

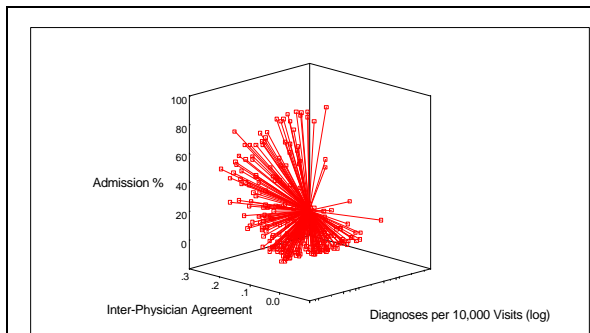
# Using Emergency Department Admission Rates to Guide Training and Guideline Development

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*The authors used a derived measure of physician discretion to case-mix adjust the hospital admission rate of individual physicians. The rank order of some physicians within the same facility changed markedly using the case-mix adjusted measure. Opportunities for educational interventions as well as improved data collection were identified using this method.*

## Introduction

Admitting a patient from the Emergency Department (ED) to the hospital is one of the most critical and costly decision nodes in the continuum of patient care. Percent Admission is universally used in evaluating facility, departmental and physician performance. Some frequently occurring patient conditions almost never require hospital admission, and with others there is a high level of agreement to always admit (see Figure 1). These low discretion cases are considered "easier", not from the



**Figure 1** The *ED Admit Percentage* is the centroid point in the figure above. Behind this simple statistic lurks an explosion of variation in both patient condition and physician behavior.

perspective of patient care, but relative to the admit decision. Generally, a high level of diagnosis-specific inter-physician agreement translates to a lower level of physician discretion.

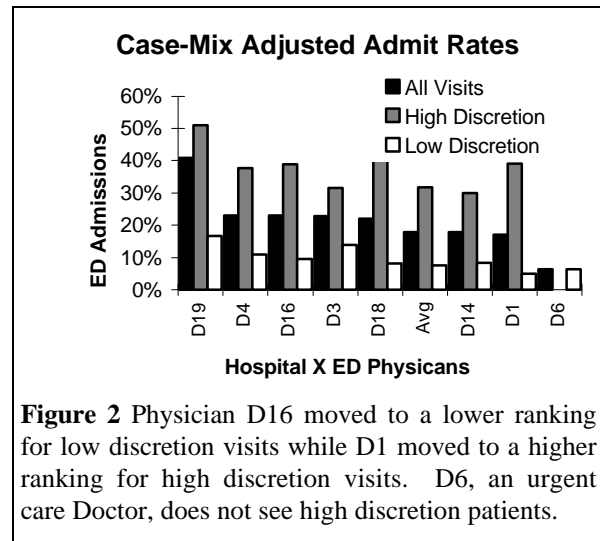
## Research Description

Educational and administrative strategies for changing physician behavior differ on the diagnosis-specific basis. Diagnoses with high inter-physician agreement can be used as markers for identifying outlier physicians and are candidates for guideline development. Low agreement diagnoses can be used

to quantify general admission behaviors in the absence of clear cut guidelines.

**Data Analysis** - We analyzed data collected for the years 1993 to 1998 from the entire population of ED patients in a convenience sample of 25 hospitals in six Eastern and Midwestern states. Of 1175 ICD-9 diagnoses used in the 1.7 million visit/1400 physician data set, 250 met the inclusion criteria for the study. The Standard Deviation of the individual physician admit rates was used as the measure of physician agreement.

**Results** - The derived measures were applied to individual physicians on the facility level. Figure 2



**Figure 2** Physician D16 moved to a lower ranking for low discretion visits while D1 moved to a higher ranking for high discretion visits. D6, an urgent care Doctor, does not see high discretion patients.

shows how the rank order of a physician can change compared to their peers when low discretion/high agreement diagnoses were plotted separately.

**Summary** - This tool can be used to monitor out-of-control processes, and to stimulate process-improvement discussions. On a more immediate level the use of case-mix adjusted admission rates improves confidence in physician profiling and mitigates the "my patients are sicker" argument, keeping the focus on positive clinical improvement. For a complete discussion of this tool please contact the authors at Emergency Physicians Medical Group, 734-995-4309.