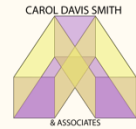


Excellence by Design

Measuring Progress

Carol Davis-Smith, CCE FACCE AAMIF



MD EXPO
New England • October 8-10, 2024



Excellence Isn't Accidental It's Intentional

CAROL DAVIS-SMITH, MS CCE

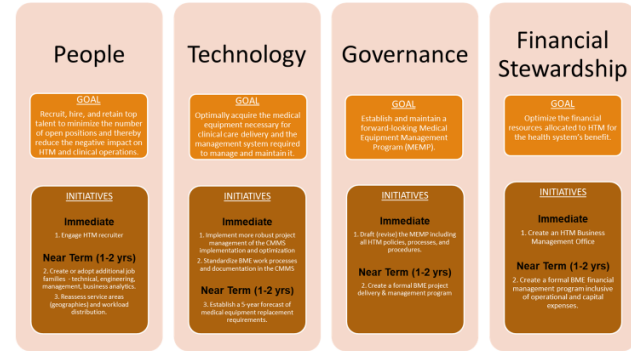
PRESIDENT
CAROL DAVIS-SMITH & ASSOCIATES, LLC



VISION

HTM will deliver the right technology, at the right location and right time with support to ensure clinical outcomes.

Enables safe patient through medical technologies, operational efficiency, and value.



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Roadmap ... to HTM Excellence!

Strategic Goals

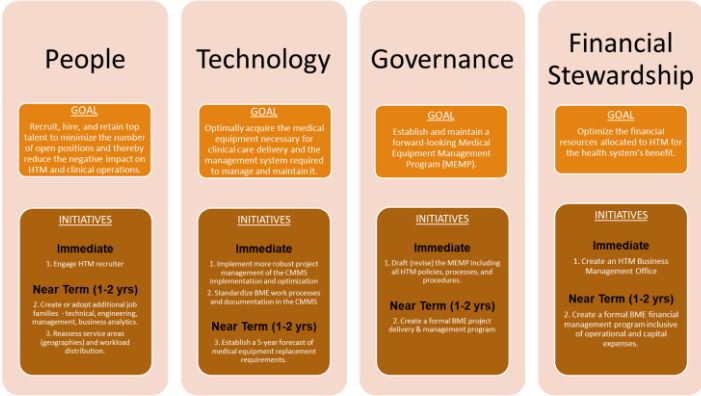
What happens if these goals are not achieved?

VISION

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MISSION

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Metrics and Key Performance Indicators

OPERATIONAL METRICS

Budget Compliance	Parts Inventory Management
Connected Environment	Planned Maintenance
Corrective Maintenance	Service Ratio Mix
Inventory Count	Staffing Ratio
Inventory Value	Staffing Level

STRATEGIC METRICS

Cost of Service Ratio
Mean Time Between Failure*

Using Metrics and KPIs

Optimal performance of the HTM Program requires a clearly defined set of operational and strategic **metrics that are tracked consistently over time**.

Operational metrics will enable the HTM Program to monitor its own performance while **Strategic** metrics will indicate the HTM Program's contribution to enterprise missions.

One of, if not the most, important component of a metric is its **definition**. All too often, metrics are cited with the assumption that everyone understands it in the same way. Unfortunately, that is rarely the case and often the reason benchmarking fails to deliver the anticipated benefits.

The data required for the operational and strategic metrics is typically found in the HTM computerized maintenance management system (CMMS), the Supply Chain Management (SCM) enterprise resource planning (ERP) system, the IT service management system, and the enterprise financial reports.

Which metrics? What KPIs?

It depends.

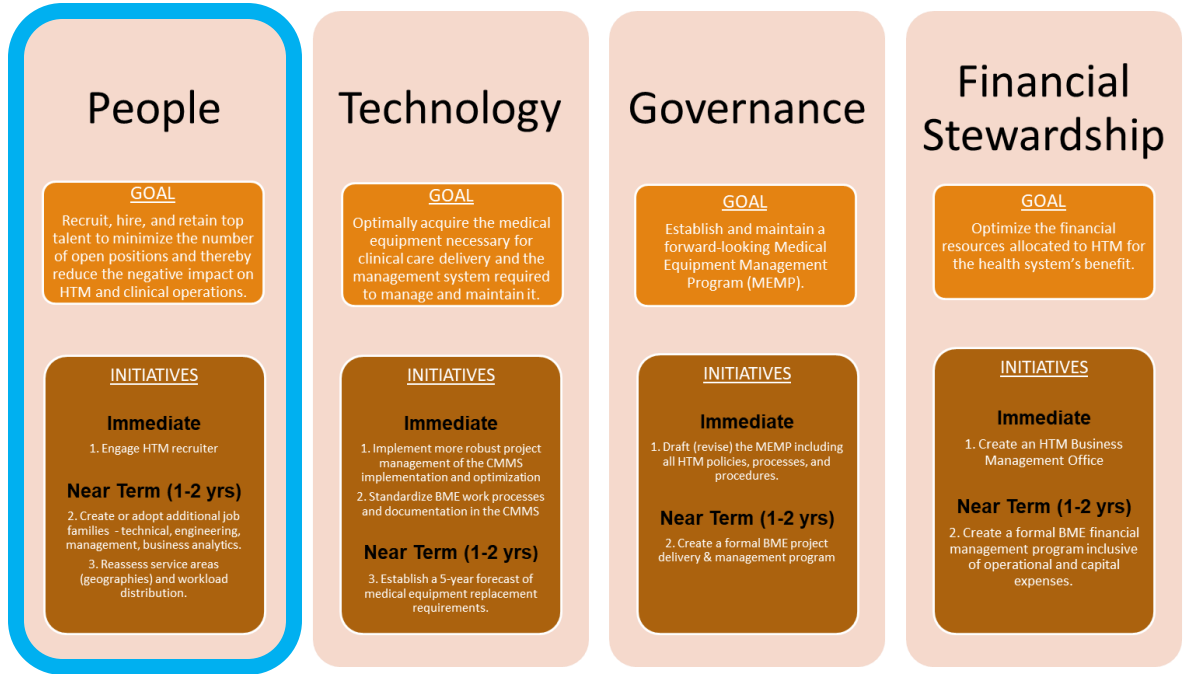
**What questions
are you trying
to answer?**

VISION

HTM will deliver the right technology, at the right location and right time with the right support to ensure the right clinical outcomes.

MISSION

HTM enables safe patient care through medical technologies, operational excellence, and value.



People

GOAL

Recruit, hire, and retain top talent to minimize the number of open positions and thereby reduce the negative impact on HTM and clinical operations.

INITIATIVES

Immediate

1. Engage HTM recruiter



UConn | UNIVERSITY OF CONNECTICUT

COLLEGE OF ENGINEERING

Biomedical Engineering Program

Data

1. Specific positions to be recruited
2. Fully loaded cost of positions to be recruited
3. Cost of recruiter services

[U.S. Bureau of Labor Statistics \(bls.gov\)](https://www.bls.gov)

[Title 38 Pay Schedules - Office of the Chief Human Capital Officer \(OCHCO\) \(va.gov\)](https://www.va.gov)

CE/HTM salary surveys

$$\text{“Cost of Staff Ratio”} = \frac{\text{Total Recruitment Costs}}{\text{Total Compensation}}$$

People

GOAL

Recruit, hire, and retain top talent to minimize the number of open positions and thereby reduce the negative impact on HTM and clinical operations.

INITIATIVES

1. Engage HTM recruiter

Near Term

2. Create or adopt additional job families – technical, engineering, management, business analytics.



Data

1. Specific positions to be created and/or adopted
2. Fully loaded cost of positions to be created and/or adopted
3. Labor budget impact

Maintenance **or** Non-Maintenance Technical
Management **or** Non-Management Administrative

Workload Justification – hours, not counts

PM Hours per Year (avg)
+ CM Hours per Year (avg)

Maintenance Workload

Project Hours per Year (avg)
+ Data Analytics Hours per Year (avg)

Non-Maintenance Hours

People

GOAL

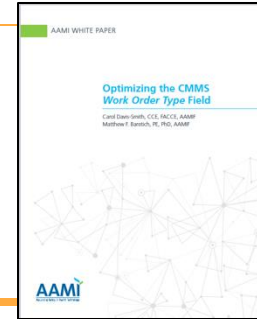
Recruit, hire, and retain top talent to minimize the number of open positions and thereby reduce the negative impact on HTM and clinical operations.

INITIATIVES

1. Engage HTM recruiter
Near Term
2. Create or adopt additional job families – technical, engineering, management, business analytics.
3. Reassess service areas (geographies) and workload distribution.

Data

1. PM hours by service area
2. CM hours by service area
3. Average productive hours by service area



PM Hours by equipment type
+ CM Hours by equipment type

TOTAL Hours

Documented Hours

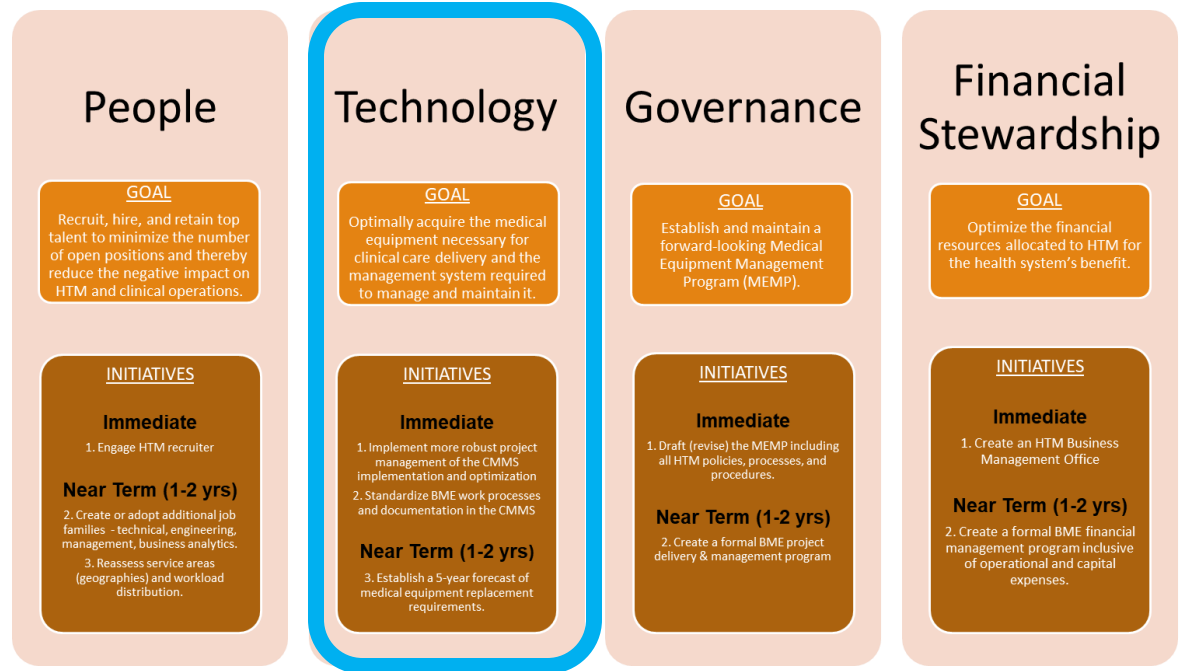
Paid Hours – worked regular, worked OT, PTO

VISION

HTM will deliver the right technology, at the right location and right time with the right support to ensure the right clinical outcomes.

MISSION

HTM enables safe patient care through medical technologies, operational excellence, and value.



Technology

GOAL

Optimally acquire the medical equipment necessary for clinical care delivery and the management system required to manage and maintain it.

INITIATIVES

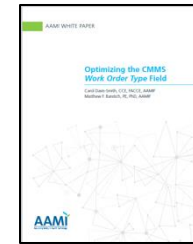
Immediate

1. Implement more robust project management of the CMMS implementation and optimization



Data

1. Policies, process, and procedures
 - Data
 - Project Management
2. CMMS requirements and specifications



% of HTM processes mapped and standardized

Prioritization of requirements

- “must have” versus “nice to have”

Adherence to implementation timeline

Turn-around time of requests for optimization

- updates versus upgrades

Technology

GOAL

Optimally acquire the medical equipment necessary for clinical care delivery and the management system required to manage and maintain it.

INITIATIVES

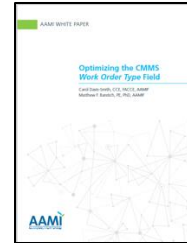
1. Implement more robust project management of the CMMS implementation and optimization

Near Term

2. Standardize BME work processes and documentation in the CMMS

Data

1. Policies, process, and procedures
 - Scheduled Maintenance (PM)
 - Corrective Maintenance (CM)



% Compliance with Data Standards

- Missing elements
- Incorrect elements

% Compliance with regulatory requirements

- PM completion

Average time-to-completion by equipment type

- PM work orders
- CM work orders

Technology

GOAL

Optimally acquire the medical equipment necessary for clinical care delivery and the management system required to manage and maintain it.

Data

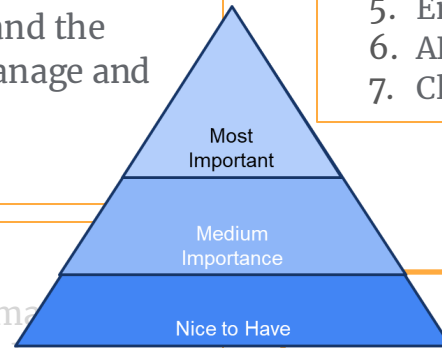
1. Manufacturer, Model, Serial#
2. Equipment Category and Type
3. Manufacture, Purchase, and/or Installation Dates
4. End of Manufacture/Sale (EOM)
5. End of Support (EOS)
6. AHA Depreciation Schedule
7. Clinical Utilization

INITIATIVES

1. Implement more robust project management of the CMMS implementation and optimization

Near Term

2. Standardize BME work processes and documentation in the CMMS
3. Establish a 5-year forecast of medical equipment replacement requirements.



Technical Score = EOM + EOS

Financial Score = Years Beyond AHA Useful Life

Clinical Score = Rare, Low, Average, Excessive

Total Score = Technical + Financial + Clinical

VISION

HTM will deliver the right technology, at the right location and right time with the right support to ensure the right clinical outcomes.

MIS

HTM will ensure patient safety, medical equipment operation and value.

People

Financial Leadership

Financial support to HTM for its benefit.

MD Expo Spring 2025

April 15-17, 2025 • Temecula, CA

Proudly supported by CMIA

The spring 2025 MD Expo will be held at the Pechanga Resort Casino in Temecula, California.

Call for Presenters



Near Term (1-2 yrs)

- 3. Establish a 5-year forecast of medical equipment replacement requirements.

Near Term (1-2 yrs)

- 2. Create a formal BME project delivery & management program

Immediate

- 1. Draft (revise) the MEMP including all HTM policies, processes, and procedures.

INITIATIVES

Immediate

- 1. Create an HTM Business Management Office

Near Term (1-2 yrs)

- 2. Create a formal BME financial management program inclusive of operational and capital expenses.

Thank You!



Enjoy the conference!



Home Strategic Technology Planning Medical Device Acquisition Healthcare Technology Management Contact



CAROL DAVIS SMITH



CAROL DAVIS-SMITH & ASSOCIATES

TECHNICAL | CLINICAL | STRATEGIC | A passion for excellence, creativity, and integrity

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(602) 821-4092

Services

Carol Davis-Smith & Associates, LLC provides a consultative bridge between the technical, clinical, and strategic healthcare perspectives.



Carol Davis-Smith is a proven leader in the development and maintenance of safe, reliable, cost effective, and efficient patient care delivery systems through technology and process management.

Discovering the Possibilities