Disclosures

- The presenters have no real or perceived conflicts of interest related to this presentation

Note: This program may contain the mention of suppliers, brands, products, services or drugs presented in a case study or comparative format using evidence-based research. Such examples are intended for educational and informational purposes and should not be perceived as an endorsement of any particular supplier, brand, product, service or drug.

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Learning Objectives

At the end of this session, participants should be able to:

1. Identify how establishing Facility Equipment Management Governance leads to sustainable results and increased satisfaction for all stakeholders

2. Recognize the importance of tracking and ensuring timely removal of unnecessary rental equipment from a facility

3. Recall the importance of monitoring open repairs and holding vendors accountable for delays in the repair process

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Meet the Presenters

Noel Hodges, R.Ph., MBA

Chief Executive Officer

HCA South Atlantic Supply Chain

Fred Keller

Former Vice President

HCA Contracting

Nicholas Maxfield

Supply Chain Equipment Coordinator

HCA South Atlantic Supply Chain

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Mobile Medical Equipment

Mobile Medical Equipment (MME)

Caregivers have the equipment they need, exactly when they need it, to care for the patient

- Mobile Medical Equipment (MME) is any equipment that:
  - Operates using electrical or battery power
  - May or may not store Protected Health Information (PHI)
  - Is used for patient care and/or by the patient
  - Does not permanently remain in a patient room, treatment area or other hospital care area
- Examples include

Beds
- Bariatric
- ICU
- Med/Surg
- Wound (excludes Envella ATF)
- Surfaces

Pumps
- IV Pumps
- Syringe
- PCA
- Feeding

Monitors
- Transport (unit based)
- Physiological
- Cardiac
- Vitals (unit based)

Unit Based
- Glucometer
- Vein Finders
- Telemetry Monitors (Boxes)

Treatment / Diagnostic
- Wound Vacs
- SCD
- Bladder Scanners
- Defibrillator
- EKG Machines
- Portable Radiology
- Ventilator BiPAP
- Ventilator HHFO2
- Ventilator Invasive
- Tablo / Prismax
- Bair Huggers

Patient / Family Support
- Hoyer Lift
- Transfer Device
- Wheelchairs
- Strechers
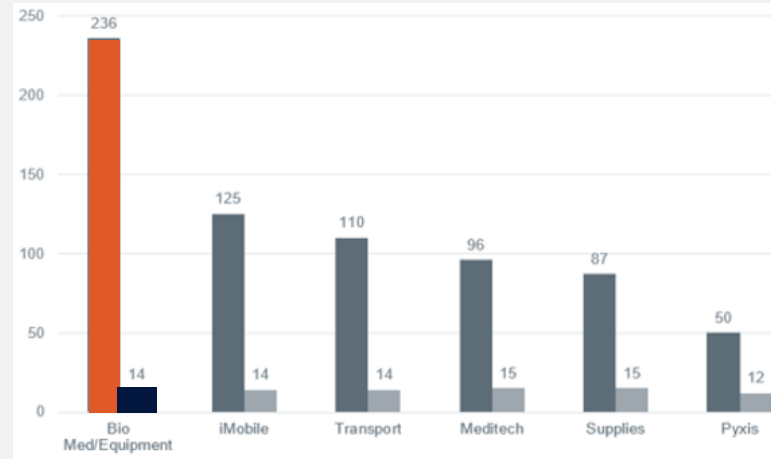
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Current Problem

Nursing spends an unreasonable amount of time ensuring equipment is available when needed. Lack of consistent ownership, technology and processes create dissatisfaction and financial challenges.

NURSE DISATISFACTION
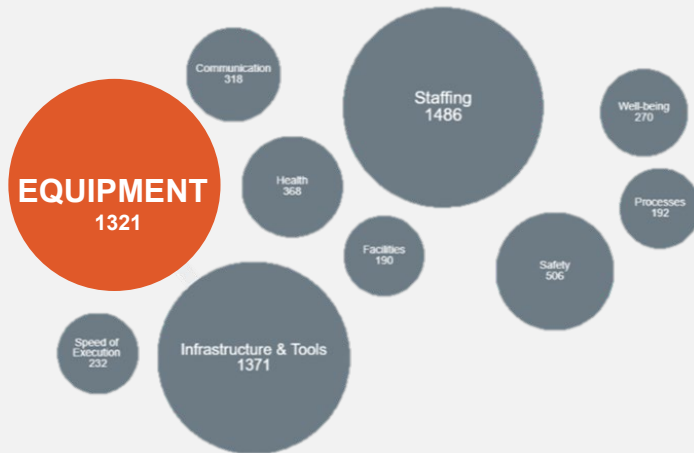
Employee Engagement Survey
MAY 2021 NUMBER OF COMMENTS

CARE TEAM FOCUS GROUP
MARCH 2021
■ # of Comments
■ # of Hospitals

FINANCIAL CHALLENGES

$10–14M

annualized short-term mobile medical equipment rent & leases
HCA GL Review August 2020 through January 2021

$1–1.5M

"Can-not-Locate" (CNL) Mobile Medical Equipment annually
GE Healthcare, June 2021

Source: Financial and BioMed Results from HCA's East Florida and TriStar Divisions

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Equipment Services Strategy

GOVERNANCE

- IDN Equipment Oversight Committee
- Facility Equipment Governance Committee

PROCESS

- Defined Roles & Responsibilities
- Equipment Utilization
- Measure and Monitor Repairs and Rentals

- Manage Clean & Soiled Utility
- Manage Appropriate BioMed Coverage Levels
- Equipment Tracking and Locating

TECHNOLOGY

RTLS	Asset Tracking Used for Monitoring, Locating & Managing Fleet
Input Process	Standard Process for Requesting Rental Repairs & Needs

PEOPLE

- Supply Chain Department
  - Facility Equipment Coordinator & Technicians
- BioMed Provider
- Environmental Services
- Information Technology Services

Pilot Facilities

HCA Florida Northwest Hospital	HCA Florida Mercy Hospital	TriStar Southern Hills Medical Center	TriStar Skyline Medical Center
2,497 assets requiring RFID tags*	3,252 assets requiring RFID tags*	1,549 assets requiring RFID tags*	3,614 assets requiring RFID tags*
Bed total: 301	Bed total: 454	Bed total: 141	Bed total: 361

*estimated number of assets based on initial inventory

Equipment Management Governance

Fred Keller

Standardize Processes Based on the Facility Asset Management Lifecycle

Capital Planning
- PAR Levels
- Service Line changes
- Capital requests

Utilization
- Measuring up-time
- Appropriate use
- Reporting

Biomedical
- Turn-Around-Time
- Parts availability/OEM support
- End of life
- "Can Not Locate"
- Repairs and preventive maintenance
- Downtime

Equipment Management
- Repair requests
- Turn-around-time
- Cleaning and storage locations
- Staff roles and responsibilities
- Services provided

Asset Availability
- Requesting and locating
- Tracking
- Rounding
- Rentals

Asset Management Lifecycle

Long-Term Focus

Short-Term Focus

Source: HCA

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Governance | Organization or Facility Oversight

Establish Equipment Management Governance Committee

Creating Value Through:
- Improved equipment availability
- Increased nursing satisfaction
- Increased visibility of equipment management issues

Key Stakeholders
- Nursing Executive Sponsor (CNO, ACNO, VP of Nursing)
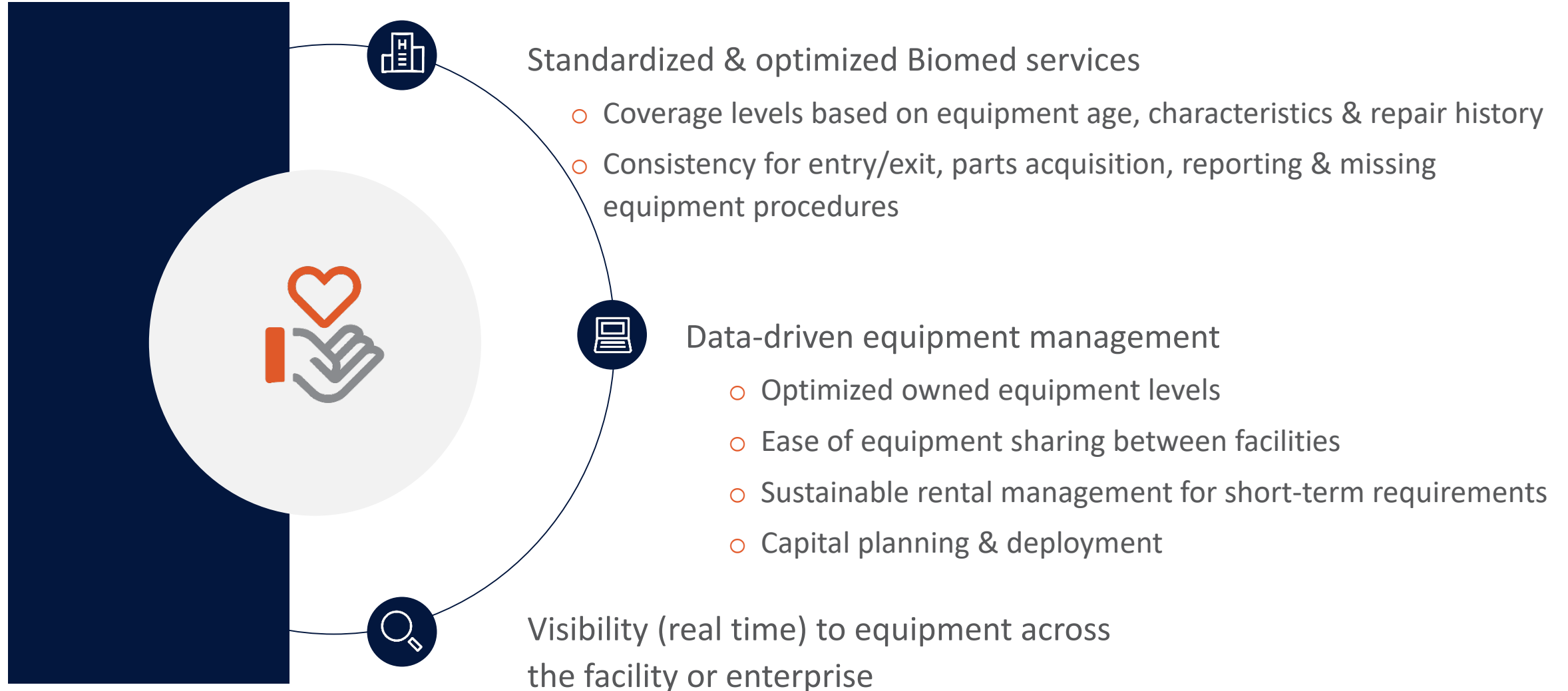- Supply Chain Director – Committee Chair
- Operations (COO)
- Finance Member (CFO, ACFO, VP of Finance)
- Nursing Director (Med/Surg & Critical Care)
- Facilities (Plant Ops Director)
- EVS Director
- ITG Director
- Capital Service Line Director
- BioMed Provider (Regional Liaison)
- Equipment Coordinator (Supply Chain)

Source: HCA

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Governance Structure

	GOVERNANCE	
GOVERNANCE	**IDN Equipment Oversight Committee**	**Facility Equipment Governance Committee**
PROPOSED MEETING FREQUENCY	Quarterly Meeting	Monthly Meeting
INITIAL GOALS	Ensure compliance with best practices; Review KPIs for capital planning & deployment	Establish equipment management best practices; Ensure availability of equipment
COMMITTEE MEMBERSHIP	• Nursing Executive Sponsor (DCNE, VP of Nursing OPs) • Supply Chain – **Committee Chair** • Finance Member (CFO) • VP of Support Services • CIO • BioMed Vendor (Account Executive) • Division Equipment Coordinator (Supply Chain)	• Nursing Executive Sponsor (CNO, ACNO, Nursing VP) • Supply Chain Director – **Committee Chair** • Operations (COO) • Finance Member (CFO, ACFO, VP of Finance) • Nursing Director (Med/Surg & Critical Care) • Facilities (Plant Ops Director) • EVS Director • ITG Director • Capital Service Line Director • Vendor (Regional Liaison) • Equipment Coordinator (Supply Chain)

Facility Provides monthly KPI reporting to Division Committee

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Imagining a New Future for Equipment Management

Standardized & optimized Biomed services

- Coverage levels based on equipment age, characteristics & repair history
- Consistency for entry/exit, parts acquisition, reporting & missing equipment procedures

Data-driven equipment management

- Optimized owned equipment levels
- Ease of equipment sharing between facilities
- Sustainable rental management for short-term requirements
- Capital planning & deployment

Visibility (real time) to equipment across the facility or enterprise

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Equipment Management

Noel Hodges

The Equipment Management Team*

Nursing	BioMed	EVS	IT&S	Finance	Supply Chain
Cleaning (Grossly Soiled)	Inventory Records	Cleaning	Entry/Exit	Inventory	Inventory
PAR Level Communication	Repair	Distribution/PAR Level	Repair	Service Expense	Repairs
Repair Communication	Entry/Exit	Storage	Network Connectivity	Capital Planning	Cleaning
Rental Initiation/Return	Planned Maintenance		PHI Protection	Entry/Exit	Distribution
Recall Awareness	Recalls			Missing/Transfer	Entry/Exit
PHI Protection	End of Life/Retired			Property Tax	Vendor Support
	Missing			Depreciation Expense	PAR Levels
					Storage
					Rentals

Communication and consideration of all members of the
Equipment Management team is essential

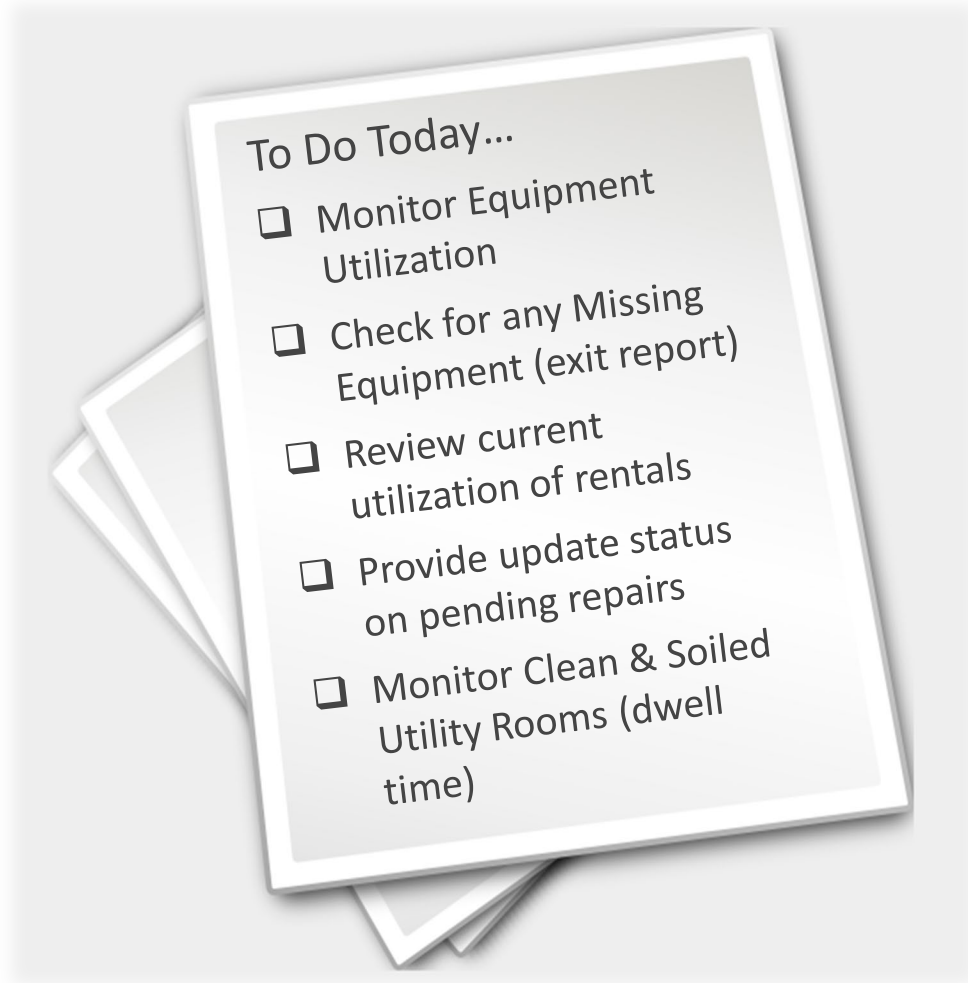*other key stakeholders include sterile processing, risk management, and infection prevention

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People

- Minimize nursing and caregiver time in the equipment management process

- Establish convenient dedicated locations for:
  - Clean mobile medical equipment
  - Dirty mobile medical equipment

- Create standard work flows for:
  - Requesting the rental of mobile medical equipment
  - Requesting a repair to a piece of mobile medical equipment
  - Cleaning mobile medical equipment

- Provide clear ownership for each process within mobile medical equipment management

- Establish supply chain as the primary business owner
  - Equipment coordinators (facility and depot), techs and leadership support
    - Process guidance, facility monitoring and dedicated service excellence

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Facility Equipment Coordinator

Daily Work Queue

To Do Today...

❏ Monitor Equipment Utilization

❏ Check for any Missing Equipment (exit report)

❏ Review current utilization of rentals

❏ Provide update status on pending repairs

❏ Monitor Clean & Soiled Utility Rooms (dwell time)

Equipment Utilization | Will round daily and monitor equipment PAR levels, usage and needs.

Missing Equipment | Will use the Asset Tracking System to identify any equipment that disappeared from the prior day (perform active recovery); specifically "last know location" noted as exit points (i.e. Soiled Utility, Loading Dock, Ambulance Bay).

Rental Equipment | Will use rental placement reports and the Asset Tracking System to identify rental equipment in the facility, validate if the asset is still needed, return as appropriate.

Out-of-Service Equipment | Will collaborate with BioMed vendor to review all Life Support, Critical, High Risk Equipment Repairs.

Equipment PARs | Will use the Asset Tracking System to monitor assets in clean and soiled storage spaces; will round daily to monitor, adjust and maintain PAR equipment levels, usage rate and additional needs.

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Technology

Real Time Location Tracking Systems (RTLS)

- Planning Phase
  - What equipment will be tagged
  - Determine placement of location beacons
  - Review facility floorplans
- Installation
  - Inventory and tagging of assets
  - Testing and validation
- Education & Training
  - Identify users
  - Application training
  - Establish support departments (not individuals)
- Measures of Success
  - Monitor system performance over time
  - Track equipment movement accurately

Bluetooth low energy (BLE) real-time location system (RTLS) have tags, beacons and bridges, that use a combination of motion detection and RSSI measurements to determine room-location of the tags

- ✓ minimal power requirements
- ✓ small size
- ✓ low cost

Source: HCA

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Managing the BioMed Relationship

Nick Maxfield

Equipment Transparency

Availability of equipment to caregivers is largely dependent on what is located, stored or maintained on their nursing unit or department

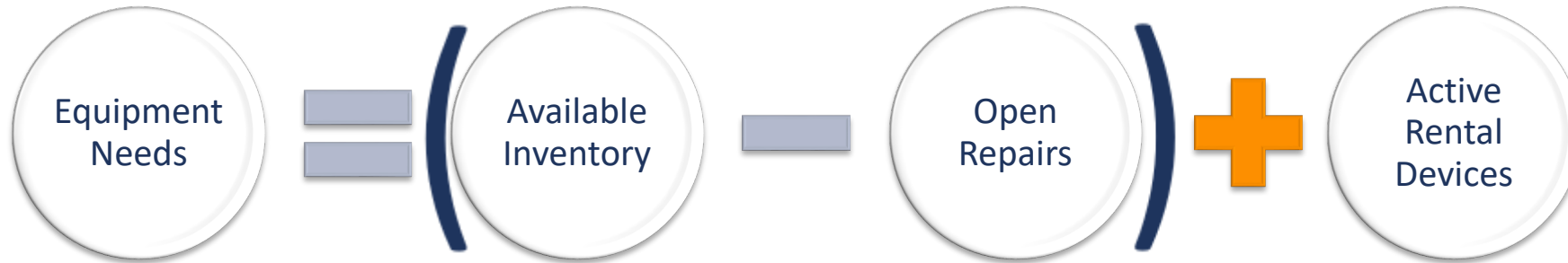Utilize Biomed data to determine asset fleet and pending repairs

Utilize 3rd party vendor rental data to identify current rentals

Capture equipment utilization data to right-size equipment fleet

Communicate to facility executives, department leaders and key stakeholders on current repairs and rentals

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What Affects Equipment Availability | Factors

- Number of assets physically available

Equipment Needs = (Available Inventory − Open Repairs) + Active Rental Devices

- Repair
  - Prioritization
  - Lead time for replacement parts / delays
  - Off-site repairs
  - Repair vs. replace
- Rentals
  - Short term
  - Rent vs. buy
  - Determine root cause

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What Affects Equipment Availability | Factors, continued

- Misplaced, Lost or Stolen
  - ➢ Equipment exit points (ambulance bays, soiled linen, trash/waste)
  - ➢ Patient discharges/transfers
  - ➢ Improper storage (lockers, offices, drawers, stash spots)

- Utilization
  - ➢ Defined Inventory Levels supporting every centralized care area
  - ➢ Monitor equipment "in-use" vs. "available"
  - ➢ Establish benchmarks / standards

- Distribution & Storage
  - ➢ Soiled utility reports and communication
  - ➢ Proximity to patient care area
  - ➢ Proper minimum PAR level

- Cleaning & Maintaining
  - ➢ Standard clean procedures/appropriate cleaning materials
  - ➢ Proper preventative maintenance schedules
  - ➢ Timely recall/remediation support

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Equipment Availability

Caregivers have the equipment they need, exactly when they need it—to care for the patient

Establish equipment PAR levels on each nursing unit

Monitor PAR levels on a routine frequency

Standardize the equipment rental request process, criteria and approval process

Lack of standardization and controls result in care team inefficiencies and frustration

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Pilot Results – Summary

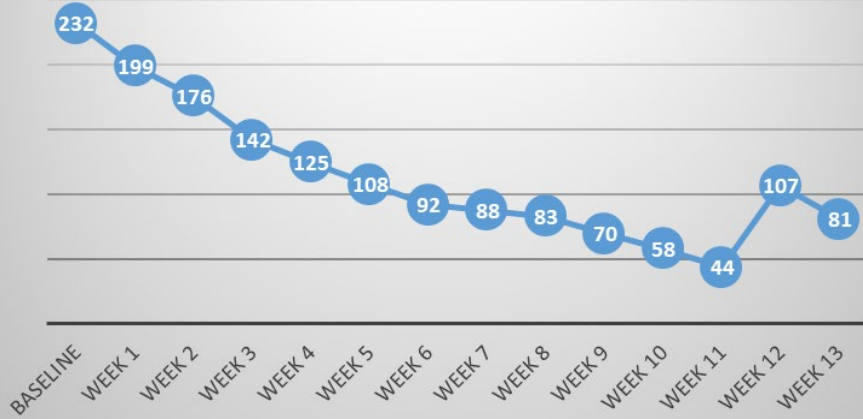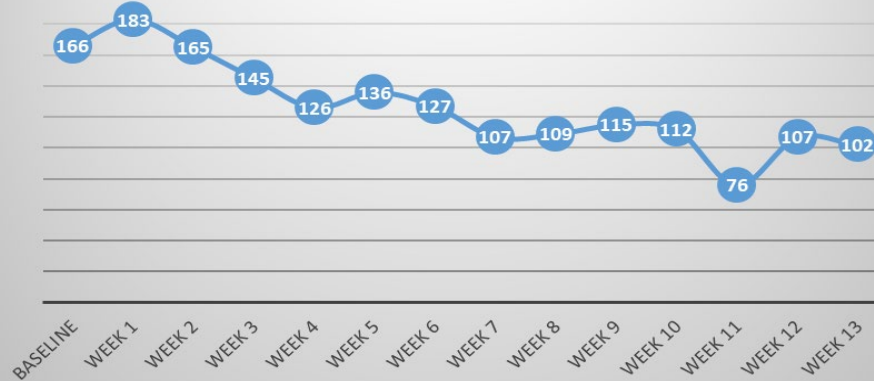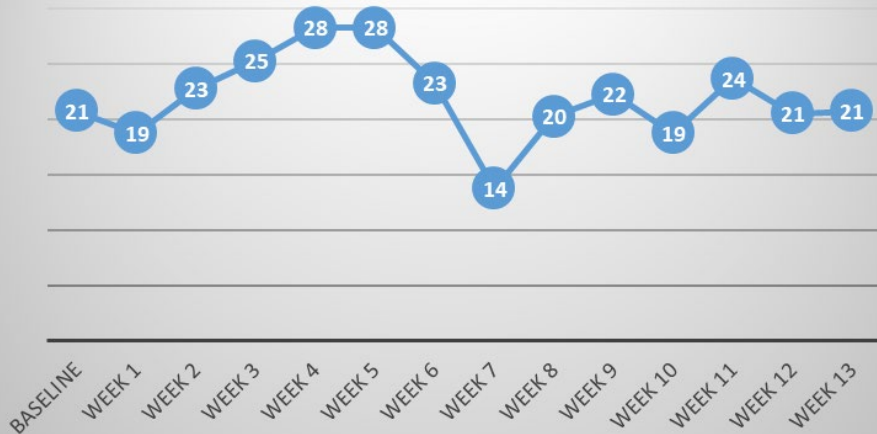| Rental Cost Per Day	Equipment Rented	Accumulated Savings (Rental Equipment Returned)	Rental Requests Fulfilled with Existing Assets	Recovered / Returned to Correct Facility
(60%)	**(59%)**	**$232K**	**75%**	**182**

Source: HCA

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Pilot Results – Service

Number of Open Repairs

232, 199, 176, 142, 125, 108, 92, 88, 83, 70, 58, 44, 107, 81
(BASELINE, WEEK 1, WEEK 2, WEEK 3, WEEK 4, WEEK 5, WEEK 6, WEEK 7, WEEK 8, WEEK 9, WEEK 10, WEEK 11, WEEK 12, WEEK 13)

Volume of Past Due PM or Corrective Maintenance

166, 183, 165, 145, 126, 136, 127, 107, 109, 115, 112, 76, 107, 102
(BASELINE, WEEK 1, WEEK 2, WEEK 3, WEEK 4, WEEK 5, WEEK 6, WEEK 7, WEEK 8, WEEK 9, WEEK 10, WEEK 11, WEEK 12, WEEK 13)

Average Time to Repair (days)

21, 19, 23, 25, 28, 28, 23, 14, 20, 22, 19, 24, 21, 21
(BASELINE, WEEK 1, WEEK 2, WEEK 3, WEEK 4, WEEK 5, WEEK 6, WEEK 7, WEEK 8, WEEK 9, WEEK 10, WEEK 11, WEEK 12, WEEK 13)

Volume of Equipment with Overdue PM or Open Repair removed from Patient Use

16, 16, 14, 14, 11, 9, 12, 10, 19, 13, 9, 10, 10, 12
(BASELINE, WEEK 1, WEEK 2, WEEK 3, WEEK 4, WEEK 5, WEEK 6, WEEK 7, WEEK 8, WEEK 9, WEEK 10, WEEK 11, WEEK 12, WEEK 13)

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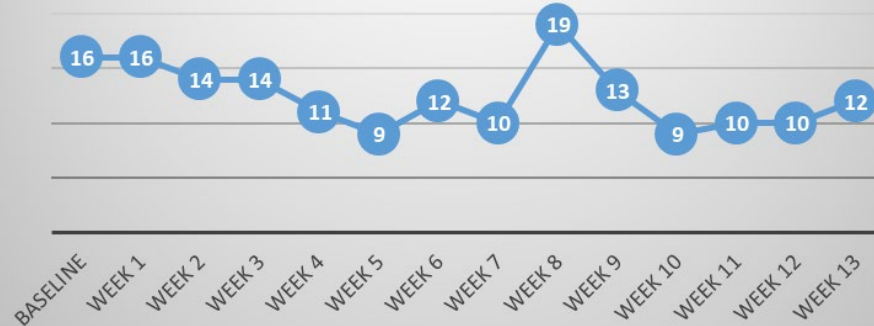
Pilot Results – Financials

All Pilot Sites								
Currently Placed Rentals	**Jan-22**	**Feb-22**	**Mar-22**	**Apr-22**	**May-22**	**Jun-22**	**Total Variance**	**Trend**
Cost to Purchase + Tax:	$1,389,374	$1,293,950	$584,127	$383,043	$393,377	$433,973	-69%	
Cumulative Spend on Active/Current Rentals:	$707,635	$482,613	$299,008	$135,547	$108,971	$111,492	-84%	
Total Cost/Day:	$3,090	$2,497	$1,654	$1,420	$1,311	$1,112	-64%	
Annual Cost Projection - Current Items (365):	$1,128,645	$912,059	$604,260	$518,685	$478,652	$427,955	-62%	
Total of Days on Rent - Current Rentals:	81891	59501	41409	23782	21488	23032	-72%	
Avg LOS:	1051	767	618	436	505	572	-46%	
Max LOS:	2626	2373	2250	1799	1774	1879	-28%	
Total Devices on Rent:	252	236	173	112	84	92	-63%	

ADC:	839	796	716	719	720	720		
Currently Placed Rentals /ADC	**Jan-22**	**Feb-22**	**Mar-22**	**Apr-22**	**May-22**	**Jun-22**	**Total Variance**	**Trend**
Cost to Purchase + Tax:	$1,656	$1,626	$816	$532	$546	$603	-64%	
Cumulative Spend on Active/Current Rentals:	$843	$607	$417	$188	$151	$155	-82%	
Total Cost/Day:	$4	$3	$2	$2	$2	$2	-58%	
Annual Cost Projection - Current Items (365):	$1,345	$1,146	$844	$721	$665	$594	-56%	
Total of Days on Rent - Current Rentals:	98	75	58	33	30	32	-67%	
Avg LOS:	1.25	0.96	0.86	0.61	0.70	0.79	-37%	
Max LOS:	3.13	2.98	3.14	2.50	2.46	2.61	-17%	
Total Devices on Rent:	0.30	0.30	0.24	0.16	0.12	0.13	-57%	

Source: HCA

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Key Takeaways

- Establish clear ownership of Equipment Management
  - Staff dedicated to ensure equipment is clean and ready to be used when needed
  - Data-driven workflows that prioritize the patient needs
- Increase equipment availability for nursing
  - Staff dedicated to monitor key dependencies to ensuring equipment availability (usage, cleaning, rentals, repairs)
  - Technology to find available equipment within seconds
- Increase nurse satisfaction with equipment management
  - Technology that enables caregivers to spend more time at the bedside
  - Data that predicts/plans equipment needs

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Key Takeaways, continued

- Track and optimize equipment utilization
  - Technology that identifies available equipment within a facility, market, division, group, or enterprise
  - Data that trends dwell times for equipment in patient rooms, soiled, clean, out for repair
- Reduce operating and capital costs
  - Technology that notifies staff when a known device enters or leaves the facility
  - Data that directs capital asset purchases based on utilization and/or established benchmarks
- Reduce nurse turnover through increased engagement

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Acknowledgements

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Thank you...

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