

## Spatial Patterns of a Co-Diagnosis System in Korea: A Case Study of AMC General Hospital and Other Nationwide Medical Institutions

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**(1) Objective:** A co-diagnosis system, which is a kind of health care delivery, has been operated since 1989 and aims at preventing concentration of patients in some general hospitals and attaining a balanced development among medical institutions. Related research achievements of health care delivery up to the present tended to center around the question of Western cases, and the field of research on the East, including Korea, is relatively new. So this paper attempted to examine spatial characteristics or patterns of health care delivery in Korea through a case of AMC General Hospital and describe reasons why health care delivery in Korea does not correspond with an ideal model.

**(2) Data and Methods:** To analyze spatial patterns of a co-diagnosis system in the present, the author chose a case of AMC General Hospital that is located in Seoul and has great influence on medical services on Korea. Data on AMC General Hospital and related medical facilities, which are referring their patients to AMC General Hospital and are performing their functions as subordinate medical facilities of AMC General Hospital, was used as primary data. The total number of used data is 4,805 and is composed of followings: 72 general hospitals (1.5%), 262 hospitals (5.5%), 4,464 clinics (92.9%) and seven others (for example, military hospitals) (0.1%). The number of used data forms 10 percent of all medical institutions in Korea. This article was presented by three steps: 1) clarifying the tendency of a co-diagnosis relationship using ArcGIS; 2) exploring another co-diagnosis relationship of subordinate medical institutions with data by comparing data of 55 general hospitals; and 3) examining reasons of spatial characteristics on health care delivery in Korea through quantitative and qualitative approaches.

**(3) Originality:** Even though there are a lot of previous research achievements to reveal optimal range of health care delivery using models, so far, no definitive answer has been given to the question of real mechanism. So what the author tried to do in this paper is to address this approach, and it is an originality of this article.

**(4) Results:**

- According to previous research, the ideal model of health care delivery is close to Christaller's central place theory, that is, primary medical institutions (clinics or hospitals) depend on general hospitals located in the same region and the basic formation of health care delivery should follow hierarchy structure. But the case of Korea is different from previous research achievements. Basically, the number of co-diagnosis cases is reflected in distance decay, but most of the primary medical institutions, especially local clinics and hospitals refer their patients to AMC General Hospital without passing local or near general hospitals.
- In addition, this tendency is clearer through primary medical institutions that are located in periphery not urban areas. Moreover, local primary medical institutions have another co-diagnosis relationship with general hospitals located in the Metropolitan area, not local general hospitals.
- These results are mainly caused by 1) opinions of patients who want to consult a doctor in good general hospitals, 2) a realistic and well-articulated marketing strategy of AMC General Hospital, 3) concentration of good medical institutions in Seoul, and 4) the increase of advertising impact.

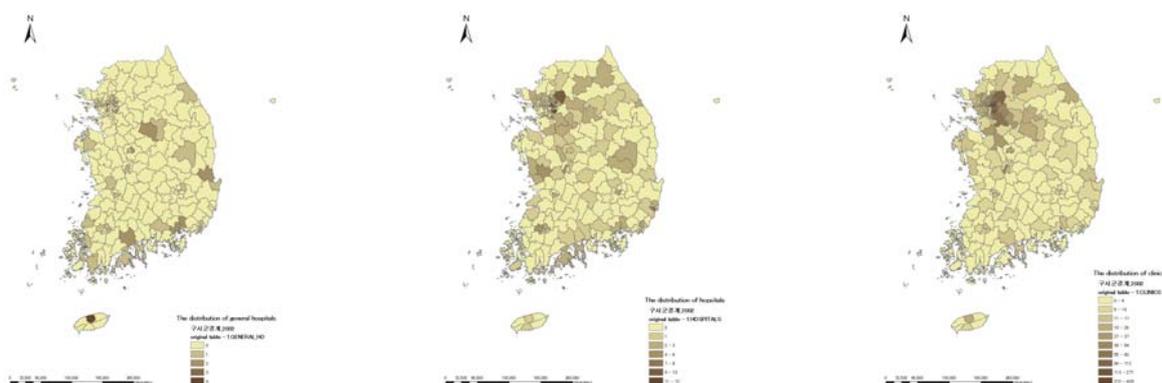


Fig. 1: Distribution of medical institutions that have a co-diagnosis relationship with AMC General Hospital (left; general hospitals; middle; hospitals; right; clinics)