KNOWLEDGE BASE TRIAGE IN A CLINICAL SETTING

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ABSTRACT

Triage is the medical term for assigning degrees of medical severity to a patient's condition to allow physicians to prioritize available medical resources. Knowledge-based triage systems can support health care professional in meeting challenges associated with rationing health care. This system concerned triage of upper respiratory infection (URI).

The field study's results support the clinical utility of a knowledge-based triage system. Quality of care was not threatened by the presence of a digital device in the examination room. The system provided a detailed record of patient symptoms, alerted care providers to possible drug interactions and assisted care providers in following a protocol's recommendations. The system responded appropriately to a diverse set of complicated URI patients, but the knowledge base was conservative in classifying patients with uncomplicated URI conditions. A genetic classifier model revealed patterns in the patient case-base that could improve the accuracy of triage classifications. This model allows physician's designer the ability to explore patterns and to set explicit triage classification thresholds.

STUDY SUMMARY

This research responds to a need to develop improved methodologies to aid in applying, validating and refining triage systems. Triage is the medical term for assigning degrees of medical severity to a patient's condition to economically allocate appropriate levels of medical resources. Resource restrictions caused by escalating medical costs and a growing number of people without insurance mean health professionals must triage patients on a daily basis.

Physicians are reluctant to accept responsibility for decisions from a system that does not reflect their individual practice styles and values. Decisions of such systems are often not considered valid for different patient populations and standards of care vary between sites and among physicians. This study investigates methods to allow physicians to apply and refine site specific triage systems.

The knowledge base system provides a detailed record of patient symptoms, alerts care providers to possible drug interactions and influenced care providers in ordering throat cultures according to protocol recommendations. The field study results indicated that the knowledge base responded appropriately across a diverse set of URI patients. The application of the knowledge base imposed a conservative threshold for classifying a patient as uncomplicated. Result revealed that allowing for the systems design bias to avoid false negatives, the knowledge bases significantly agreed with predicted care provider triage classifications.

Computer based systems can strategically support primary care physicians in meeting challenges associated with rationing health care. There are three areas for computer support in primary care ambulatory medicine: improving medical quality with better decisions, supporting the efficient management of daily delivery of care and assisting accounting and administrative functions. Computer triage support improves quality of care by standardizing implementation of a patient classification protocol.