

It is Never Too Early! How and Why to Build a Succession Plan

Presenters:

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Disclaimer: What will be presented in this presentation are my thoughts and do not reflect the those of the Department of Veterans Affairs.



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About Me

UCONN Clinical Engineering Program – 2012 to 2014

Yale New Haven Health – St. Raphael's Campus – 2012

Middlesex Health – 2012 to 2023

VA CT Healthcare System – 2023 to Current

Presented on various topics at MD EXPO, AAMI Exchange,
NESCE



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Summary

Poll

Why is Succession Planning Important

Succession Planning Strategies

Engineer

BMET

Scenarios



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Poll Question 1

Do you have any anticipated staff retirements in the next 5 years?

- Yes
- No

Follow Up Question:

Do you feel prepared or scared?



Poll Question 2

Have you ever had to deal with an unexpected resignation?

- Yes
- No

Follow Up Question:

How would you categorize the impact of this resignation?



Poll Question 3

Do you have a current succession plan?

- Yes
- No



Poll Question 4

Does the plan specifically define what work will be needed based on each staff member?

- Yes
- No



Poll Question 5

How often do you review and edit your plan?

- Annually
- Once every 3 years
- Once every 5 years
- As needed



Why is Succession Planning Important?

- Anticipated growth of the field
- Immediate consequences of losing staff
- Long term consequences of a staffing shortage



Anticipated Growth of the Field

- U.S. Bureau of Labor Statistics predicts an 18% growth of the field by 2033 ^[1]
 - Much faster than average compared to all occupations
- Estimated to be about 7,300 openings per year
 - Primarily from retirements or transfers out of the field
- Average age of technicians is estimated to be 47 ^[2]
 - 44% under 40
 - Nearly 48% of the HTM workforce is over the age of 55 ^[3]



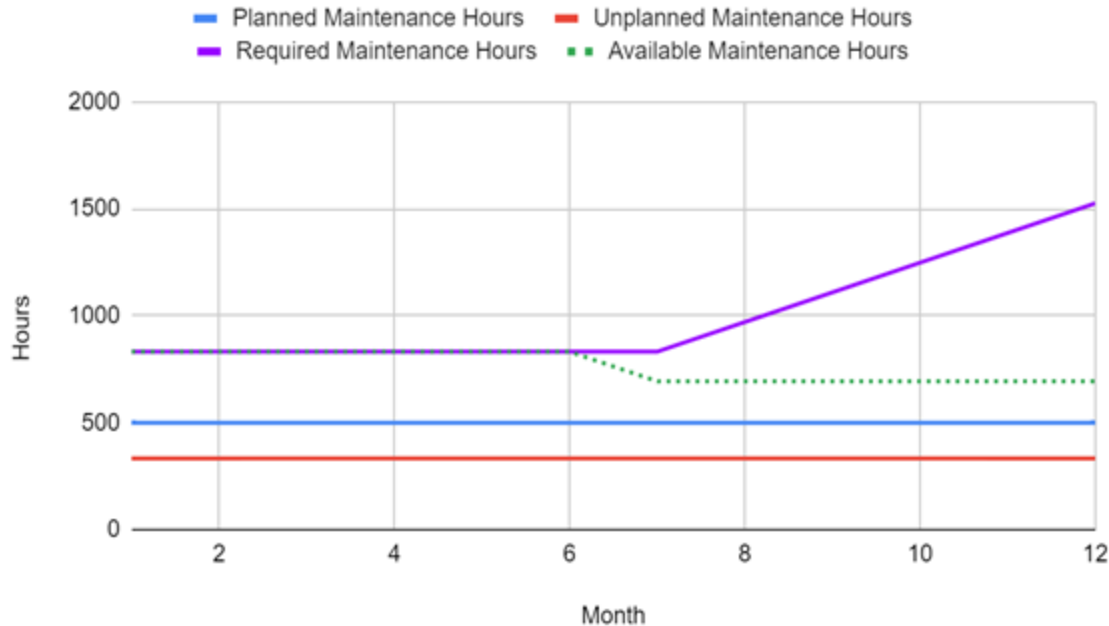
Immediate Consequences of Losing Staff

- Initial Response
 - Evaluate and handoff of current work
 - May require contracts if existing staff are not capable
- Training Costs and Time
 - Significant cost to train staff
 - Specific training classes may only be held at certain times of the year
 - Time required for other staff to learn specific equipment
- Time to hire experienced staff
 - Can be long or not reasonably achievable
 - Leading to a staffing shortage



Long Term Consequences of a Staffing Shortage

Expected Maintenance Hours vs Available Maintenance Hours



Assumptions:

- Available maintenance hours are 80% of staff's time
- 6 Technicians drops to 5 on month 6
 - Previously operated evenly not at a deficit
 - Operating in a 140 hr/month deficit [4]



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Long Term Consequences of a Staffing Shortage

1. Loss of Employee

Employee leaves the organization

2. Workload Increases

Workload per existing employee increases to compensate

3. Key Metrics Degrade

Demand to complete Preventive Maintenance on time increases, reducing available time to address Correctives thereby increasing turnaround times.

4. Compliance Slips

Corrective and Preventive Maintenance demands start to compete.

5. Staff Demand Rises

HTM staff begin to work overtime to compensate and become stressed with growing workload. [5]

6. Increased CM Demand

Due to Preventive Maintenance potentially being late or less attention to detail during maintenance due to pressure to achieve more Corrective work orders are created.

7. Frustrations Rise

Clinical team's begin to get frustrated due to reduced device availability leading to delays in patient care

8. Inventory Growth

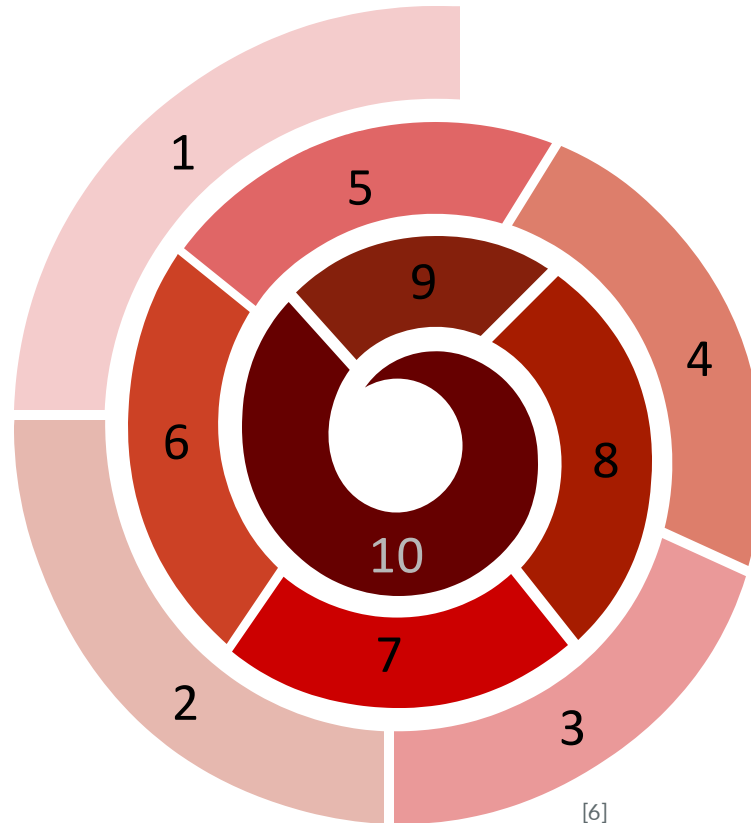
Due to the reduced device availability from increased turnaround times and repair demands additional equipment is requested to compensate.

9. External Costs Grow

Due to either the growth of the inventory or demands to reduce turnaround times external resources are requested at a premium in addition to the overtime requested from existing staff. [5]

10. Reduced Staff Morale

Staff become demoralized and burnt out from the heightened demands potentially leading to continued employee loss.



[6]



How Can This Be Avoided For The Future? ^[4]

Prevention

Work on retention strategies

Work with local organizations to create common titles in your area

- Proper candidates in your local area will apply
- Job openings will be easier to find
- Salaries will be easier to grade
- HR compensation surveys will match in your local area

Preparedness

Be prepared for some turnover time

- Create a succession plan internal to the department
- Education gap analysis
- Determine companies in the area for supplemental services

Response

Create a pipeline

- Internship
- AAMI Apprenticeship
- HTM in a box

Recruitment Service

- Do not wait too long



Succession Planning Strategies

- Employee Discussions
 - Understand employee aspirations [7]
- Determine Education Gaps
 - Perform gap analysis to determine areas of need [7]
- Consistently Reviewed
 - The plan should be updated regularly [7]
 - The needs of today may not be the needs of tomorrow [7]
- Tools Available
 - CMMS Data
 - Education Folders



Engineer Succession Planning Approach

- Frequency of Persistent Tasks
 - Daily
 - Weekly
 - Monthly
 - Quarterly
 - Annually
- Projects
 - List current and upcoming projects
 - Provide overviews of each
 - Pertinent documents
 - Pertinent contacts
 - Utilize a consistent and repeatable project template



BMET Succession Planning Approach

- Frequency of Persistent Tasks (Different from PM Activities)
 - Daily
 - Weekly
 - Monthly
 - Quarterly
 - Annually
- Projects
 - List current and upcoming projects
 - Provide overviews of each
 - Pertinent documents
 - Pertinent contacts



BMET Succession Planning Approach

- Create a single page annually per technician containing the following:

Section 1: Last year's documented workload
Section 2: Projected workload for upcoming/current year
Section 3: Top 5 time consuming corrective activities for the past year across various categories
Section 4: Top 5 time consuming preventive maintenance activities for the upcoming/current year across various categories



BMET Approach - Data Gathering

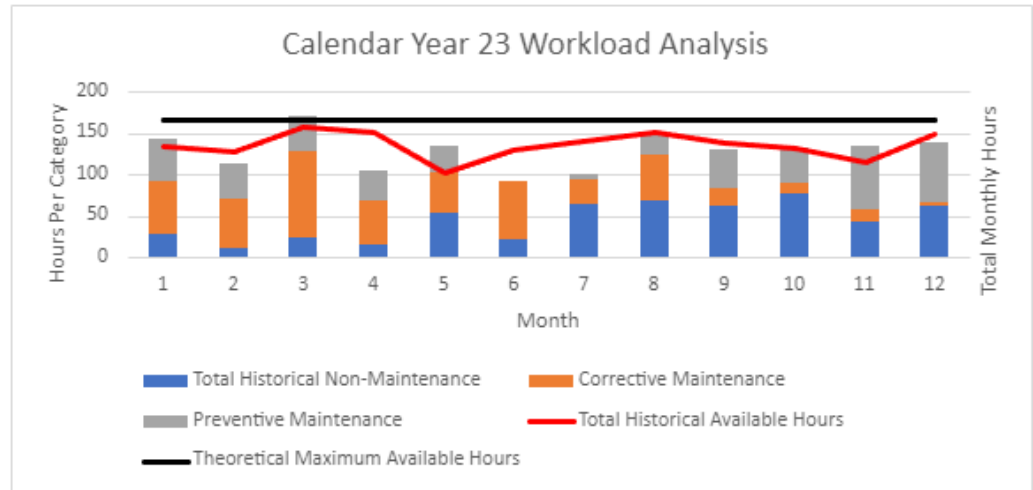
- Initial Data Needed
 - Extract work order data from the previous year containing the following:
 - Work Order Type
 - Date Created
 - Total Work Effort / time charges per technician
 - Location / Department
 - Equipment Details
 - Unique identifier
 - Model
 - Type
 - Extract planned Preventive Maintenance work orders for the next year
 - Include the same data as above
 - Note: Use projected work effort or historical average per technician
 - Gather Historical Available Hours



BMET Approach - Section 1

- Summarize the historical time charges per month within overarching categories on a graph.

- Maintenance
 - Corrective Maintenance
 - Preventive Maintenance
- Non - Maintenance
 - Incomings
 - Projects
 - Education
 - Administrative duties
- Available Hours
 - Theoretical Maximum
 - Historical



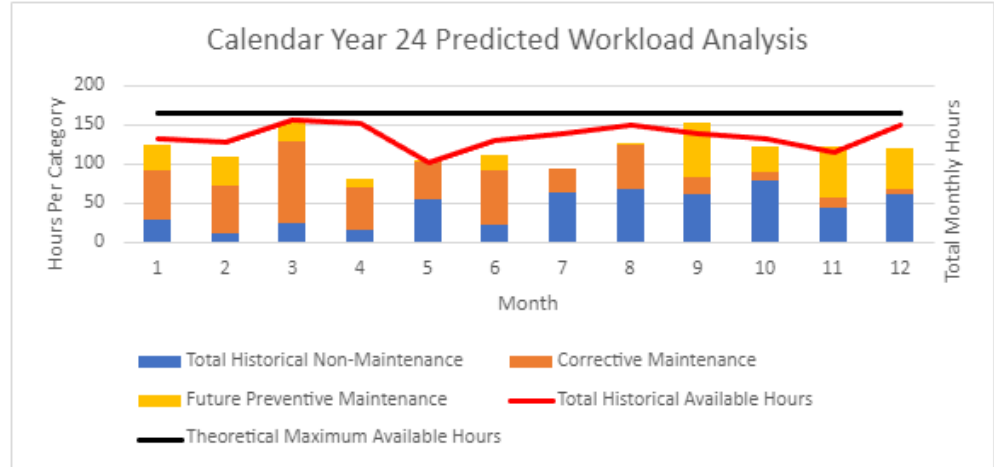
- Benefit
 - Helps identify concerning months historically



BMET Approach - Section 2

- Summarize the historical time charges per month within overarching categories on a graph similar to before, but this time change the PM Data.

- Maintenance
 - Corrective Maintenance
 - Projected Upcoming Preventive Maintenance
- Non - Maintenance
 - Incomings
 - Projects
 - Education
 - Administrative duties
- Available Hours
 - Theoretical Maximum
 - Historical



- Benefit

- Helps identify concerning months coming up with the assumption that all other work order needs are similar to last year.

BMET Approach - Section 3

- Summarize the top 5 historical Corrective Maintenance time charges per category:
 - Specific Equipment
 - Equipment Model
 - Equipment Type
 - Equipment Location

Top 5 Correctives									
Asset	Hours	Model	Hours	Type	Hours	Location	Hours		
1234	30	Defibrillator A	90	Defibrillator	180	Respiratory	180		
67997	20	Defibrillator B	80	Ventilator	140	Critical Care	130		
34677	10	Ventilator A	70	AED	60	Emergency Department	110		
56778	9	Ventilator B	65	CO2 Module	40	Step down	35		
56756	8	AED A	55	Patient Monitor	20	Telemetry	20		

- Benefit
 - Helps identify primary areas of corrective services provided by this individual.



BMET Approach - Section 4

- Summarize the top 5 upcoming Preventive Maintenance time charges per category:
 - Equipment Model
 - Equipment Type
 - Equipment Location

Top 5 Preventive Maintenance					
Model	Hours	Type	Hours	Location	Hours
Defibrillator A	90	Defibrillator	180	Respiratory	180
Defibrillator B	80	Ventilator	140	Critical Care	130
Ventilator A	70	AED	60	Emergency Department	110
Ventilator B	65	CO2 Module	40	Step down	35
AED A	55	Patient Monitor	20	Telemetry	20

- Benefit
 - Helps identify primary areas of preventive services provided by this individual.



Scenario 1

- Fred comes into your office first thing in the morning. He is clearly excited and begins to share that him and his wife, Wilma, will be expecting their first born in 3 months from now in January. He would like to know what paperwork will be needed for him to be ready to take 12 weeks of Paternity Leave.
 - Using the sheets provided answer the following questions:
 - What concerns do you have?
 - How will you address these concerns?



Scenario 1

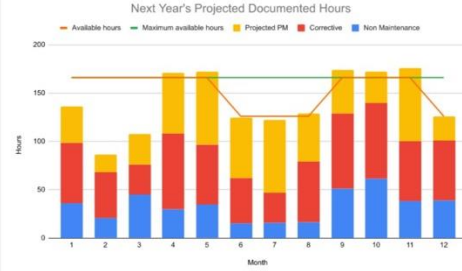
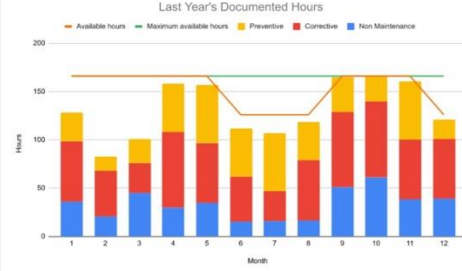
Employee: Fred



Top 5 Correctives Last Year						
Asset	Hours	Model	Hours	Type	Hours	Location
1254	30	Defibrillator A	90	Defibrillator	180	Respiratory
67997	20	Defibrillator B	80	Ventilator	130	Critical Care
34677	10	Ventilator A	70	AED	110	ED
56778	9	Ventilator B	65	CO2 Module	35	Step down
56756	8	AED A	55	Patient Monitor	20	Telemetry

Top 5 Preventive Maintenance in Q1					
Model	Hours	Type	Hours	Location	Hours
Defibrillator A	45	Defibrillator	85	Critical Care	60
Defibrillator B	40	Ventilator	80	Respiratory	80
Ventilator A	60	AED	15	ED	45
Ventilator B	20	CO2 Module	10	Step down	15
AED A	15	Patient Monitor	5	Telemetry	5

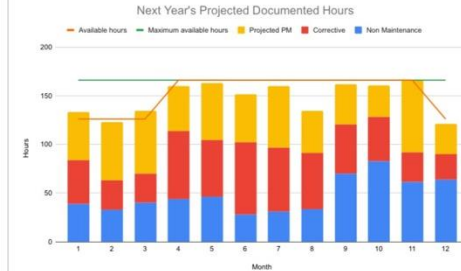
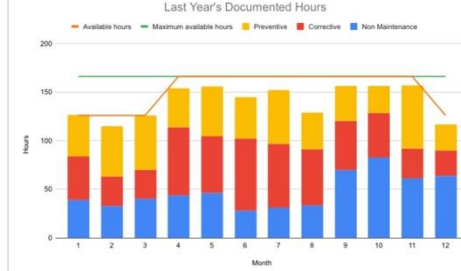
Employee: Barney



Top 5 Correctives Last Year					
Asset	Hours	Model	Hours	Type	Hours
1654	90	Ultrasound A	195	Ultrasound	370
1648	80	Ultrasound B	175	Rad Room	270
1668	70	Rad Room A	90	Portable XR	25
2514	65	Rad Room B	80	Defibrillator	35
9106	55	Portable XR A	70	Ventilator	15

Top 5 Preventive Maintenance in Q1					
Model	Hours	Type	Hours	Location	Hours
Rad Room A	20	Rad Room	30	Radiology	30
Defibrillator A	15	Ultrasound	20	Ultrasound	20
Ultrasound A	10	Defibrillator	15	Critical Care	10
Rad Room B	10	Ventilator	5	ED	5
Ventilator B	5			Respiratory	5

Employee: Betty



Top 5 Correctives Last Year						
Asset	Hours	Model	Hours	Type	Hours	Location
56181	40.5	Pump A	80	Pump	240	Nursing
91416	27	Pump B	80	SCD	120	Critical Care
41641	13.5	Pump C	70	Vitals Monitor	110	ED
87146	12.15	SCD B	65	CO2 Module	35	Step down
86146	10.8	SCD A	55	Patient Monitor	20	Telemetry

Top 5 Preventive Maintenance in Q1					
Model	Hours	Type	Hours	Location	Hours
Vitals Monitor A	40	Vitals Monitor	75	Nursing	75
Vitals Monitor B	35	CO2 Module	50	Critical Care	40
CO2 Module A	30	Thermometer	15	ED	25
CO2 Module B	20	Bed	11	Step down	8
Thermometer A	15			Telemetry	5



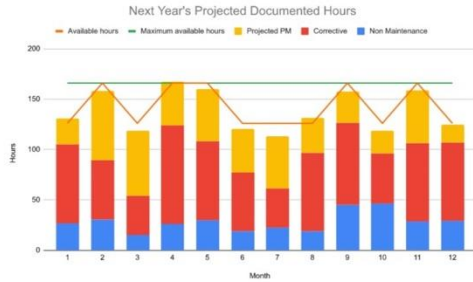
Scenario 2

- It is late on Friday and Bruce comes into your office. Bruce says that after his many years of service he believes it is time for him to hang up the cape and retire in February.
 - Using the sheets provided answer the following questions:
 - What concerns do you have?
 - How will you address these concerns?



Scenario 2

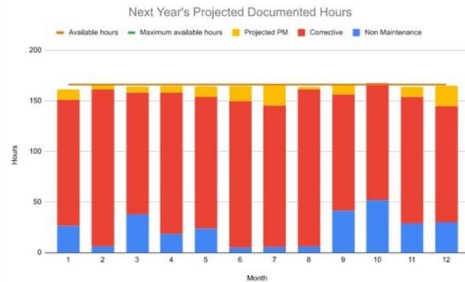
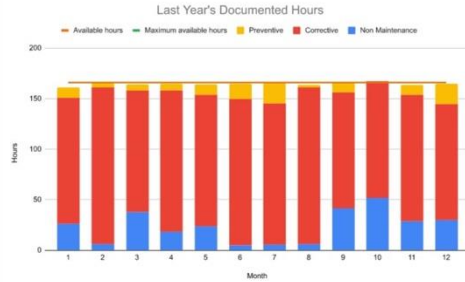
Employee: Bruce



Top 5 Correctives Last Year						
Asset	Hours	Model	Hours	Type	Hours	Location
1654	90	ESU A	200	Anesthesia	350	Gotham Surgery
1648	80	Anesthesia B	180	ESU	280	OR
1668	70	Anesthesia A	170	Ventilator	125	Respiratory
2514	65	Ventilator B	120	Video Tower	35	Critical Care
9106	55	ESU B	80	Scopes	24	ED

Top 5 Preventive Maintenance					
Model	Hours	Type	Hours	Location	Hours
Anesthesia B	130	Anesthesia	250	Gotham Surgery	250
Anesthesia A	120	ESU	100	OR	130
ESU A	60	Ventilator	50	Respiratory	50
Ventilator B	50	Video Tower	25	Critical Care	5
ESU B	40	Patient Monitor	15	ED	5

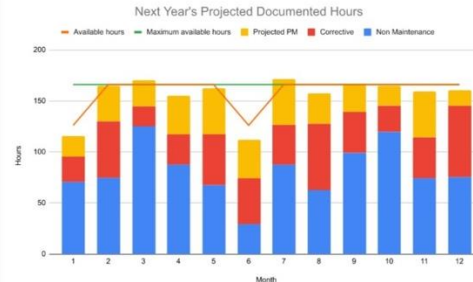
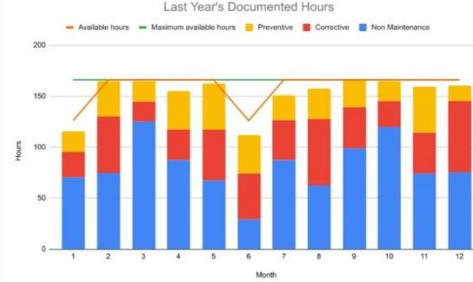
Employee: Clark



Top 5 Correctives Last Year						
Asset	Hours	Model	Hours	Type	Hours	Location
1	400	Ultrasound A	400	Rad Room	1050	Metropolis Rad
2	350	Rad Room A	400	Ultrasound	425	Radiology
3	300	Rad Room B	350	Anesthesia	80	Ultrasound
4	250	Rad Room C	300	Chair	15	Dental
975266	80	Anesthesia A	80	Monitor	10	Gotham Surgery

Top 5 Preventive Maintenance					
Model	Hours	Type	Hours	Location	Hours
Rad Room A	30	Rad Room	60	Metropolis Rad	40
Anesthesia A	25	Anesthesia	25	Gotham Surgery	30
Rad Room B	20	Chair	10	Radiology	20
Rad Room C	10	Ultrasound	5	Dental	10
Ultrasound A	5	Monitor	5	Ultrasound	5

Employee: Barbara



Top 5 Correctives Last Year						
Asset	Hours	Model	Hours	Type	Hours	Location
1654	50	Pump A	145	Pumps	145	Gotham Surgery
1648	40	Monitor C	100	Monitors	115	Nursing
1668	30	Anesthesia A	90	Anesthesia	100	OR
2514	25	ESU A	80	ESU	80	Respiratory
9106	15	Ventilator B	70	Ventilator	40	ED

Top 5 Preventive Maintenance					
Model	Hours	Type	Hours	Location	Hours
Pump A	125	Pumps	125	Nursing	125
Monitor C	75	Monitors	75	Gotham Surgery	100
Anesthesia A	60	Anesthesia	70	ED	55
ESU A	50	ESU	56	OR	43
Ventilator B	30	Ventilator	30	Respiratory	30



References

- [1] “Medical Equipment Repairers : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics.” U.S. Bureau of Labor Statistics, 29 Aug, 2024, <https://www.bls.gov/ooh/installation-maintenance-and-repair/medical-equipment-repairers.htm>.
- [2] Forsythe-Stephens, Keri. “HTM Salary Survey 2021 | 24x7.” 24x7, 24x7 Magazine, 25 Jan. 2022, <https://24x7mag.com/professional-development/department-management/salaries/htm-salary-survey-2021/>.
- [3] Forsythe-Stephens, Keri. “HTM Salary Survey 2023 | 24x7.” 24x7, 24x7 Magazine, 25 Jan. 2024, <https://24x7mag.com/professional-development/department-management/salaries/htm-salary-survey-2023/>.
- [4] Heusser, Michael. “Filling Vacancies and the Importance of Job Titles | MD Expo.” *MD Expo | The Conference for HTM Professionals*, Apr. 2022, <https://mdexposhow.com/presentation/filling-vacancies-and-the-importance-of-job-titles/>.
- [5] “The Impending Biomed Tech Shortage: How Will It Impact Hospitals?” Elite Biomedical Solutions, <https://elitebiomedicalolutions.com/resources/blog/biomed-tech-shortage-how-it-impacts-hospitals/>.
- [6] Presentationgo Spiral Diagram Template
- [7] Bennett, Angela, et al. “The HTM Succession Planning Guide.” AAMI, 2020.



Questions



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