Infectious Diseases Data Analysis Program: A Proof of Concept for User-Friendly Patient Data Analysis

(Technical Report)

Rising Pressure on the Doctor-Patient Relationship in the United States

(STS Research Paper)

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by

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Preface

Although the United States is a world leader in medical technology, large studies of healthcare delivery reveal that only about half of Americans receive necessary care and fewer than half of physician practices incorporate recommended processes of care. The healthcare system suffers from gaps between evidence and practice, suboptimal quality, rising distrust of healthcare providers, low patient compliance, and unsustainable cost increases.

For the University of Virginia Department of Infectious Diseases, the research team developed a novel computational medical diagnostic tool that eliminates the gap between data stored in electronic health record (EHR) systems or excel sheets and the analysis the physician seeks. We developed the Infectious Diseases Data Analysis Program (IDDAP), which filters patient data on the basis of constraints given by the user. Following the surveying of clinicians and biomedical engineering students, we found that IDDAP accelerated searches through large files of patient data, freeing the caretaker to spend more time face to face with the patient. More frequent patient-doctor interactions increase patients' perceived quality of care. With IDDAP, clinicians can more easily interpret large amounts of data, improving patient care.

Improvements in the doctor-patient relationship (DPR) can improve healthcare overall. In the US, DPR, already controversial, is threatened by rising distrust of healthcare providers, due in part to the increasing influence of pharmaceutical companies, the effects of patient satisfaction reports, some regulations, and publicized controversies. Many medical professionals are seeking to improve and protect DPR, primarily through journalism. They write to advise the general

public about healthy DPR, to appeal to physicians to ensure the integrity of their profession, and to caution that clinicians' discretion is essential.

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