AN ANALYSIS OF THE LOCATIONAL PATTERN OF HOSPITALS IN THAILAND

Professor Dr. Wichai Srikam[*] & Supparas Oatsawaphonthanaphat[**]

[*]Professor Dr. of Allied Health Sciences, Suan Sunandha Rajabhat University, Bangkok, Thailand and Former Dean of the Faculty of Arts, Silpakorn University, Nakornpatom 73000, Thailand

E-mail: wichai.sr@ssru.ac.th

[**]Instructor of College of Allied Health Sciences, Suan Sunandha Rajabhat University, Bangkok, Thailand

E-mail: supparas.oa@ssru.ac.th

ABSTRACT

In medical geography, the locational pattern of hospitals plays an important role in health care of population. This is because there is *inequity* in the distribution of these resources (Meade, Melinda S. and Earickson, Robert J., 2000: pp.345). The geography of health care embraces two broad areas of study: the spatial properties of health care resources and the accessibility, utilization, and planning of health care services (Meade, Melinda S. and Earickson, Robert J., 2000: pp.343). As the foundation of peoples' health and life safety, hospitals are the most important health care resources as a public service facility. Their spatial allocation rationality guarantees an equal opportunity for people to have necessary medical treatments. However, people who live in large cities can access to hospitals more easily than people living in small cities. Likewise, urban population tends to be able to have more health services facilities than rural population. The *inequity* in the distribution of the resources, as well as low accessibility becomes an obstacle for populations to get health-care services from hospitals, especially high quality hospitals. Based on location theory, people will travel to get services at a place that is located close to them according to the principle of minimum amount of effort. In both Western and non-Western countries, more health service facilities and higher personnel-to-population ratios are associated with higher levels of urbanization or population concentration (Meade, Melinda S. and Earickson, Robert J., 2000: pp.359). The purposes of this study are to analyze the locational pattern of hospitals and examine the factors influencing the locational pattern of hospitals in Thailand. The study area as a spatial framework is seventy-seven provinces located in six geographical regions of Thailand. The provinces are the spatial units. For methodology, the data used are the secondary data collected from Local Directory Year2010. The quantitative and statistical techniques used to analyze are mean ($\overline{X}$), density index, rank, percentage, correlation analysis and multiple regression analysis. For analyzing the locational pattern of hospitals, the cartographic technique is applied. The research findings are that the province whose hospitals was located the most was Bangkok (13.03%), followed by Chonburee Province (3.75 %) and Chiangmai Province (2.81%) as the second rank and the third rank, respectively. With regard to the locational pattern of hospitals in Thailand, it is found that two provinces whose hospitals were located at the highest level were Bangkok (13.03%) and Chonburee Province (3.75 %) (Map2). Only one province whose hospitals were located at the high level was Chiangmai Province (2.81%). Ten provinces whose hospitals were located at the moderate level were Nakornsawon, Udorntanee, Kongan, Nakornratchaseema, Bureerum, Ubonratchatanee, Samootpragarn, Surattanee, Nakornseetummarat and Songkla. There were thirty-five and twenty-nine provinces whose hospitals were located at the low level and the lowest level, respectively. In terms of analyzing the locational pattern by geographical region, it is found that the region which most contained hospitals was the Central Region (12.38%). The Northeast Region (12.38 %) and the South Region (12.38 %) ranked the second and the third, respectively. With respect to analyzing correlation analysis, it is found that the locational pattern of hospitals was significantly positively correlated with the population size factor (r = 0.910) and the density factor (r = 0.805) at α = .05, respectively. This indicates that when the population increases, the hospitals will also increase. On the contrary, if the population decreases, the hospitals will also decrease. For analyzing the multiple regression analysis, it is found that the population size factor (β = 0.630) had the most important factor influencing the locational pattern of hospitals in Thailand, followed by the density factor (β = 0.388), respectively. These two factors explained the variation of the locational pattern of hospitals in Thailand by 89.20 % (R^2 = 0.892).

The regression model was: $\hat{Y} = -.721 + 1.526E - 5Pop + .015Den$

Key Words: Location of hospitals, Locational pattern, Geographical region