Patient Scheduling and Capacity Assessment for an Endocrinology Clinic

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Background

More than 1/3 of U.S. adults are obese. Related conditions include heart disease, stroke and type-2 diabetes. A novel Weight Management Program offered by an endocrinology clinic provides obese individuals long term strategies in managing and maintaining a healthy lifestyle.

Problem Statement

Inefficient appointment scheduling process

Solution Approach

We are analyzing the daily snapshots to understand the appointment schedule development and patient behaviors. Particularly we are looking at:

• Capacity of a provider in the future
  □ When are the providers’ schedules filled?
  □ How is the provider’s capacity utilized?
  □ When can a new patient enroll in the Weight Management Program?
• Trend of appointment cancellation
  □ When are the appointments cancelled?
  □ How are the cancellations distributed?
  □ Will there be enough time for schedulers to refill the empty slot due to cancellation?

Results

Provider capacity looking 18 weeks out

How long before an appointment are cancellations made?

Discussion

Provider capacity:
• Provider may overwork
• Break time shortened to accommodate extra patients
• Time slots opening up about one month out
• More flexibility three months out

Appointment cancellations:
• Over 50% cancellations within one week before the scheduled appointment
• Increased number of unutilized time slots

Future Work

We will implement a database to dynamically review the appointment schedule and track changes made to the calendar. Further analyses include:

• Patient behavior in cancelling and rescheduling appointments
• Patient attrition from the Weight Management Program
• Wait list management in appointment scheduling
• Utilization of available time slots
• Effect of appointment scheduling on clinic operations

Visualizing Sample Calendar (October 1 as of February 17-20)

How long before an appointment are cancellations made?

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Data

Daily files from the clinic that contain calendar snapshots of the year-long scheduling horizon.

Provider schedule:
• Available time slot and its type
• Work schedule (e.g. day-off, holiday, regular)

Patient appointment schedule:
• Patient information (e.g. patient identifier, zip code)
• Appointment type and length (e.g. Return Visit, 15 minutes)
• Appointment status (e.g. scheduled vs. cancelled, reason for cancellation)

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