

Patient Prioritization Algorithms and Meta-rules for Appointment Schedulers

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Ever increasing need for medical help combined with poor planning have led to the United States healthcare system becoming currently unable to handle the demand for medical assistance. Many healthcare systems are troubled with accessibility problems that result in people waiting several weeks before they can see a medical provider. The situation is particularly worse in specialized healthcare settings and medical specialties such as neurosurgery.

As a solution, the United States healthcare system increased the service capacity by increasing the number of service providers. The outcome of this was an increase in healthcare system costs while not addressing patient accessibility to these critical providers. Furthermore, patients often speak to non-medically certified agents to schedule appointments with no appointment prioritization based upon medical necessity or need. With rising healthcare costs and an aging population, the United States healthcare system is in need of a method to effectively determine a patient's medical need, and thereafter prioritize scheduling of appointments as a result.

Invention Description

Researchers at Arizona State University have developed a system capable of efficiently handling patient prioritization and improving management of the current United States healthcare system. The system takes advantage of the benefits of need-driven care and integrates them with innovative machine learning techniques to provide patients with high quality service and effective care.

Agents at the appointment office ask the patient a small number of questions about their health issues phrased in a clear manner and put in multiple choice format. The answers are then inputted into the prediction engine, and thereafter a series of algorithms prioritizes patients and schedules appointments based on their response and other patient information. Patients are scheduled by the engine based upon medical need and provider availability. In addition, the system uses patient population data and trains machine learning algorithms to predict the degree to which a provider from a certain specialty would be able to address the patient's problem.

Potential Applications

- United States Healthcare System
- Medical Facility Management
- Healthcare Machine Learning
- Specialist Centers with Limited Provider Resources

Benefits and Advantages

- Innovative - The system allows for a cost effective solution to the current healthcare system management
- Autonomous - Machine learning algorithms and computer automation automatically prioritize and schedule appointments
- Intelligent - As new patient data is available, the prediction engine is updated, resulting in ongoing improvements to accuracy, sensitivity and prediction
- Friendly - A user friendly interface allows for simple and efficient system management