

WHITEPAPER

CMMS in Healthcare: Navigating a Landscape with Complex Requirements



When it comes to managing the maintenance of facilities and assets, the healthcare industry stands out as the archetype of complexity.

Hospitals and healthcare facilities are considered some of the most complicated facilities to maintain, given their sophisticated infrastructure and the continuous evolution of advanced medical equipment and operations. Due to the intricate and ever-changing needs of the industry, the healthcare sector is subject to rigid standards and regulations. As a result, every aspect of routine maintenance in healthcare facilities – such as cleaning, inspection, and equipment storage – affects compliance, and the quality of care provided to patients.

While the healthcare industry saw margins improve in 2021, the numbers were still sub-par when compared to 2019. According to Kaufman Hall's National Hospital Flash Report, the median operating margin index in February 2022 stood at -3.45%.¹ And while gross operating revenue increased by 14.7% compared to 2020, it was offset by the 19% rise in labor expenses and 20% rise in non-labor costs.²

Amidst the rising operating costs and dipping margins, healthcare facilities and asset maintenance have gained importance in the need to cut asset

breakdown costs and improve quality of care. The repercussions of poor maintenance in the healthcare domain extend well beyond the cost of downtime and lost revenue – it could mean a matter of life and death.

Maintenance related issues can often result in equipment failures during critical operations. This can result in increasing scrutiny toward healthcare leadership due to growing public awareness and involvement. For instance, the leadership of the Charlotte Maxeke Johannesburg Hospital (CMJH) faced accusations from the public and the media of long-term poor maintenance practices that culminated in the infamous emergency unit fire in April 2021.³

“ With the rising cost of equipment failures in the healthcare industry, maintenance of equipment and infrastructure is critical for the safety and integrity of facilities. ”

Healthcare Maintenance in the Digital Era

The proliferation of digital tools, technologies, and processes has been an essential component to the advancement of modern healthcare. The wave of digital transformation across healthcare facilities has pushed maintenance practices to keep up with organization-wide modernization efforts. As a result, maintenance and facilities management faces the pressing need to transform itself from

an asset-driven activity to a vigilant focus on enhancing experiences with more patient-centric outcomes.

This push for digital transformation has led to the evolution of maintenance practices as well. Growing data awareness has led to the advent of data-driven healthcare facilities. While this is

¹ National Hospital Flash Report: <https://www.kaufmanhall.com/sites/default/files/2022-03/National-Hospital-Flash-Report-March-2022.pdf>

² *ibid*, 1

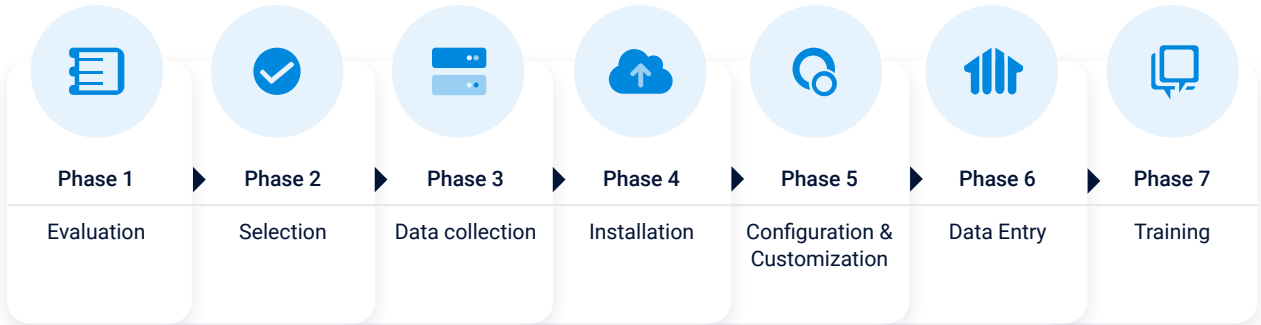
³ The Citizen: <https://www.citizen.co.za/news/south-africa/3068966/incompetent-ceo-charlotte-maxeke-hospital-held-accountable/>



advantageous in the long-run, maintenance teams still have a complex, and often cumbersome, journey to achieve desired digital maturity to fully leverage the potential of collected maintenance data. Often the mix of disparate legacy systems and modern technological applications are a major source of dead data capital – under-utilization of insights due to unreliability and lack of visibility of the complete data ecosystem.

Hospitals and other healthcare facilities need an organized system that is technologically at par with advanced maintenance needs. Comprehensive maintenance management systems, like computer-aided maintenance management systems (CMMS), are a key building block for enterprise-wide control and visibility of maintenance operations.

CMMS Implementation Phases



CMMS: Enhancing Healthcare Facilities and Asset Maintenance

Modern-day CMMS solutions are far more advanced and versatile than their predecessors. Back in the 1960s, the key function of CMMS solutions was limited to documentation, standardizing, and verifying processes.

Today, CMMS can store and process maintenance data to proactively provide insights to enable asset health forecasts and outcome-driven maintenance practices. It plays a crucial role in combining preventive and corrective maintenance plans, giving healthcare facilities teams the ability to monitor and track numerous maintenance activities. The data-centric nature of a modern CMMS makes it a foundational component in tracking

important parameters in real-time, like resource utilization, services executed, and costs related to maintenance activities.

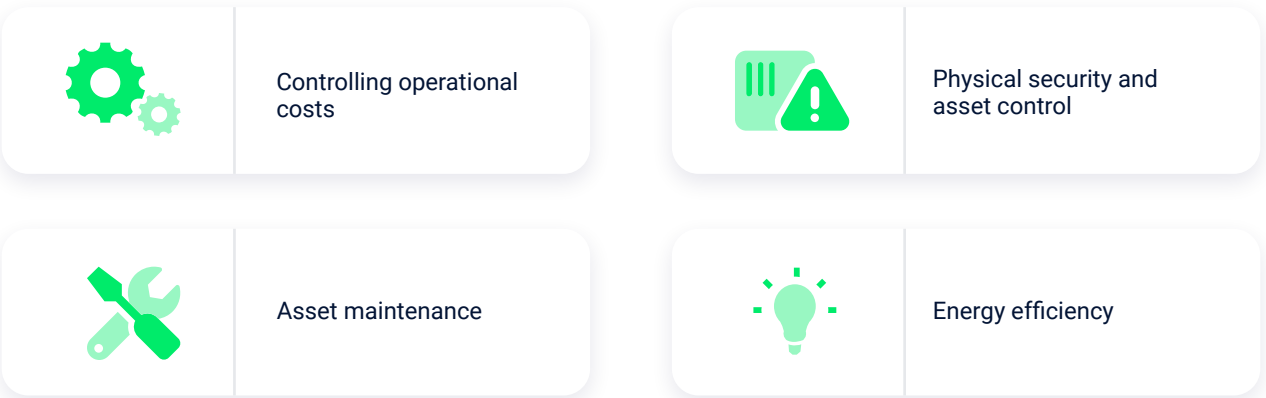
The outbreak of the COVID-19 pandemic was a catalyst in the uptake of CMMS in the healthcare industry. While the economic slowdown and stringent regulations caused a steep decline in CMMS in other sectors, the healthcare sector had an increase in CMMS adoption to address the growing need for workload optimization, maintenance planning, and equipment maintenance during the pandemic.⁴ The global healthcare facilities management market is projected to be worth \$180.4 billion by 2030.⁵

⁴ Computerized Maintenance Management System (CMMS) Market: <https://stratisticsresearch.com/report/computerized-maintenance-management-system-market/>

⁵ Healthcare Facility Management Market Size and Share Analysis: <https://www.psmarketresearch.com/market-analysis/healthcare-facility-management-market>



Top Maintenance Challenges for Healthcare Facilities



Work Order Management

By nature of the industry, ensuring an efficient maintenance management framework is a competitive necessity for healthcare facilities. Timely, pre-emptive maintenance practices can help prevent equipment failures and reduce the risk of operational disruption. However, many facilities managers continue to rely on manual methods to manage and process work orders. A lack of frequent, thorough inspections of equipment and infrastructure increases the risk of significant financial and reputational loss in the event of mission critical failure.

This is where CMMS can help healthcare facilities ensure a foolproof inspection framework by simplifying work order planning and assignment. It can automatically triage work orders based on several criteria, including resource availability, spare part

availability, tool availability, and safety and facility/equipment shutdown requirements.

CMMS also eliminates ambiguity around a given task by creating detailed job steps and checklists— a critical feature for regulatory purposes and managing labor hours. Healthcare facilities managers can easily access maintenance schedules, assign upcoming work in a predefined sequence to avoid overlaps, and track time and resources on a particular maintenance task.

CMMS integrates with existing applications to provide maintenance teams with complete visibility into stock numbers, accurately predict resource planning and estimate how long a particular maintenance job will take.

Reliability-Centered Healthcare Facilities and Asset Management

When it comes to maintaining healthcare equipment, most facilities adhere to manufacturer recommended best practices through --preventive or scheduled maintenance practices. However, simply basing these maintenance operations on regulatory or equipment need does not address a system's need to be managed for minimum failure. Reliability-centered maintenance can enhance the maintenance program in a healthcare facility by determining the organization's most critical assets and functions. This, in turn, helps facilities management teams optimize cost-effective maintenance approaches to improve

functional reliability and availability of equipment while decreasing system failures.

Modern CMMS uses equipment and asset data to generate insights aiding operations in achieving optimal operations performance. Real-time data of actual wear and tear equipment conditions can be used to schedule maintenance and repairs. This approach is synchronous with the highly sought-after reliability-centered maintenance (RCM) – a balanced maintenance approach that identifies problems to increase productivity and reduce maintenance costs.

The reporting capabilities of CMMS provide maintenance decision-makers with the right set of tools to get an in-depth view of the healthcare facility, medical equipment, and staff performance. Access to work requests, orders, and interventions by the assigned technicians allows the CMMS to

highlight any deficiencies in overall performance in the healthcare facility's maintenance management strategy. This enables a deeper understanding of critical success factors, which could include the average duration to resolve a failure and number of outstanding work orders.

MRO Cost Reduction

Maintenance, repair, and operations (MRO) represent a significant portion of costs that hospitals and healthcare facilities undertake. In fact, the global medical equipment maintenance market alone is projected to hit \$65 billion by 2030.⁶ With the cost of maintenance on a gradual growth trajectory, healthcare facilities must ensure the long-term business viability of maintenance operations. Higher MRO costs mean healthcare facilities are more likely to defer non-critical maintenance operations. While this may save money in the short-term with minimal impact, the compounded long-term implications include large faults and operational catastrophes.

An important benefit of CMMS is cost reduction. As an enabler of reliability-centered maintenance (a mix of corrective, preventive, and predictive maintenance approaches), CMMS can significantly reduce downtime of equipment and operations.

CMMS helps healthcare facilities teams manage maintenance operations and stay updated regarding the viability of equipment for operational use. By prolonging equipment life cycles, it enables users to keep a tab on recurring service and maintenance costs. This enhances service quality, enables quicker response times, and promotes a higher quality of overall care.



⁶ Medical Equipment Maintenance Market to Hit USD 65 Bn by 2030: <https://www.globenewswire.com/news-release/2021/12/06/2346687/0/en/Medical-Equipment-Maintenance-Market-to-Hit-USD-65-Bn-by-2030.html>

Healthcare CMMS and Compliance

According to the American Hospital Association (AHA), health systems, hospitals, and PAC providers have to comply with 629 discrete regulatory requirements across nine domains.⁷ Each year, healthcare organizations and service providers spend approximately \$39 billion to ensure compliance with the administrative aspects of these domains.⁸ With the lack of process standardization plaguing healthcare facilities, maintenance teams often have to deal with an uphill task of benchmarking SOPs for each asset and facility component even low-complexity tasks like sterilizing tools, servicing medical equipment, and checking emergency equipment.

The growing stringency of regulatory compliance is a major hurdle for healthcare facilities maintenance managers, who face frequent audits and surprise inspections by regulatory authorities. A robust CMMS solution allows healthcare facilities to stay abreast of regulatory requirements and streamline the process of establishing a strong compliance policy. With the right CMMS solution, maintenance managers can generate reports detailing the maintenance work performed on vital equipment making it easy to trace compliant practices and reduce the risk of penalties incurred due to non-compliance.



⁷ Regulatory Overload (AHA): <https://www.aha.org/system/files/2018-02/regulatory-overload-report.pdf>

⁸ *ibid*, 7

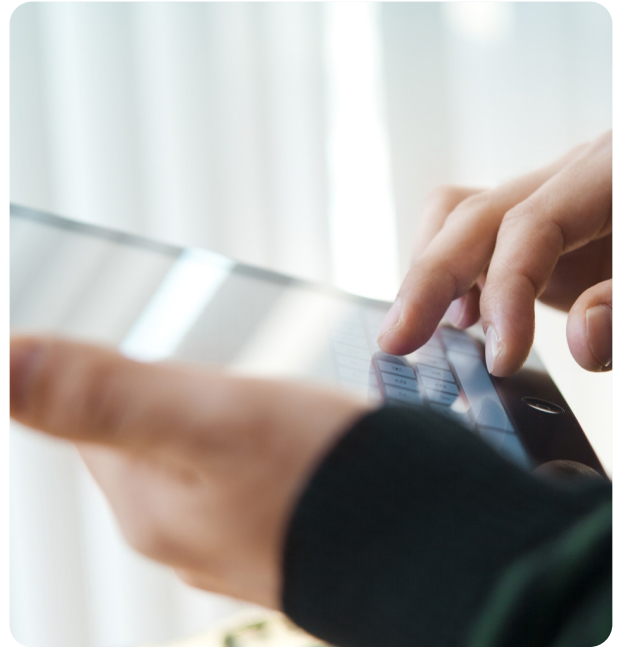


Unlocking the Next Level of Healthcare with TMA Systems

For more than three decades, TMA Systems has been empowering healthcare facilities management teams with essential maintenance management solutions. TMA Systems provides healthcare facilities with mission-critical solutions tried and tested in the field.

Our easily configurable and future-proof technology, WebTMA, is designed to cater to the needs of modern healthcare facilities and managers. With comprehensive technical support, TMA Systems has emerged as a partner of choice for many world-leading enterprises

From desktop to mobile, this comprehensive solution enables healthcare teams to extract the full value out of their maintenance programs.



Reliable. Innovative. Trusted.

Empowering facilities management teams with powerful asset maintenance and management solutions

TMA Systems provides facilities and asset management solutions that can be easily configured to your needs (CMMS, EAM or IWMS). For more than 30 years, TMA has provided reliable, innovative, and trusted software solutions that help facility executives deliver value by reducing downtime, increasing maintenance productivity, improving equipment reliability, and saving money.

WebTMA, our flagship solution, provides all the functionality you need to manage and maintain your capital assets while optimizing maintenance team productivity.

Want to learn more about how your healthcare organization can benefit from the WebTMA solution?

Contact us at

✉ sales@tmasystems.com

