



The University of Chicago
Department of Statistics

MASTER'S THESIS PRESENTATION

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Effective Algorithm to Predict Hospitalization

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110 Eckhart Hall, 5734 S. University Avenue

ABSTRACT

To predict hospitalization and prevent unnecessary hospitalization is an interesting topic in the health care business. More than 71 million individuals in the United States are admitted to hospitals each year, according to the latest survey from the American Hospital Association. Studies have concluded that in 2006 well over \$30 billion was spent on unnecessary hospital admissions.

The goal of this study is to develop a predictive algorithm that can identify patients who will be admitted to the hospital within the next year, using historical claims data. Regularized GLM, TREE, and Neural Network methods are applied to predict the next year hospitalization. This study suggests that effectiveness of algorithm is improved when the model is fitted within appropriately segmented data.

Information about building access for persons with disabilities may be obtained in advance by calling Sandra Romero at 773.702-0541 or by email (sandra@galton.uchicago.edu).