

Improving Patient Access at MIT Medical

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Introduction

MIT Medical

- Location: Cambridge, USA
- Multispecialty group practice that serves MIT students and employees and their families
- Employs ~300 people and is both a provider and insurer

The Challenge

- Improving access to primary care services
- Current 3rd next available for primary care appointments can be a matter of weeks
- Lack of standardization of provider schedules and/or inefficient matching of support staff
- Diverse patient population with varying needs and expectations for interaction with their provider
- Cultural history of being "provider-centric" and providing flexible work schedules
- No clearly defined access metrics
- MIT Medical Primary Care is moving towards team-based care, which will require significant schedule reconfiguration

The Practice

- 18 providers, with varying patient-facing hours
- 20 and 40-minute appointments
- Each provider also has administrative time and some have administrative roles as well

Background & Approach

Developing the Approach

1. Interviewing stakeholders about access issues, scheduling practices, team structure, and patient and provider needs
 - Clinicians and clinician leaders
 - Nurses and nursing leaders
 - Patient service representatives (PSRs)
 - Administrative leaders
2. Conducting a literature review of best practices in primary care scheduling
 - Open access scheduling
 - Maximizing "top of license" work for all team members with task delegation
 - Optimizing appointment lengths
 - Optimizing placement of short vs long appointments within day
 - Optimizing scheduled vs same-day appointments to manage demand on different days of the week
 - Continuing data collection and definition of metrics
3. Characterizing supply and demand
 - Supply
 - Based on # of providers, # of patient-facing hours, lengths of appointments
 - Having more short appointments can increase access
 - Demand
 - Based on requests for appointments, scheduled and same-day, and types of appointments
 - Quantification with data is necessary

Methods

Team Recommendations

- Team-let structure planned as 4 providers, 2 nurses, and 2 MA's per team
- Co-location, communication, and schedule alignment within teams
- Task delegation between roles to move many follow-up and chronic care tasks to nurses and MA's
- Onsite admin time

Waiting Room Observations

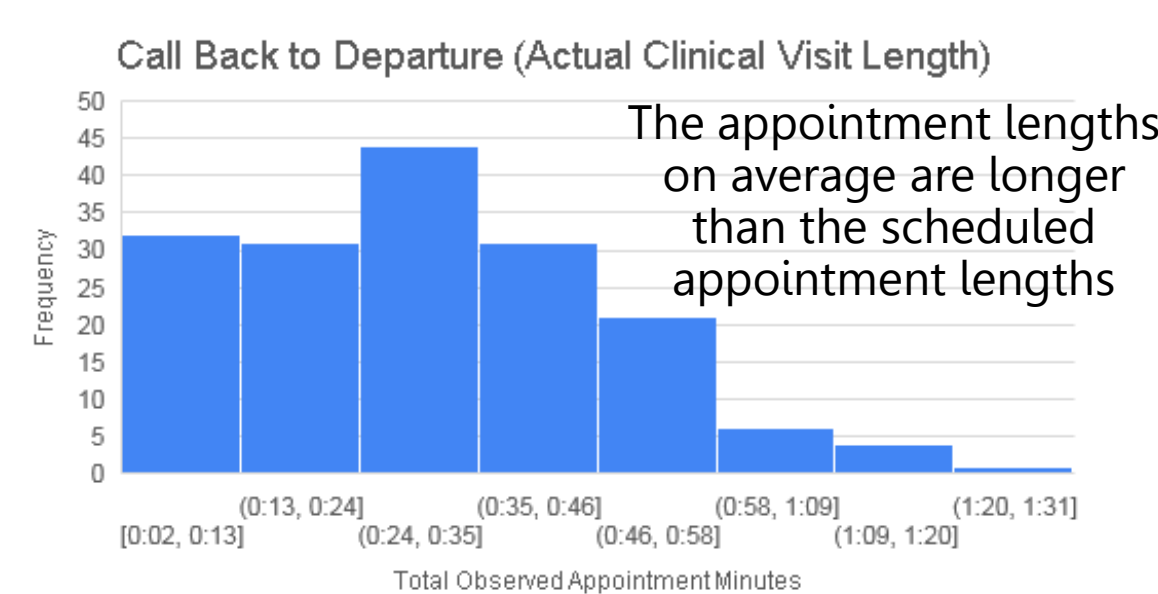
- Observing check-in time, time called back, and check-out time
- Different times of day and different days of the week
- Goals: To assess actual appointment lengths, waiting times, delays in schedule, and variability across days and times

Schedule Template Analysis

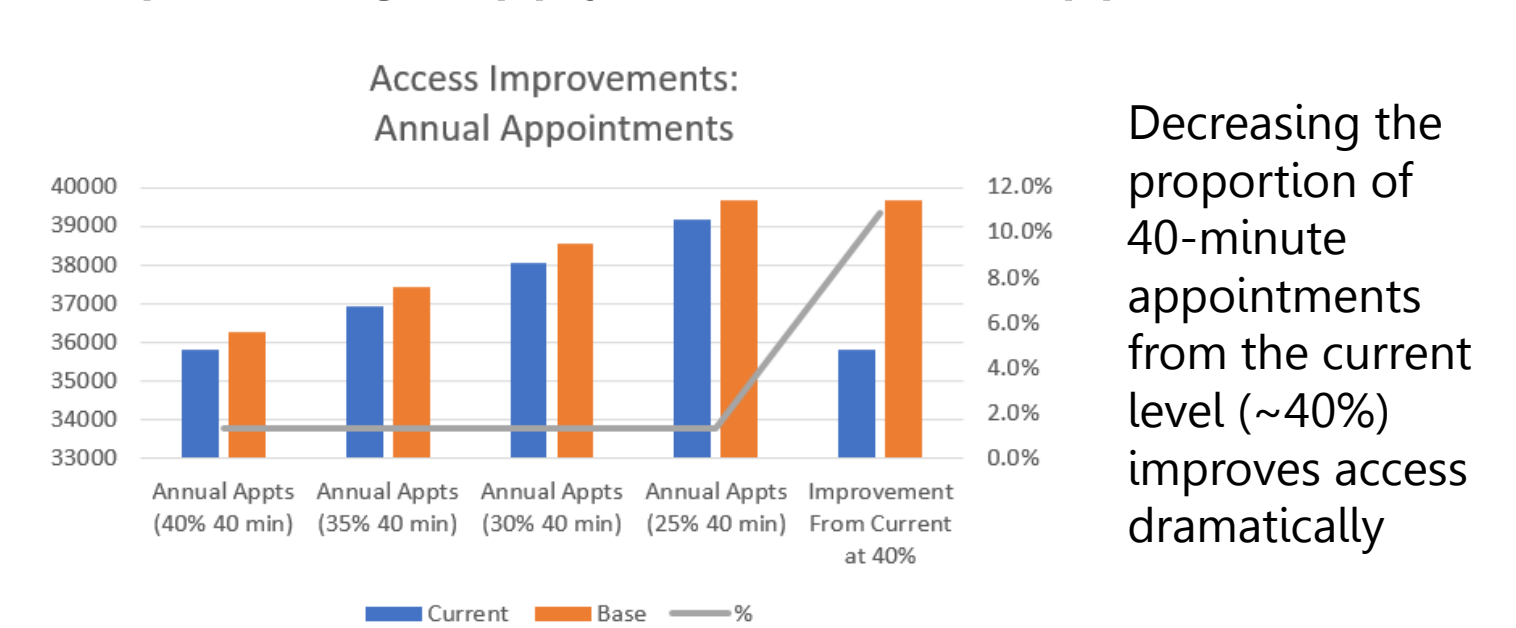
- Use quantitative methods to optimize a schedule template for each provider
- Objective function is to maximize total number of appointments
- Model the effect of different constraints, including:
 - # of providers
 - # of patient-facing hours
 - Meetings & lunch, etc.

Results

Appointment Length Analysis



Optimizing Supply of 40-minute Appointments

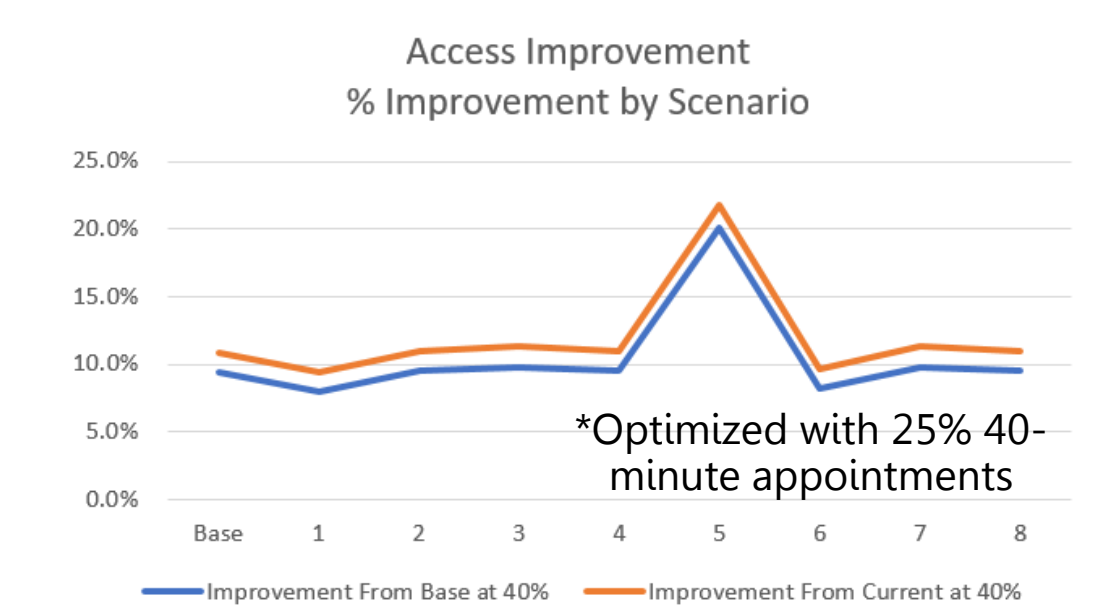


Decreasing the proportion of 40-minute appointments from the current level (~40%) improves access dramatically

Schedule Optimization Analysis

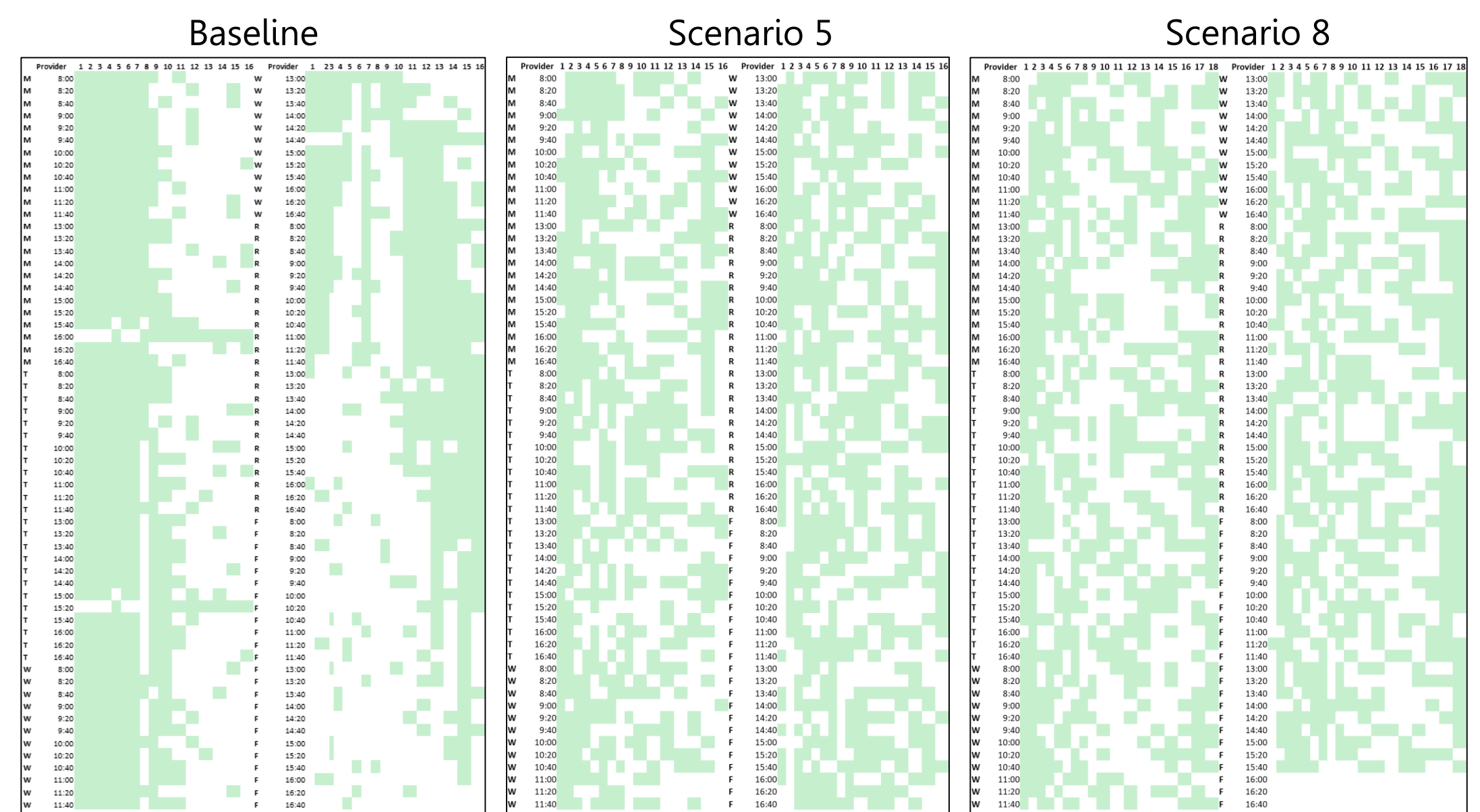
Scenarios

- Current: Status quo
- Baseline: Near future staffing changes and minimal constraints
- 1: -8 patient-facing hours for one full-time physician
- 2: 2 hours of weekly meetings added
- 3: +1 full-time physician at 28 patient-facing hours
- 4: +2 full-time physicians, at 28 patient-facing hours each
- 5: +2 hours of patient-facing time added to each provider
- 6: -4 hours for one full-time physician, +1 hour of meetings
- 7: Scenario 6 +1 full-time physician, at 28 patient-facing hours
- 8: Scenario 6 +2 full-time physician, at 28 patient-facing hours



Constraints

- ≤ 7 patient facing hours per provider per day
- 12-1 pm blocked for lunch for all providers
- 20 minute appointment slots from 8-11:40 am and 1-4:40 pm
- ≤ 10 patients at one time by the number of rooms
- Full-time providers prioritized for contiguous patient-facing hours



Conclusions and Future Directions

Summary of Recommendations

- 1) Realignment of schedules within the team structure for best communication and coordination, along with task delegation to maximize "top of license" work
- 2) Minimization of 40-minute appointments
- 3) Minimization of additional provider-specific schedule constraints
- 4) Data collection for demand estimation

Future Directions

- 1) Incorporation of demand data into schedule optimization
- 2) Re-evaluation of assignment of appointment lengths to minimize 40-minute appointments
- 3) Including patient feedback about ideal appointment lengths
- 4) Measuring impact of team-based structure
- 5) Getting stakeholder buy-in for schedule coordination

References & Acknowledgments

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