

Meeting abstract

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An analysis of the geographic distribution of acute-care hospitals and accessibility to care - based on the Japanese DPC database

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Introduction

Geographic accessibility to care depends not only on the distribution of hospitals, but also on the services that each hospital provides. This study illustrates methods to utilize nationally collected hospital casemix information to analyze accessibility to care.

Methods

Hospital casemix data published by the Ministry of Health, Labor and Welfare (DPC [Diagnosis Procedure Combination] survey data) is used to construct a database of acute-care hospitals. Hospitals are then geo-coded, using their addresses, to calculate drive-times to a geographic mesh. The resulting hospital-to-mesh drive-time table is used to analyze accessibility to services in each region or prefecture.

Results

The 2007 DPC survey data consisted of 1,428 hospitals (16% of all hospitals), 457,000 beds (50% of all hospital beds), and four million discharges for the latter half of the year 2007. Coverage rates of population within 90 minutes of these hospitals were over 88.9% for all prefectures, with 33 out of 47 prefectures having rates over 99%. However, when the volume of services provided by each hospital was considered, population coverage showed a large disparity between prefectures and hospital services. The results also suggested the existence of a monopolistic provision of specific services in a few prefectures.

Conclusion

An analysis of the geographic accessibility to care relies deeply on a description of hospital services. Nationally collected information, such as the Japanese DPC survey data, is crucial in the pursuit of closing the care gap that exists in the real world.