When can telehealth enable patients to better access specialty care?

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The Challenge

How do we ensure patients get timely and appropriate access to care that meets their needs and preferences?

Telehealth can help improve access to healthcare

Patients may prefer certain types of appointments (face-to-face vs. telehealth)

Our Approach

Model patient flow through primary and specialty care

Build simulation to better understand capacity utilization and access under uncertainty while accounting for patient preference

Guide clinical decision-makers in strategies to improve patient access

Methods

Simulated patients flowing through system

Inputs

Primary Care Providers	GI Providers	Provider Capacities
Appointment Types	Appointment Costs	Patient Arrival Rates
Exit Probabilities	Patient Locations	Patient Preferences

Data From: NATIONAL POLL ON HEALTHY AGING, UNIVERSITY OF MICHIGAN

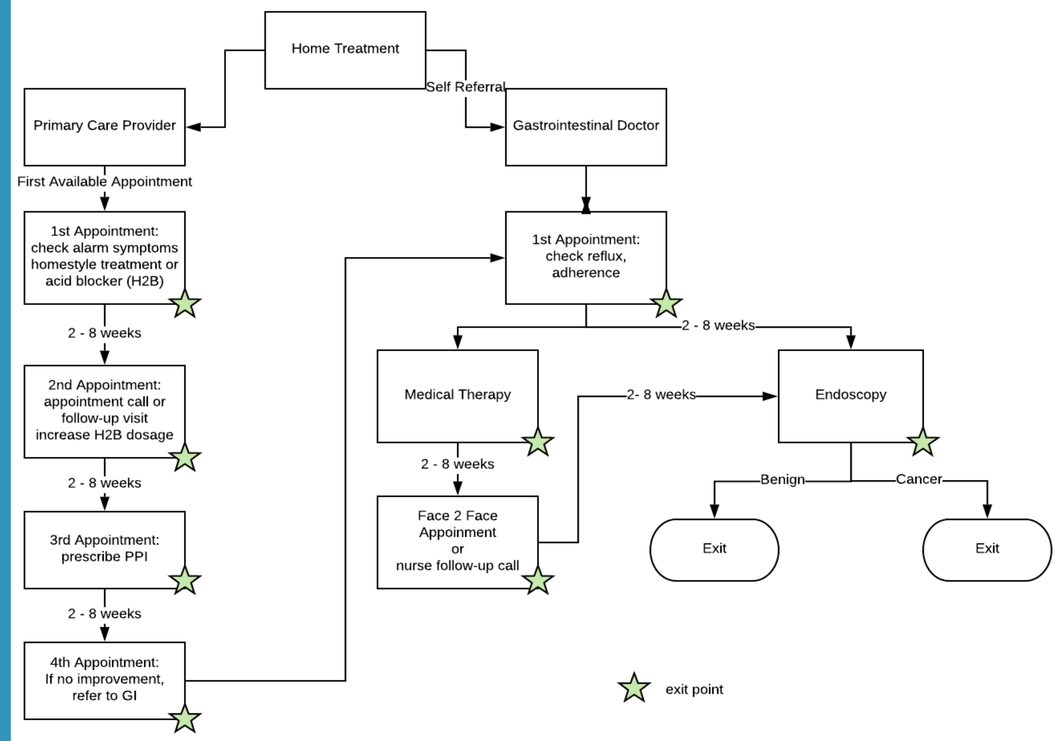
"In-Range" Policies

A. First available – any type
B. First available – preferred only
C. First preferred available. If no preferred, first available of any type

"Out-of-range" policies

1. First available – any type
2. First available - preferred

GERD Patient Flow



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Results

Baseline simulation results (Example: Policy A1)

Metric	Mean Result
Patients completing care	365.8
Benign/healthy endoscopies	156.1
Malignant endoscopies	17.3
Overall provider utilization	0.91
Face-to-face utilization	0.95
Telehealth utilization	0.88
Lead time	5.0 weeks
Modality preferences met	50.5%
Total cost	$172,866

Sensitivity Analyses (Example: % Modality Preference Met)

Conclusions

Simulation is a useful tool for understanding how to strategically incorporate telehealth into scheduling policies, while accounting for patient preferences.

Future work includes incorporating:

Transition probability matrix

No-shows, cancelations

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