Innovation in every moment

Rady Children's Digital Transformation: Reimagine the Future

Today’s Agenda

- Background & level setting
  - Context – Reimagining Care
  - The Hype Cycle
- Emerging technologies
  - Why it matters
  - Where we are
  - What we need
- Coming full circle – our direction
  - Nimbleness, flexibility and adaptability
  - Within the constraints of recovery
  - Employee and Family Focused

About Rady Children's

Fast Facts FY2020

Beds:	524
Revenue:	$1.2B
Capitated Lives:	250,000+
Employees:	5,200+
Physicians:	800+ affiliated
	400+ subspecialists
Nurses:	1,500+
Admissions:	18,000+
Surgeries:	18,000+
ED and UC Visits:	135,000+
Outpatient Specialty Visits:	261,000+
Outpatient PCP Visits:	460,000+
Telemedicine Visits:	51,000+

Region's provider of choice and safety net

Rady Children's Digital Transformation: Reimagine the Future

Reimagine the Future Guiding Principles

- **Nimbleness, flexibility and adaptability**
- Focus on innovation
- Strategic plan alignment
- Delivering whole child care to the patient
- **Within the constraints of recovery**
- Sustainable
- Alignment to culture and mission
- **Employee and Family Focused**

What does the future of healthcare look like 5-10 years from now?

- The global telemedicine market size was USD 41.63 billion in 2019. ... The market is projected to grow from USD 79.79 billion in 2020 to USD 396.76 billion in 2027 at a CAGR of 25.5%[1]
- The global healthcare artificial intelligence (AI) market is expected to grow at a CAGR of 41.4% from 2020 to 2027 to reach $51.3 billion by 2027[2]
- The global "Internet of Medical Things (IoMT)" Market is anticipated to reach USD 142.45 billion by 2026, with a CAGR of 28.9%[3]

[1] https://www.fortunebusinessinsights.com/industry-reports/telemedicine-market-101067
[2] https://www.businesswire.com/news/home/20210118005340/en/Healthcare-Artificial-Intelligence-Market-2027---Market-is-Expected-to-Grow-at-a-CAGR-of-41.4---ResearchAndMarkets.com
[3] https://www.marketwatch.com/press-release/internet-of-medical-things-iomt-market-size-2021-in-depth-analysis-market-dynamics-with-top-players-impact-of-covid-19-case-study-analysis-industry-impact-and-global-forecast-till-2026-2021-03-15#:~:text=Mar%2015%2C%202021%20(The%20Expresswire,increasing%20prevalence%20of%20chronic%20diseases.

What Care Redesign means to the patient on the Ambulatory Clinical Path

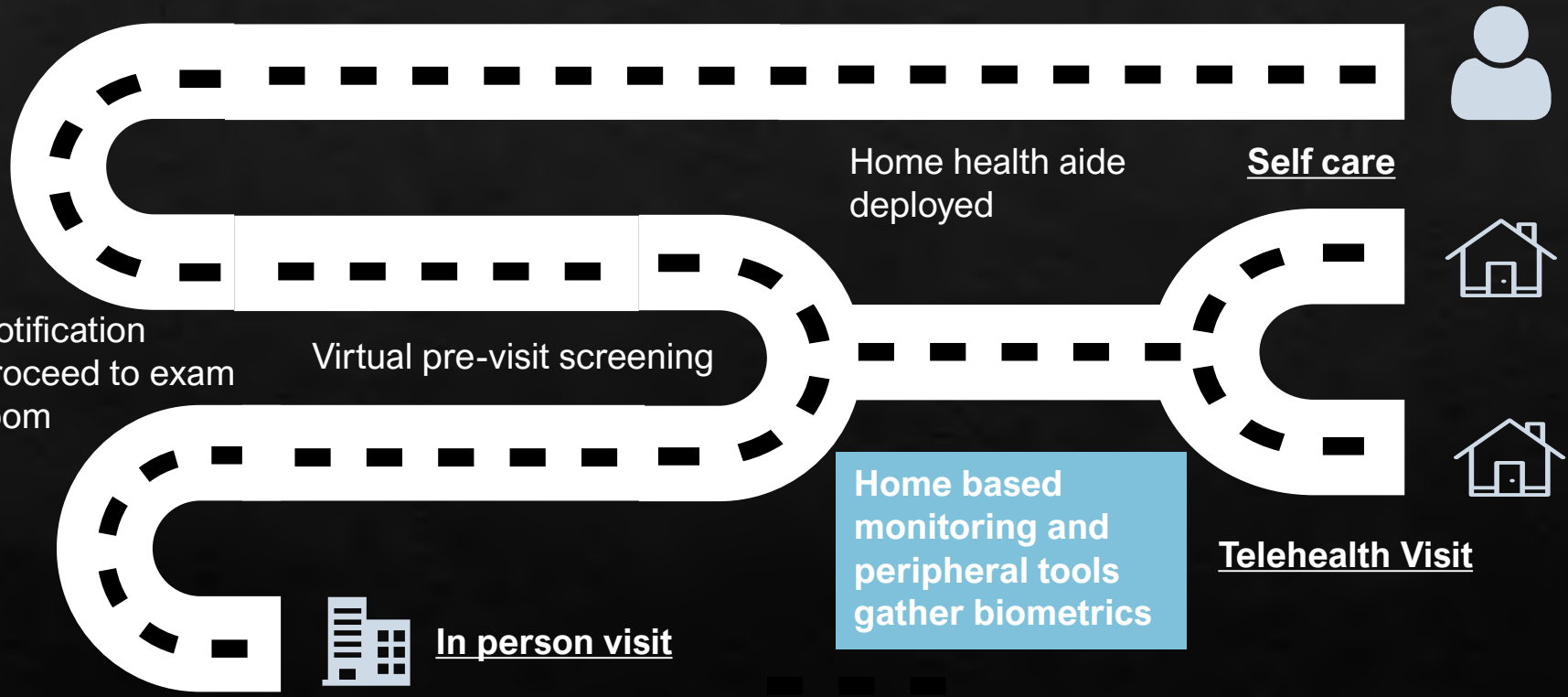
Offer automated patient based solutions and options – self care, telemedicine, in person

Using AI and predictive modeling determine pathways for best outcome

The patient engages, is recognized, answers questions

The episode of care starts with simple easy to use interface

Empowered and informed patient needs “care”

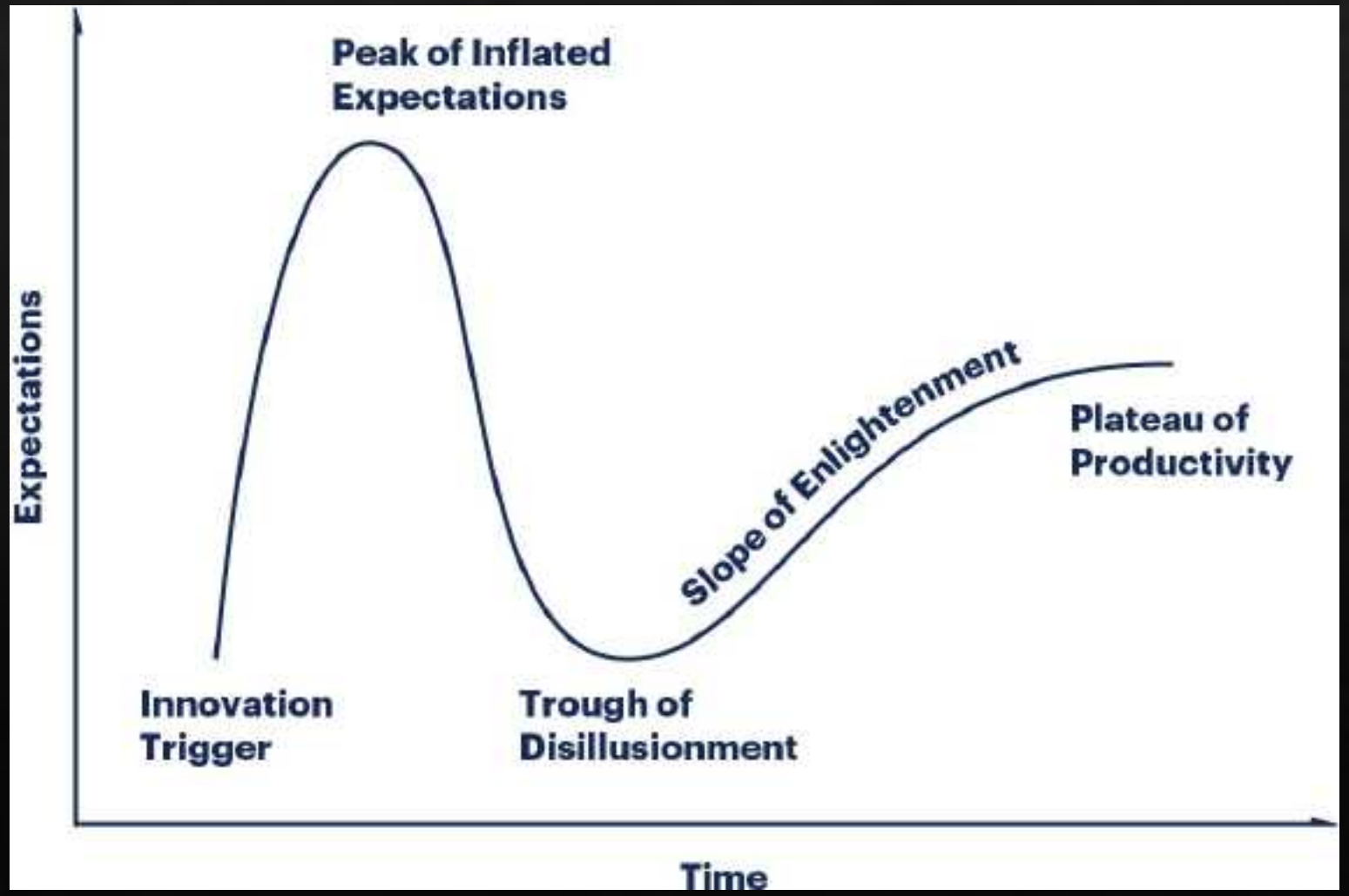


Throughout the episode:

- Constant data gathering
- Predictive modeling
- AI to determine patient based best outcome
- Seamless transitions
- Patient engagement and feedback
- Automated actions-based events, triggers and analytics

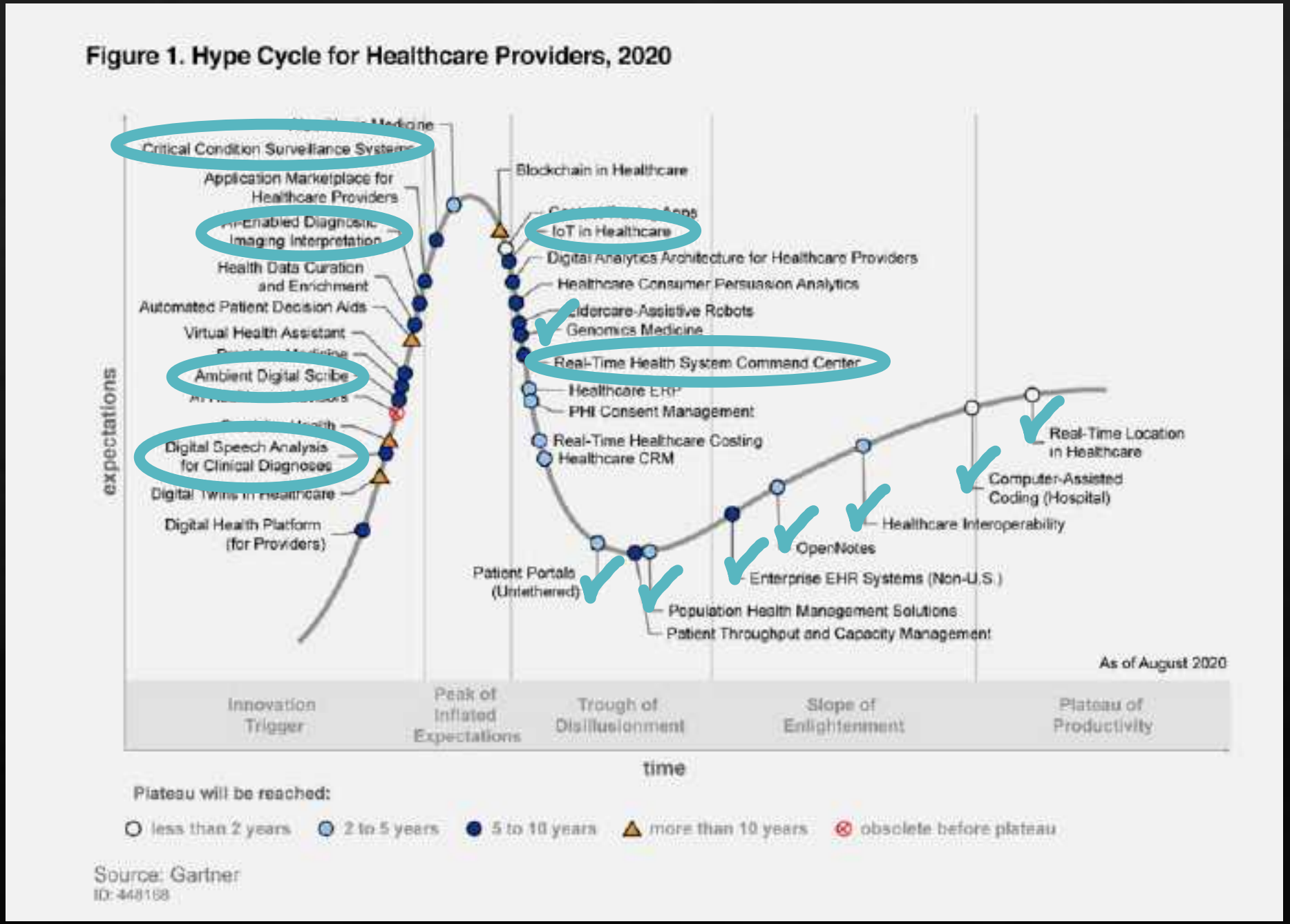
The Hype Cycle

The hype cycle is a branded graphical presentation developed and used by the American research, advisory and information technology firm Gartner to represent the maturity, adoption, and social application of specific technologies. The hype cycle claims to provide a graphical and conceptual presentation of the maturity of emerging technologies through five phases.



https://www.gartner.com/en/research/methodologies/gartner-hype-cycle

Healthcare Specific Hype Cycle



Rady
Children's

Telemedicine

Why it matters

No longer “leading edge”, now a “must have”

Patient convenience

Lower cost care

Extends geographic expansion

Extends MD career options

Our Foundation

Zoom-Epic integration

51,000 visits in FY20

130,000 visits in FYTD

What we need

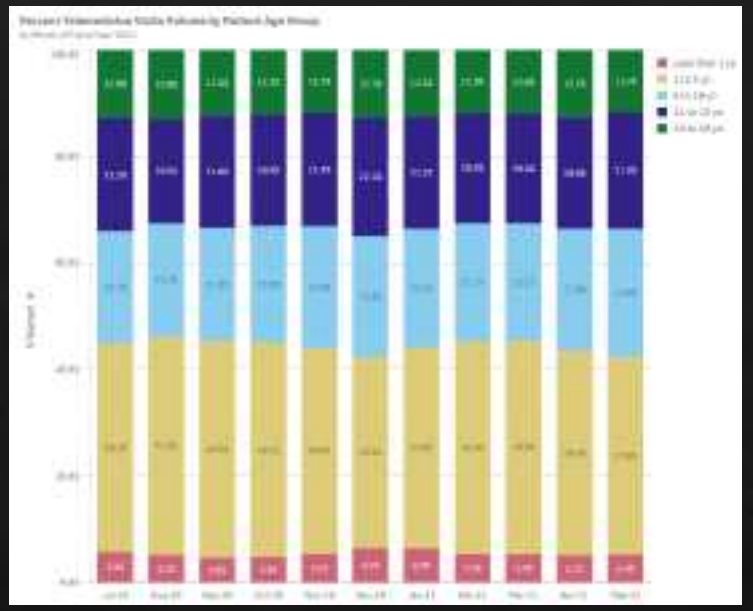
Peripheral device integration

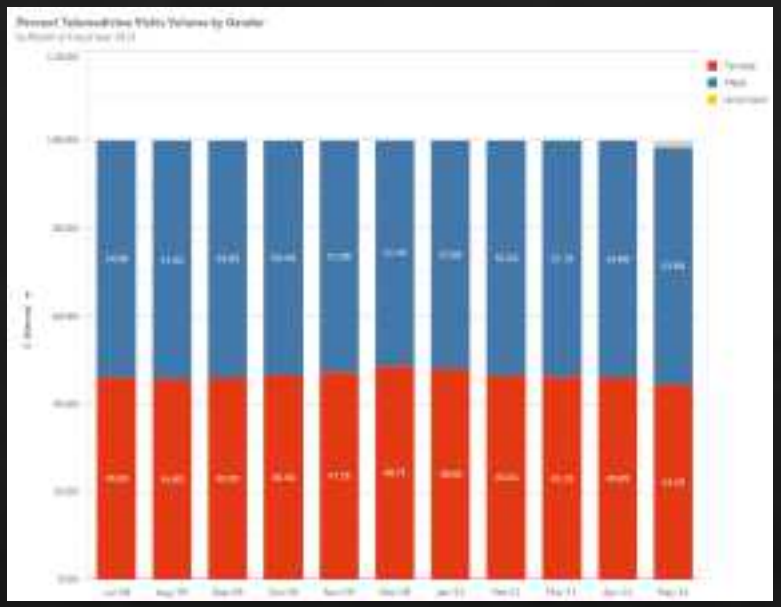
Multi-State licensure

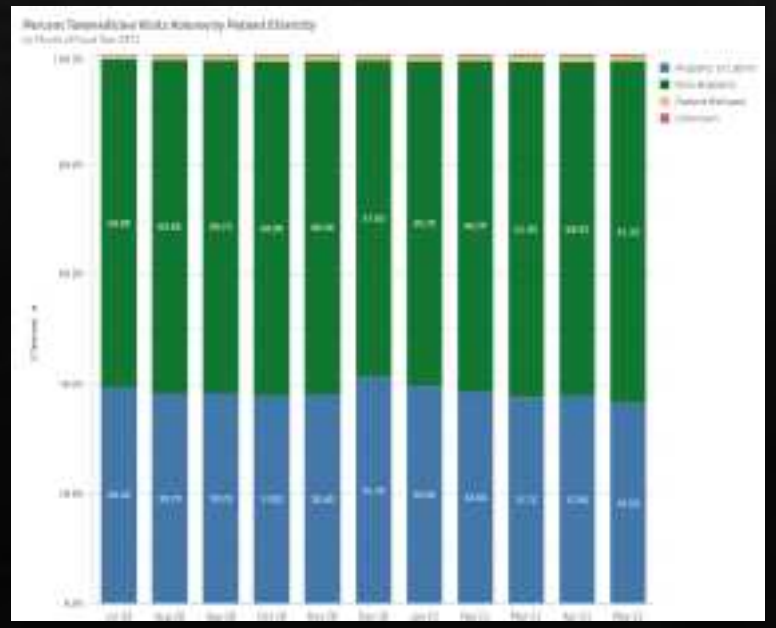
Continued payment parity

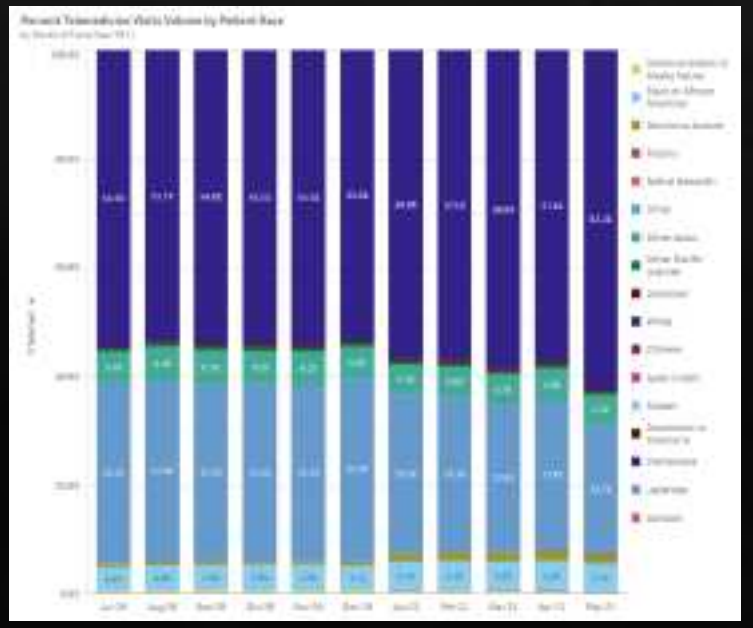
Continued training / optimization

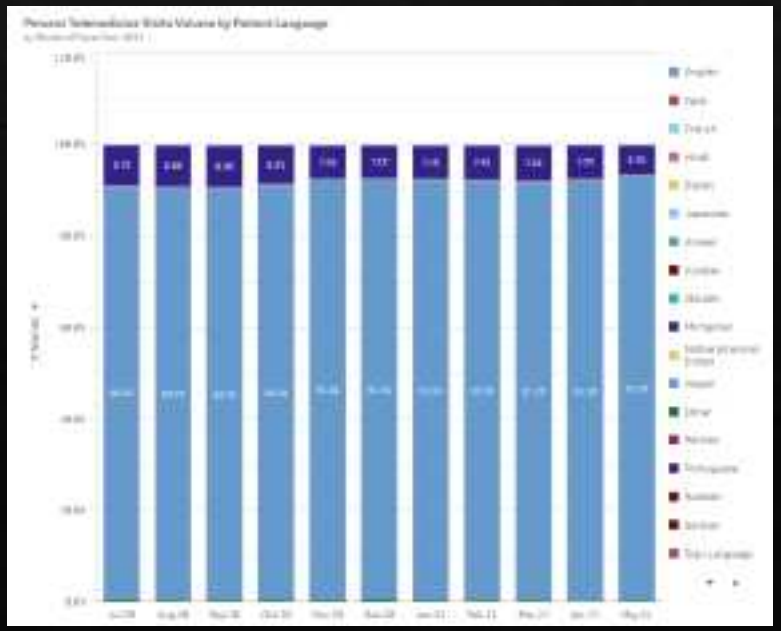
Summary - All Outpatient Telemedicine
Fiscal Year
FY 2021
128.2k
FY 2020
51.52k
Volume of Outpatient


Percent Telemedicine Visits Volume by Patient Age Group


Percent Telemedicine Visits Volume by Gender


Percent Telemedicine Visits Volume by Patient Ethnicity


Percent Telemedicine Visits Volume by Patient Race

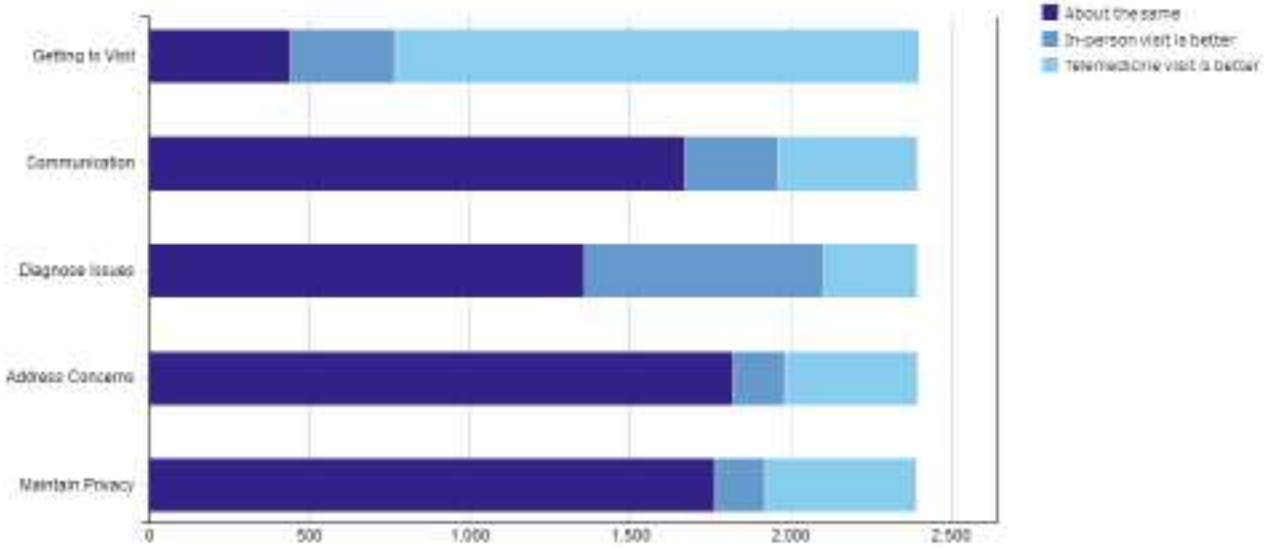

Percent Telemedicine Visits Volume by Patient Language

Telemed Survey

Total Surveys	% Recommend Telemedicine	% With Technology Issues	% Additional Visit Needed	% Visits that Saved Time	Total Estimated Time Saved (days)
3,549	88.5%	11.4%	19.6%	93.2%	100.9

First Visits and Visits w/ Tech Issues by Month Drill-Down

Surveys Telemedicine vs Inperson Responses



Telemedicine Visit Volume

by Day

Chatbots

Why it matters

Faster access / timely response

Personalization and timeliness leads to patient satisfaction

Lower costs

Our Foundation

Gastro transitions of care pilot from 2015

What we need

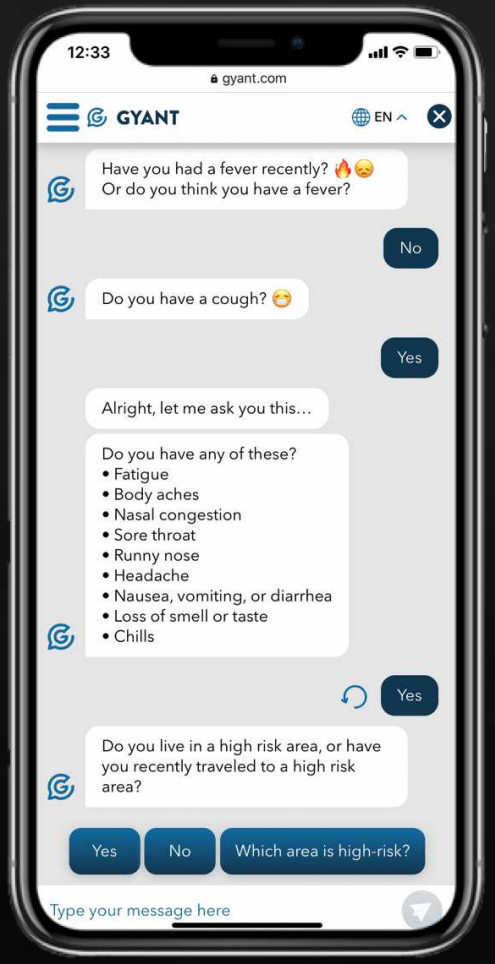
Clear use case(s)

Focused SME and IT resource(s)

Technology partner(s)

Governance

Funding



Other Robotic Process Automation (RPA)

Why it matters

Improved efficiency (high volume, clear inputs/outputs, well defined/steady processes)

Consistency (error reduction)

Focus work on higher cognitive tasks (job satisfaction / dissatisfaction?)

Our Foundation

Claim status checking and Authorizations RPA (RCHSD / R Systems)

Data and interface job scheduling (RCHSD)

Genomics pipeline (RCHSD/RCIGM)

What we need

Governance

Standard toolset

Operational champion(s)

Prioritization

SME & IT resources

Artificial Intelligence (AI) Predictive Modelling

Why it matters

Pattern recognition, enables faster insights, better care

Improved quality and safety

Improved productivity / focus on higher cognitive tasks

Improved patient flow

Our Foundation

Sepsis algorithms

Genomics

IT infrastructure management

What we need

Leadership

SME, data science, data engineering and IT capacity

Expert partners

Artificial Intelligence (AI) Image Analysis

Why it matters

Technology advances

Quality improvement across disciplines

Efficiency gains for highly specialized, expensive SMEs

Our Foundation

Relationships with

UCSD Qualcomm Institute

Merge/IBM

Siemens

3D Lab

What we need

Clinical Champions

Investment in platforms

Technical resource bandwidth

Leadership to manage change / disruption

https://www.youtube.com/watch?v=NfB-3yw8QZs

Artificial Intelligence (AI)
Ambient Intelligence

Why it matters

Technology advances in speech recognition

Heightened Patient/Family expectations (pervasiveness of Alexa/Siri/Bixby/Cortana/Google Assistant/Google Home)

Focus back to the patient, not the keyboard

Our Foundation

Basic speech recognition mModal/Nuance

Vendor space in consolidation

What we need

Keep eye on vendor space

Learning/pilots

Technical resource bandwidth

Clinical champions

Investment in platforms & infrastructure (new campus)

Internet of Medical Things (IoMT)

Why it matters

Lower cost setting

Increasing quality of consumer devices

21st Century CURES

Our Foundation

Propeller Health (asthma)

Gluco Health (diabetes)

BardyDx, Cardionet, ZioPatch/iRythm (heart)

What we need

Governance / Strategy / Priorities

Leadership

Champion SMEs

CIS / Data / Integration / IT bandwidth

We're talking about it

Walking – In use in targeted areas

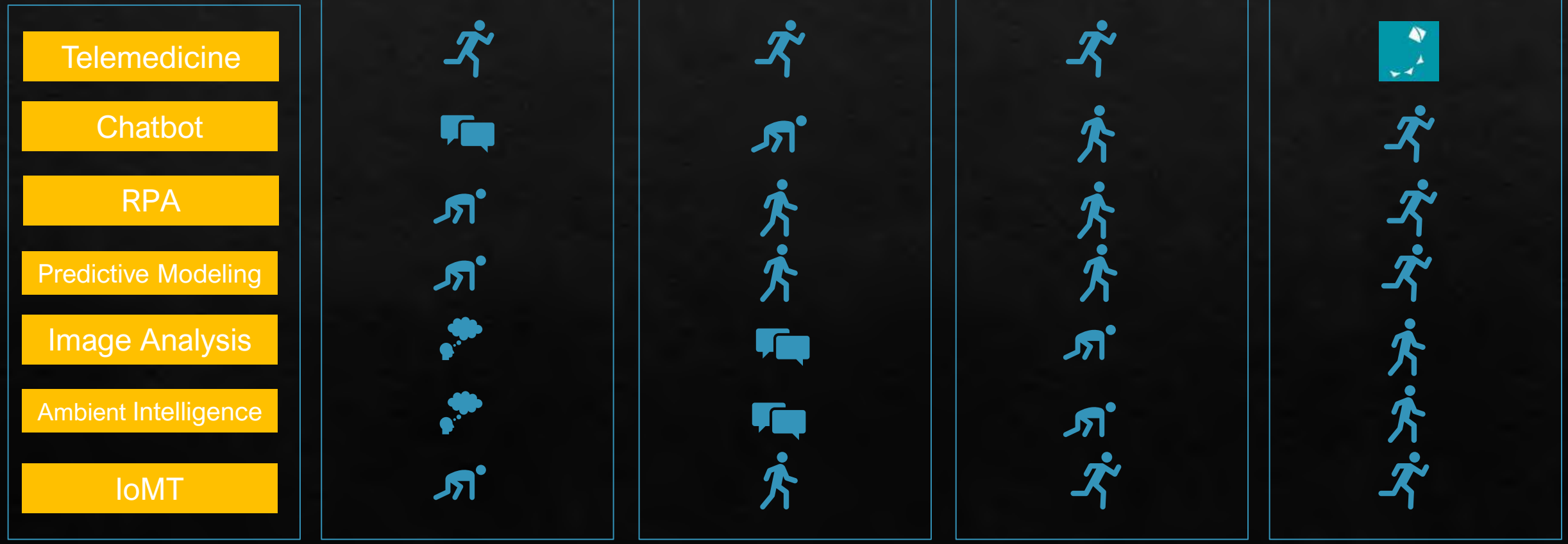
Flying – We're writing the book on how it's done

We're thinking about it

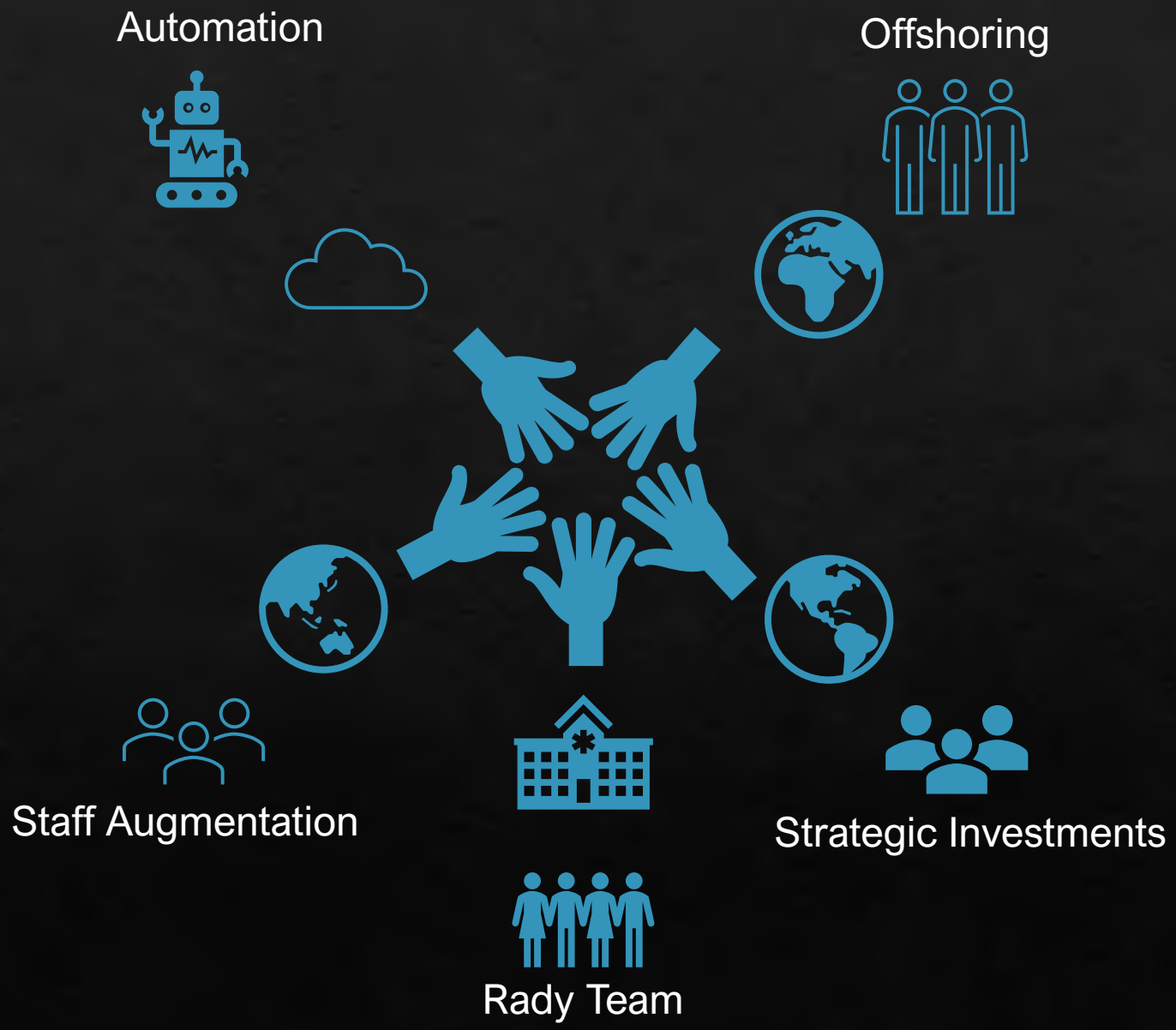
Crawling -- We're piloting it

Running – Optimizing, widespread use

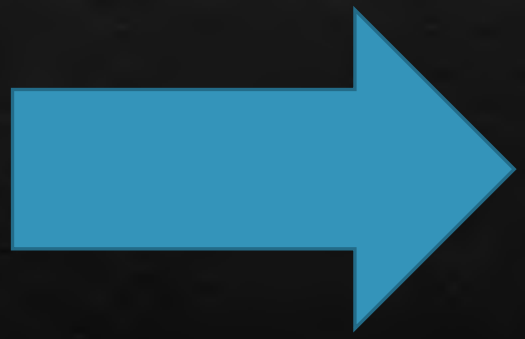
ADVANCED TECHNOLOGY



Intelligent sourcing



Digital Health



Digital First?

Rady Children's Hospital

Vielen Dank!

THANK YOU!

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Innovation in every moment