



IDEA GROUP PUBLISHING

701 E. Chocolate Avenue, Suite 200, Hershey PA 17033-1240, USA
Tel: 717/533-8845; Fax 717/533-8661; URL-<http://www.idea-group.com>

ITB10385

Chapter X

Geographic Information Systems in Health Care Services

Brian N. Hilton, Claremont Graduate University, USA

Thomas A. Horan, Claremont Graduate University, USA

Bengisu Tulu, Claremont Graduate University, USA

Abstract

Geographic information systems (GIS) have numerous applications in human health. This chapter opens with a brief discussion of the three dimensions of decision-making in organizations — operational control, management control, and strategic planning. These dimensions are then discussed in terms of three case studies: a practice-improvement case study under operational control, a service-planning case study under management control, and a research case study under strategic planning. The discussion proceeds with an analysis of GIS contributions to three health care applications: medical/disability services (operational control/practice), emergency response (management control/planning), and infectious disease/SARS (strategic planning/research). The chapter concludes with a cross-case synthesis and discussion of how GIS could be integrated into health care management through Spatial Decision Support Systems and presents three key issues to consider regarding the management of organizations: Data Integration for Operational Control, Planning Interorganizational Systems for Management Control, and Design Research for Strategic Planning.

This chapter opens with a brief discussion of the three dimensions of decision-making in organizations — operational control, management control, and strategic planning. These dimensions are then discussed in terms of the case study focus of the chapter, which includes a practice-improvement case study under operational control, a service-planning case study under management control, and a research case study under strategic planning. The chapter proceeds with the analysis of GIS contributions to three health care applications: medical/disability services (operational control/practice), emergency response (management control/planning), and infectious disease/SARS (strategic planning/research). The chapter concludes with a cross-case synthesis and discus-

[illegible]

22 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/geographic-information-systems-health-care/18869

Related Content

Quality of Urban Life Index From Location-Based Social Networks Data: A Case Study in Belo Horizonte, Brazil

Rodrigo Smarzaró, Tiago França Melo de Lima and Clodoveu Augusto Davis Jr. (2017). *Volunteered Geographic Information and the Future of Geospatial Data* (pp. 185-207).

www.irma-international.org/chapter/quality-of-urban-life-index-from-location-based-social-networks-data/178805

Accelerating Geospatial Modeling in ArcGIS With Graphical Processor Units

Michael A. Tischler (2019). *Geospatial Intelligence: Concepts, Methodologies, Tools, and Applications* (pp. 411-422).

www.irma-international.org/chapter/accelerating-geospatial-modeling-in-arcgis-with-graphical-processor-units/222909

Online Flood Information System: REST-Based Web Service

Xiannian Chen, Xinyue Ye, Michael C. Carroll and Yingru Li (2016). *Geospatial Research: Concepts, Methodologies, Tools, and Applications* (pp. 845-854).

www.irma-international.org/chapter/online-flood-information-system/149527

Location Patterns of Section 8 Housing in Jefferson County, Kentucky

Wei Song and Karl Keeling (2010). *International Journal of Applied Geospatial Research* (pp. 1-18).

www.irma-international.org/article/location-patterns-section-housing-jefferson/42127

Least-Cost Pipeline using Geographic Information System: The Limit to Technicalities

Matthew Biniyam Kursah (2017). *International Journal of Applied Geospatial Research* (pp. 1-15).

www.irma-international.org/article/least-cost-pipeline-using-geographic-information-system/181573