

Medical Device & AI Regulations

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Business Continuity Management in Medical Technology: Ensuring Uninterrupted Healthcare Services

The article emphasises the importance of Business Continuity Management (BCM) in medical technology to ensure uninterrupted healthcare services. It discusses the need for BCM, challenges in implementation, benefits, and best practices. The focus is on identifying potential disruptions, developing response plans, and maintaining effective communication.



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key points

- **BCM in Medical Technology:** The article highlights the critical role of medical technology in healthcare delivery and the risks associated with disruptions. BCM helps hospitals identify and mitigate potential disruptions to ensure the availability and reliability of medical devices, enhancing patient safety and care quality.
- **Challenges and Benefits:** Implementing BCM in medical technology faces challenges such as technological complexity, limited resources, and lack of awareness. However, the benefits include improved 'patient' safety, regulatory compliance, reduced downtime and costs, and increased organisational resilience.
- **Best Practices:** The article outlines key practices for effective BCM implementation, including thorough risk assessments, comprehensive BCM plans, regular testing and updates, investment in redundant systems, staff training and awareness, and collaboration with external stakeholders.

Introduction

The healthcare industry relies heavily on medical technology to provide efficient and effective patient care. However, medical technology is susceptible to a variety of risks, including power outages, natural disasters, cyber-attacks, and equipment malfunctions. These risks can cause significant disruptions to hospital operations, jeopardising patient safety and care quality. This is where Business Continuity Management (BCM) comes into play. BCM is a holistic approach to risk management that aims to identify potential disruptions and develop strategies to ensure the continuity of critical operations in the event of an incident such as enumerated above. This article discusses the importance of BCM in medical technology and how it can help healthcare organisations avoid costly downtime and ensure uninterrupted healthcare services.

The Need for BCM in Medical Technology

Medical technology is critical to delivering quality healthcare services. Hospitals rely on a range of medical devices, such as CT scanners, MRI machines and, for example, ventilators, to diagnose and treat patients. Any disruption in the operating of these devices can have serious consequences for patient safety and care quality. For example, a power outage that shuts down an MRI machine could delay critical diagnoses and result in cancelled appointments, which can cause significant inconvenience for patients and their families. Also, hospitals must comply with regulatory requirements and standards that mandate the availability and reliability of medical technology. Failure to meet these requirements can result in penalties, legal liabilities, and damage to an organisation's reputation.

BCM helps hospitals identify potential disruptions to medical technology and develop strategies to



mitigate them. For example, hospitals can implement redundant power systems, such as backup generators or uninterruptible power supplies, to ensure that medical devices have a continuous source of power.

Hospitals can also establish emergency response plans that outline procedures for addressing power outages or other disruptions to medical technology. These plans can include procedures for quickly repairing or replacing faulty equipment, ensuring that critical patient data is available, and communicating with patients and staff.

include:

1. Enhanced patient safety and care quality: BCM can help hospitals ensure the availability and reliability of critical medical devices, reducing the risk of disruptions that could harm patients.
2. Improved regulatory compliance: BCM can help hospitals comply with regulatory requirements and standards related to the availability and reliability of medical technology.
3. Reduced downtime and costs: BCM can help

BCM helps hospitals ensure the availability and reliability of critical medical devices, reducing the risk of disruptions that could harm patients

Challenges to Implementing BCM in Medical Technology

Implementing BCM in medical technology can be challenging due to a variety of factors. One of the main challenges is the complexity of medical technology. Medical devices are often interconnected and require specialised expertise to maintain and repair. This can make it difficult to identify potential disruptions and develop effective response plans. In addition, medical technology is constantly evolving, requiring hospitals to stay up-to-date on the latest equipment and software.

Another challenge is the limited financial resources in many hospitals. Often, hospitals lack the personnel and financial resources to implement comprehensive BCM strategies. This can lead to a reactive approach to risk management, where hospitals only address risks after they have occurred. Reactive risk management can result in costly downtime, legal liabilities, and damage to a hospital's reputation.

Finally, there is a lack of awareness among healthcare organisations about the importance of BCM in medical technology. Many hospitals view BCM as a cost center rather than a strategic investment with a measurable ROI. This can result in inadequate funding for BCM initiatives and a lack of commitment from senior leadership.

Benefits of BCM in Medical Technology

Despite the above described challenges, implementing BCM in medical technology can provide significant benefits for healthcare organisations. These benefits

hospitals avoid costly downtime by identifying potential disruptions and developing effective response plans.

4. Increased organisational resilience: BCM can help hospitals build resilience and adaptability, enabling them to quickly recover from incidents and maintain critical operations.

Best Practices for Implementing BCM in Medical Technology

To effectively implement BCM in medical technology, healthcare organisations should follow these best practices:

1. Conduct a thorough risk assessment: Identify potential hazards, vulnerabilities, and risks that may disrupt medical technology operations. Prioritise the identified risks based on their impact and likelihood of occurrence.
2. Develop a comprehensive BCM plan: Based on the risk assessment, develop a detailed BCM plan that outlines the actions to be taken before, during, and after a crisis. This should include contingencies for staffing, communication, and alternative facilities.
3. Test and update the BCM plan regularly: Testing the plan ensures that it is effective and up to date. Regular testing also identifies gaps and areas for improvement. BCM plans should be reviewed and updated at least annually or whenever significant changes occur in the organisation.
4. Invest in redundant medical technology systems: Redundant systems and backup power supplies can prevent downtime and ensure continuous medical



technology operations. Organisations should invest in backup systems for critical medical technology equipment, such as imaging machines, ventilators, and dialysis machines.

5. Provide staff training and awareness: All employees involved in medical technology operations should be trained and aware of their roles and responsibilities during a crisis. Regular training ensures that staff is prepared to respond to an emergency and can effectively execute the BCM plan.
6. Establish effective communication channels: Effective communication is critical during a crisis to ensure timely and accurate information sharing. Establish communication protocols and ensure all staff knows how to use them. Communication channels should be tested regularly to ensure they are effective.
7. Collaborate with external stakeholders: External stakeholders, such as medical technology vendors and emergency responders, can provide valuable assistance during a crisis. Establish relationships with these stakeholders and ensure they are included in BCM planning and testing.

By following these best practices, healthcare organisations can effectively manage risks and ensure that medical technology operations are maintained during a crisis.

One such example of a healthcare organisation implementing BCM in medical technology is the case of Children's Hospital Los Angeles (CHLA). In 2008, CHLA experienced a power outage that affected several areas of the hospital, including the neonatal intensive care unit (NICU) and the paediatric intensive care unit (PICU). As a result of this power outage, CHLA activated its BCM plan, which included backup generators and procedures for ensuring that critical medical devices, such as ventilators and monitors, were functional. Thanks to their BCM plan, CHLA was able to ensure continuous patient care throughout the power outage.

Another key aspect of BCM in medical technology is maintaining effective communication during a crisis. In order to ensure that everyone is aware of the situation and can take appropriate action, healthcare organisations should establish clear communication

channels and protocols. This includes having a designated spokesperson who can communicate with the media and the public, as well as establishing backup communication systems in case of failure.

In addition to the best practices mentioned above, healthcare organisations can also benefit from leveraging technology to enhance their BCM efforts. For example, digital tools such as automated alerts and notifications can help organisations quickly identify and respond to potential threats, while data analytics can provide valuable insights into the effectiveness of BCM plans and identify areas for improvement.

Ultimately, the success of BCM in medical technology depends on the commitment and dedication of healthcare organisations to ensure the safety and well-being of their patients, staff, and community. By investing in BCM and following best practices, healthcare organisations can minimise the impact of crises and ensure that critical medical technology operations are maintained during even the most challenging circumstances.

Conclusion

In conclusion, the importance of BCM in medical technology cannot be overstated. With the increasing reliance on medical technology to deliver critical care to patients, healthcare organisations must be prepared to manage risks and ensure that operations can continue in the face of a crisis.

By implementing best practices such as conducting risk assessments, developing and testing BCM plans, and maintaining effective communication, healthcare organisations can minimise the impact of crises and ensure the safety and well-being of their patients and staff.

As the healthcare industry continues to evolve, it is critical that organisations prioritise BCM in medical technology to ensure the continued delivery of safe and effective patient care.

Conflict of Interest

None. ■



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