



2023-2024 Educational Webinar Series

Managing Clinical Engineering Projects

June 06, 2024

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About the Moderator



Maryam Samiee, MSc. PEng
Regional Clinical Engineer
Shared Health, Winnipeg, Manitoba
Canada

- Regional Clinical Engineer in the province of Manitoba with more than 14 years of experience.
- Responsible engineer for technical management of a number of provincial clinical teams including Surgery, Anesthesia, and Medicine.
- Designated Professional Engineer with the Province of Manitoba.
- MSc. in Electrical Engineering from the University of Manitoba.

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.



2023-2024 ACCE Educational Webinar Series

Managing Clinical Engineering Projects



Thursday, June 06, 2024, 12:00 pm - 1:00 pm (EDT)

Register today and join this session to gain insights into Managing Clinical Engineering Projects, from inception to execution. Ensure seamless technology implementation through utilizing project management principles.



Elizabeth Sayles, RN, BSEE, MBA, CHTM
Manager of Quality, Safety, Education & Training
Brigham and Women's Hospital



Shane Waltsak, MS, CHTM
Clinical Engineering Manager
Brigham and Women's Hospital



Katherine Leach, PMP
Project Manager, Patient Care Solutions
GE Healthcare



Session Description

Gain insights into Managing Clinical Engineering Projects, from inception to execution. Ensure seamless technology implementation through utilizing project management principles.

About the Speaker



Kathy Leach, PMP

**Project Manager, Patient Care Solutions
GE HealthCare**

Kathy is a Senior Project Manager for GE Healthcare, aligned to the Patient Care Solutions portfolio, with a focus on patient monitoring, telemetry, infrastructure, and digital solutions implementations. She has over 20 years technical experience in the Healthcare Services industry.

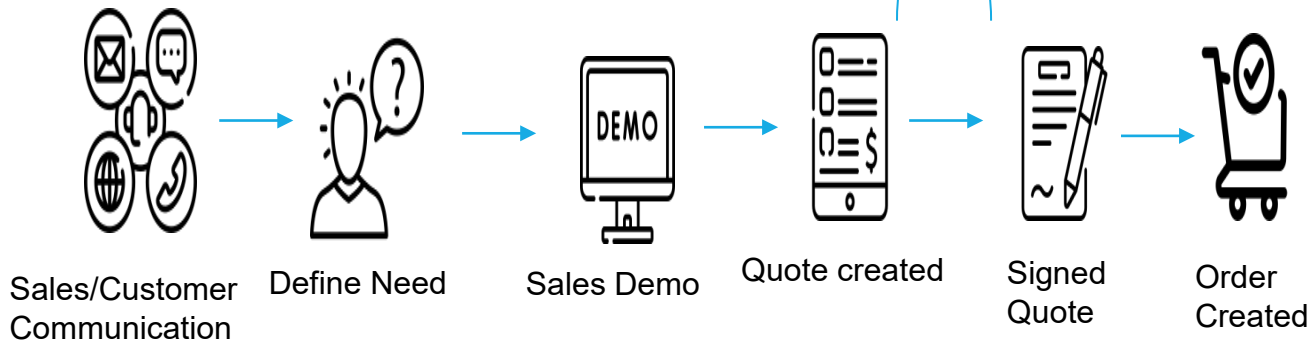
For 4 years including the pandemic, Kathy led a remote team of field engineers as Director of Service for the Chesapeake region. Kathy has over 13 years in Project Management disciplines and returned to her passion, currently mentoring & leading technical and clinical installation projects across a wide variety of health systems. Highlights of Kathy's project leadership experience include new construction, house-wide equipment and infrastructure upgrades, and conversions. Her client list includes; University of Nebraska Medical Center, HealthEast Care System Minnesota, Johns Hopkins Hospital Baltimore, and UVA Health System University Hospital in Virginia.

Kathy holds a Bachelor's Degree in Business from Cardinal Stritch University in Milwaukee, WI. She attained her PMP (Project Management Professional) certification in 2015.

Project Initiation (Pre-Sale)

Sales Generation

3 Months to 12 Months

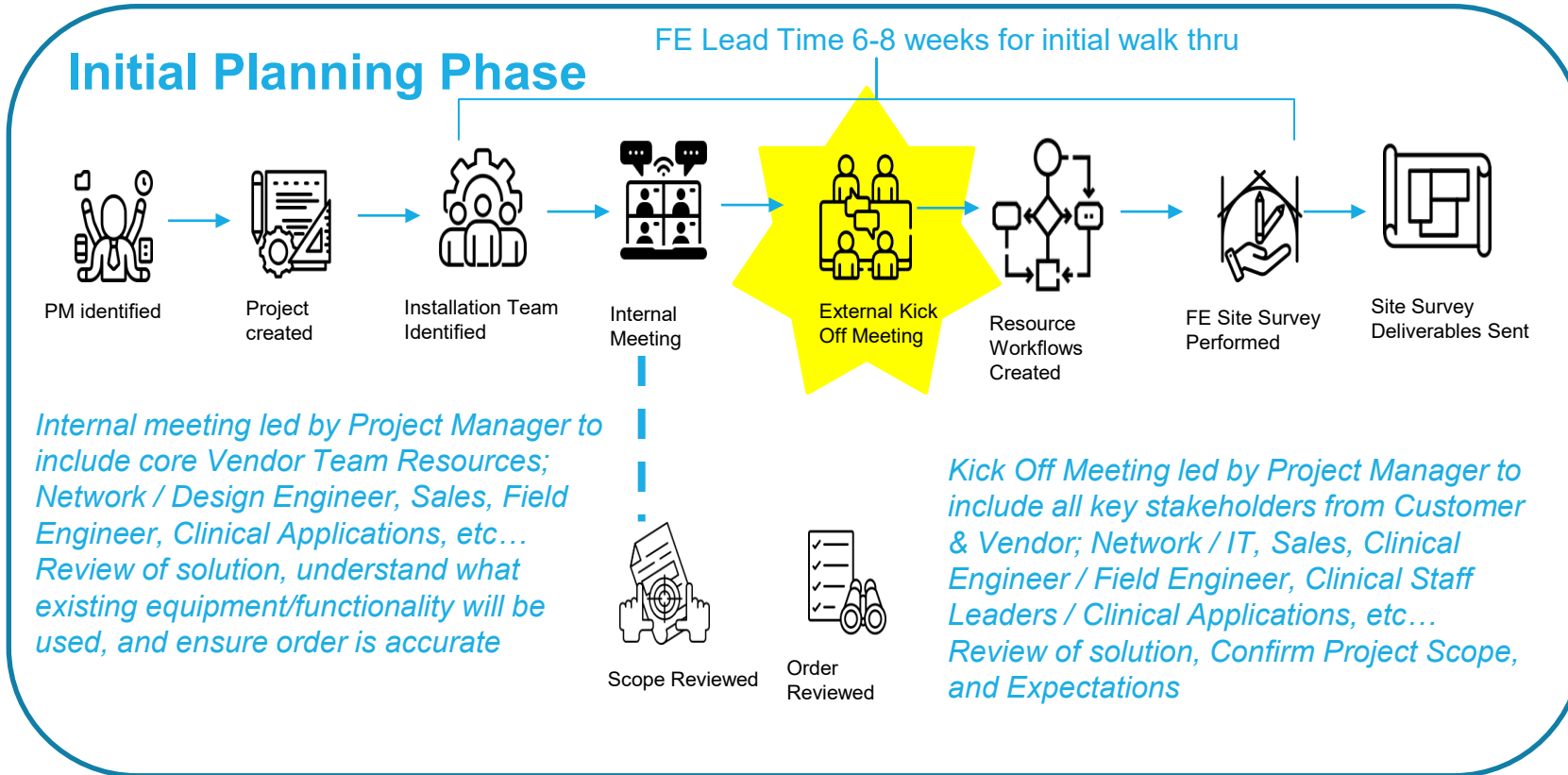


Customizable solutions unique to customers infrastructure and needs

Each Hospital Organization is different...

- How and when new equipment purchases are confirmed
- What type of solution or system is needed
- Who from the hospital and vendor are included in pre-sale decision making discussions
 - **Clinical Engineering & Vendor Project Managers may not have awareness to a project until the order is booked!**

Project Initiation



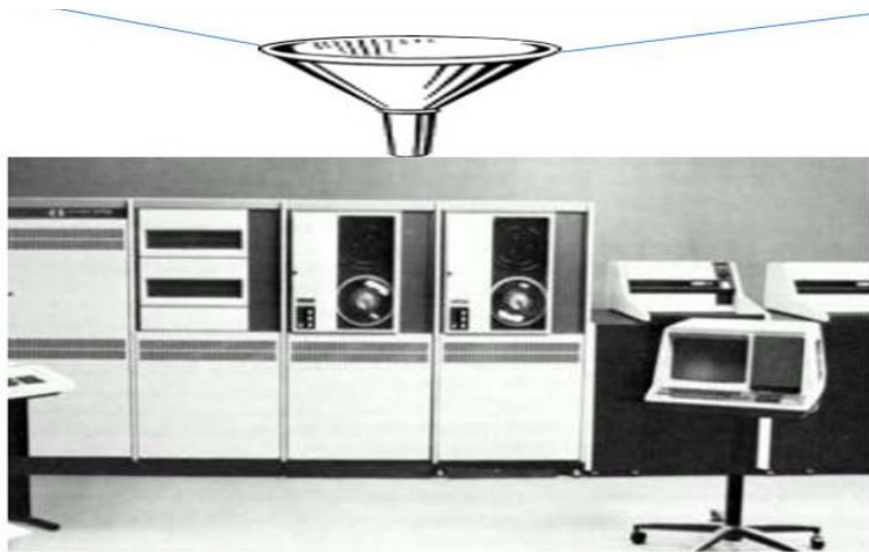
Sets Tone and Direction

- Understanding Expectations
- Confirming Project Scope
- Identifying Project Team Members & Stakeholders
- Confirming Communication Channels
- Creating Project Plan
- Recognizing Challenges and Risks Early in the Project

Kick Off Meeting Might be the First Time Team Members are Learning of the New Project... **Clinical Engineering is a Project Manager / Vendors “Boots on the Ground” and Partner** to ensure we are aligned with expectations, have all right people involved, know of any conflicts.

Collaboration / Documentation

- Obtain inputs and constraints from all functional groups
- Identify any competing projects that may create resource concerns
- Project Managers will generate milestone documentation and drive team toward meeting those dates that are agreed upon
- Be open and honest about progress (or lack thereof)

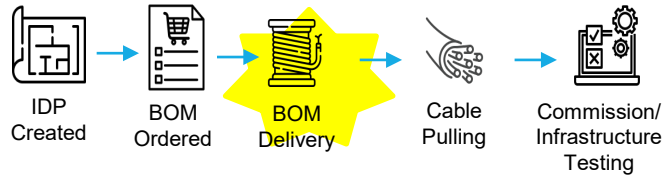


Task Name	Duration	Start	Finish	Status	Assigned To	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Planning	47d	02/05/18	04/12/18											
Define and Scope	5d	02/05/18	02/09/18		David Foster									
CE SOW	5d	02/23/18	02/23/18		David Foster									
NCA - Purchase Order	5d	03/22/18	03/22/18		David Foster									
CE PO to Accom	5d	03/05/18	03/05/18		David Foster									
NCR MFR Request	5d	03/05/18	03/05/18		David Foster									
Scope and Statement of Work	5d	03/05/18	03/05/18		Stan D'Amico									
Shop Accout equipment	4w	03/05/18	03/26/18		Justin Kerner									
Shop CE Equipment	2w	03/05/18	03/16/18		David Foster									
Bid for Installation	1d	04/10/18	04/10/18		David Foster									
Configure locations of client software load	1d	04/10/18	04/10/18		David Foster									
Installation														
Accom Virtual Server Setup	25d	03/05/18	03/30/18											
Virtual server setup: IAS, UPS, Antivirus	4w	03/05/18	03/26/18		NCA IT									
Create windows accounts	4w	03/05/18	03/26/18		NCA IT									
Create service accounts for NCR	4w	03/05/18	03/26/18		NCA IT									
Provide 3 SSL Certs	4w	03/05/18	03/26/18		NCA IT									
Assign IP addresses	4w	03/05/18	03/26/18		NCA IT									
Assign connectivity	4w	03/05/18	03/26/18		NCA IT									
Firewall configuration - ports opened	4w	03/05/18	03/26/18		NCA IT									
CE Configuration	43d	04/02/18	05/12/18		April Adams									
Configure Gateway 4929 Server install	15d	05/08/18	05/23/18		April Adams									
Configure Gateway 3rd S3 configuration	15d	05/08/18	05/23/18		April Adams									
Configure Router configuration	37d	04/02/18	05/12/18		Steve Masluch									
CE Server Router installation (redundant)	5d	04/02/18	04/06/18		Keith Thomas									
CE Server Router added to CE VMs	5d	04/02/18	04/06/18		John Patis									
Accom Server Configuration	15d	04/02/18	04/16/18											
Assign users and ports to database	45d	04/02/18	04/16/18		Michael Gibson									
Back NMS, UCS, Logger, MCTP, NC Connect	45d	04/02/18	04/16/18		Accom									
Configure access to all servers and database	45d	04/02/18	04/16/18		Accom									
NMS software configuration	45d	04/02/18	04/16/18		Accom									
UPS software configuration	45d	04/02/18	04/16/18		Accom									
Configure NMS, UCS, Logger, Connect modules	45d	04/02/18	04/16/18		Accom									
Configure CE alarm messages are received	45d	04/02/18	04/16/18		Accom									
NCA IT support as needed	45d	04/02/18	04/16/18		Accom									
Accom remote configuration	35d	04/16/18	04/16/18		Accom									

Trusted Partner – Preparing for GoLive Implementation

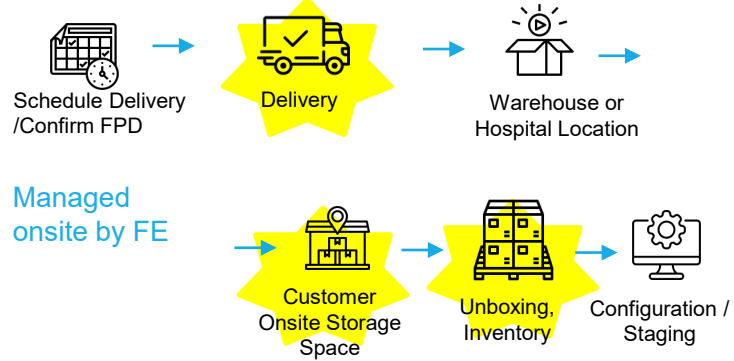
Pre-Go Live - Execution

Infrastructure Build



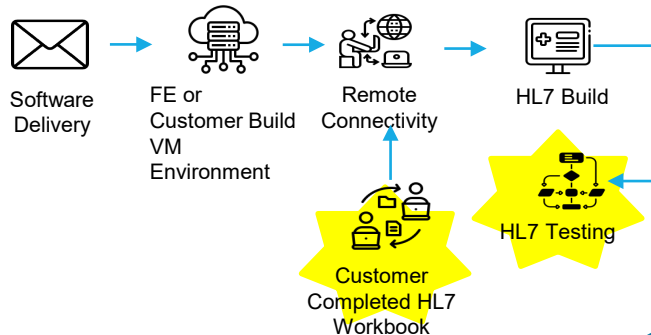
Many variations to how infrastructure can be sold– vendor contractors or customer contractors, existing infrastructure or new, expansion, etc

Monitor configurations per Care Area

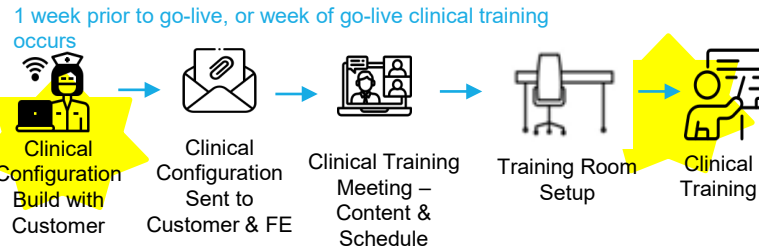


Managed onsite by FE

EMR HL7 Build



Clinical Settings and Training



1 week prior to go-live, or week of go-live clinical training occurs

Sperate training classes per care area

Multiple activities in process at the same time, where may CE be needed...

- Access to Network Closets
- Confirming Deliveries are in proper storage & staging space
- Inventory & Asset Tagging working along side vendor field engineer
- Assist with eMR unit/bed list
- Assist with eMR testing
- Clinical Training Space

Successful Project Cannot Be Achieved without the Active Involvement and Assistance from Clinical Engineering

Risk Management

Knowns vs Unknowns

- Desired Implementation Schedule / Construction Delays
- Product Lead Times / Shipping Delays / Part Backorders
- Resource Availability / Unexpected Escalations / Scheduling Conflicts

Understanding Project Dependencies



Throughout Project Implementation Project Status and Risks must be Continuously Monitored

Effective Communication

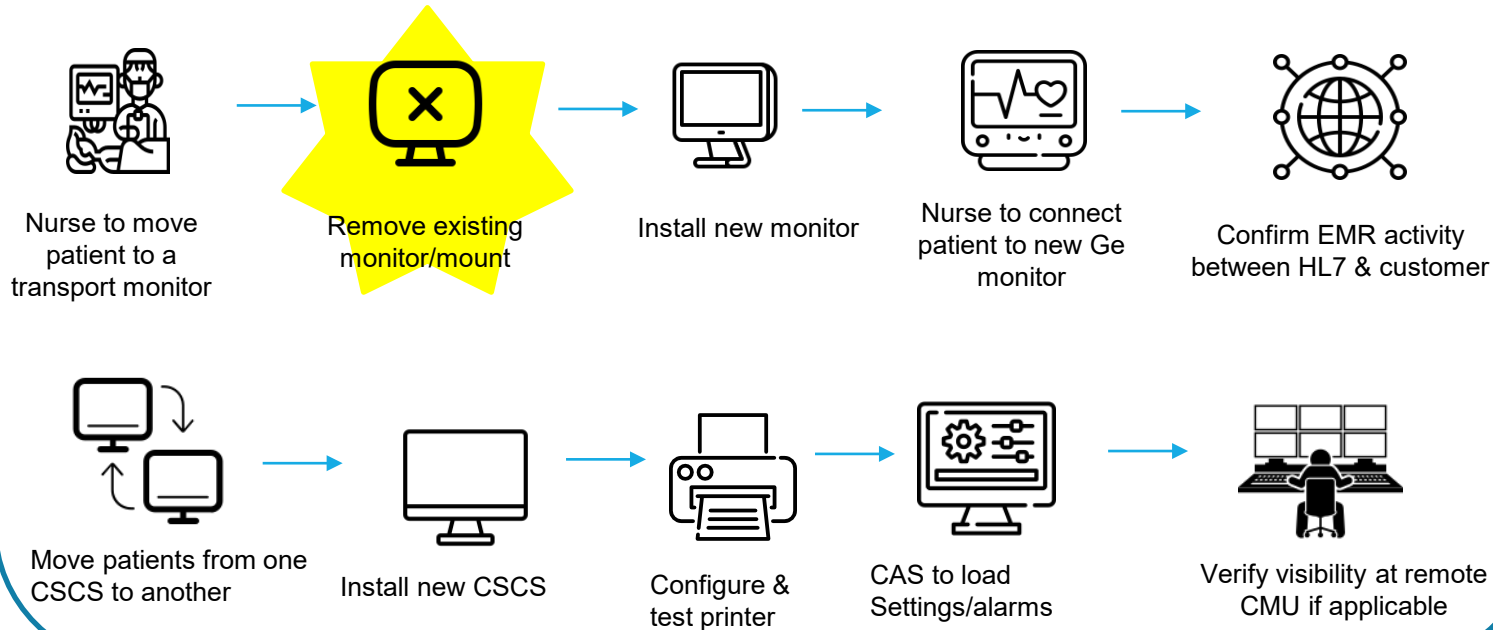
- Avoid Assumptions
- Enhance Accountability
- Build Trust and Confidence
- Improve Efficiency and Productivity
- Provide Feedback and Growth Opportunities



*Everyone is Working Towards Same Project Goal
Know what success looks like and keep communication open*

Installation & GoLive Execution

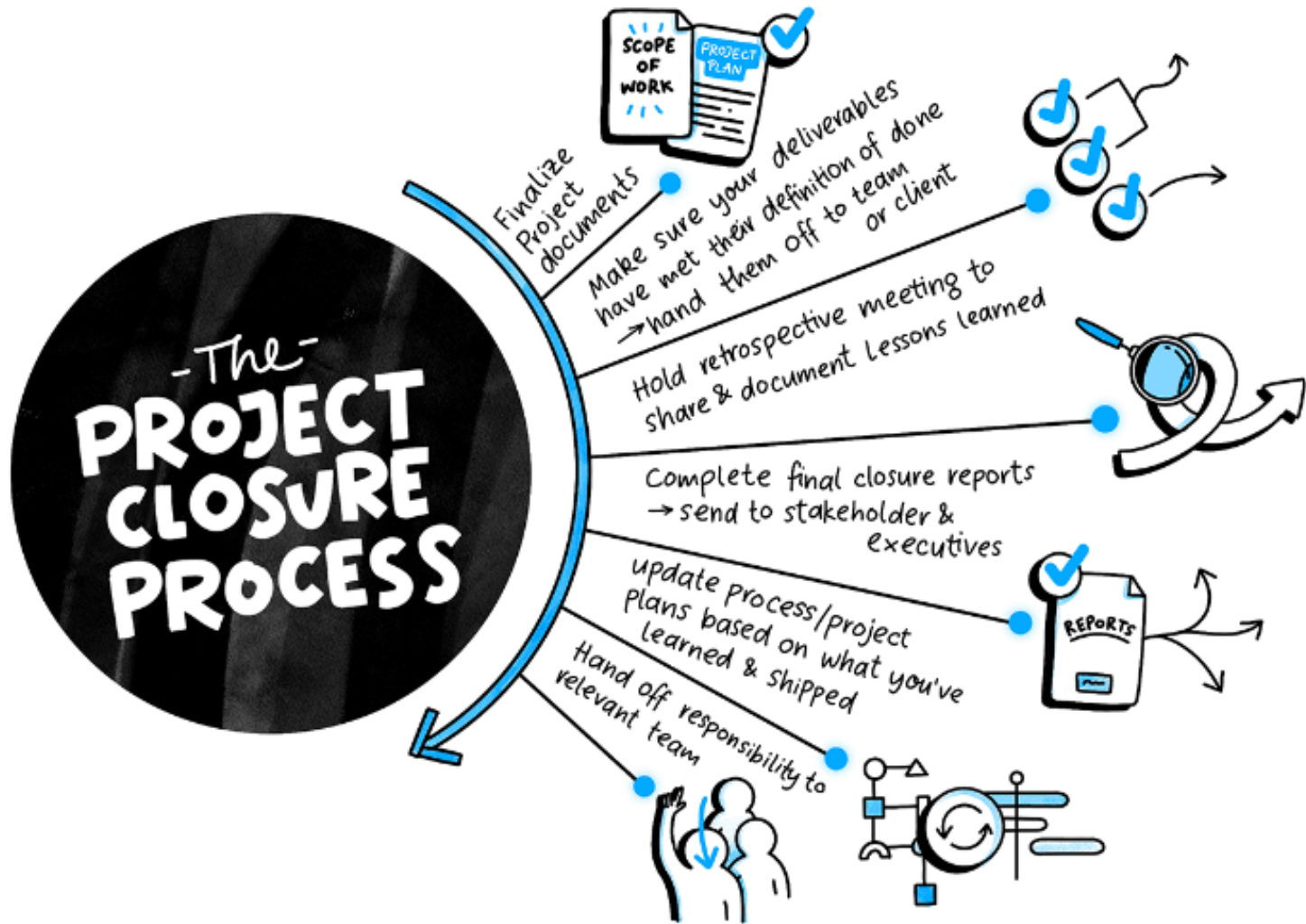
70% of Patient Monitoring installations occur in a LIVE PATIENT ENVIRONMENT.
Repeatable per care area/phase, completed by customer, FE, contractors and Clinical



- Confirm Readiness for Install
- Identify High Risk Rooms
- Validate order of install / room availability
- Confirm process for bringing in new equipment into the unit, temporary staging space
- Confirm process for short-term storage and removal of old equipment
- Patient Safety is #1 priority – anyone can pause / stop the install if there are concerns

Not all Customers have a Dedicated PMO...during project Install & GoLive Typically CE and Customer Clinical Leads are a Vendors Primary Points of Contact to help lead the customer side of the install

Post Implementation – Project Closeout



Project Closeout Meeting

- Lessons Learned
- Confirmation of Completion (*all items per scope of work*)
- ★ Trade-ins / RMA
- Project Documentation
- ★ Technical walk-through final design doc review
- ★ Post Warranty Service Support
- Customer Acceptance



About the Speaker



**Elizabeth Sayles, RN, MBA, MSIT, BSEE, BSN,
CBET, CHTM**

**Manager of Quality, Safety, Education, & Training,
Brigham and Women's Hospital**

Elizabeth (Liz) is the Manager of Quality, Safety, Education, & Training within Biomedical Engineering at Brigham and Women's. She has 20 years of experience in healthcare. She fell in love with HTM while completing a Biomedical Engineering co-op with the Technical Services Partnership at the UVM Medical Center in Burlington, VT.

She started her career by moving to Boston in 2006 and joined Brigham and Women's in 2014, as a Clinical Engineer/Team Leader. The focus in her current role is in clinical and technical education, safety, and quality.

Liz's educational background includes two graduate degrees in Business and Information Technology from UMASS Boston and two undergraduate degrees, one in Electrical Engineering from UVM and one in Nursing from Regis College. She enjoys spending time with her husband and two dogs. She also enjoys the outdoors, running, road and mountain biking, reading, hiking, and baking.

About the Speaker



Shane Waltsak, MS, CHTM
Clinical Engineering Manager
Brigham and Women's Hospital

Shane is a Clinical Engineering Manager at Brigham and Women's Hospital. He has 14 years of experience in healthcare, including EMS and HTM. Shortly after beginning the graduate-level portion of his Physicians Assistant BS/MS program, he realized the technical aspect of healthcare was what fascinated him and pivoted to obtaining a Biomedical Engineering degree.

Shane began his HTM career path as part of the UConn Clinical Engineering program where he was an intern at Brigham and Women's. Upon graduation, he worked as a Clinical Engineering Manager at Trimedx, then at Trinity Health, before rejoining the Brigham as a Clinical Engineer/Team Leader. The focus in his current role is the oversight of Clinical Engineering projects and Clinical Systems at Brigham and Women's Hospital.

Shane's educational background includes a Bachelor's Degree in Biomedical Engineering from Western New England University and a Masters Degree in Biomedical Engineering from UConn. He enjoys spending time with his wife, two daughters (ages 2 ½ and 5 months), and two Australian Shepherds.



Project Initiation

Projects vary depending on the organization

Capital/Minor Capital

- Technology Replacements, Upgrades, Additions
- Construction/renovations
- Larger \$\$
- Executive Sponsor support/sign off

Non-Capital

- Operating
 - Small technology upgrades that do not count as capital or minor capital
- Digital/IS
- Recalls
- Incident Investigations

Challenges and Considerations unique to Clinical Settings

- Clinical needs assessment
 - Establish an understanding of technology use model
 - Identifying clinical users
 - Observations in clinical areas
 - Workflow/ discussion
 - Gather feedback on current technology limitations
 - On site Vendor demos and/or trials
 - Infection Control
- Technology Assessment
 - Functionality/features
 - Ancillary Devices
 - Accessories/consumables
 - Connectivity/Software
 - Total Cost of Ownership (TCO)
 - Pilots/trials
 - Additional Assessment Tools
 - ECRI Review
 - Overall Vendor performance



Project Planning/Timeline

- Project Plan Drivers
 - End of Support/end of life
 - Regulatory bodies/accreditation
 - Organizational impact





Project Planning/Timeline

- Things to consider as part of project timeline
 - Internal purchasing processes
 - Internal IS/IT processes
 - Equipment/accessory lead times
 - Education/Training
 - PCRA/ICRA processes
 - Overall scope/impact
 - Biomed staff availability

Risk Management

- Scope Creep
- Timeline changes
- Supply chain issues
- Internal and External Stakeholders
- Budget





Communication/ Collaboration

- Identifying key stake holders and project role/responsibilities
- Kick off meetings that clearly define project scope, and project roles/responsibilities
- Reoccurring work group meetings when necessary
 - Meeting minutes with follow up assignments
- Centralized locations for project documentation as project progresses
- Continuous communication with executive sponsors

Post Implementation Evaluation



Discuss CQI strategies



CMMS metrics-
technical or clinical
related calls



Evaluate the need for
continuing education



Detailed project close
out documentation for
project leads



Surveys



Issue tracking

Regulatory Compliance

- Ensure Medical Technology maintenance/servicing adhere to local and federal regulatory and accrediting requirements
 - Review of medical technology documentation during technology assessment
 - Service Level Agreements
 - Operational Level Agreements
 - AEM Analysis
 - Recall Management
 - Infection Control
 - Cybersecurity
 - Life Safety



Conclusion

- Communication!
- Scope – well defined up front (avoid scope creep)
 - From Clinical to Technical
- Clinical Engineer Role as Project Manager
- Projects are Complex & Each Project is Different
- Project Documentation



All Working Towards the Same Goal – Successful Implementation

Questions & Discussions

Enter your
questions
to the Q&A
window

Thank You



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and let us know which topics you are most interested in!





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- Access to Expo Hall, seminars and luncheon.

Please note: It does not include Friday, lunch, travel, registration, and education sessions.

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1. **Online:** www.AAMIExchange.com
Select "Expo Only" registration option. Enter the coupon code and the cost will be updated to zero.
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Bring this pass with you to the AAMI eXchange Phoenix Convention Center. When you arrive, present this complimentary Expo Only Pass at the registration desk to receive your Expo badge.

For details on how to register for the full conference, visit www.AAMIExchange.org.

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June 14 – 18, 2024






Clinical Engineering Symposium

Navigating Homecare & Virtual/TeleHealth Technologies - Adapting to Shifting Patient Care and Tech Support Challenges at Home

Saturday, Jun 15, 2024, 7:30 am - 10:15 am
Phoenix Convention Center, Phoenix, AZ



Priyanka Shah
ECRI



Praneetha Elugunti
Mayo Clinic



Samantha Moriarty
BWH



Nadia ElKaissi
VA Central Office



Jamie Brennan Masimo

Register here 

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2024

34th Members Meeting & Awards Reception
Phoenix, Arizona

You are invited!

JUNE 15, 2024
8:15PM - 9:45PM

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RSVP TODAY!





Education Session by ACCE

Going Through a Merger & Acquisition - Lessons Learned and Keys to Success

Date/Time: Sunday, June 16, 2024, 8:00am - 9:00am
Location: Phoenix Convention Center, Phoenix, AZ



Tony Cody, CHTM
SODEXO HTM



Mike Powers, MBA, CHTM
Intermountain Health



Ilir Kullo, MS
Stanford Children's Health

