

Paper Title:

"Towards Data-Oriented Hospital Services: Data Mining-based Hospital Management"

Paper Link:

<https://sci-hub.se/10.1109/ICDMW.2010.178>

1. Summary:

The paper investigates the potential of reusing stored data in hospital information systems for effective management. Conducted by researchers from Shimane University School of Medicine, the study applies temporal data mining and exploratory data analysis techniques to hospital management data, emphasizing the cyberspace nature of hospital information systems.

1.1 Purpose:

The primary aim is to explore the intelligent reuse of data for long-term university hospital management, contributing insights into the beyond-storage applications of electronic patient records and medical data.

1.2 Methodology:

Temporal data mining and exploratory data analysis are applied to Shimane University Hospital's data, focusing on orders, patient records, and clinical activities, considering the hospital information system as a cyberspace storing results of medical actions.

1.3 Analysis:

Analysis includes visualizing hospital actions, trends in the number of orders, and exploring the trajectory of orders, revealing patterns related to different clinical departments.

1.4 Conclusion:

The paper concludes with success in applying data analysis to hospital information systems, highlighting the powerful tool data reuse presents for supporting long-term

university hospital management. Key findings include the correlation between length of stay and National Health Insurance (NHI) points.

2. Limitations:

Acknowledges limitations, including historical context and the need for more intelligent techniques for data reuse beyond specific areas.

3. Synthesis:

In synthesis, the paper offers valuable insights into the benefits of reusing stored data in hospital information systems. It serves as a foundational framework for quantitative hospital management analysis, emphasizing ongoing opportunities for leveraging electronic medical data for enhanced decision support.