specifically, we have determined the need to (1) collect regional data, and (2) put into practice possible improvements. In this project, we have pursued (1) and (2) simultaneously to complementary effects.

For (1), we collected data on health-care services (from prefectures), DPC hospitals information (from Ministry of Health), and regional data (population, population density, income, transportation, the current city design). These were provided to the local governments so they can objectively analyze their own city. We intentionally left out macro-estimates as they are not as region-specific.

For (2), we focused on plans to unify multiple hospitals and on plans to move hospitals to city-centers. We analyzed the effects in the regions who have done those, and we held symposia to convey these precedents to

regions which are contemplating such plans.

### 3. Outline of research (Including study member

#### 3.1 Members

Yukiko Ito	Ph.D., Associate Professor, Tokyo Gakugei University Core-Investigator,
Koichi Kawabuchi	M.B.A., Professor, Tokyo Medical and Dental University Co-Investigator
Reiko Kanda	M.A., Executive Vice President, National Institute for Research Advancement Group Leader
Nao Toyoda	Ph.D., Senior Researcher, National Institute for Research Advancement Group Leader
Takeshi Iwasa	M.D. Ph.D., Chief Physician, Department of General Internal Medicine/ Oncologic Emergencies, National Cancer Center Hospital Group Leader

#### 3.2 Outline

H25 FY (2013.10~2014.03)

- : Integration of existing database (Hospital-level, Service zone-level, City/Prefecture-level Datasets)
- : Scheduling of interviews (for hospital manager, or local government managers)

H26 FY (2014.04~2015/03)

- : Interviews and consulting works (10 areas with large-scale hospitals)
- : Collection of new data sets (City/Prefecture-level Cancer Database, List of medical service agencies)

H27 FY(2015.04~2016.03)

- : Analysis on the collected database (combined with geographical information)
- : Interviews and consulting works (with some follow-up study)
- : Symposium for local government officers (with discussion on local healthcare service policies)

### 4. Research results and outcomes produced

#### 4.1 Research Results

(1) Data Collection (GIS Based Information on Healthcare Access)

- : Hospital Location Data  
(construction of the nation-wide database provided from all 47 prefectures)
- : DPC Hospital Data + Cancer Hospital Data  
(combining national data with dataset from National Cancer Center)
- : Cancer Registration Data + Disease/Health Map  
(combining prefecture-level data with datasets publicly available)

The dataset above are used for access/network analysis for local residents.

(2) Urban Planning (Interviews and Consulting)

- : Interviews with hospital managers (about their strategy on locations, and resource management.)
- : Interviews with city/prefecture officers on healthcare policy (mainly on public spending)
- : Provision of some comparative analysis (with other cities/areas with similar population size)

Through both (1) and (2), we put data into practical use. The network analysis on healthcare supply and demand balance are mainly displayed through GIS maps. On consulting work, an allocative efficiencies (cost v.s. access) are the main focus for city planning and the function of public hospitals are revisited in most of the cases.

4.2 Publications ※The complete list is in the Research Report (in Japanese)

(1) 41 Research articles (10 Refereed Publications, 31 Non-refereed Publications)

\*10 English articles, 31 Japanese articles:

(2) 10 Research Reports/Books

\*1 English report, 9 Japanese reports/books

(3) 39 Conference Presentations

\*2 International Conferences, 13 Nation-wide Conferences, 24 Academic Seminars

(4) 3 Conferences as the Organizer or Co-organizer