Inventory Management in HTM

Building Accurate, Actionable, and Sustainable Asset Data : A practical framework for healthcare technology management professionals ready to transform their equipment inventory from a liability into a strategic asset.

Presented by Ben Lewis

How Do You Feel About Your Inventory?

- Who owns inventory in your organization?
- What system is your source of truth?
- How many of you trust your inventory within 5% accuracy?

Learning Objectives

By the end of this session, you will have the knowledge and tools to fundamentally improve how your organization manages medical equipment data.

1

Define Accuracy

Understand what "accurate inventory" actually means in an HTM context

2

Identify Failure Points

Recognize the most common breakdowns in hospital equipment inventories

3

Build the Baseline

Explore a repeatable, field-tested method to establish a high-quality asset baseline

4

Sustain Accuracy

Implement workflows that keep inventory data current over time

5

Connect to Strategy

Link inventory quality directly to compliance, cost savings, and capital planning

Inventory Is the Foundation

> "If your inventory is wrong, every decision built on top of it is wrong."

Inventory is not a list — it is the operational and strategic foundation of your entire HTM program. Every downstream function, from preventive maintenance scheduling to vendor contract negotiations, depends on the integrity of your asset data. When that foundation is compromised, the ripple effects touch compliance, finance, and patient safety simultaneously.

Compliance

Joint Commission, CMMS accuracy expectations, and DNV Physical Environment standards all require traceable, reliable asset records

Financial

Missed assets mean missed PMs and increased risk. Duplicate assets drive duplicate service contracts and unnecessary spend

Operational

Decisions about service coverage, staffing, and resource allocation all depend on knowing what equipment you actually have

Strategic

Capital planning is only as accurate as the baseline you're planning against — bad data means bad forecasts

What "Good" Inventory Looks Like

High-quality medical equipment inventory is not simply a matter of having a long list in your CMMS. It must meet six distinct criteria to be considered truly reliable and actionable for HTM operations.

Complete

All devices that should be tracked are included — no shadow inventories, no unregistered equipment operating outside your system

Correct

Manufacturer, model, serial number, and location data are accurate and verified against the physical asset — not self-reported

Standardized

Consistent naming conventions eliminate free-text chaos and enable accurate rollups, reporting, and benchmarking across the enterprise

De-duplicated

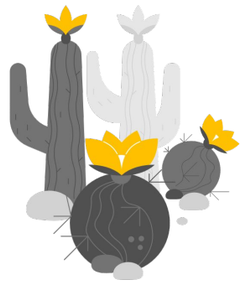
Single records per asset — no ghost entries, no multiple CMMS records for the same device, no vendor/CMMS conflicts

Reconciled

Asset records are aligned to finance/capital records and active service contracts so you always know what you own, what you're paying for, and what's deployed

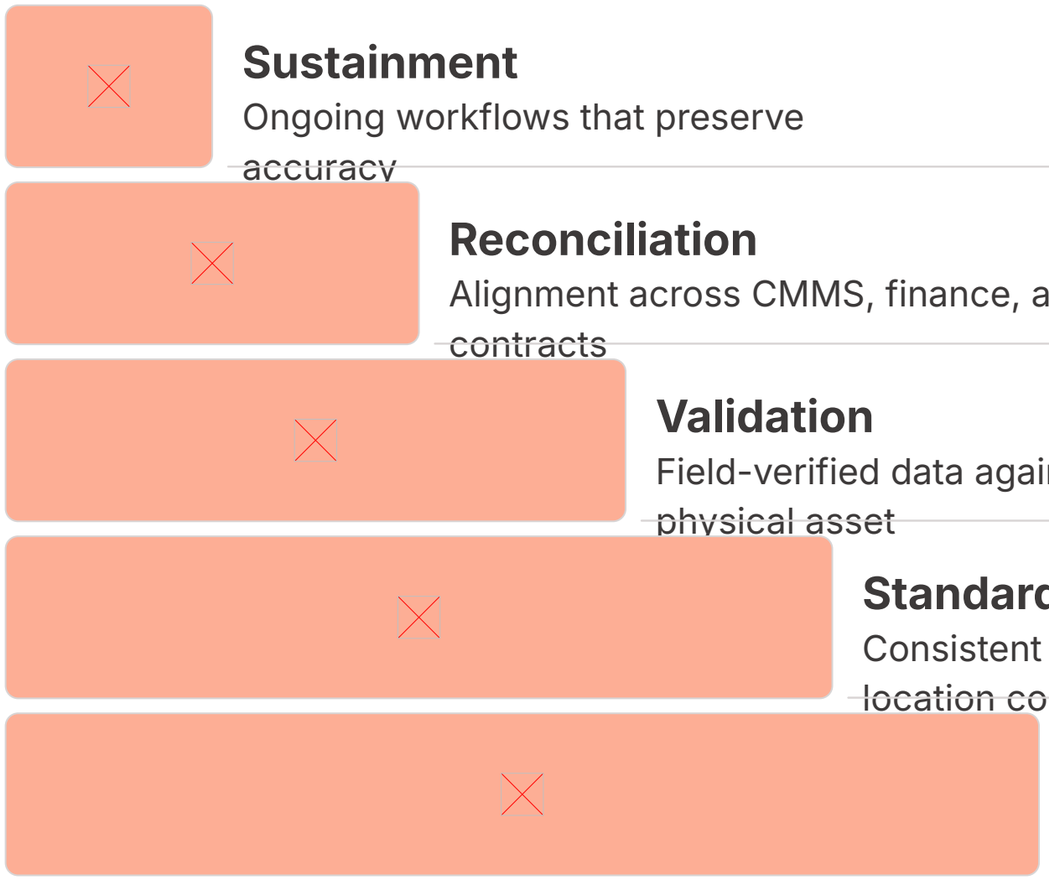
Sustainable

Workflows are in place to keep the inventory accurate over time — not just accurate on launch day



The 5 Pillars of Inventory Excellence

Building and maintaining a high-quality asset inventory requires a structured, multi-layered approach. These five pillars define the architecture of a sustainable HTM inventory program — each one builds on the last.



Sustainment
Ongoing workflows that preserve accuracy

Reconciliation
Alignment across CMMS, finance, and contracts

Validation
Field-verified data against the physical asset

Standardization
Consistent naming, categories, and location codes

Identification
Knowing what assets exist and where

Where Inventories Break Down

Most hospitals are operating off incomplete datasets — and many don't realize it. A CMMS showing 70,000 assets may represent a true footprint exceeding 100,000 devices.

Inventory failures rarely happen all at once. They accumulate through years of inconsistent processes, departmental silos, and the absence of formal governance. Understanding where the most common failure points occur is the first step toward fixing them.

Multiple Sources of Truth

CMMS, vendor records, and finance systems each tell a different story. Without reconciliation, discrepancies compound over time — and no single source can be fully trusted.

Free-Text Data Entry

"GE monitor," "GE Mon," and "GE-MNTR" are three records for the same device type. Unstructured entry makes accurate counts, reporting, and automation impossible.

Missing Asset Categories

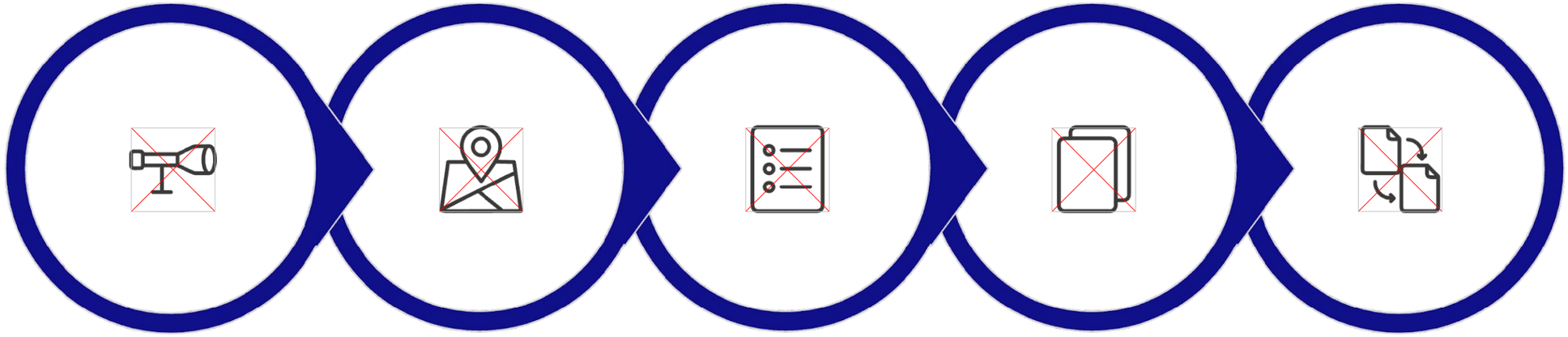
Imaging equipment, specialty devices, and facility beds are chronically underrepresented. Vendor-managed equipment creates blind spots where HTM has no visibility at all.

No Intake or Disposition Process

New equipment enters service without being added to the CMMS. Retired or cannibalized devices remain as active records. The gap grows with every equipment transaction.

Building the Baseline: A 5-Step Method

Establishing a reliable inventory baseline requires leaving the spreadsheets behind and going directly to the equipment. This structured, field-first methodology has been proven in health systems of all sizes.



Define Scope

Field Validation

Eliminate Free Text

De-duplicate

Reconciliation

Each step builds directly on the previous one — skipping steps or shortcutting field validation undermines the integrity of everything that follows. This is not a data entry exercise; it is a data validation exercise.

Step-by-Step: From Scope to Reconciliation

01

Define Scope

Establish what constitutes a trackable asset. Use a risk-based inclusion model — prioritize life safety devices, clinical equipment, and diagnostic assets. Not everything needs a CMMS record; not everything should be left out.

02

Field Validation

Go to the physical device — not a spreadsheet. Capture manufacturer, model, serial number, location, and asset type directly from the equipment. Floor-by-floor, room-by-room if necessary.

03

Eliminate Free Text

Replace open text manufacturer and model fields with structured selection libraries. Force staff to choose from approved, standardized entries. This single change has an outsized impact on data quality.

04

De-duplicate

Match assets by serial number and location + device type combination. Identify and resolve overlaps between CMMS records, vendor asset lists, and capital purchase records.

05

Create a Reconciliation Layer

Build a tracking mechanism for net new additions, missing assets discovered during validation, and data corrections applied. This layer becomes your continuous improvement audit trail.

> "Inventory is not data entry. It is data validation."

Data Standardization: The Engine of Reliable Reporting

Standardization is the difference between a CMMS you can report from and one you can only search through. When manufacturer names, model numbers, device categories, and location codes are consistent, your data becomes a tool — not a puzzle.

❌ Without Standardization

- "Philips MX40"
- "MX-40"
- "Philips Monitor"
- "PHI MX 40 bedside"
- Four records. Four counts. Zero accuracy.

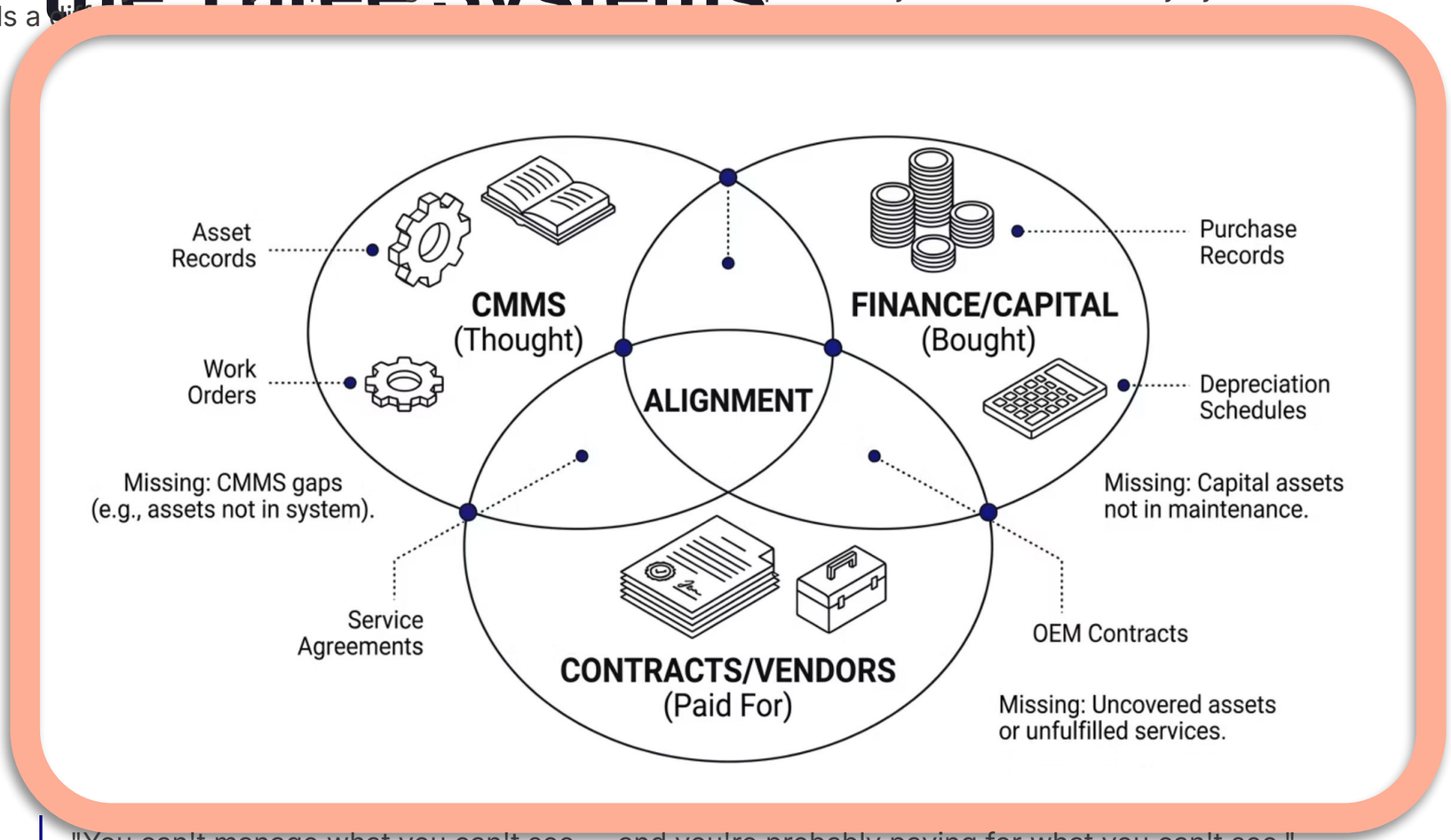
✅ With Standardization

- One approved manufacturer: "Philips Healthcare"
- One approved model: "MX40 Patient Monitor"
- One device category: "Patient Monitor – Telemetry"
- One record. Accurate counts. Reliable rollups.

Standardization also enables the next generation of HTM capabilities — AI-assisted analytics, predictive maintenance modeling, and automated benchmarking all require clean, structured data as their input.

Reconciliation: Aligning the Three Systems

True inventory accuracy requires agreement across three independent systems that are rarely synchronized. Each system holds a

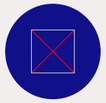


> "You can't manage what you can't see — and you're probably paying for what you can't see."

Each reconciliation pass typically surfaces immediate cost-saving opportunities: orphaned service contracts, duplicate coverage on the same device, and capitalized assets that were never deployed or have already been removed from service.

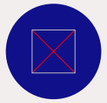
Sustainment: Where Most Programs Fail

A perfect inventory on day one becomes a liability without the workflows to keep it current. The four core sustainment processes below transform inventory accuracy from a one-time project into an ongoing operational system.



Intake Process

No device enters clinical service without an asset record created in the CMMS. Standardized data fields, location assignment, and risk classification are required before first use.



Validation Cycles

Annual or rolling validation against the physical plant. High-risk areas — Imaging, OR, ICU — are prioritized. Discrepancies are logged and resolved within a defined SLA.

Disposition Process

Assets are formally removed from inventory when sold, retired, transferred, or cannibalized. No ghost records. The CMMS reflects reality, not history.

Cross-Department Alignment

Supply Chain, Finance, IT/Cybersecurity, and Clinical departments all participate in inventory governance. No single department can maintain accuracy in isolation.

Governance: The Structural Backbone

Sustainment workflows require organizational ownership to function. Without formal governance, even well-designed processes erode over time as competing priorities take hold and accountability becomes diffuse.

Governance Committee

Establish a standing committee with representation from HTM, Supply Chain, and Finance. This group owns the inventory as a shared enterprise asset — not a departmental responsibility.

Monthly Review Agenda

- **Net Adds:** New equipment entered into service this period
- **Deletions:** Assets retired, sold, or transferred
- **Exceptions:** Discrepancies flagged during validation or contract review
- **Metrics Review:** Inventory completeness score, data quality KPIs
- **Action Items:** Outstanding reconciliation tasks and owners

Governance does not require a large committee or extensive meetings. A focused monthly 30-minute review with the right stakeholders is more effective than a quarterly multi-hour session with too many participants.

What Good Inventory Enables

Inventory accuracy is not an end in itself — it is the foundation for every high-value HTM outcome. When your data is reliable, it unlocks capabilities that directly impact compliance, cost, and operational performance.

Compliance Readiness

Audit-ready at any time. Complete, traceable asset histories for Joint Commission EC.02.04.01, DNV Physical Environment, and CMS Conditions of Participation reviews.

Cost Reduction

Eliminate unnecessary service contracts on retired or duplicate assets. Identify underutilized equipment available for redeployment before purchasing new devices.

Capital Planning

Age-based replacement modeling built on accurate fleet data. True visibility into device age, utilization, and end-of-life timelines across every modality and department.

Operational Efficiency

Higher PM compliance rates when every scheduled device is actually in the system. Reduced technician time spent locating equipment that was never properly inventoried.

Top 5 Actions to Start Tomorrow

Transforming inventory quality does not require a multi-year program before you see results. These five high-impact, low-barrier actions can begin immediately and deliver measurable improvement within the first 90 days.

1 Eliminate Free-Text Manufacturer & Model Entry

Lock down open text fields in your CMMS and implement structured manufacturer/model selection libraries. This is the single highest-leverage change you can make to data quality.

2 Identify Your Unknown Asset Gap

Compare your CMMS count to vendor asset lists and capital records for one high-value modality. Quantify the gap — this number becomes your program's baseline improvement metric.

3 Reconcile One Modality End-to-End

Start with imaging or another high-cost category. Match CMMS records to capital purchases and active service contracts. Document what you find — the results will make the business case for broader reconciliation.

4 Implement a Basic Intake Control

Establish a policy that no new device enters clinical service without a completed CMMS record. Even a simple checklist enforced at the biomedical shop level stops the bleeding immediately.

5 Assign Ownership of Inventory Governance

Name a person — not a department — who is accountable for inventory accuracy. Schedule the first cross-functional governance review within 30 days. Ownership is the prerequisite for everything else.

Inventory Is a System, Not a Project

"Build it right. It pays you back every year."

The organizations that achieve true inventory excellence share one common attribute: they stopped treating inventory as a periodic cleanup project and started treating it as a managed system with defined workflows, clear ownership, and continuous improvement. The investment is real — but so is the return.

5

Pillars of Excellence

Identification, Standardization, Validation, Reconciliation, Sustainment

3

Systems to Align

CMMS, Finance/Capital, and Contract/Vendor records must tell one consistent story

4

Core Workflows

Intake, Validation Cycles, Disposition, and Cross-Department Governance

5

Actions This Week

Concrete, high-impact steps you can begin without budget approval or executive sign-off

This framework can be adapted into a ready-to-present slide deck, a 15-minute executive briefing, a workshop format with structured exercises, or an audit checklist aligned to Joint Commission and DNV standards.

Open Discussion

Thank you!