Survey Preparation & Your CMMS

EQ2, LLC
Rich Sable, Product Manager

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Executive Summary

Surveys are a normal part of working in a Healthcare Delivery Organization (HDO), and their primary focus is to protect patients and staff. During a survey, each department is responsible for being within the laws and guidelines set forth by the governing authority having jurisdiction (AHJ). There are different survey organizations such as CMS (Center for Medicare & Medicaid Services), JC (Joint Commission), DNV (Det Norske Veritas), and others.

Adhering to regulatory compliance is essential for all departments in the HDO, and your CMMS (Computerized Maintenance Management System) is a great tool for helping you to successfully complete most of the tasks required to achieve compliance.

Using your CMMS, records of your complete inventory can be stored along with device categorization and scheduling to maintain regulatory compliance on your equipment inventory. This way, you will always know when and what needs to be addressed for a specific device or piece of equipment, and where that device or piece of equipment is located. Categorization will give the managers the ability to quickly identify high-risk devices, devices on an AEM (Alternative Equipment Management) program, identify utility equipment, and identify devices removed from the maintenance program.

Because EQ2 has exclusively worked in the hospital market for 29 years we know what is needed, what is important, and what is practical in preparing for a review. Our HEMS CMMS is specifically designed to help with this preparation, but what we address here applies irrespective of what CMMS is being used.

This document presents methods for achieving a successful survey, and how to leverage your CMMS to achieve that success.

Surveys Described

Surveys are recurring scheduled events without an announced commencement date. Therefore, it's highly recommended you always remain prepared. For example, review your department's policies and procedures annually, so that they are up to date in any calendar year. Additionally, review your regulatory work orders monthly or quarterly at a minimum to ensure compliance. Afterall, when a job is past due, you can't perform that task on time as specified in your policies and the regulations. By continually monitoring your performance, you will remove stress from the inspections when the surveyors arrive at your facility.

Methods to Help Prepare for the Survey:

- Mock Surveys - Most Hospital systems utilize a mock survey to prepare staff and to identify potential areas of need several months before a potential Joint Commission or other regulatory survey.

- "Pop Quiz"- It is beneficial for Department Managers to periodically ask staff questions that they might experience during a survey to make sure staff know the answers and are comfortable being asked questions directly.

- Scheduled Checks - The department should take time to regularly search for expired or soon to expire supplies, broken or damaged equipment, dusty or dirty areas, etc. Additionally, you can review your department's checklist or the JC or DNV preparation manuals.

- Customized Approach - HDOs are encouraged to experiment with learning techniques that work best for them to be confident in the lead up to a Joint Commission or other regulatory survey window.

- Start early and get all your resources together. You are always moving towards your next survey so getting ready early will make the biggest difference in how ready you are come survey time. Make sure you have all required documentation and proof of work upon their arrival.

- Make friends with the standards manual for your survey agency or agencies. The manuals have many layers: chapters, standards, and elements of performance. Your surveyor will audit you to the standards and the elements of performance.

- Find problem areas and improve them. By reviewing the standards manual, it will reveal where you are weak. Write the weaknesses down and create a list, adding any brainstormed problem areas you and your team can think of. Next, organize the list however you choose and prioritize it top to bottom, paying particular attention to any items that involve safety risks and move them close to the top. This is best approached using a team, so everyone is engaged with the survey process.

    - *Start with a handful of objectives only - don't spread yourself too thin*
    - *Identify a responsible person for each objective and allow them to assemble a team as needed*
    - *Set completion deadlines with periodic check-ins*
    - *Select leaders based on their ability to execute*
    - *Coordinate people and resources between projects*
    - *Keep the changes as simple as possible*
    - *Avoid pushing too many changes to direct care staff at once (change fatigue can cause resistance to those changes)*
    - *Involve direct care staff in the improvements that affect them*
    - *Celebrate victories - don't let it become just an endless stream of work*

- Prepare your people - this is a critical step to not overlook. Communicate abundantly about the survey prep; the goal is to normalize the process and gradually instill the necessary information in everyone's heads until it becomes institutional knowledge. This takes time and a lot of repetition, so plan for this.

Preparing for a survey takes work and many months of preparation, but using a continuous, methodical approach sets you up for a successful survey. You and your prep team will also build some organizational change muscles that never leave as you tackle more challenges in the future.

PDCA

Plan, Do, Check, Act is a performance improvement model used by many organizations. If a surveyor recommends a process change to you during the survey, this model can be used for implementation. Also, it can be used for other process improvements in your department such as improving work order response time or high-risk PM completion rates.

The Plan-do-check-act Procedure (according to ASQ: https://asq.org/quality-resources/pdca-cycle)

- Plan: Recognize an opportunity and plan a change.
- Do: Test the change. Carry out a small-scale study.
- Check: Review the test, analyze the results, and identify what you've learned.
- Act: Take action based on what you learned in the study step. If the change did not work, go through the cycle again with a different plan. If you were successful, incorporate what you learned from the test into wider changes. Use what you learned to plan new improvements, beginning the cycle again.

More Than a Survey

Standards and goals are there to increase patient safety, help prevent medical errors, and improve the quality of care and service. Remind your staff members of these reasons when creating and implementing new policies and procedures.

Why would your HDO seek Joint Commission or another accreditation agency? While accreditation is not required by law, not having it puts healthcare facilities at a disadvantage in terms of public image, competitiveness, and the ability to borrow money, maintain insurance, float bond issues, and show due diligence if an adverse event should arise. More importantly, one of the most important issues to hospital operations is the "deemed status" with CMS that allows facilities to participate in Medicaid and Medicare as a third-party payer.

For example, Joint Commission Accreditation is awarded for three years, except for laboratory accreditation which is two-years. Although the start of the survey itself is unannounced to the HDO, when the surveyors are on site the HDO will provide an overhead page announcing their arrival and departure each day. Normally, surveys will last between 3 to 5 days, and the length of the survey will depend on the size of the hospital and the number of surveyors present along with the findings of the survey. Surveyors will always have an agenda for their visit, but adverse findings can lead them to unforeseen areas. For example, a tracer can identify outdated inspection stickers, if using stickers, on medical equipment in ICU, Blood Bank, Operating Room, and Physical Therapy. This results in more scrutiny of the Biomed department and a more focused medical equipment evaluation.

Survey Questions

If you or your staff are questioned by a surveyor, it is best to stay calm and only answer the questions being asked. If you don't know the answer to a question, be honest, and describe how you would find the answer (policy manual, supervisor, etc.).

Good communication is essential between your staff and other department heads, so all parties can verify proper labeling of their medical equipment. Also, the service personnel can identify areas of concern in other departments like cluttered hallways, storing items within 18 inches of the ceiling, or blocking access to fire alarm pulldowns or fire extinguishers. It's important to work as a team so your HDO has a successful survey visit.

While we all want our individual department to have a successful inspection, it's equally important for your HDO to obtain a successful inspection.

Using your CMMS, managers can create scheduled work orders and budget dollars for the extra workload during survey years, schedule reviews of your management plan and department policies, and to record your monthly/weekly staff meetings. Again, your CMMS work orders are evidence of your review process and the budget reminder to allocate the needed funds for the survey (mock or actual), especially when using external personnel to assist with the workload.

Environment of Care (EOC)

Areas of Focus:

1. Safety
2. Security
3. Hazardous Materials and Waste
4. Fire Safety
5. Medical Equipment
6. Utilities

EOC - Safety

Responsibilities:

- Area free of hazards – corrugated cardboard, fall risks, food/drink in clinical areas, stained/broken floor and/or ceiling tiles, broken lights, key control of locked areas, safety signage, etc.
- Reporting and Initiatives – Staff should be familiar with how to report a safety concern as well as with HDO safety initiatives (fall reduction, infection prevention, etc.)
- Familiar with HDO Codes – red, blue, brown, silver, etc.

EOC - Security

Responsibilities:

- Codes – staff should be familiar with reporting a security event and their role
- Aggressive/Dangerous situation – staff should be familiar with process of handling an aggressive patient and the resources available to them
- Securing the physical environment for both patient safety and cybersecurity

EOC – Hazardous Materials

Responsibilities:

- Codes – staff should be familiar with reporting hazardous materials spill and their role
- Waste – staff should be familiar with the process of disposing unused medications and other potentially hazardous materials
- Sanitization – staff should be familiar with manufacturer recommended sit/dry times for cleaning solutions, how often an area is cleaned, requirements for PPE, sharps disposal, etc.

- Soiled Instruments – be able to demonstrate the process of handling soiled instruments in the clinic
- Oxygen – be familiar with HDO policy related to storage of O2 tanks stored in the wound center
- SDS (Formerly MSDS) – ALL staff must be able to speak to the Safety Data Sheets, specifically, the information they contain and where to find them (keeping the SDS and Policies & Procedures is advised)

EOC – Fire Safety

Responsibilities:

- Codes – be able to speak to the code RED process including the acronyms R.A.C.E. (Rescue, Alarm, Contain, Extinguish) and P.A.S.S (Pull, Aim, Squeeze, Sweep). Also, the staff must know the evacuation route and shelter in place area.
- HBO (Hyperbaric Oxygenation) – staff must be familiar with smoke hood usage, decompression and evacuation requirements and be able to reference the HBO safety manual including safety drills
- Area – must be free of obstruction in halls, doors not propped open, nothing stored less than 18 inches from ceilings, sprinklers free of obstruction, nothing blocking fire extinguishers, and the staff must be aware of the closest pull station and fire extinguisher

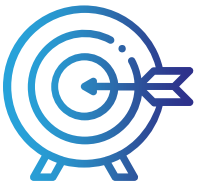
EOC – Medical Equipment

Responsibilities:

- Equipment Binder – each unit should have a binder or electronic storage with manuals for each piece of medical equipment. The staff should be able to reference the manuals for manufacturer recommendations for usage and cleaning along with being aware of weight

limits on equipment (*HEMS Enterprise Equipment Text box is a great place to record weight limits for quick retrieval*)

- Safety – broken equipment should be appropriately labeled as out of service in alliance with HDO policy, and the staff should be able to speak to weight limits and proper use of equipment: lifts, chairs, treadmills, surgical tables, etc. *(Web Request will assist with reporting broken equipment to Biomed, EVS, IT, and Facilities)*
- Cleaning – staff should know the cleaning process, cleaning frequency, and appropriate storage of all equipment



Surveyor Questions

Only answer the question(s) that you are asked, providing the surveyor with enough information to fully address the question(s) without incorporating additional topics.

Policies & Procedures

Everyone in your department needs to know where and how to find the information they may need to refer to. Review this during your staff meetings or upon any policy manual location change.

React and Change to a Finding

Know the steps for process improvement (PDCA) and know what measure to implement at your clinic or HDO to fix issues. Be ready to develop and implement a quick plan of action to address any problem or deficiency during the survey. Finally, let your HDO team know what you are doing and use their guidance as they will be wanting to quickly respond to any findings from the surveyors to show you are addressing the issue.

Using Your CMMS for Survey Reporting

While all CMMS packages provide some tools, we will use our HEMS Enterprise CMMS to exemplify how a CMMS can help you prepare for a survey.

EQ2's HEMS Enterprise provides the department manager with the necessary tools to assist with regulatory compliance. Many HEMS modules and reports can be configured so work orders, inventory, and other data attributes are classified to the proper regulatory system. For example, identifying High Risk inventory or Utility equipment along with inventory following an AEM (Alternate Equipment Maintenance/Management) program.

Equipment Inventory

HEMS Enterprise provides the manager with the tools necessary to identify the entire equipment and area inventory addressing the requirement of having an accurate inventory. Using HEMS, managers can define the different equipment types, equipment models, manufacturers, suppliers, the department, and the location of the device or equipment. Additional attributes define the risk category (high-risk/non-high risk), useful life, the system (medical laser, imaging, radiologic, HVAC), and ECRI's UMDNS along with the corresponding preventive maintenance procedures and scheduling frequency. With HEMS, the manager can also inventory areas such as environmental zones or smoke fire compartments and schedule the areas for inspection for regulatory compliance.

Employees

The HEMS employee module provides two tabs to record certificates that the worker achieved along with a copy of the certificate or degree. Under the information list menu, managers can create the certificates that are used for their employees such as ACI CBET, HVAC certs, vendor service school certs, or college degrees. Next, the manager applies the certificate to eligible workers, and can attach a copy of the certificate/degree on the attachments tab of the employee module. In addition to team members, vendor employees can be defined and assigned certificates. With the educational documentation in electronic form, it is quickly and easily retrieved should a surveyor request it during your inspection.

Department/Staff Meeting Records

Managers can use HEMS to record their staff meetings by creating an inventory item such as control number “Dept_Meeting”. Next, they can create a procedure for the staff meeting, apply the procedure to the ”Dept_Meeting” record, and HEMS will generate a monthly work order for completion and documentation of the monthly staff meeting. Managers can record the meeting minutes in the work order Action Text or attach a Word document with the minutes to the work order’s attachment tab.

This way, staff meetings can be quickly retrieved for the period (one-year, two-years, etc.) requested and the meeting minutes can easily be reviewed by your team members. Also, your meeting minutes are both documented and backed up with the database for safety, and all your information is in a central location: meeting minutes, preventive maintenance, etc.

Procedures & AEM (Alternative Equipment Maintenance/Management)

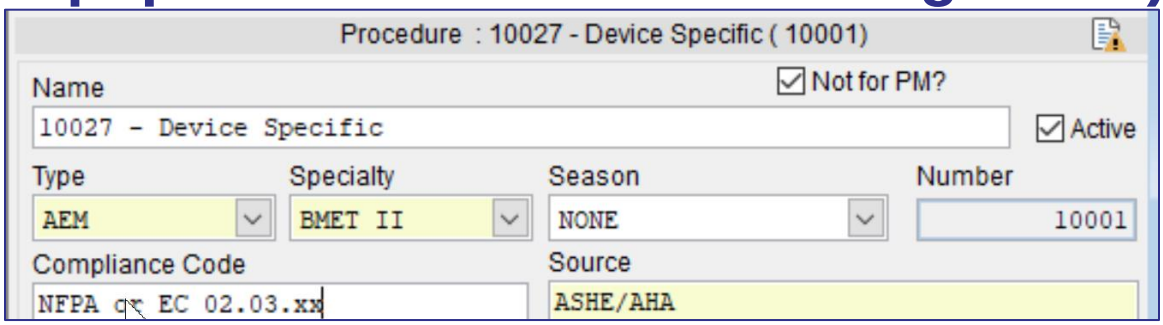
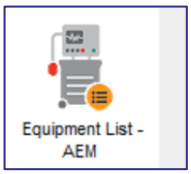


Figure 1 HEMS Enterprise Procedure Module with Compliance Code and Source.

In HEMS, the *procedure module* can record several attributes for regulatory compliance. First, the Type field can identify manufacturer recommended versus AEM procedures; it is identified here because it’s the procedure frequency or tasks that are altered on AEM. Second, managers can optionally identify either the EOC or NFPA compliance code in the compliance code field. Finally, the source of the procedure can be identified whether the service manual or other procedure source (ASHE/AHA).



HEMS Enterprise contains a ready to use “one-click” report to easily identify the inventory on an AEM or OEM (Manufacturer Recommended) preventive maintenance schedule based on the procedure type definition. For convenience, EQ2 assumes all procedure types other than manufacturer recommended or tester calibration are an AEM procedure which simplifies data entry for the management team. Using the ROCOF (Rate of Occurrence of Failure) report, managers can see the failure rate for the different equipment types and individual assets, so they can make informed decisions about moving a device or equipment type from OEM to AEM inventory, or back.

The HEMS BI (Business Intelligence) Dashboard application provides an AEM Dashboard to simplify this process as it screens your inventory using your data. This report provides recommendations using all the criteria for AEM such as failure rates, risk, backups, and PM/CM history. This report also screens the Biomed inventory for “LIR” (medical laser, imaging, radiologic) devices which cannot be placed on an AEM schedule, as these are the “forbidden” devices.

Also, this report has screening tools to quickly filter between ”can stay on AEM” or should “move back to OEM” or should stay on “OEM”. This satisfies the identification of AEM inventory and the periodic monitoring of AEM inventory.

Equipment on Alternate Equipment Management (AEM) Program

Description: This report provides the list of equipment items that are on Alternate Equipment Management (AEM) program.
According to TJC Standard EC.02.04.01, The critical access hospital's activities and frequencies for inspecting, testing, and maintaining the following items must be in accordance with manufacturers' recommendations:
1. High-risk medical equipment on the inventory for which there is a risk of serious injury or death to a patient or staff member should the equipment fail.
2. Medical laser devices
3. Imaging and radiologic equipment (whether used for diagnostic or therapeutic purposes)
4. New medical equipment with insufficient maintenance history to support the use of alternative maintenance strategies
5. Availability of alternative or back-up equipment in the event the equipment fails or malfunctions
This report also provides the list of devices that are on Manufacturer's Recommendation but can potentially be moved to AEM program.

Backup/Alternative Device: The Department should have more than 5 devices for the type of device
History: There should at least be 15 number of PM work orders for the model and at least 2 years of history
PM Failure Rate (FR): Failure rate is by model and is calculated as Numbe of PM Failures / Total number of PM work Orders
CM Failure Rate (FR): Failure rate is by model and is calculated as Numbe of CM work orders / Total number Active Devices / Average Age of the Devices for the Model
Equipment Years: Number of devices for a model times average age of the devices for the model - used for CM Failure Rate evaluation

On Manufacturer Recommendation										Number of Devices			453
Should stay on Manufacturer Recommendation										Number of Devices			453
Manufacturer	Model #	EQ Count	Equipment Type	EQ Class	EQ System	Department	High Risk	LIR	History/FR	Backup	CM FR	Estimated Hours	Hospital
PHILIPS	M3860A	7	DEFIBRILLATOR, AED	CRITICAL - LIFE SUPPORT	NONE	NONE	☹	☺	0.1	11	13.6	6.90	EAST
ACMI CORP/OLYMPUS	M3-30A GOLD	1	ENDOSCOPE, RIGID	NON-CRITICAL	NONE	NONE	☺	☺	0.0	0	0.0	0.80	EAST
PHILIPS	M4735 A	4	DEFIBRILLATORS, EXTERNAL, SEMIAUTOMATED	CRITICAL - LIFE SUPPORT	NONE	NONE	☹	☺	0.0	3	84.3	5.00	EAST
DRAEGER MEDICAL INC	VN500	1	VENTILATOR, INTENSIVE CARE, NEONATAL/PEDIATRIC	CRITICAL - LIFE SUPPORT	NONE	NONE	☹	☺	0.0	0	81.1	0.80	EAST

Figure 2 AEM Dashboard which is accessed from the AEM Dashboard link on the BI Dashboard.

Risk Category – High Risk & Non-High Risk

To satisfy the requirement of identifying high risk inventory, HEMS uses the class field in the equipment type module. Also, we allow the selection of Critical – Life Support and Critical – Non-Life Support, so managers can keep track of both types of high risk (critical) inventory. On the Regulatory Compliance report, both critical types are reported as the single High Risk to satisfy regulatory reporting. The class field in the equipment type module is also used on the AEM Dashboard as shown in Figure 2. EQ2 does not recommend placing high risk devices on AEM due to the extra scrutiny during your survey. However, non-taboo high risk devices may be placed onto an AEM program should managers decide, as the report is designed to screen and assist with your AEM program.

Risk Score

In HEMS Enterprise, both Facilities and Biomed can answer several questions to arrive at a risk score for an equipment type, equipment model, or individual asset in your inventory with the questions being specific to each line of service (Biomed, Facilities). While risk-based maintenance is no longer supported, the risk scores will automatically set a priority for the devices, and when configured in HEMS WO Priority module, work order response and close times will be automatically assigned, and these values can be used for your department's process improvement.

HEMS uses a hierarchy in applying attributes, so an equipment type risk score is assigned to all types unless a model risk score is assigned which overrides equipment type for that distinct model, and the same for a risk score applied to a single asset will override both equipment type and model. This provides managers with flexibility in assigned parameters like risk score, or procedures.

Regulatory Compliance Reporting

HEMS Enterprise provides a regulatory compliance report under the Management reports group, and this report displays your open/closed scheduled work orders for each month grouped by High/Non-High risk with year-end totals. The report uses the approved exceptions used by JC, DNV, CMS for device in use, sent to vendor, and unable to locate. This way, you may

not be 100 percent complete, but you are 100 percent compliant, provided your staff codes their work orders properly using the labor/work code and sub code along with a labor entry as further proof of your work efforts.

Regulatory Compliance Monthly Report - 2[redacted] EQ2 EAST

Report Description: This report encapsulates all of the information required for regulatory compliance and also active inventory, cost spent on work orders for use error and/or equipment abuse.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1. Non High Risk (PM)													
PM WO Opened	596	462	468	257	427	349	360	347	366	450	412	533	5027
PM WO Compliant (30 Days)	581	462	468	257	427	349	360	347	366	450	412	533	5012
PM WO Compliant (30 Days) - %	97.48	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.70
PM WO Compliant (60 Days)	596	462	468	257	427	349	360	347	366	450	412	533	5027
PM WO Compliant (60 Days) - %	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
PM WO Compliant	596	462	468	257	427	349	360	347	366	450	412	533	5027
PM WO Compliant - %	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Device in Use	0	0	0	0	0	0	0	0	0	0	0	0	0
Device in Use - %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unable to Locate	0	0	0	0	0	0	0	0	0	0	0	0	0
Unable to Locate - %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sent To Vendor	0	0	0	0	0	0	0	0	0	0	0	0	0
Sent To Vendor - %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PM Failures	0	1	0	0	0	0	0	0	6	1	0	1	9
PM Failures - %	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	1.64	0.22	0.00	0.19	0.18
2. High Risk (PM)													
PM WO Opened	421	524	296	714	353	515	343	296	404	509	338	576	5289
PM WO Compliant (30 Days)	421	524	296	714	353	515	343	296	404	509	338	576	5289
PM WO Compliant (30 Days) - %	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
PM WO Compliant	421	524	296	714	353	515	343	296	404	509	338	576	5289
PM WO Compliant - %	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Figure 3 HEMS Enterprise Regulatory Compliance Report.

The regulatory compliance report is one tool to assist managers with the monitoring of their regulatory work order completion. As the end of the month nears, they can assess and create a plan to ensure that this work is completed on time. As shown in Figure 3, the work completion is divided into risk, and the exceptions for each work order are also counted along with PM failure rate percentage.

In addition to this report, EQ2 offers a BI (Business Intelligence) Dashboard product that updates throughout the workday to assist with PM completion. The dashboard lists the life support and non-life support completions along with the completion for each utility type: infection control, life/fire safety, etc.

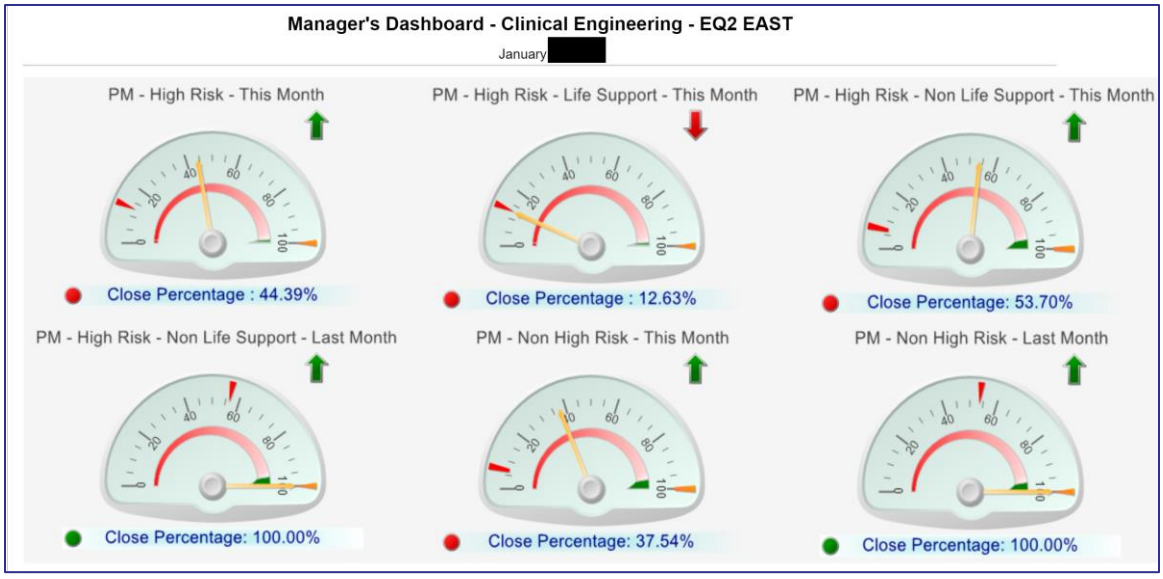


Figure 4 BI Dashboard - Clinical Engineering PM Completion.

Figure 5 BI Dashboard - Facilities PM Completion by Utility.

The BI dashboard updates continuously and this makes a great display item in the managers suite or the workshops. This way, your leaders and staff members know where they stand, and the Red/Green trend arrows alert them to an area that is falling behind, as shown above in Figure 4, High Risk – Life Support. Additionally, clicking on the PM gauges will launch the HEMS regulatory compliance report making it a powerful tool to make sure your department is compliant every month, especially since the surveys are unannounced.

Setting Schedules

PM procedures can be designed in HEMS Enterprise to encompass all the required tasks in a single procedure and the task frequency can be set for tasks that are performed “more” or “less” often. For example, a 6-month recurring procedure with an added 2-year task for battery replacement.

HEMS Enterprise provides the capability to schedule assets or areas (Smoke Fire Compartments) by equipment type, manufacturer/model, department, location, or individual assets (equipment – Facilities Management). Additionally, we have a group/advanced scheduler for more maintenance intensive devices along with the ability to choose a "floating" schedule, if desired. The Equipment Management tools provides a quick way to set the "schedule by" flag to a large amount of inventory with the "equipment" setting providing a way to set the schedule month/day.

EOC – Utility Equipment (Facilities Management)

For Facilities/Plant Operations, there is a requirement to set apart the inventory by utility in addition to risk and AEM. HEMS Enterprise provides two areas to perform this: Device Inclusion field (equipment inventory module) and the new Facilities risk statements (BI Dashboard source data).

The device inclusion field can be applied to each inventory item, and this value can be bulk-updated using the equipment management module. For example, all the air handlers can be set to Utility-Other, and then filtering the air handlers feeding the operating room, catheterization lab, or critical care units and setting the device inclusion to Utility-Infection Control. Now, your utility inventory can be quickly filtered using the device inclusion filter field on the equipment dashboard, and filtering on utility work orders in many reports.

As shown below in Figure 6, Facilities managers can assign the utility, risk category, PM requirement, equipment history source, and level of backup or alternate equipment. Again, the Facilities BI Dashboard (Figure 5, above), will use the utility/equipment function (blue section, Fig. 6) classifications for utility to drive the PM completion gauges. The risk assessment can be applied in the equipment type, equipment model, and equipment inventory modules with the normal rules for inheritance applied. With these two methods, Facilities managers can easily track their adherence to regulatory compliance for the utility equipment inventory in HEMS Enterprise, and the BI Dashboard continuously updates along with trend arrows to assist with compliance management.

Risk Category	Risk Statement
BACKUP/ALTERNATIVE AVAILABILITY	EXCELLENT
BACKUP/ALTERNATIVE AVAILABILITY	FAIR
BACKUP/ALTERNATIVE AVAILABILITY	GOOD
BACKUP/ALTERNATIVE AVAILABILITY	NONE
BACKUP/ALTERNATIVE AVAILABILITY	POOR
HISTORY	EXT SOURCE - SUFFICIENT HISTORY AVAILABLE
HISTORY	EXT SOURCE - SUFFICIENT HISTORY NOT AVAILABLE OR HIGH FAILURE RATE
HISTORY	GET AUTOMATIC FROM HEMS
HISTORY	IGNORE HISTORY
PM REQUIREMENT	AEM BY EXCEPTION
PM REQUIREMENT	ANNUAL OR HIGHER
PM REQUIREMENT	MONTHLY
PM REQUIREMENT	NO FREQUENCY REQUIRED (INVENTORY PURPOSES ONLY)
PM REQUIREMENT	PM - REGULATORY REQUIREMENT
PM REQUIREMENT	QUARTERLY
PM REQUIREMENT	SEMI-ANNUAL
RISK APPLICATION	CAN CAUSE DISCOMFORT (RISK CATEGORY 3)
RISK APPLICATION	HAS POTENTIAL FOR MINOR INJURY (RISK CATEGORY 2)
RISK APPLICATION	HAS THE POTENTIAL OF CAUSING DEATH (RISK CATEGORY 1)
RISK APPLICATION	HAS THE POTENTIAL OF CAUSING SERIOUS INJURY (RISK CATEGORY 1)
RISK APPLICATION	THERE IS NO SIGNIFICANT IDENTIFIED RISK (RISK CATEGORY 4)
UTILITY/EQUIPMENT FUNCTION	CONVENIENCE
UTILITY/EQUIPMENT FUNCTION	MISCELLANEOUS NON-PATIENT RELATED
UTILITY/EQUIPMENT FUNCTION	MISCELLANEOUS PATIENT RELATED
UTILITY/EQUIPMENT FUNCTION	OCCUPANCY NEED
UTILITY/EQUIPMENT FUNCTION	OTHER
UTILITY/EQUIPMENT FUNCTION	UTILITY - COMMUNICATION
UTILITY/EQUIPMENT FUNCTION	UTILITY - ENVIRONMENTAL
UTILITY/EQUIPMENT FUNCTION	UTILITY - INFECTION CONTROL
UTILITY/EQUIPMENT FUNCTION	UTILITY - LIFE SUPPORT
UTILITY/EQUIPMENT FUNCTION	UTILITY - LIFE/FIRE SAFETY
UTILITY/EQUIPMENT FUNCTION	UTILITY - OTHER

Figure 6 HEMS Enterprise Facilities Risk Assessment Questions.

AEM – Forbidden Device Types Clinical Engineering

How does HEMS Enterprise know which devices cannot be placed on AEM? First, we know that items placed on AEM are identified by the PM Procedure Type in the procedure module, but forbidden inventory is identified using the System field within the equipment type module which identifies whether a device is one of the following: medical laser, imaging, or radiologic. This information is then applied to the Clinical Engineering BI Dashboard under "LIR" (Medical Laser, Imaging, Radiologic) column. The screening tool would never recommend these devices being moved to AEM. This powerful feature helps HEMS Enterprise users manage an AEM program successfully.

Tester Documentation

Some agencies, such as DNV, require the recording of test equipment used during scheduled maintenance, and the complete HEMS family of products provide this capability: HEMS Enterprise, Web Enterprise, and HEMS Remote. In addition to recording the testers used, HEMS Enterprise has several reports to identify testers that are overdue for calibration and HEMS Enterprise indicates and color codes this information on the work order. Also, managers can print inventory with the tester that was used for the scheduled maintenance. At the same time, managers can search for all devices that

were tested with a single tester in each date range, so if that tester failed its annual certification, they could easily find all devices where the failed tester was used. Thus, managers can initiate a strategy to re-test those devices using a random sampling method to verify results. HEMS Enterprise makes this information very easy to present to a surveyor should it be requested during your inspection.

Operator & Service Manuals

HEMS Enterprise can easily attach manuals to models that are visible in any of our add-on applications. Also, these attached manuals are placed into the SQL database and are backed up for safe keeping. Additionally, HEMS Enterprise can be interfaced to OneSource document service (client must subscribe to this service) providing the managers and department heads access to operator manuals for record keeping or electronic retrieval.

Requesting Service

All broken or unsafe medical equipment or Facilities equipment should be reported to either Biomed or Facilities. Using EQ2's Web Request application and HEMS Request mobile application provide a common interface for the end user to request service for broken medical/patient or Facilities equipment, and it provides email communication along the way to update on the work order status and ultimate completion. Additionally, there is an optional satisfaction survey for the end-user to complete. Both Biomed and Facilities managers can use these results as part of their performance improvement process or individual job evaluations.

Presenting Regulatory Information to Surveyors

Presenting your data and findings is critical to satisfying the survey. For your EOC (Environment of Care/Safety Committee) members, the "regulatory compliance" report would be a go-to report to discuss PM completion along with pointing out "abuse/damage" work orders or "use error" work orders along with 'unable to locate' work orders. The BI Dashboard can generate reports including the regulatory compliance report or a single month regulatory compliance report (Clinical Engineering).

Using the filter capabilities on the work order dashboard of HEMS Enterprise, managers or technicians can create PDF booklets for departments or clinics by exporting the “Detail – ALL” report in HEMS Enterprise under the search results (Blue Bar) section, number 7 in Figure 7. In the below example, we screened for the date range from the prior survey up to the current survey and we made sure we filtered on CLOSED (Status) work orders. After the PDF is exported and saved, managers can email the document to the department head or unit manager for presentation to the surveyor.

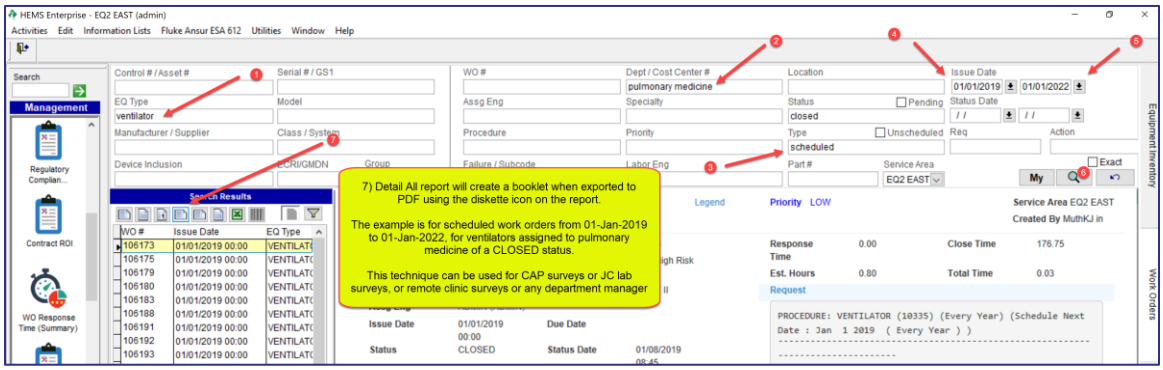


Figure 7 HEMS Enterprise work order dashboard filter for scheduled work orders for a single department and equipment type for a given date range.

EQ2 offers an additional add-on product to increase transparency and empower department managers (nursing, lab, physical therapy, radiology) to monitor the progress of PM completion rates for their inventory which is also categorized by class/risk and utility for Facilities. Known as the “Department Manager’s Dashboard”, this allows department managers to see their own work order progress, user satisfaction results, equipment uptime, and other KPIs (Key Performance Indicators).

Another benefit of the department manager’s dashboard is that the department managers can print their own inventory lists or print their own scheduled work orders for presentation to the surveyor. An example of the department manager’s dashboard is shown in figure 8 below.

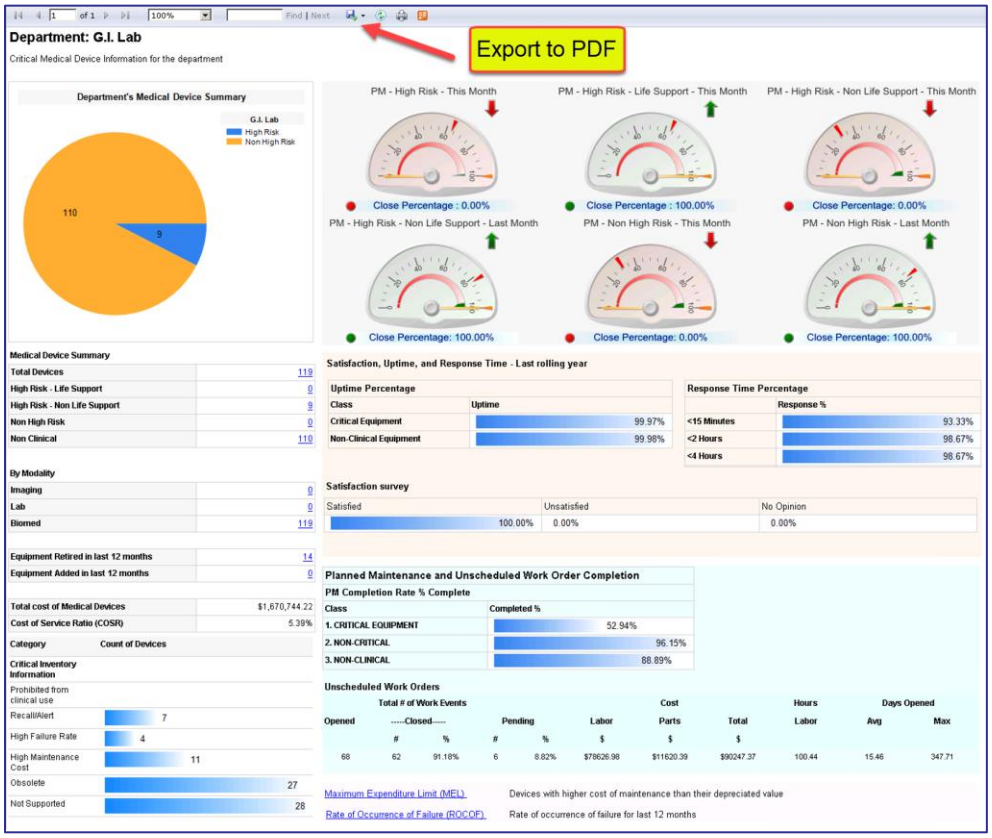


Figure 8 Department Manager's Dashboard application.

Failure Analysis for AEM

When devices are placed onto an AEM program, the managers must ensure that patient safety is not reduced or that equipment downtime is not increased due to the change in maintenance strategy. EQ2 offers a Performance Benchmark Analyzer tool that calculates failure rate and downtime, and it can be filtered to show only certain device types and drilldown to individual assets. With this tool, you would be adhering to the regulations of performing an analysis on devices placed onto AEM, or for any device that needs further analysis for replacement.

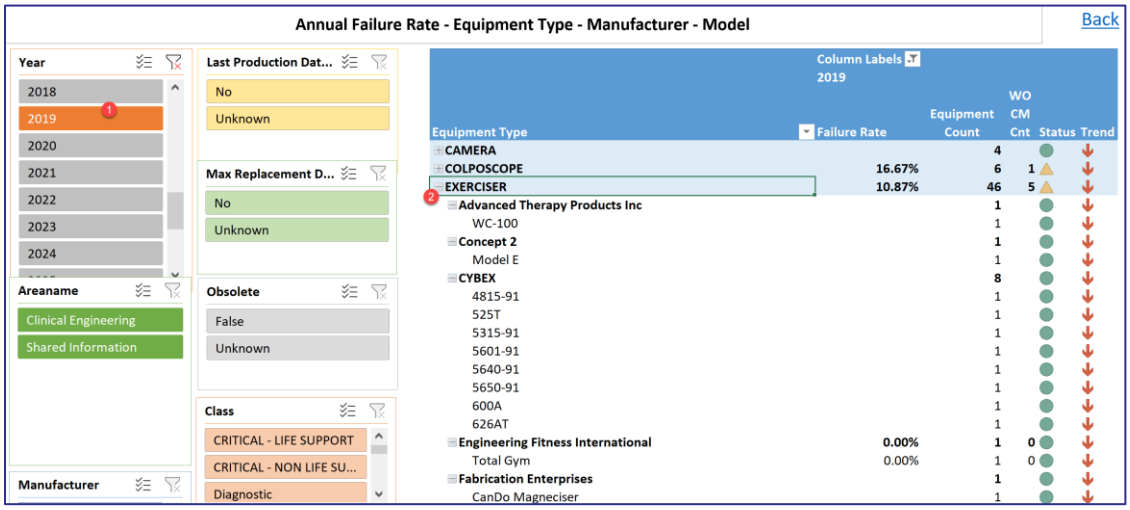


Figure 9 Performance Benchmark Analyzer - Failure Analysis for 2019 unfiltered.

All reports and dashboards can be reviewed during your survey depending on the information requested by the surveyor. EQ2's HEMS family of products provide the manager with the proper tools to adhere, monitor, and present their compliance to all regulations. As always, the manager must follow the strictest regulation, AHJ (Authority Having Jurisdiction), which is normally your state or local government's regulations. For state or local laws where a minimum PM interval is identified, HEMS department and location modules have a "schedule frequency" field to maintain the minimum interval. This way, if a manager sets a device to annual PM, but the state requires quarterly checks, then quarterly PM intervals override the annual PM frequency to ensure regulatory compliance for that department or location.

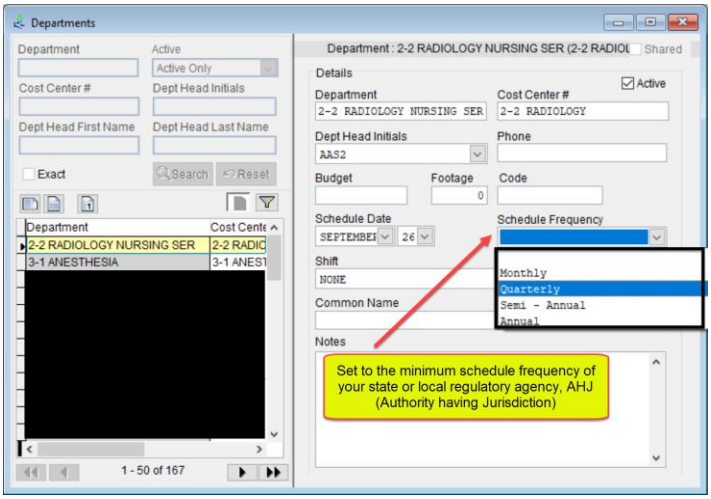


Figure 10 HEMS Enterprise department module displaying the minimum schedule frequency required for the department or location when state or local regulations supersede other regulations.

Best Practice

HEMS Enterprise can be configured as a best practice system which is used to standardize device nomenclature, procedures, and scheduled maintenance. In short, this module will enforce the use of the same procedures and PM schedule frequency throughout the enterprise for a consistent plan. Similarly, if a change is needed, making the change in the Best Practice area will apply the change to the entire organization. This consistency will assist with maintaining regulatory compliance along with preventing data elements from being changed by staff members without access to the Best Practice area of HEMS Enterprise.

FastKey: Securing the Physical Environment

The first line of defense for cybersecurity is the physical environment. Additionally, Joint Commission and CMS require the secure storage of medical records for HIPPA compliance, and medications must also be securely stored for authorized access only. In fact, the storage and security of medications is one of the most frequently cited standards. EQ2 provides a solution to these requirements along with usual physical security access management with our “FastKey” - lock & key, access management product.

FastKey® is a full-featured access management system that can be used to control the access to your physical environment and should an incident occur quickly report on affected areas. The software can be used to manage physical lock and keys, electronic locks and access cards, padlocks, vehicle keys, and even parking spaces. FastKey also helps managers adhere to regulations and policy by controlling who has access to high-risk areas such as medication rooms, medical records, and high-risk patient areas such as maternity.

FastKey empowers users to:

- Control and have records of who has authorized access to different parts of the hospital’s physical environment
- Quickly identify unauthorized personnel when an area incident occurs
- Manage physical lock and keys, electronic locks and access cards, padlocks, vehicle keys, and even parking spaces

- Help managers adhere to regulations and policy by following an authorized procedure when issuing access credentials to high-risk areas such as medication rooms, medical records, and patient areas
- Replace old-fashioned spreadsheets and index card systems with a cloud secure app
- Replace or use alongside vendor-specific lock programs
- Track contractors and other temporary key assignments
- Use FastKey with HEMS Enterprise or other CMMS or access management systems

Together, HEMS Enterprise and FastKey provide a **complete asset management system** and **access management system**. HEMS is available as a SaaS subscription service on Microsoft's Azure cloud servers, or a license can be purchased, wherein HEMS is installed on the hospital's own server. FastKey is provided as a SaaS (cloud-based) application, and it can be configured as a simple interface or an advanced interface for a robust access management solution.

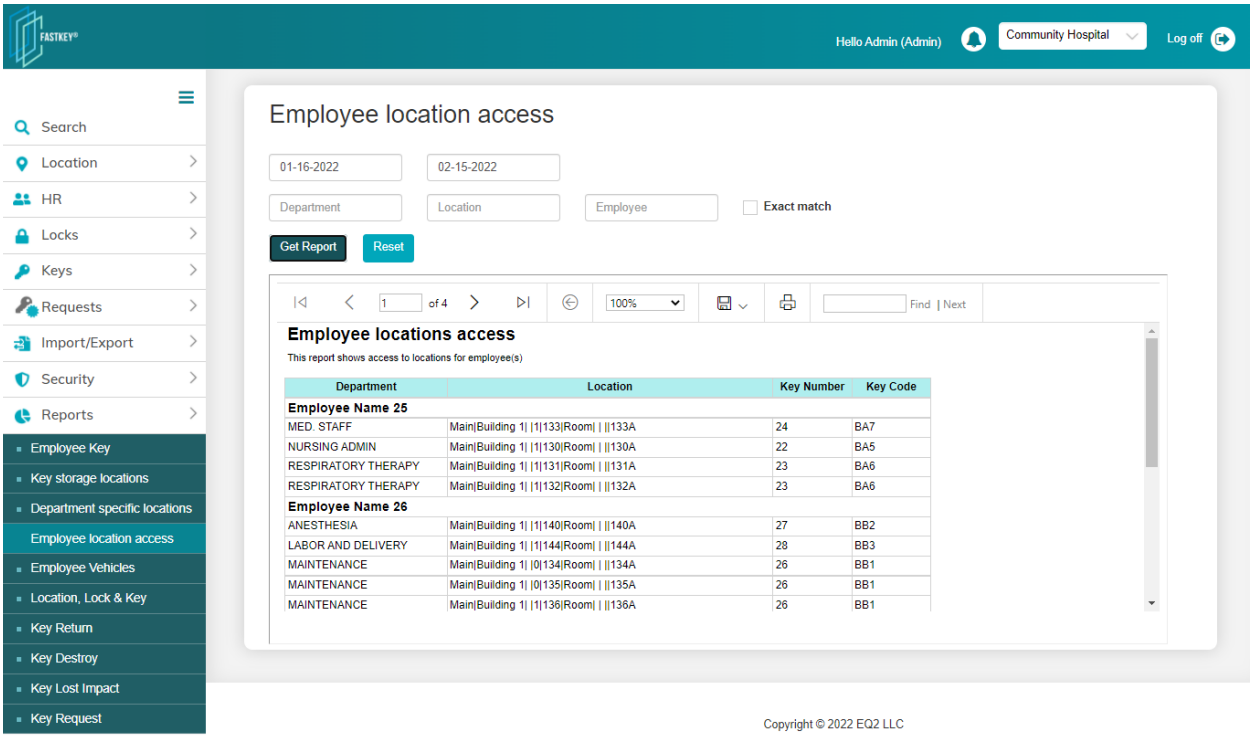


Figure 11 Employee Location Access Report in FastKey.

Summary

Surveys are a normal part of business in healthcare, and they are recurring events. Because of this, it's best to always stay compliant, so when you are in your inspection window, you are only tasked with reviewing and collecting the necessary material. If regulations change, the manager should address those items in their inventory and scheduling.

Managers should involve their staff with their survey preparations and explain the importance of being compliant for the health of the organization. Also, the survey is for the entire HDO, and all members of the organization should work together to ensure a successful inspection. Your organization may provide workshops to attend prior to the inspection or you may attend webinars from AAMI (Association for the Advancement of Medical Instrumentation), ASHE (American Society of Healthcare Engineering), or TechNation that address changes in the regulations.

If you are using EQ2's HEMS Enterprise you know managers can configure their inventory, procedures, and schedules to conform to the regulations of the governing bodies, and EQ2 is committed to providing these capabilities now and in the future as regulations change. Our BI Dashboards, Department Manager Dashboard, and Performance Benchmark Analyzer applications provide a means to continuously monitor the progress of work being performed along with indicators to alert you when you are falling behind. HEMS Enterprise provides all the tools needed for a successful survey. Additionally, EQ2 continually monitors and adds functionality to our products for the new regulations.

If you are using another CMMS, you should review its capabilities as described herein for helping you prepare for and successfully pass a survey.

Reminders and Further Information

- If your organization is part of a larger health system, call your peers for guidance after their inspection to discover the primary focus for your line of service
- Attend webinars/seminars or in-house workshops to get the latest information about new regulations
- HEMS can keep track of employee credentials, high risk and life support inventory, AEM inventory, and utility equipment

- Managers can use HEMS to record staff meetings for quick retrieval of meeting minutes
- Best Practice can be used to standardize your device nomenclature, scheduling, and procedures throughout the enterprise
- EQ2 offers additional dashboards, reporting tools, and a performance benchmark analyzer to further assist with regulatory compliance
- For HEMS users, speak to EQ2 for assistance in configuring your system, to identify something new that is needed in the program, or to further explore HEMS

Contact your EQ2 Sales representative for more information by calling 888-312-4367 or request more information on our website: Request More Information from EQ2 (eq2llc.com)