

2022-2023 Educational Webinar Series

Virtual Care – HTMs Role in Video Telemed

January 12, 2023

Speakers:

Keith Whitby, MBA

Division Chair

Cybersecurity and Operations



Eric Aring, MBA

Asset Administrator

HTM systems support



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HEALTHCARE TECHNOLOGY SOLUTIONS
ENHANCING THE CLINICAL EXPERIENCE



About the moderator



**Tony Cody, CEPT, CHTM
Banner Health**

Tony Cody is Technology Management/ENTECH Director for Banner Health based out of Greeley, Colorado.

He served as a Biomedical Equipment Technician in the U.S. Air Force and has continued to work in the HTM field since separating from the military. His over 26-year career includes working for ISOs, OEM, and as an in-house BMET/leader.

Tony has earned multiple Information Technology certifications as well as the AAMI CBET and CHTM certifications.

Logistics

- ❖ All attendees have their microphones muted during the presentation.
- ❖ Questions to the panelists must be submitted via the “Q&A” feature in Zoom at any time. They will be addressed at the Q&A portion.
- ❖ If there is any urgent issue, please use the “chat” feature to communicate with the host/moderator.
- ❖ Please remember to complete the webinar evaluation after attending. A link will be provided at the end.

About the Speaker



Keith Whitby, MBA



Keith has worked at Mayo Clinic for 24 years in several different support and leadership roles. He is currently the Division Chair of Healthcare Technology Management. Keith has also had several other positions in HTM, starting as a Unit Manager of the X-Ray equipment service group and most recently as the Section Head for Enterprise Lab, Research, and Ophthalmology Service. Prior to his roles in HTM, he worked in Surgical Services as a Core and Prosthesis Supervisor, and as a Surgical Process/Systems Analyst.

During his time at Mayo, Keith has had extensive experience collaborating on several multidisciplinary teams. He has demonstrated a commitment to customer service, strong leadership skills, and experience with process analysis, project management, and technical support. During his tenure in Surgical Services and HTM, he has been exposed to the depth and breadth of medical equipment in a large healthcare organization. This includes the use of, service and support on, and the operationalization of cybersecurity for a wide range of medical equipment and HIoT technology.

About the Speaker



Eric Aring, MBA



Eric has worked for Mayo Clinic for almost 3 years as the Asset Administrator for HTM systems support, previously working at Stanford Children's Hospital as a Clinical Systems Engineer, and UCSF as an HTM technician. During his time at Mayo Clinic he has spent extensive time working on collaborative workflow with Information Technology, Clinical stakeholders and implementation coordinators towards the goal of scaling Telemedicine to meet the demands of the practice.

Session Description

Growing staffing shortages, and geographical challenges provide opportunities to utilize the increased scope of Telemedicine.

Join us to discuss the many ways Virtual care is being implemented at Mayo Clinic and how can HTM support the needs to these technology intense programs.

Outline

- What is Virtual Care
 - Telemedicine use-cases
 - Strengths
 - Weaknesses
- What technologies are being used
- How does HTM fit the puzzle
 - Hardware support

MAYO CLINIC – AT A GLANCE



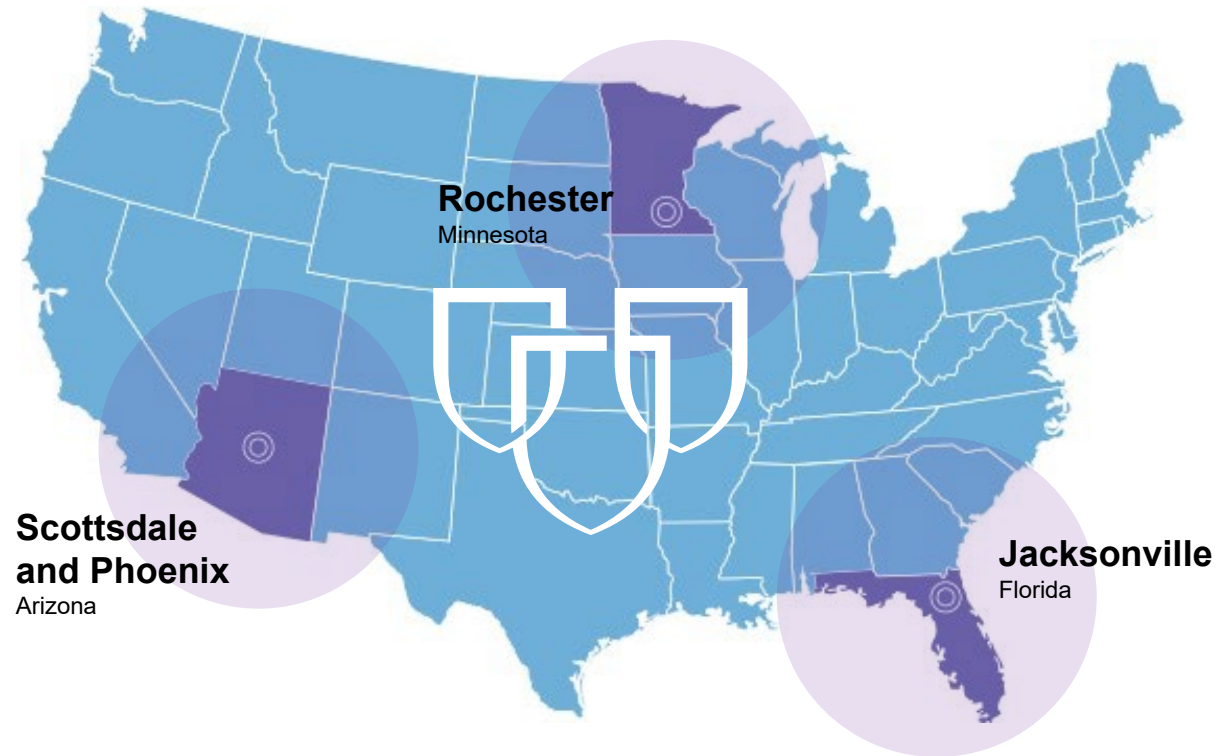
Mayo Clinic – At a Glance

Mayo Clinic Culture

- **Mission:**
 - To inspire hope and contribute to health and well-being by providing the best care to every patient through integrated clinical practice, education and research
- **Primary value:**
 - The needs of the patient come first



Mayo Clinic Locations



HTM at Mayo Clinic



- **~350 HTM Staff:** ~275 Biomed technicians, ~30 Managers & ~45 Support staff



- 26 Shops providing services in over 66 communities, and spanning 5 states

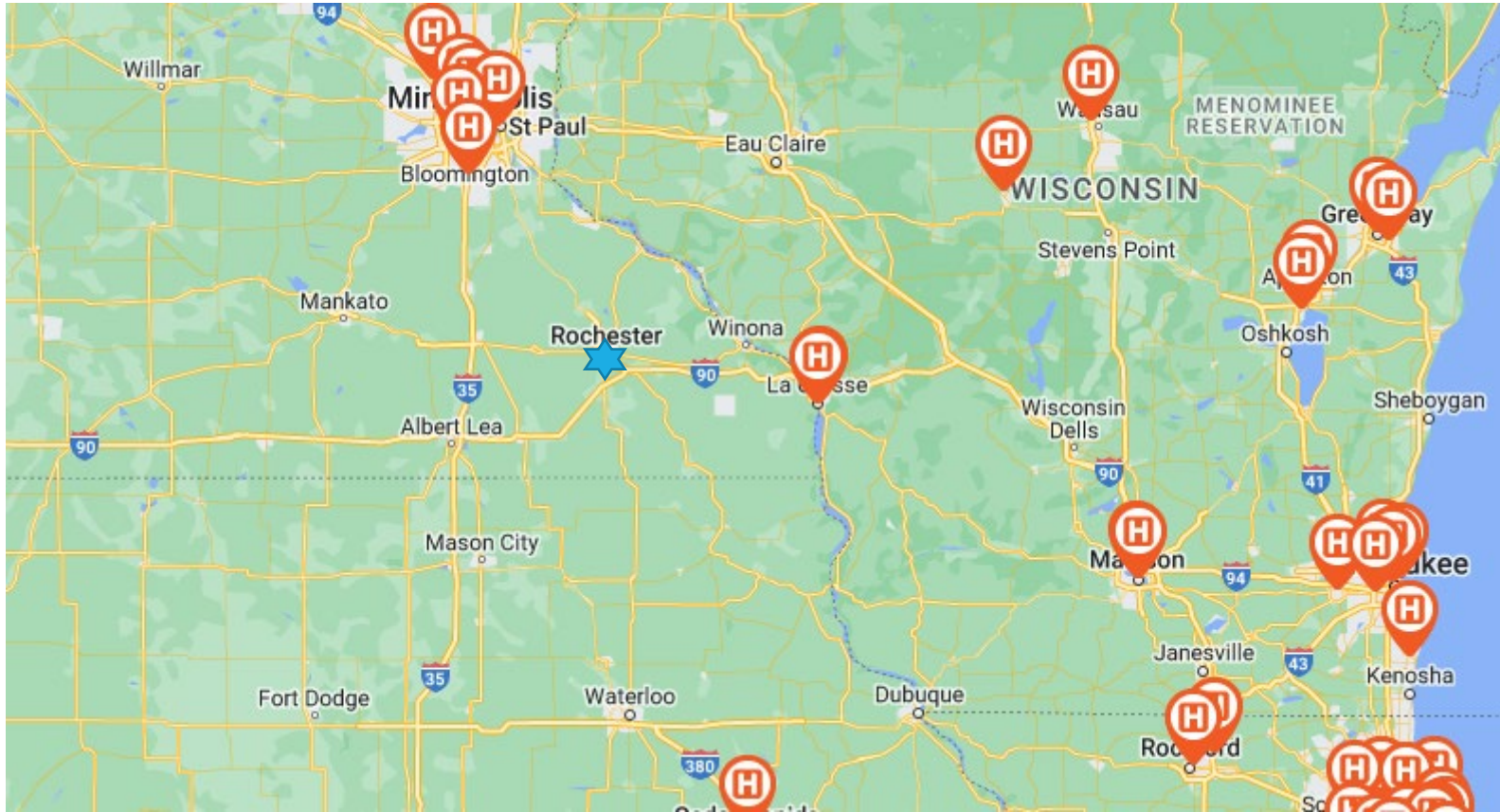


- **Over 130,000** medical devices and systems inventoried, and valued at over **\$2B**



- **~60k** Network Connectable medical devices/systems and **~16k** Facilities IoT devices/systems

Level 3 NICUs





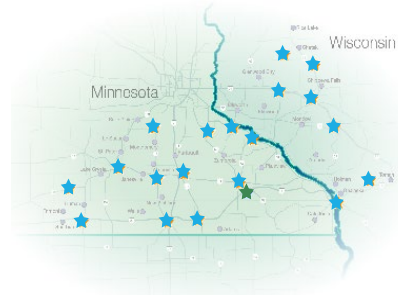
Mayo Clinic teleneonatology

“RIGHT CARE, RIGHT PLACE, RIGHT TIME”



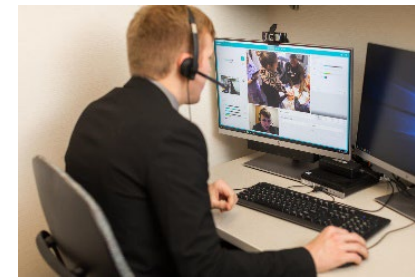
Program established in
2013

750+
Consults performed



19
Network sites and growing

2
State region



24/7/365
Continuous staffing model

9
Board certified neonatologists

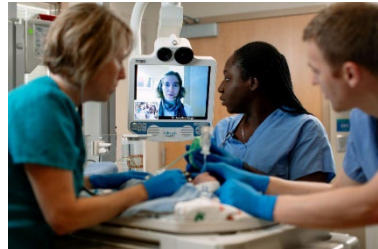


Mayo Clinic teleneonatology

“RIGHT CARE, RIGHT PLACE, RIGHT TIME”



Median video response
<5
Minutes



Improves the quality and safety
of high-risk neonatal
resuscitations



34%

Of neonates remain in the birth
hospital following consultation



>95%

Likelihood to recommend

COVID and Telemedicine

- 2,500% increase in users for telemedicine
- 530% increase in equipment or fleet size
- Pushed the limits of Support, Supply chain and disposition.
- More focus is needed on workflow integration and utilization
- PHE showed the need to address restricted insurance and licensure
- Showed that dedicated in room solutions are necessary

Telemedicine is Virtual Care

- Health-related services via electronic information or telecommunication technologies.
 - Long distance, short distance?
 - Advice - information
 - Reminders
 - Intervention
 - Education
 - Monitoring
 - Admission
 - Etc.



Creating Categories

- Telemedicine is communication
- Virtual Care Categories
 - Acute – ED, L&D, NICU
 - Inpatient – ICU, Med Surg
 - Outpatient – Virtual Visits
 - Care at Home

Acute

- Highly time sensitive (less than 5 min.)
- Unscheduled, 24/7
- Emergency Resuscitation and Tele-Speacilist
 - Physical call to Admissions and Transfer Center (ATC)
 - Basic clinical information collected
 - ATC contacts on-call providers
 - Facilitate transport needs if necessary

Current Acute Use-cases



On-Demand Acute Consults

Provides Mayo Clinic specialist oversight for highly time sensitive, emergency situations.



Enables distant site providers to access high quality video, audio, and medical peripheral connections to aid in providing guidance to the care team.

Product Lifecycle Stage:



Maturity



Pre-hospital Transport Consults

Extends specialist care oversight to the ambulance during transport to expedite care delivery.



Extends the high quality video and audio connection capability into the back of an ambulance.

Product Lifecycle Stage:



Maturity



Field EMS Consults

Supporting Mayo Clinic ambulance as a participant in a CMS program supporting a new EMS payment model



Cellular enabled devices are used to enable video consults in a wide variety of locations (e.g. patient home, skilled nursing facility, retail store, etc.)

Product Lifecycle Stage:



Introduction



Direct to Consumer

Allows patients seeking emergency care to connect virtually prior to visiting the ED to improve triage efficiency & reduce ED utilization for non-emergency needs



Allows patients to be quickly triaged with a provider to have a conversation-based video consult using their own device.

Product Lifecycle Stage:



Introduction

Inpatient use-cases

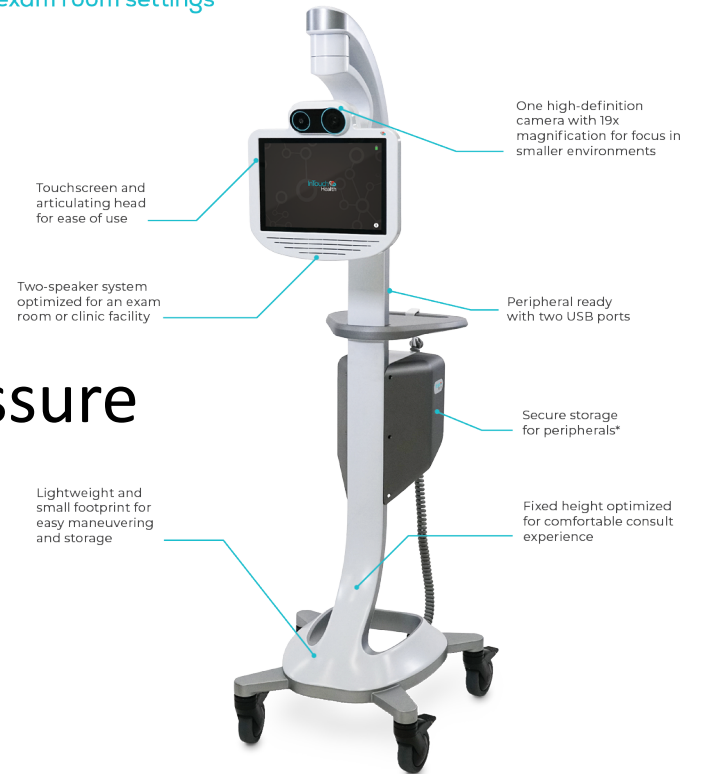
- Critical Care (eICU)
 - Proactive: Control room monitoring patients
 - Reactive: eAlert button is pressed
 - Enhances care, reduces staffing pressure
- Tele-Rounding
 - Regulatory requirements
 - Geographic challenges



Inpatient use-cases

- ViRN (med-surg)
 - Nurse pages ViRN team
 - Team is monitoring remotely
 - Enhances care, reduces staffing pressure
- Tele-Pharmacy
 - Provide immediate support for pharmacists
 - COVID isolation

Perfect for specialty clinic
and exam room settings



Outpatient

- Scheduled Clinic Visits
 - Calendar reflects a virtual visit for specialist
 - Nurse completed initial assessment
 - Patient calls out to provider
- Reverse Patient visit
 - Physician is on isolation, contacts patient when paged room info.



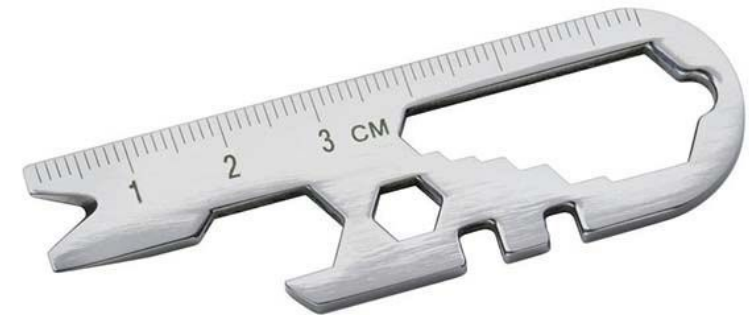
Care at Home

- Keep patients in their home where they can heal faster and cheaper
 - The cost of care was nearly 40 percent lower.
 - Trial participants receiving hospital care in their homes had a 70 percent lower rate of readmission to the hospital.



Variations in Hardware

- Hardware/Technology
 - Dedicated (Fixed/Mobile)
 - Shared apps on Hospital Endpoints
 - Personal or shared
 - Personal Devices
 - Vendor provided Hardware
 - Bring your own (BYOD)



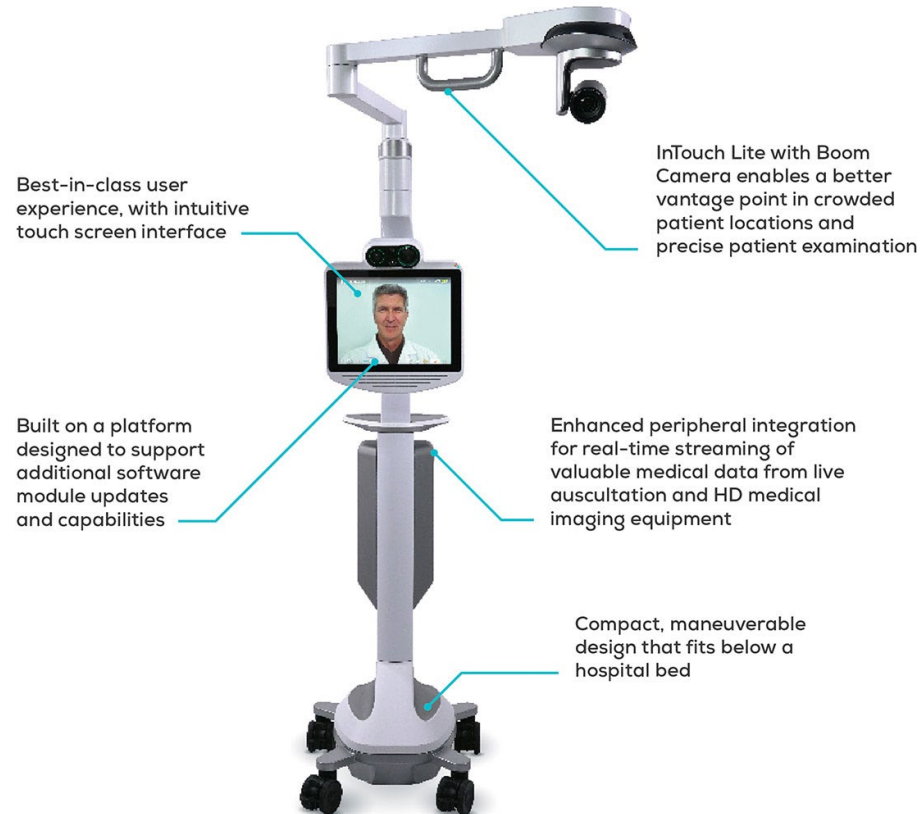
Dedicated Hardware - Fixed

- Purpose built for Telemedicine
- Vendor supported in specific configurations
- Provide the best, most immersive visit for the provider



Dedicated Hardware - Mobile

- Purpose built for Telemedicine
 - Allow the provider to enter rooms as needed
 - Peripherals, multiple cameras, phone for private conversations



Shared Devices

- Provide the user an adequate experience
 - Reduce cost
 - Increase scalability
- Allow for the peripherals that are needed
- Audio at a minimum of 80dB



Personal devices

- Generally running MDM
 - Ours or the vendor
 - Use a VPN to communicate
 - Locked down
- Not as easy to get working
 - More scalable, and even cheaper



Technology is not our limitation

- Technology exists for everything we want to do
 - We simply need to figure out the workflow changes needed
 - Within regulatory and financial constraints



Where do we (HTM) fit in?

- Vendor Management
- Deployment and Onboarding
 - Inventory and asset management
- Service and Support
- Equipment evaluation

History of Mayo Clinic Virtual Care

- Vendor and IT support was challenging communications and implementation timelines.
 - Different site-based groups for Endpoint, no standard of training.
 - Vendor service was limited due to large geographical region

4 | Product performance

ALL ELEMENTS OF IT SYSTEMS MUST PERFORM UNENCUMBERED



Vendor Management

- Varied understanding of the clinical environment
 - Software focused
 - Poor understanding of the Joint Commission requirements and Environment of Care
- Act as an asset to reduce contract costs



Deployment and onboarding

- Deployed 1600 devices on carts to 46 different campuses
 - Dialysis, Disposition, Biomed, Imaging, Lab, IT, Endpoint
- Continue to work on complicated deployments
 - Require facilities work
 - Understanding of workflow



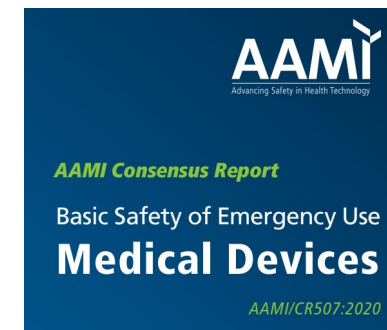
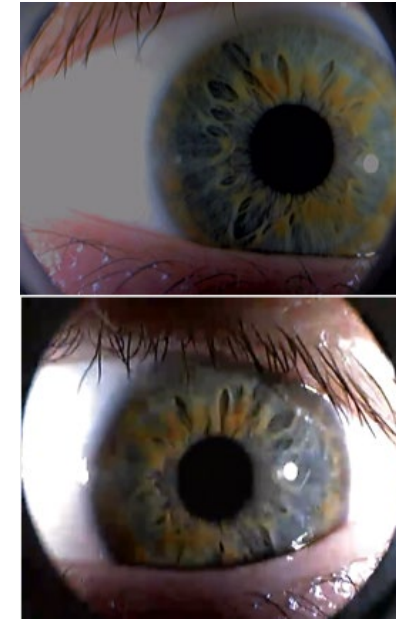
Service and Support

- Equipment Inventory accuracy
 - Networked and licensed
- Hands-on investigation and troubleshooting
- Other basic support



Evaluating products

- Is this safe to be using?
 - UL rating? CE rating?
Vendor passing off IT
Equipment?
- How hot does it get?
- Does it pass a tip test?
- Is it useable if the battery dies?
- Volume get high enough,
with enough range?



HTM fits the puzzle

- A well trained HTM Technician understands more of the puzzle.
 - Requirements
 - Implementation
 - Troubleshooting
 - Staff workflow

Questions & Discussions

Enter your
questions
to the Q&A
window

Thank You

Please complete the online evaluation form at
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2023_session5](https://www.surveymonkey.com/r/ACCE-2022-2023_session5)

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