

2024-2025 Educational Webinar Series

Navigating Homecare Technologies:

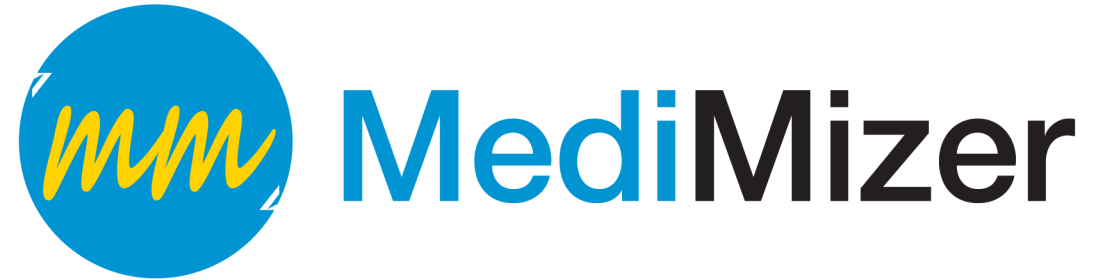
Mass General Brigham's Healthcare at Home Model: from Concept to Creation

September 12, 2024

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About the moderator



Priyanka Shah, MS

ECRI

Priyanka Shah is a senior project engineer in the Device Evaluation group at ECRI where she performs medical device evaluations, investigates system failures, develops practical guidance for healthcare facilities, conducts accident investigations, and consults healthcare facilities on pre-purchase selection, and appropriate use of medical equipment, and health IT systems. She is the lead subject matter expert on physiologic patient monitoring, alarm management, EHR usability, and telehealth.

She has spoken on physiologic monitoring, usability of EHRs, cleaning and disinfection best practices at several regional and national conferences hosted by groups such as the Association for the Advancement of Medical Instrumentation (AAMI) Human Factors and Ergonomics Society (HFES) in Healthcare Symposium, and at the New Jersey/Delaware chapter of the Healthcare Information and Management Systems Society (NJ/DV HIMSS) annual convention.

Priyanka came to ECRI with a background in research engineering and program management. Priyanka holds a Master of Science degree in Biomedical Engineering from Purdue University and a Bachelor of Technology in Biomedical and Instrumentation Engineering from Ganpat University, India.

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



Samantha J. Moriarty, MEng

Clinical Engineering Manager,
Operations and Inpatient Compliance



Samantha Moriarty is a Clinical Engineering Manager at Brigham and Women’s Hospital, a founding member of Mass General Brigham, supporting inpatient operations and compliance through process improvement, strategized operations, regulatory requirement oversight and human capital investment. She is also the Clinical Engineering Manager of Mass General Brigham’s Healthcare at Home program, where she has helped implement a contemporary and dynamic Biomedical Engineering program to support hundreds of medical devices.

She has served on the executive board of the New England Society of Clinical Engineering since 2020, facilitating the implementation of educational programs and NESCE’s bi-annual healthcare technology symposiums. Samantha has also helped start NESCE’s HTM Outreach committee, partnering with New England high schools, colleges, and universities to promote the healthcare technology management profession.

Samantha came to Mass General Brigham with backgrounds in BMET technical work, environmental health and safety, and operational metrics and compliance. Samantha received her Bachelor of Science in Biomedical Engineering from Worcester Polytechnic Institute, and a Master of Engineering in Biomedical Engineering from University of Connecticut. She most recently was featured in Tech Nation’s 2024 Class of 40-under-40 HTM Professionals.

Session Description

Join this session to learn from Mass General Brigham's Healthcare at Home Healthcare Technology Management Model: from Concept to Creation



Mass General Brigham

Healthcare at Home HTM Model: from Concept to Creation

Samantha Moriarty

September, 2024

Agenda

Introduction to Home Health Programs and Importance of Healthcare Technology

The History and Footprint of Mass General Brigham's Program

Conceptual HTM Framework

Implementation and Results

Impact and Outlook

Conclusion and Q&A



Introduction



Key Components of Home Health Programs



Home-Based Medical Care

Delivery of medical services like physical exams, wound care, medication management, and IV treatments.

Chronic Disease Management

Monitoring and managing long-term health conditions, such as diabetes, heart disease, or chronic respiratory issues, with regular home visits or telemedicine check-ins.

Post-Hospitalization Care

Support for patients recently discharged from hospitals, providing follow-up care such as rehabilitation, nursing care, or medication adjustments to prevent readmissions.

Rehabilitation Services

Physical, occupational, or speech therapy delivered at home, particularly for patients recovering from surgery or injury.

Palliative and Hospice Care

Care focused on providing comfort, pain relief, and quality of life for patients with serious or terminal illnesses, often delivered in the home.



How is Healthcare Technology used in the home?



**Remote Monitoring
and Telemedicine**



**Electronic Health Records
(EHR) Integration**



**Efficient Care
Coordination**



**Predictive
Modeling**



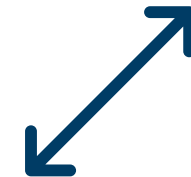
**Patient Engagement
and Education**



Safety and Accuracy



Cost Savings



Scalability



Program History and Geographic Footprint



Mass General Brigham Healthcare at Home Program Timeline

2022

MGB Home Hospital is Formed

Mass General Hospital and Brigham and Women's independent Home Hospital Operations (est. 2016) are combined to institution level program.

2023*

Healthcare at Home Brand Launch

MGB Home Hospital and Home Care service lines join under a system-wide umbrella.

MGB Home Hospital expands to BWH Faulkner Hospital, Newton-Wellesley Hospital and Salem Hospital. MGB Healthcare at Home introduced Ambulance Services to umbrella.

2024

Partnership with Best Buy Health

MGB Home Hospital establishes remote patient monitoring (RPM) with Best Buy Health Subsidiary Current Health.

August 1 – Capacity increase to 70 Beds to meet growing demand of services.

*BWH Biomedical Engineering and Biomedical Device Integration (BMDI) Teams were tasked with building a comprehensive Healthcare Technology Management Program



MGB Program Footprint – Massachusetts

Home Hospital Hubs

- BWH (Boston)
- FLK (Jamaica Plain)
- MGH (Chelsea)
- NWH (Newton)
- Salem (Salem)



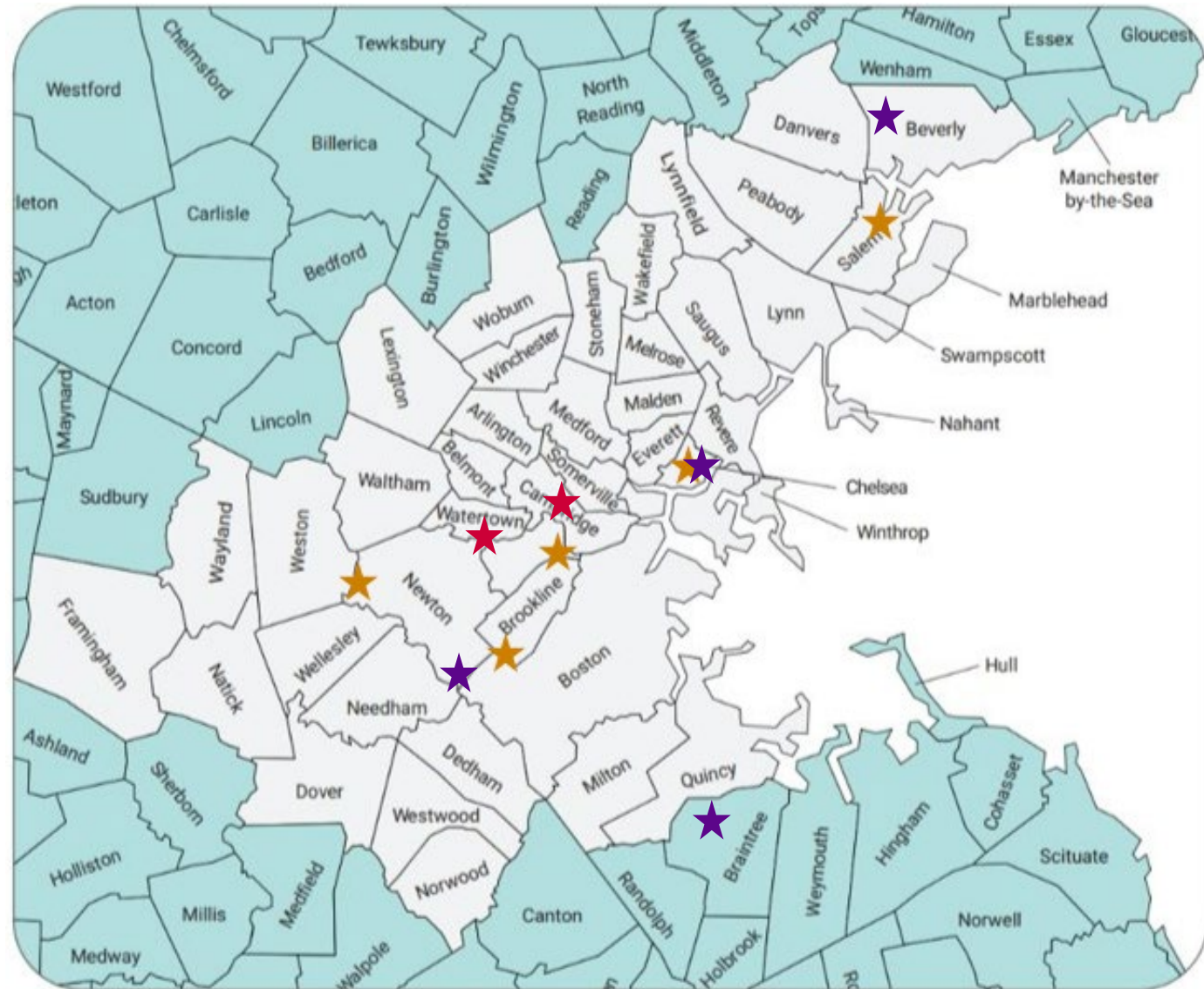
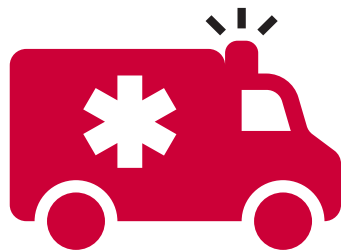
Home Care Hubs

- Newton
- Beverly
- Chelsea
- Braintree



Ambulance Hubs

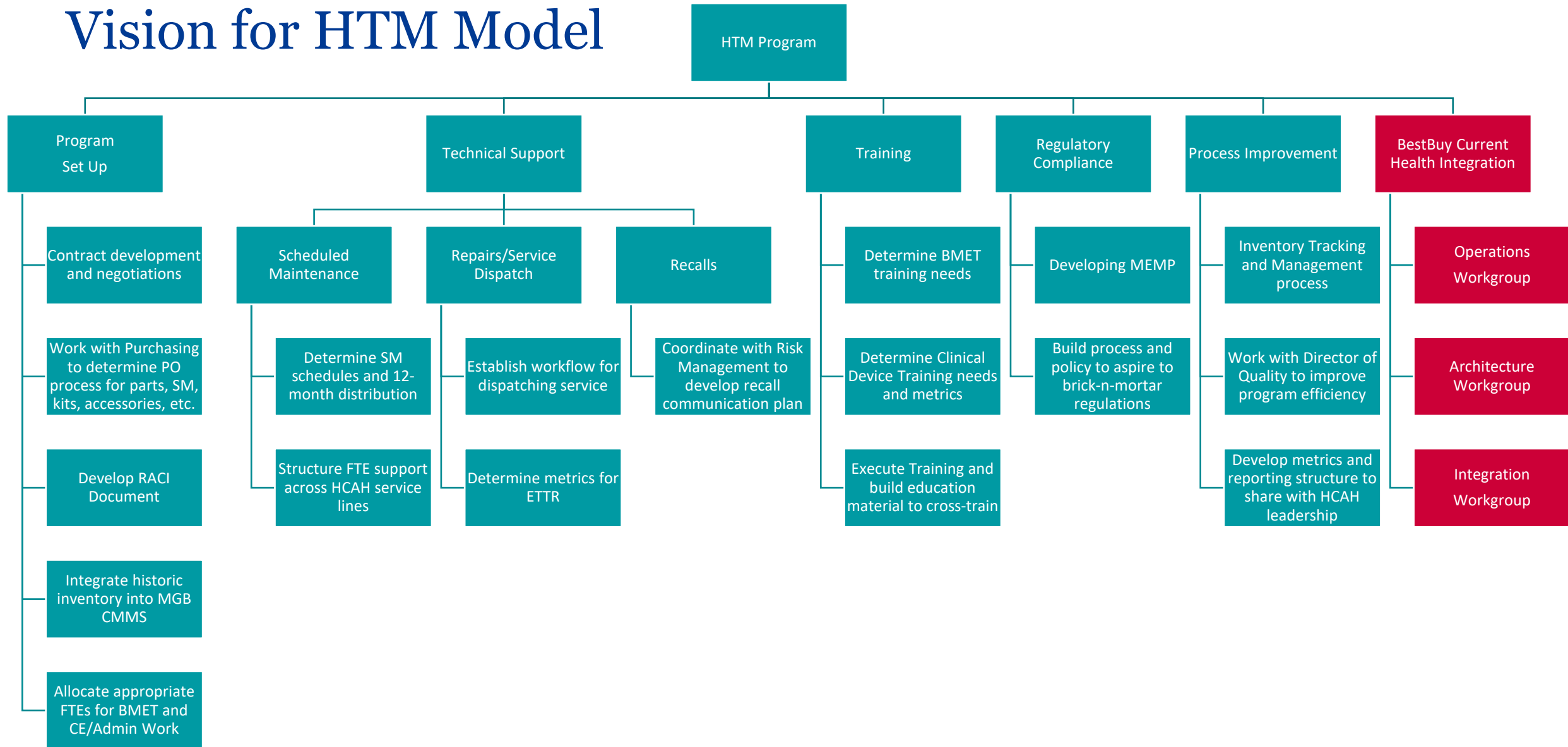
- Cambridge
- Watertown



Conceptual Framework



Vision for HTM Model



The Big Buckets for HTM

Key Objectives and Goals

1

Technology Selection

- Needs Assessments
- Model Evaluation
- Interoperability
- HIPAA Compliance
- Data Encryption
- Access Control

2

Training and Support

- Staff Training
- Patient and Caregiver Training
- Central Monitoring Hubs
- Technical Support
- Backup Systems

3

Maintenance and Upgrades

- Regular Maintenance
- Firmware and Software Updates
- Troubleshooting Protocol
- Quality Assurance and Function Checks
- Fitting Device for Environment

4

Tracking and Inventory Management

- Device Inventory
- Implementation of passive or active tracking system
- Usage Tracking for capital purchasing
- Fostering accountability among clinical groups for device retrieval

5

Monitoring Quality, Risk and Outcomes

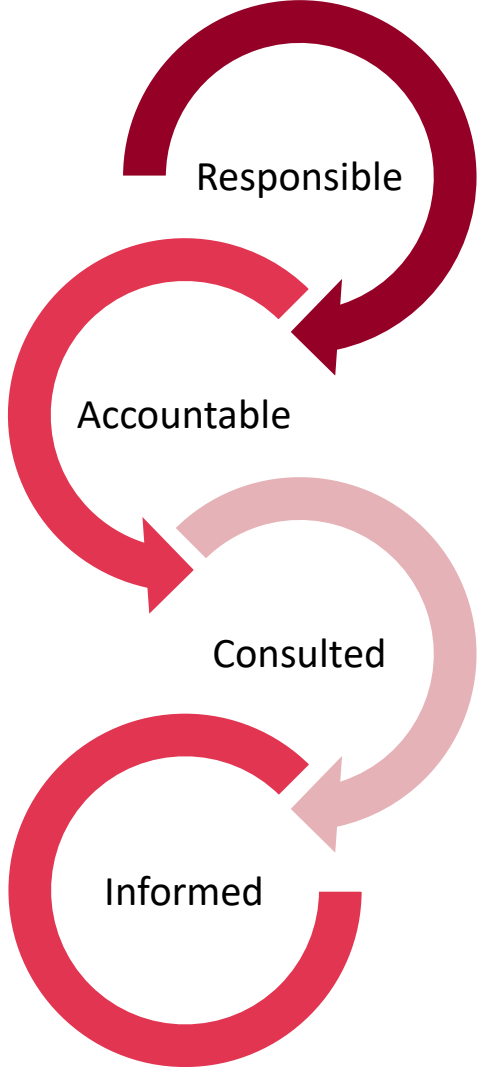
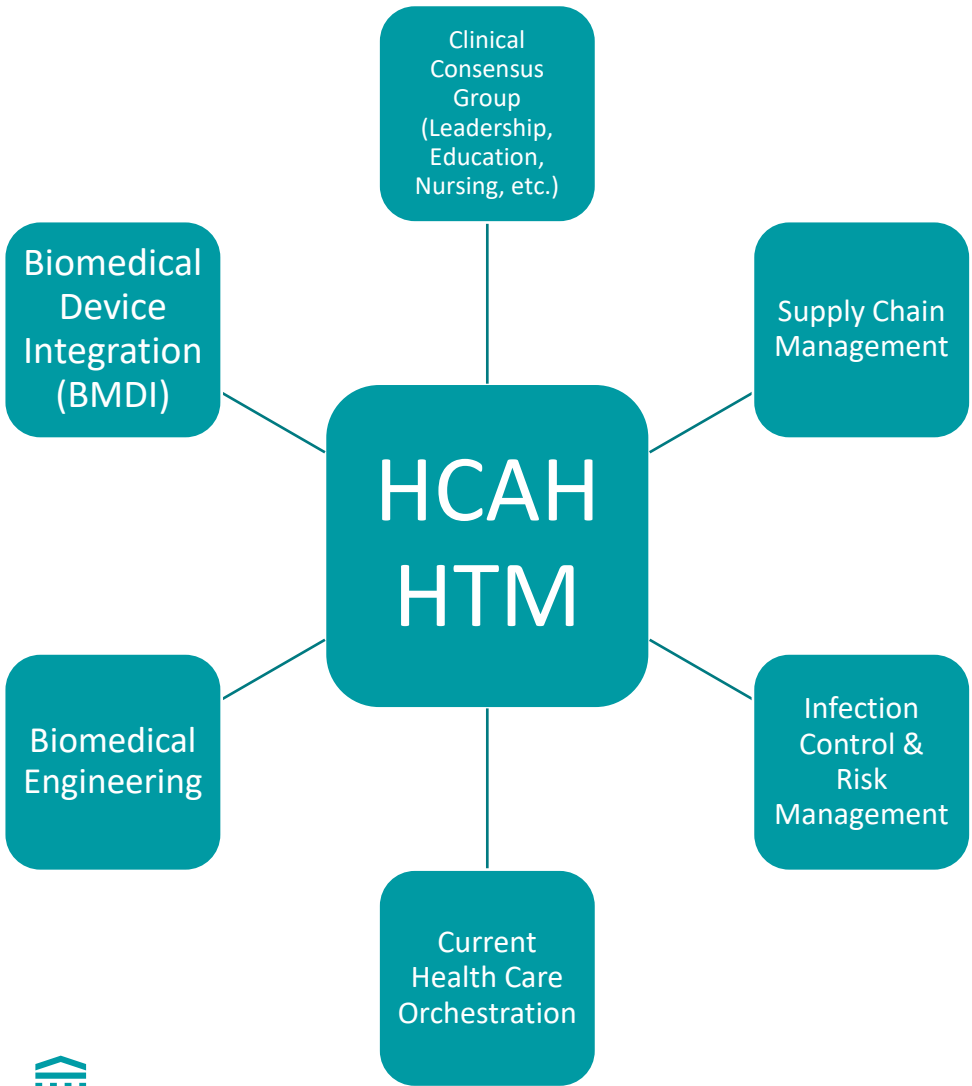
- Quality Control processes to review data accuracy and reliability
- Assess and mitigate risk with comprehensive emergency preparedness planning structure
- Track patient outcomes to measure effectiveness of technology



Implementation and Results



Stakeholder Involvement and Collaboration Process



Full-Scale Rollout: Methods, Tools and Structure

Creative Staffing Model

- Utilize existing BMET resources with prior experience and education to support regions
- 1st year of support completed in off-hours as existing FTE's have primary teams and responsibilities
- Utilizing existing fleet of test equipment within BWH Biomedical Engineering until funding becomes available for HCAH test equipment

Defined Scope of Services

- Strategized Scheduled Maintenance over 12 Months
- Documentation and Reports
- Technical Assistance and Consultation Workflows
- Capital and non-capital equipment acquisitions
- Hazard and Recall Workflows

Consistent Communication

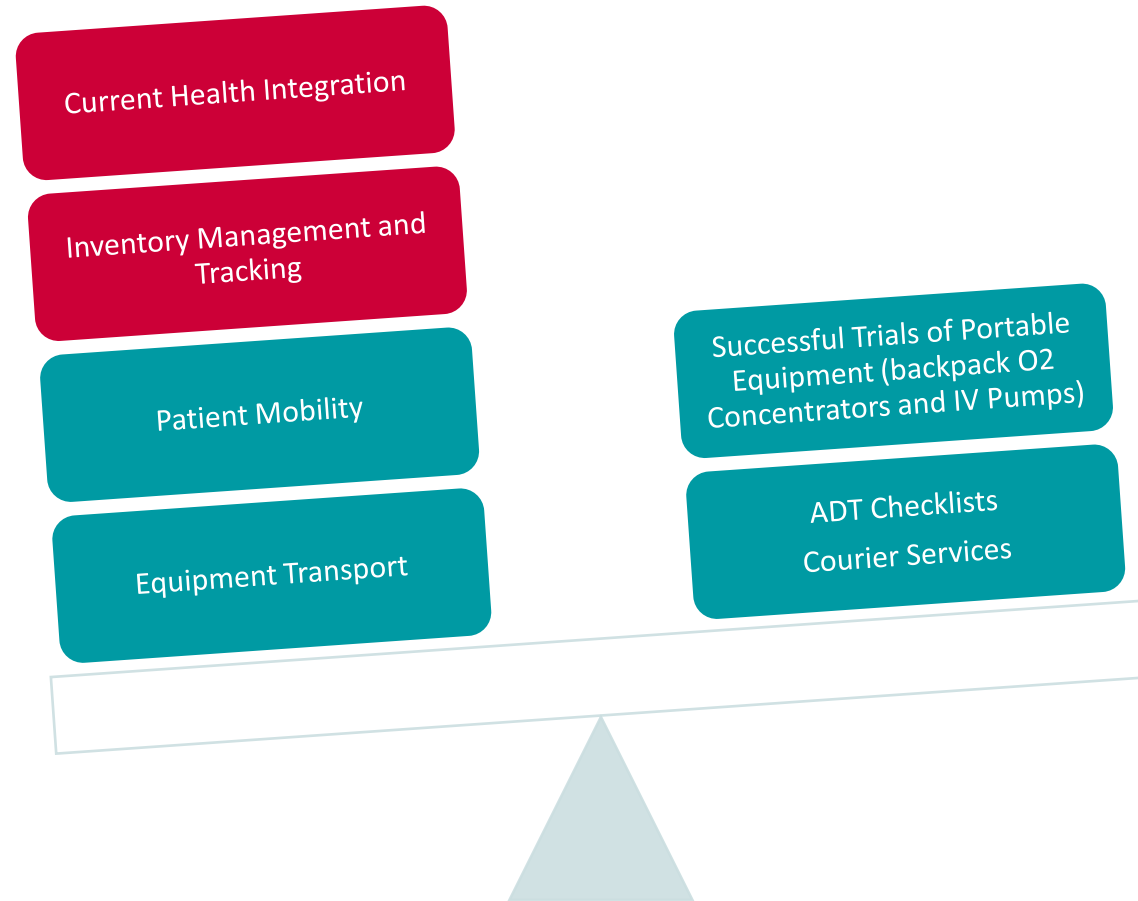
- Weekly BMET Team Meetings to review specific metrics
 - Compliance
 - Ongoing Repairs
 - Trends and Patterns
 - Projects/Trials
- Weekly Supply Chain Meetings
- Bi-weekly HTM Check-points with HCAH Entities
- Monthly Meetings with HCAH Executive and C-Suite Leadership



Full-Scale Rollout: Key Challenges and Solutions

Challenges

Solutions



KPIs and Success Metrics

Operational Efficiency and Safety

Technology Uptime

Care Delivery Time (In&Out)

Estimated Time to Return

Staff Technology Adoption Rate

Adverse Event Rate

Incident Reporting and Resolution Time

Infection Prevention

Quality of Care and Patient Outcomes

Telemedicine Appointment Success Rate

Clinical Error Rate

Readmission Rate

Patient Recovery Time

Patient Satisfaction

Program Growth, Scalability and Financial Performance

Number of Patient Enrolled

Geographic Expansion

Service Expansion

Cost per Patient

Return on Investment

Reimbursement Rate



Impact and Outlook



Impact: A Personal Story



Outlook

Long Term Sustainability and Benefits

Cost Efficiency



Patient-Centered Care



Health Equity



Environmental Impact



Policy Alignment



Thank You

Any question?

Please type your questions to the Zoom Q&A window

Please complete the online evaluation form at
https://www.surveymonkey.com/r/2024-2025_web1

