



Center for
Digital Health

OVERVIEW

Center for Digital Health





The best interest of the patient is the only interest to be considered, and in order that the sick may have the benefit of advancing knowledge, union of forces is necessary.

– William J. Mayo, M.D.

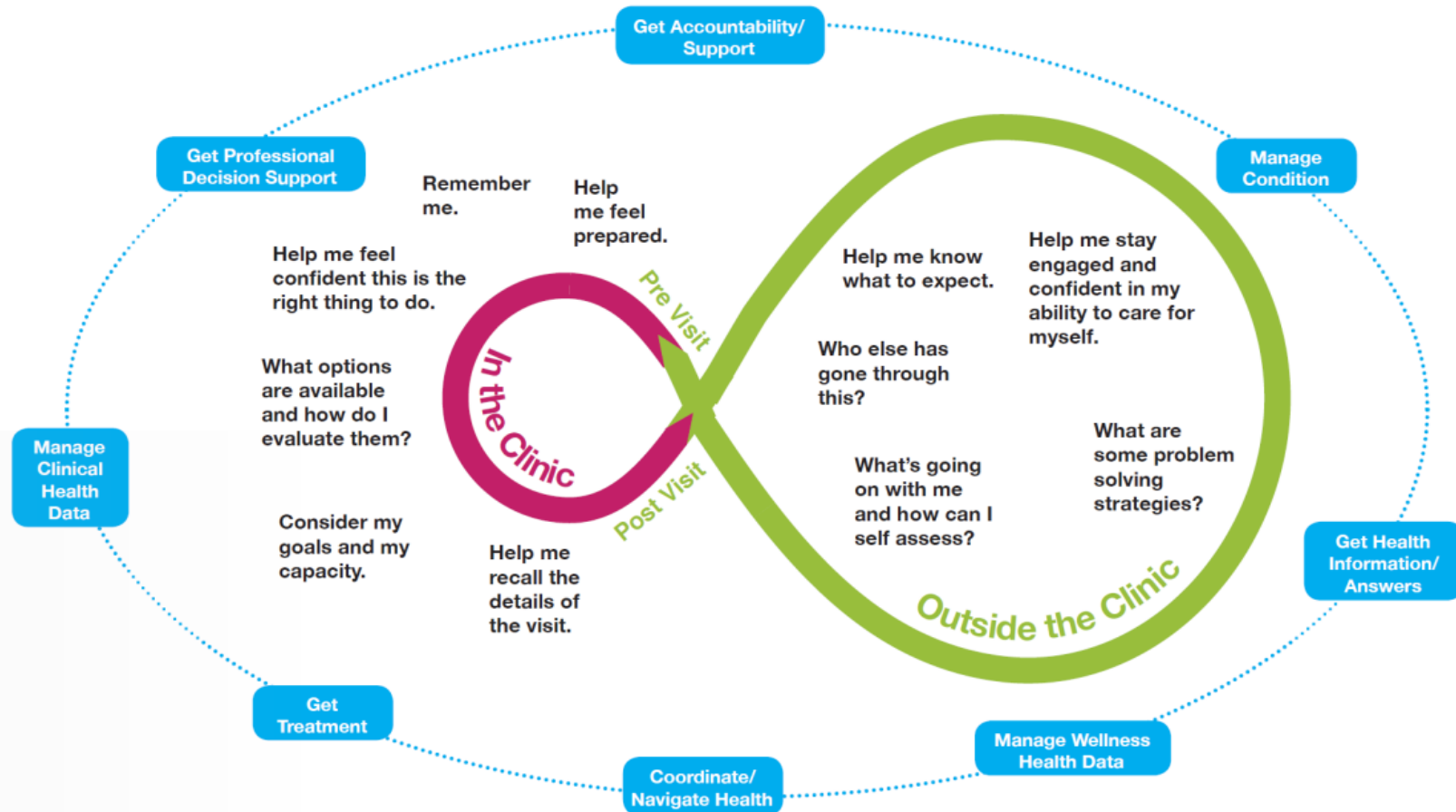


Mayo Clinic Model of Care: Core Values

- Principles defined by the Mayo brothers in the early years of Mayo Clinic
- Guiding how we work together to deliver coordinated care across the health continuum through a multidisciplinary team approach to treating the **whole person**
- Encompasses patient care and environment



Goal:
 Engaging patients
 where they are to
 facilitate active
 participation in
 managing their health &
 wellness



People expect that they can get their needs met in more convenient and more self-sufficient ways

Banking

Travel

Shopping



1st Patient Portal
(Rochester)
Pay bill, view
labs

Tele Stroke
2009

Patient Portal
(Arizona)

2011

Patient Portal
(MCHS)

Tele Neonatology

eICU

2013

Express Care
online

2015

1 Million Portal
Accounts

Remote Patient
Monitoring

2017

Transport Care
(Pre-hospital)

Interactive Care Plans

3 million mobile apps downloads

2019

2010

Patient Portal
(Florida)

Secure
messaging

2012

Patient Mobile App

Video appts @
home

Video Outreach

2014

2016

Acute Care
Telemedicine
Convergence

2018

Tele Emergency
Medicine

2020

COVID Response

eHealth

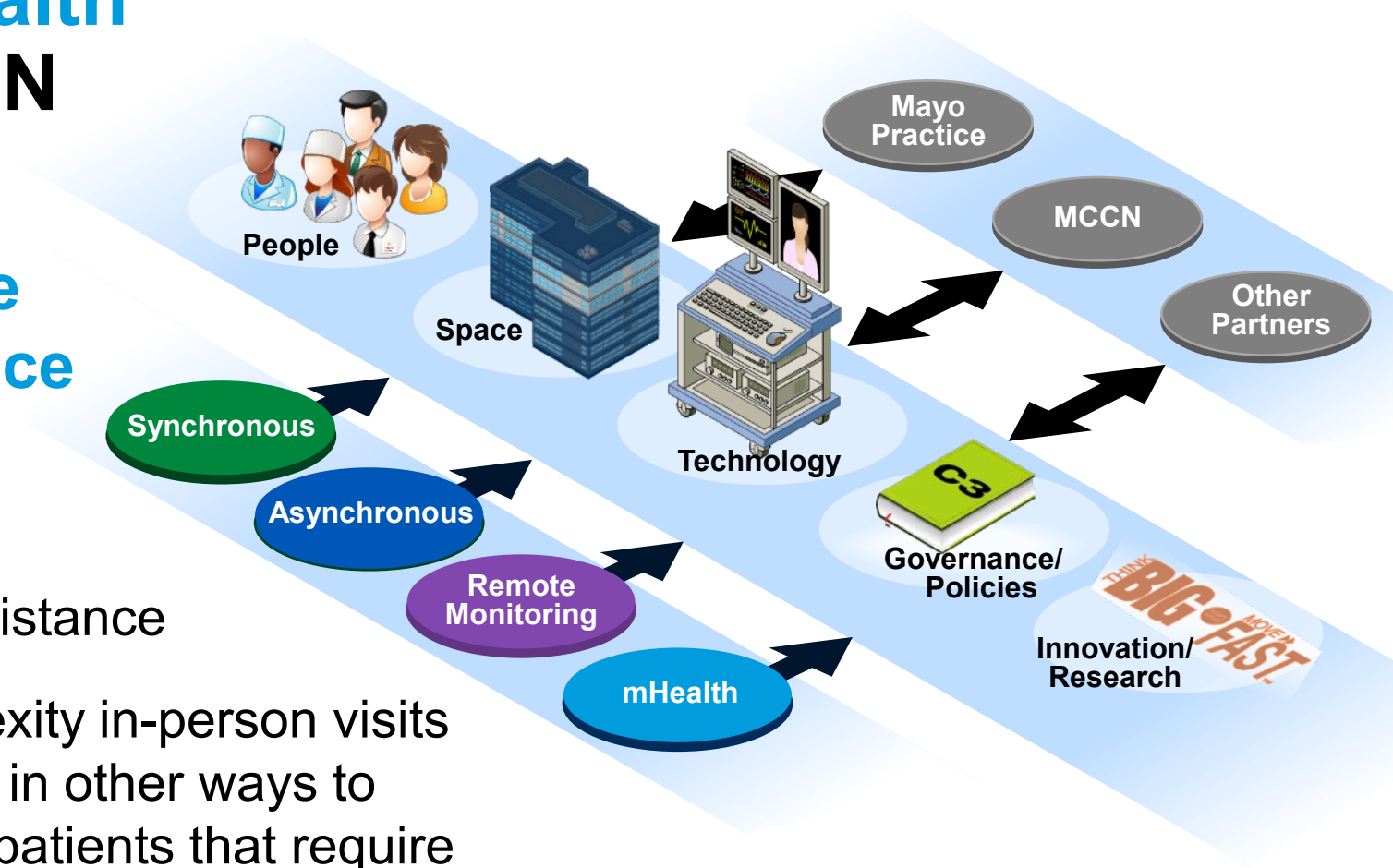
**Center for
Connected
Care**

**Center for
Digital
Health**

Center for Digital Health VALUE PROPOSITION

Extend Mayo Clinic
knowledge and expertise
to people in the right place
using the right channel

- Increase patient access to clinical care services at a distance
- Assist in reducing low-complexity in-person visits which can be accommodated in other ways to increase access for complex patients that require 'in-person' evaluation/diagnosis/treatment
- Assist in overall decreasing cost of care



COVID-19 RESPONSE



Pre-Diagnosis (Home)

- COVID Helpline
- COVID Self Assessment
- COVID Symptom Checker
- Phone Appts to Home



Hospital Admission

- Emergency Department Isolation
- Inpatient Isolation Support
- On-demand Video Consults
- Friends and Family
- Inpatient eConsults



Post-Discharge (SNF)

- Isolation Support & Rounding

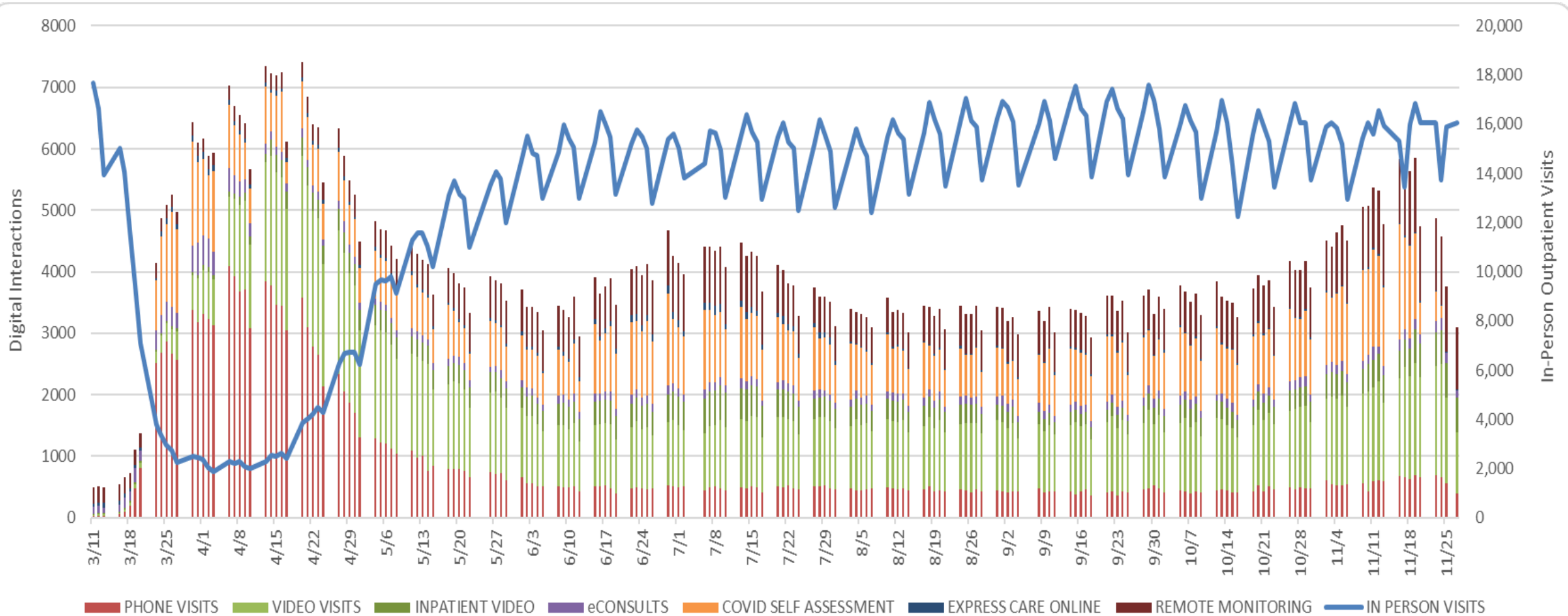


Post-Discharge/Diagnosis (Home)

- Patient Online Services
- Remote Patient Monitoring
 - Complex Care
- Video Appts to Home
- Reverse Video Appt (provider quarantined)
- Phone Appts to Home



MAYO CLINIC DIGITAL CONNECTIONS



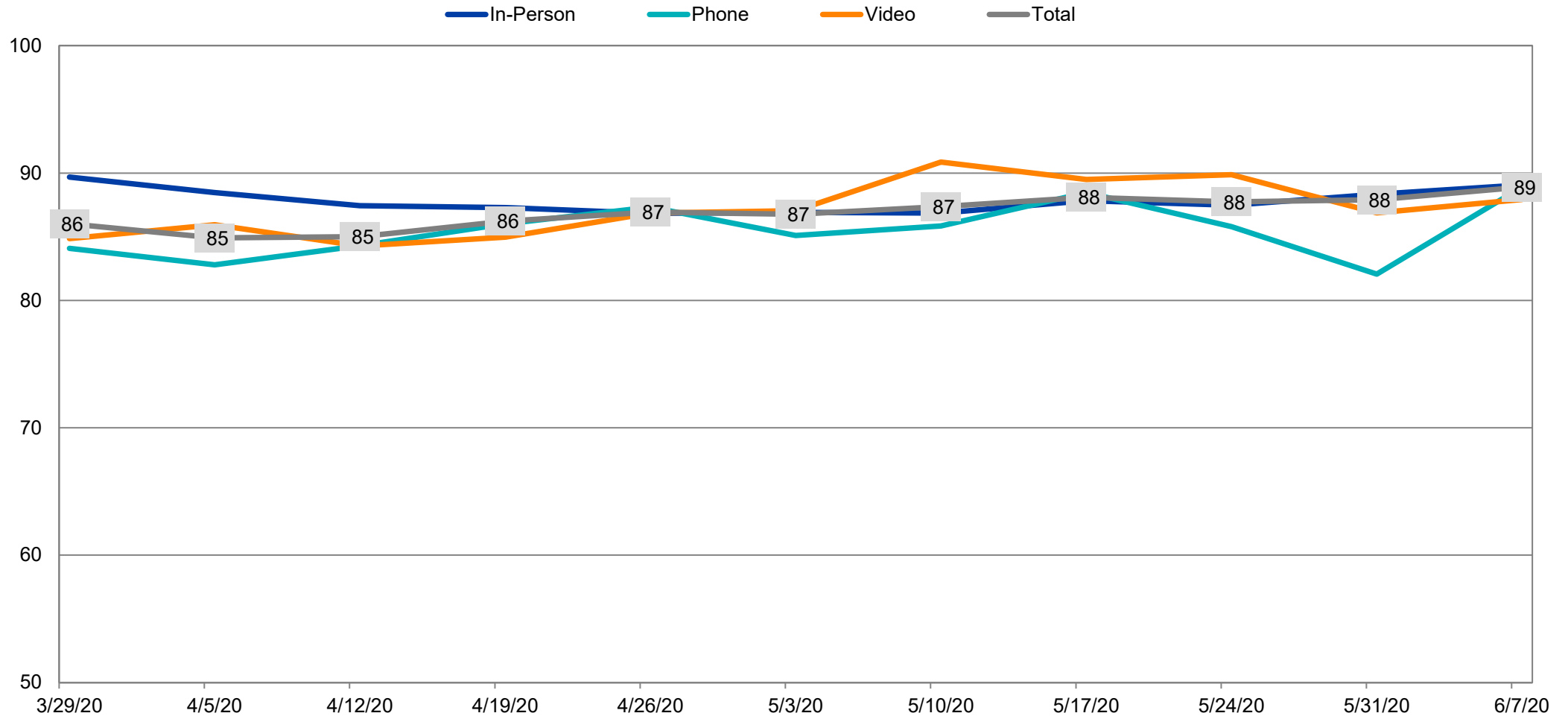
What will happen to telehealth after the PHE?

Measurements of Value

- Patient Satisfaction
- Provider Satisfaction
- Quality of Care
- Finances
- Regulatory Environment

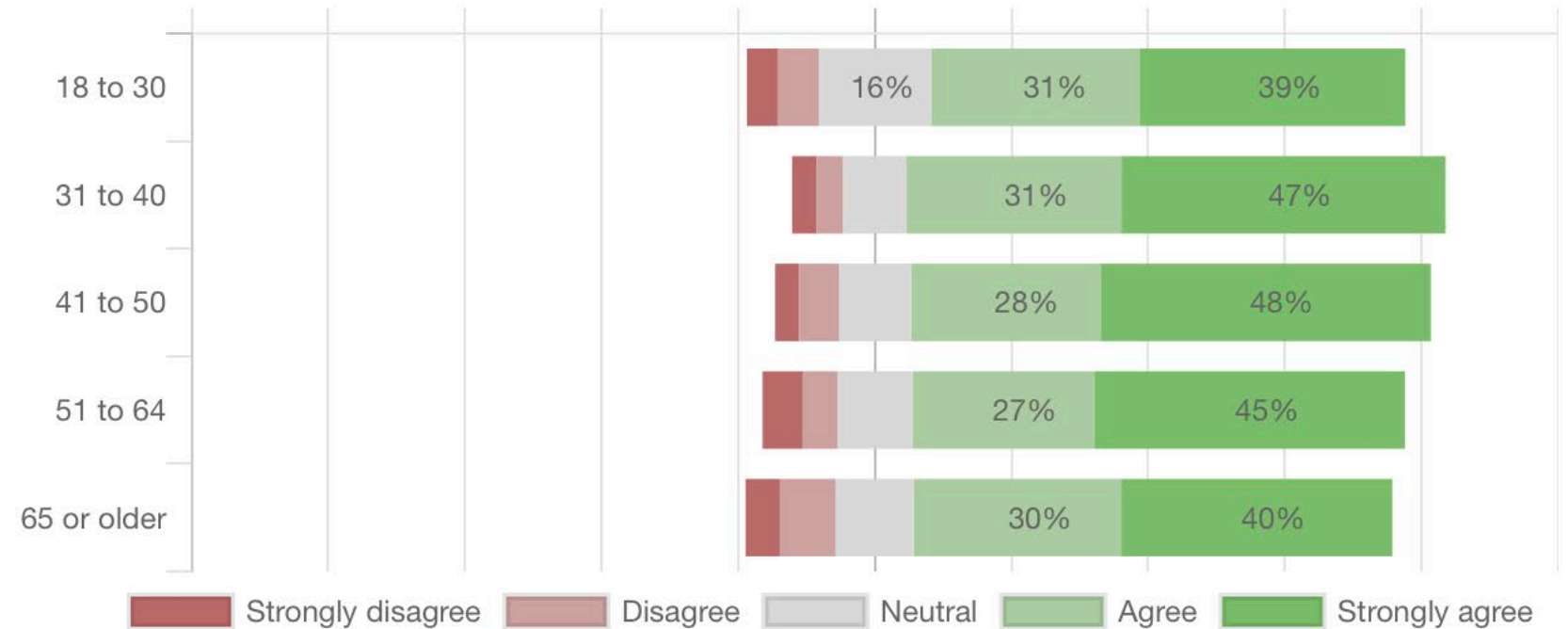
Patient Satisfaction

Likelihood to Recommend by Visit Type



Patient Satisfaction

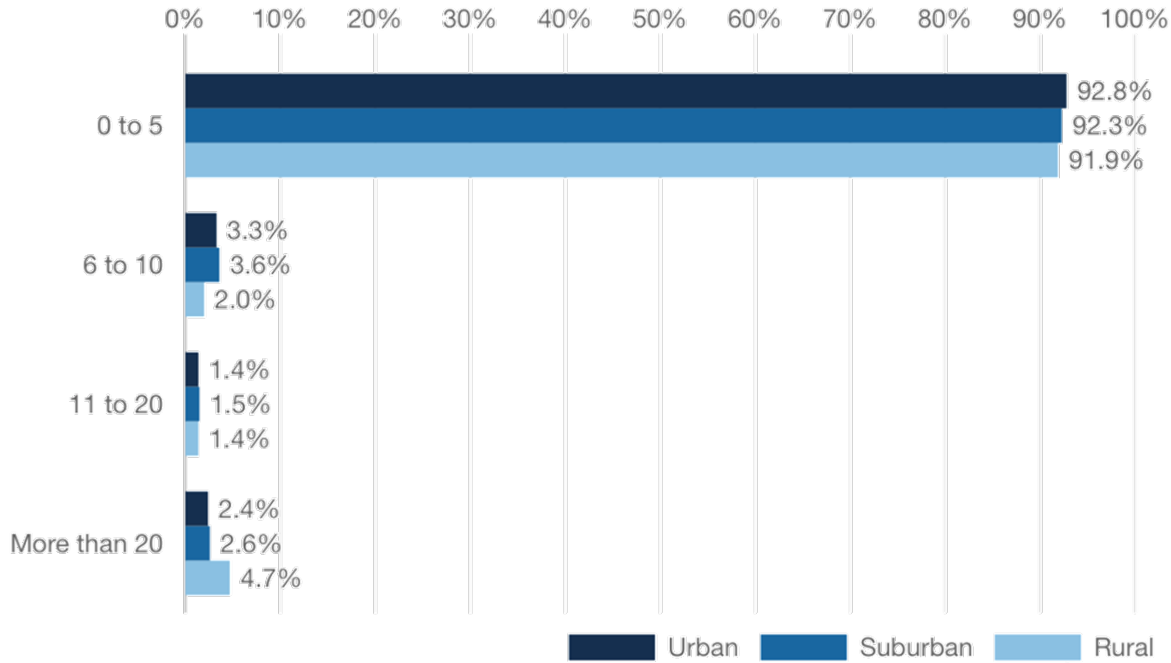
“ I will continue to use telehealth services in the future. ”



The majority of patients replied that they would have chosen telehealth over an in-person visit or that either visit type would have been acceptable

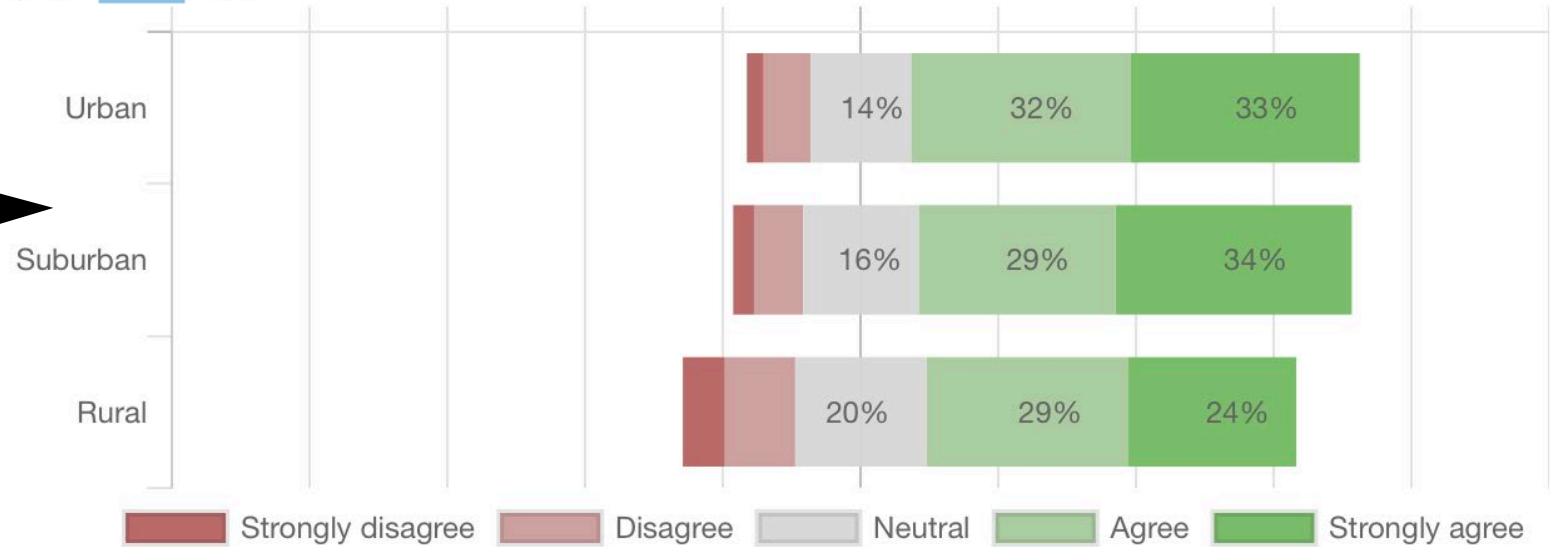
<https://c19hcc.org/telehealth/impact-home/>

Clinician Experience Data



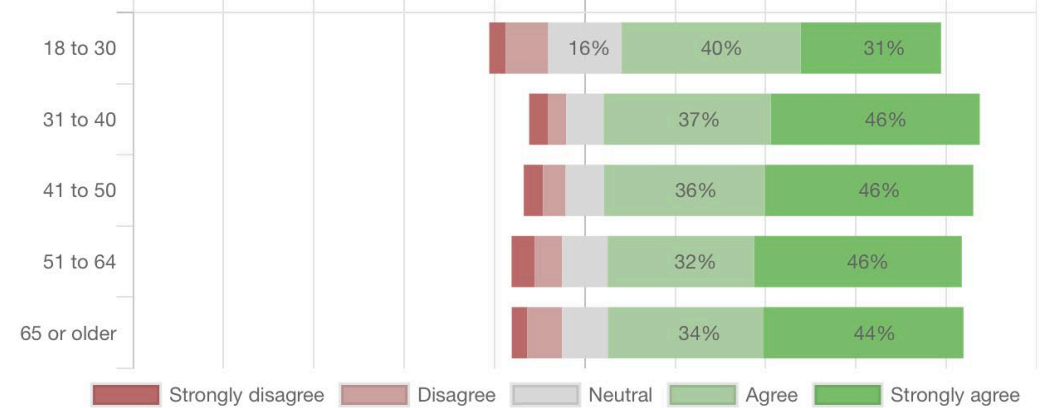
How many telehealth visits were you conducting each week prior to March 11, 2020?

My organization is committed to increasing my use of telehealth?

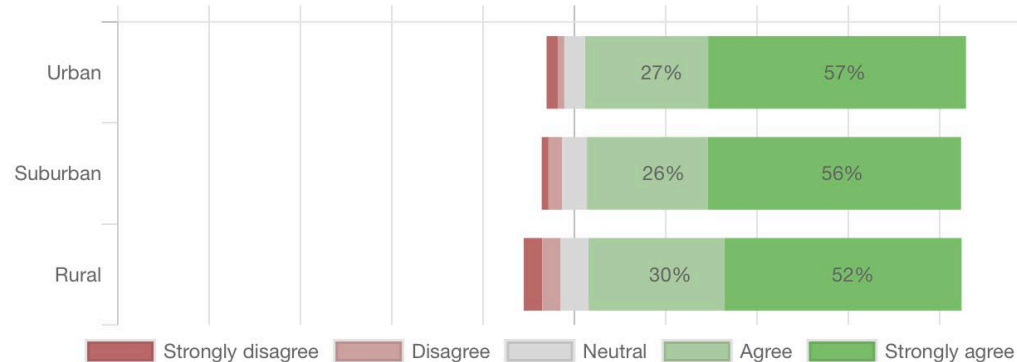


Quality of Care

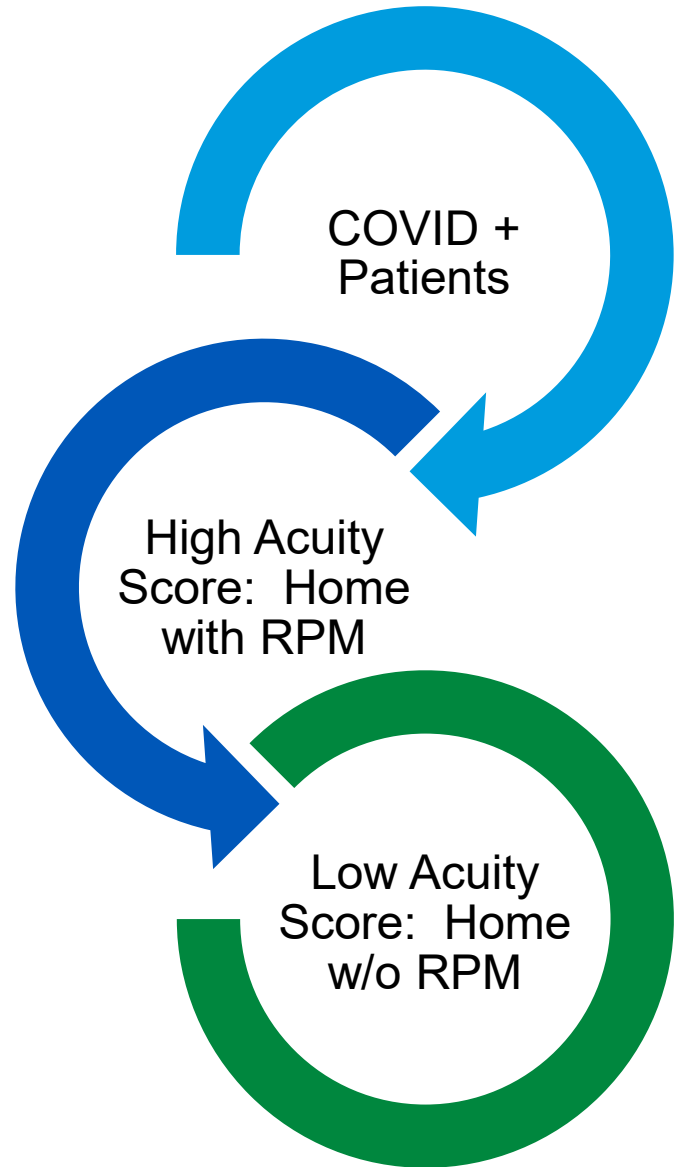
Patients were very satisfied with the quality of care delivered



Providers were very satisfied with the quality of care delivered



<https://c19hcc.org/telehealth/impact-home/>



COVID+ Outcomes

Preliminary Data Summary

Delayed Hospitalization

RPM	4%
No RPM	13%

Required ICU

RPM	1%
No RPM	4%

Prolonged Hospitalization (> 7 days)

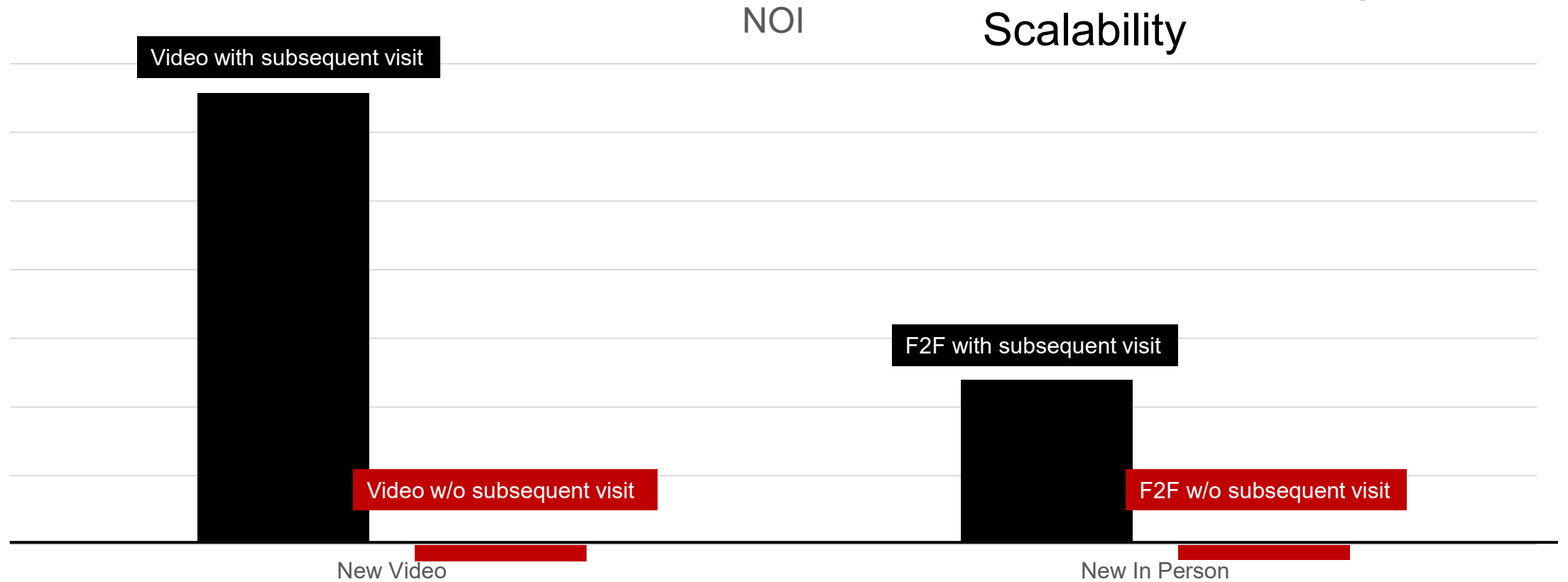
RPM	3%
No RPM	5%

Financial Considerations

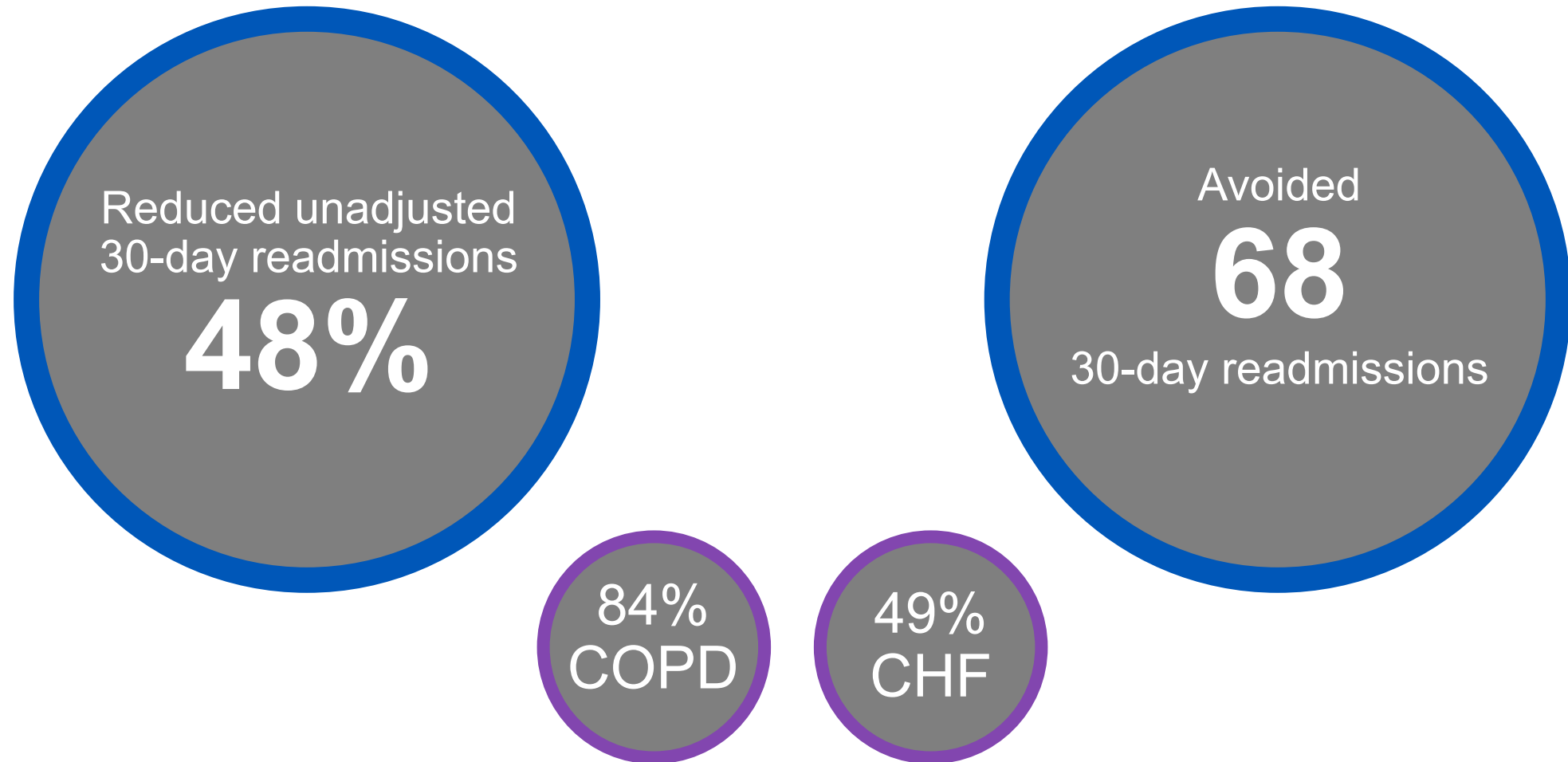
“If we only do video visits, then we will lose revenue from ancillary testing that usually accompanies an in-person visit”

Financial Considerations

Availability of Testing Improved
Faster time to appt
Appropriate staffing
Scalability



Complex Care Remote Patient Monitoring

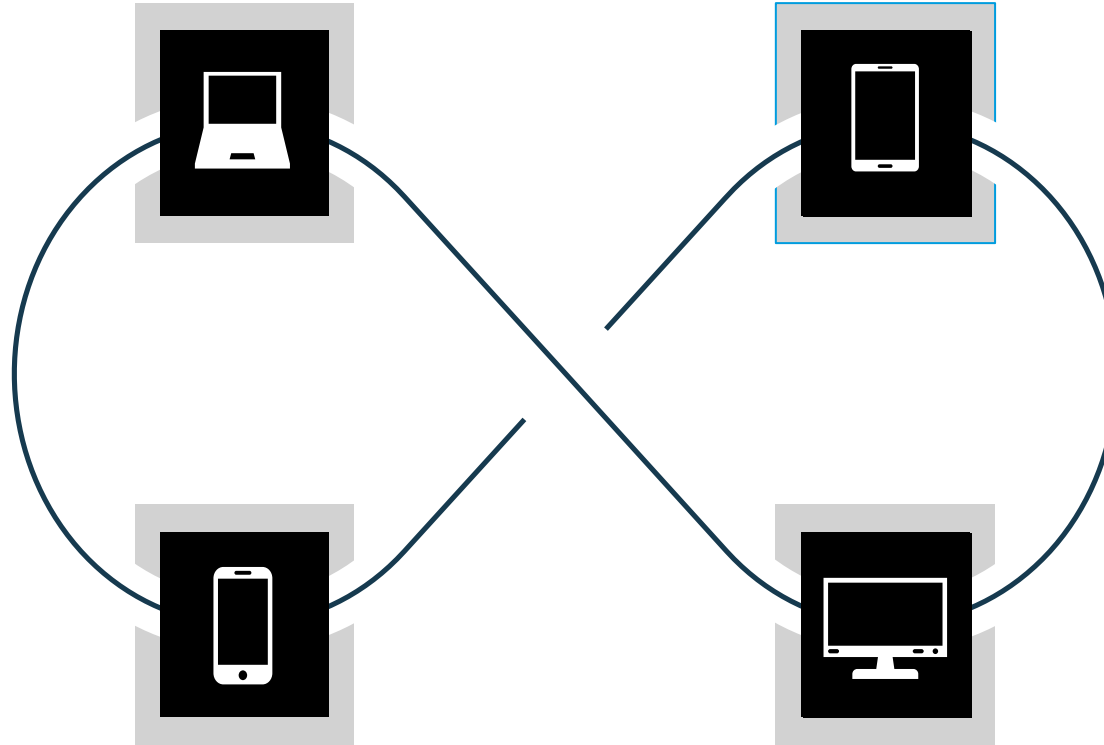


Patient-side Economic Analysis of Telemedicine Visits

Study Design: Mayo Clinic introduced a postoperative video telemedicine follow-up program in place of an in-person visit before the pandemic. A recent study examines the potential cost savings to patients from avoiding expenses from travel, lodging and time away from work.

Estimated Average Savings per Telehealth Visit

\$888 per visit



Estimated Average Savings for Patients Traveling Long-Distance (>1,635 miles round trip)

\$1,501 per visit

Estimated Savings for Nearby (Single Day Travel) Telehealth Patients

\$256 per visit

Willingness to See a Provider Again in Same Setting: Patients who strongly agreed or agreed (2013-2018):

99.5%-100%

Source: Demaerschalk, B et.al. (2020). Health economic analysis of postoperative video telemedicine visits to patients' homes. Telemedicine and e-Health, ahead of print. Published online: September 9, 2020. <https://doi.org/10.1089/tmj.2020.0257>.

Environmental Impact

102,087 new and established patients

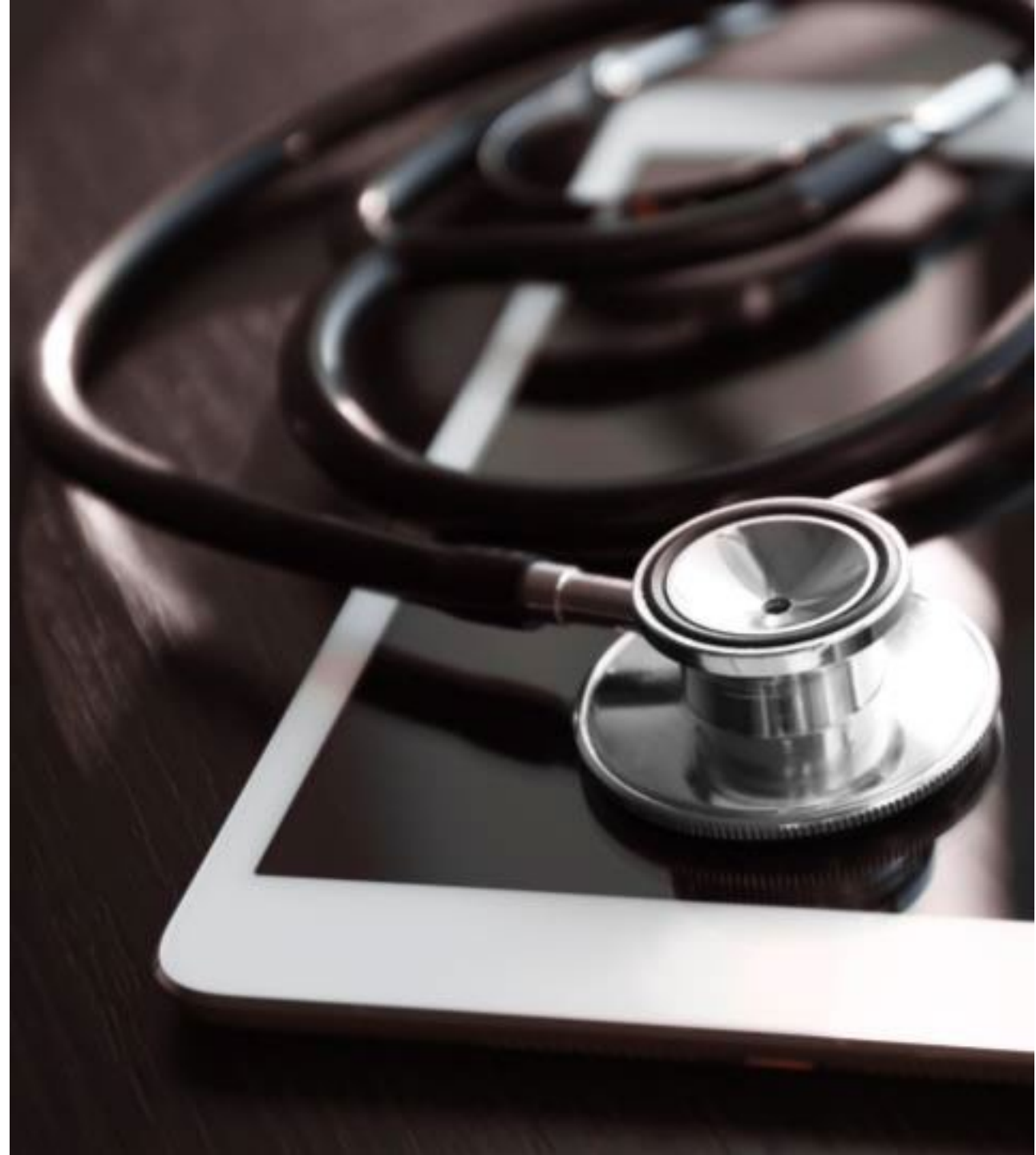
If median distance is 700 miles:

- 71,460,900 miles not driven
- 3,248,222 gallons of gas not consumed
- 28,868 tons of CO₂e not produced

**What is the cost of not
adopting remote care
activities?**

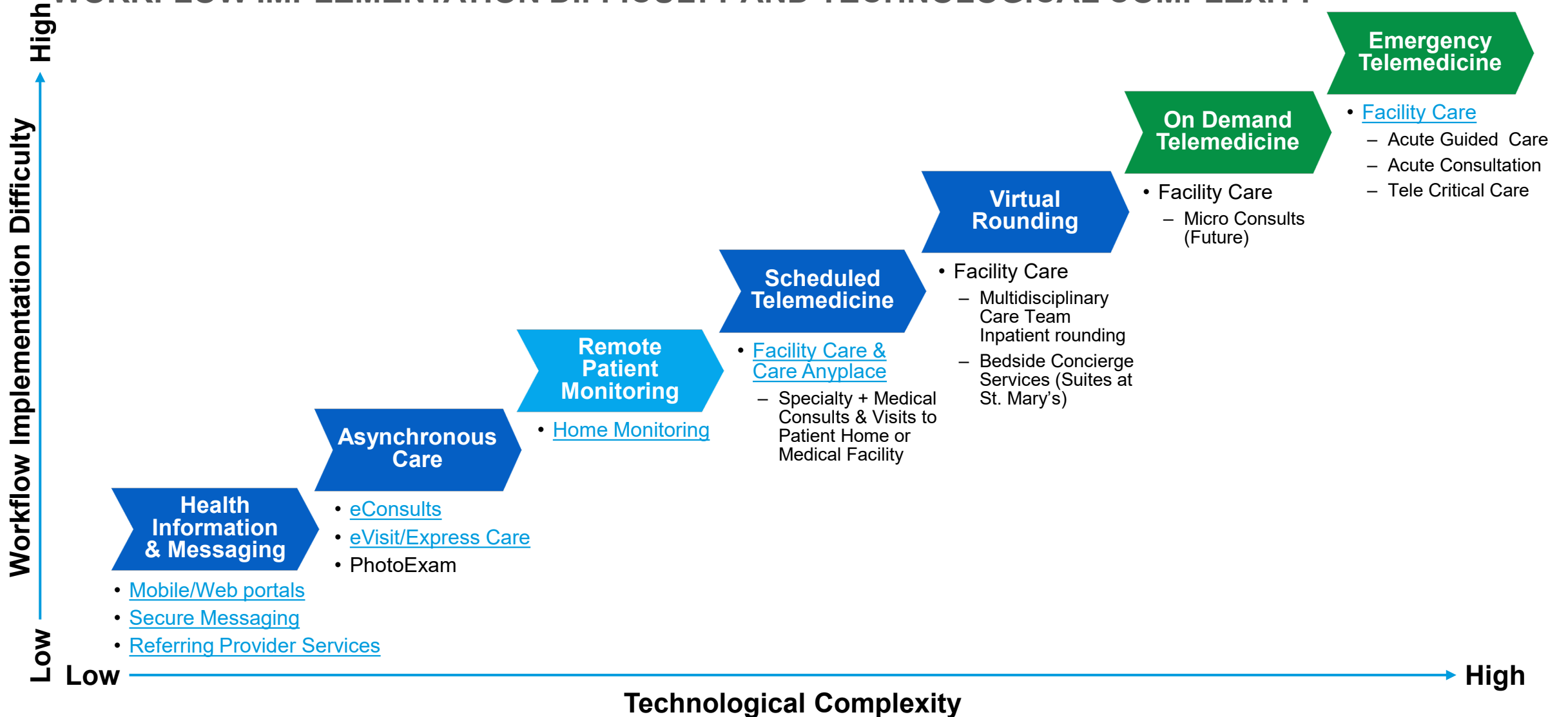


Trajectory of Telehealth



DIGITAL CARE MODALITIES

WORKFLOW IMPLEMENTATION DIFFICULTY AND TECHNOLOGICAL COMPLEXITY



8 Clinical Solutions and the Goals They Achieve

GOALS	Patient Communication	eVisits	Video Home	Remote Patient Monitoring	Video Outreach	Bedside Tablet	eConsults	Video Acute
Improve Patient Experience	✓	✓	✓	✓	✓	✓		
Improve Provider/ Staff Experience					✓			✓
Efficiently Manage Hospital Capacity Across Our System							✓	✓
Reduce Hospital Readmissions			✓	✓				
Improve/Maintain Local Access to Care	✓	✓	✓	✓	✓			✓
Support Patient Transitions and Optimize Access for High Yield Patients	✓	✓	✓	✓	✓	✓	✓	

Taking Telemedicine to the Future

Telemedicine is not a destination, it is one of a number of emerging/evolving tools that will help us care for patients more conveniently, more informed by data, and more holistically.

Education & Awareness

Provide best-in-class, trusted health information for health-seekers (current and future patients) with the goal of increasing general awareness and affinity of Mayo Clinic, its mission, and its services.
Educate health-seekers on the capabilities of Mayo Clinic, with a focus on the CMP Specialties, as well other strategic growth areas (high NOI, favorable payer mix, clinical capacity).

Conversion: Health Seeker to Patient

Increase the number of new, commercially-insured (*prioritized*) consumers who request an appointment.
Effectively engage all health-seekers with online and in app experiences, such that they feel compelled to seek care from us. Do this with a focus on CMP and other strategic practices.
Help health-seekers identify the conditions and timing of optimal request for services.

Pre-visit: Care Team Interaction

Enable the capability to identify new, commercially insured (*prioritized*) patients, seeking care from the CMP specialties. When identified, prioritize the scheduling of those appts.
Increase the number of appointment requests originating from online interactions.
Increase the utilization of Patient Online Services and Mayo Clinic App for new and existing patients.
Maximize technology to enhance the patient experience related to scheduling and bi-directional information exchange

Extend the Relationship

Keep Mayo Clinic top of mind for existing patients, when they are seeking treatment for complex medical issues.
Provide continual, relevant and valued health information to patients, in a non-intrusive manner.
Leverage digital tools to enable quick, scheduled, routine post-visit check-ins with patients.
Provide grateful patients the opportunity to become benefactors, when appropriate.

Post-visit: Care Team Interaction

Provide existing patients more options for proactively managing their overall health.
Provide existing patients capabilities for managing chronic conditions.
Reduce low-yield return visits and unnecessary readmissions for existing patients.

Visit: Clinical Care

Provide new and existing patients, greater access to remote care services and appointments.
Optimize practice efficiency by transforming face-to-face visits to digital interactions, or other lower-touch remote care services, when feasible and clinically appropriate.
Introduce new digital tools that empower patients to proactively manage their treatment plans and improve their overall outcomes.
Discover, translate and apply digital innovation to transform the practice.

Mayo Clinic Digital Strategy

The needs of the patient come first



Position Mayo Clinic

Establish Mayo Clinic as the clear world leader in delivering health care and guidance via digital channels



Transform Digital Consumer Experience

Enhance wellness, improve cures, and transform care delivery through high-value experiences for external and internal consumers



Transform Health Care Delivery

Lead the industry in transforming health care delivery, affordability, and outcomes



Transform Mayo Clinic

Support and extend operational excellence and the flow of value via agile methods and AI/ML protocols

Digital Vision

Creating a Mayo Clinic that is anywhere, simple, seamless, and personal

ANYWHERE

Creating health care experiences that meet patients where they are, on their terms, while easily and efficiently engaging a geographically diverse Mayo Clinic care team

SIMPLE

Delivering streamlined, elegant, and easy-to-navigate experiences for both patients and staff that leverage data, predictive analytics, and Mayo Clinic insights to reduce complexity, remove barriers and busywork, enable decisions, and decrease cognitive burden

SEAMLESS

Delivering an integrated one Mayo Clinic experience spanning digital and physical environments for a truly omni-channel experience

PERSONAL

Harnessing data to anticipate needs and orchestrate resources in order to proactively customize the Mayo Clinic digital experience for patients and staff so they feel seen, known, and empowered with every interaction

Mayo Clinic Bold. Forward.

Imagine a **digital assistant**...guiding you through your care journey...extending the **Mayo model of care digitally**



[See the future through a patient's eyes.](#)



[See the future through a care team's eyes.](#)



CDH Objectives

Simplify the path to CURES

AI/ML models: Integrate into clinical workflow using state-of-the-art software with automated regulatory processes to provide new tools that serve patients with early diagnosis and life-changing outcomes.

Data centrality: Increase speed-to-insight through trusted data, product teams and self-service capabilities.

Care team support: Enable care teams with highly accessible digital collaboration, expertise, and knowledge tools wherever and whenever needed.

Accelerate CONNECTIONS

Enhanced patient experiences: Create proactive, personalized, and guided patient experiences to streamline and facilitate care access and patient outcomes.

Serious or complex patients: Extend Mayo Clinic reach through state-of-the-art web analytics and digital services.

Hybrid and diversified care: Expand hybrid care models to patients beyond Mayo Clinic walls and into diversified offerings.

TRANSFORM how we work

People: Position teams for success with structured people development programs including training on data and digital literacy.

Process: Advance CDH product model maturity, portfolio management, and capacity management to drive efficiency and maximize value.

Technology: Deliver the next phase of modern, scalable, and unified services infrastructure for data and consumer platforms, including an enhanced digital experience for patients and the public that enables Cures and Connections, with a reduced carbon footprint.

Mayo Clinic Center for Digital Health

