EQUASHIELD'S

CSTDs:

A Strategic Healthcare Investment

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CSTDs: A Strategic Healthcare Investment

01

Abstract

This whitepaper focuses on Closed System Drug-Transfer Devices (CSTDs), explaining their vital role in improving healthcare safety and long-term financial success. Aimed at European pharmacy leaders and compounding company CEOs, it explores the diverse benefits of CSTD investments.

It starts by clarifying how CSTDs protect healthcare workers from hazardous drugs, using barriers that significantly lower contamination risks during drug preparation and administration. Supported by evidence of reduced hazardous drug contamination[1], CSTDs are shown to enhance workplace well-being.

Beyond safety, the whitepaper outlines cost-saving benefits. By minimizing drug wastage and reducing direct contact with dangerous drugs, CSTDs create a safer, more efficient work environment, leading to significant financial gains[2,3].

Regulatory compliance is stressed, with CSTDs, especially those with closed-back syringes, meeting stringent safety standards. This commitment not only protects healthcare workers but also prevents legal issues linked to non-compliance.

The document explores innovative CSTD mechanisms, showcasing their advanced technology for safer drug preparation and containment.

Addressing initial cost concerns, it highlights CSTDs' critical protection for staff and their role in improving safety protocols[4,5].

Strategic financial planning becomes key in dealing with budget constraints, emphasizing the importance of investing in staff protection. Educating decision-makers about long-term health implications and indirect costs positions CSTDs as essential in healthcare budgets.

The whitepaper reevaluates CSTD Return on Investment (ROI), extending beyond finances to staff health and cost avoidance.

In conclusion, this whitepaper equips European pharmacy leaders and compounding company CEOs with a comprehensive view of CSTDs as a strategic healthcare investment. It emphasizes its role in enhancing safety and long-term financial benefits, urging adaptability to industry trends and technologies for maximum ROI, regulatory compliance, and improved patient care.

02

Improved Healthcare Occupational Safety with Closed System Drug-Transfer Devices

Protecting healthcare staff from hazardous drugs is a top priority in pharmacies and hospitals. Closed System Drug-Transfer Devices (CSTDs) provide a mechanical barrier that significantly reduces contamination risks during drug compounding and administration processes. Studies have shown that the use of CSTDs eliminates detectable hazardous drug contamination in key areas[1], making them a critical component in enhancing workplace safety for healthcare professionals.

How CSTDs Save Costs and Protect Healthcare Workers

Maximizing Efficiency and Savings

Utilizing CSTDs reduces drug wastage, optimizing the allocation of valuable pharmaceuticals. A study showed that this practice resulted in significant financial savings of approximately €280,000 over four years, while also benefiting the environment.[2]

Minimized Risks of Exposure to Hazardous Drugs

By creating a closed environment, CSTDs cut down the direct contact healthcare workers have with dangerous drugs. The impact is notable, with a study showing contamination dropping to 12.24% with CSTDs, from 26.39% with standard methods, leading to fewer health-related work absences and a safer workplace.[3] Another study shows the elimination of surface and environmental contamination with CSTD.

Ensuring Regulatory Compliance

CSTDs, particularly those with closed-back syringes, meet rigorous safety standards, demonstrating a commitment to excellent care. This adherence helps pharmacies and hospitals avoid costly legal consequences associated with regulatory non-compliance.

Providing Cutting-Edge Safety

CSTDs employ advanced technology to limit exposure during drug preparation, using barriers and filtration to contain risks, highlighting the value of allocating resources for top-tier safety equipment for healthcare staff.

03

Decoding the Cost Concerns of CSTDs: Unlocking the Long-Term Benefits of Closed System Transfer Devices in Healthcare.

While the initial investment in Closed System Drug-Transfer Devices (CSTDs) may be notable, the long-term savings they offer make them a prudent financial decision for healthcare facilities.

Understanding the True Value of CSTD Investment

Redefining Initial Costs

The upfront cost of CSTDs should be viewed in light of the critical protection they offer oncology nurses and pharmaceutical staff. Research highlights the significant health dangers, including cancer and fertility problems, that healthcare workers might encounter when handling hazardous drugs[4-5]. CSTD products, especially the ones with closed-back syringes, enhance safety protocols, greatly lowering the likelihood of healthcare professionals exposure to hazardousr drugs and toxic vapours during drug preparation and administration. This preventative approach is indispensable, safeguarding staff well-being against the severe implications of hazardous drug contact.

Strategic Financial Planning

While budget constraints are real, it's essential to prioritize the health and safety of staff by investing in the safest methods available on the market. Educating decision-makers about the long-term health implications and the indirect costs of sick leave and staff turnover can help reposition CSTDs as a non-negotiable line item in healthcare budgets.

Reassessing ROI

The return on investment for CSTDs goes beyond mere monetary calculations, directly impacting staff health and safety. A favourable ROI is achieved not only in terms of finances but also through the preservation of staff well-being and the avoidance of costs associated with health complications.

Promoting a Culture of Safety through Awareness

By initiating open discussions about the risks of handling hazardous drugs, we collectively raise awareness and enhance knowledge within the industry. This collaborative approach is pivotal in fostering a safer working environment for healthcare professionals. Understanding the comprehensive benefits of investing in innovative safety solutions extends beyond cost-effectiveness; it also involves protecting staff from significant health hazards and contributing to the overall reduction of indirect healthcare costs.

04

CSTDs Deliver Financial and Productivity Gains Beyond Safety Measures

When it comes to Closed System Drug-Transfer Devices (CSTDs), the advantages go far beyond safety. In fact, a recent study conducted at Nebraska Methodist Hospital has shown that CSTDs not only provide essential safety measures but also improve efficiency.

During the study, the time it took to compound an IV piggyback dose using different closed-system transfer devices was measured. The results were impressive: EQUASHIELD outperformed other brands, completing the task in just 36.4 seconds. Comparatively, alternative CTDS brands took 87.7 seconds, and the conventional needle and syringe method took 63 seconds.[6]

This level of efficiency, paired with the strengthened safety provided by CSTDs, makes them an excellent investment for healthcare facilities. Not only do they reduce costs, but they also enhance staff protection and increase productivity during the handling of cytostatics and other hazardous drugs.

The ROI of CSTDs: Quantifying the Returns

Investing in Closed System Drug-Transfer Devices (CSTDs) for compounding hazardous drugs presents a positive return on investment (ROI) when considering the broader scope of hospital operations:

Enhanced Safety and Accuracy

CSTDs greatly minimize risks for patients and healthcare workers. Studies show that medication errors in IV mixtures occur in 3% to 7% of cases, potentially harming over 90,000 U.S. hospital patients annually. By utilizing CSTDs, precise dosing and handling are ensured, reducing these risks.[7]

Improved Productivity

One of the studies conducted at Nebraska Methodist Hospital demonstrated that CSTDs significantly improve efficiency in compounding times. EQUASHIELD, one of the tested CSTDs, completed the task in just 36.4 seconds, compared to 87.7 seconds with other CSTD brands and 63 seconds with traditional needle and syringe methods.[7]

Cost Savings

While CSTDs may add initial costs, they can ultimately lead to savings by decreasing drug wastage. For instance, a hospital can save substantially by reducing waste from partial vials, which often occurs due to a lack of processes to control them.[7]

Error Prevention

Automation through CSTDs minimizes the occurrence of compounding errors, resulting in valuable cost savings. Precise management of protocols and accurate dose measurement greatly reduces the risk of making mistakes.

Efficient Waste Management

Certain CSTDs effectively manage partial vials and track their usage, ensuring no drugs go to waste or are used beyond their expiration dates. This reduces inherent waste during the compounding process. Additionally, when integrated with Drug Vial Optimization (DVO), these systems further enhance the efficiency of drug utilization, ensuring maximum extraction of medication from vials and minimizing waste, thereby contributing to a more sustainable and economically viable healthcare practice.

Reduced Supply Costs

Automating the compounding process with CSTDs eliminates the need for additional supplies required by traditional methods, which can add $10 to $15 per dose to compounding and administration expenses.[7]

By enhancing safety, improving productivity, and reducing waste and errors, CSTDs offer healthcare facilities a compelling financial advantage that can justify their initial investment.

05

Improve ROI with Comprehensive Training in CSTD Usage

Effective use of Closed System Drug-Transfer Devices (CSTDs) hinges on well-trained healthcare staff. Essential steps include:

/ In-depth Equipment Knowledge: Staff should be fully versed in how CSTDs operate, their upkeep, and the related safety measures.

/ Practical Training: It's crucial for staff to practice with CSTDs under the guidance of seasoned professionals.

/ Diverse Learning: Understanding various compounding methods and rigorous testing can minimize errors.

This comprehensive training approach is key to safer, more efficient medication handling, leading to improved patient care and satisfaction.

The significance of investing in proper training for employees.

In enhancing the financial efficacy of Closed System Drug-Transfer Devices (CSTDs) in hazardous drug compounding, staff education emerges as a pivotal factor. Training should encompass critical areas such as:

/ Classification and risks of hazardous drugs

/ Adherence to Regulations in force in your region (like MHRA in UK or GMP standards in EU)

/ Selection and application of appropriate CSTDs

/ Techniques for workflow optimization using CSTDs

/ Safety protocols and personal protective equipment usage

/ Risk identification and mitigation strategies in compounding

/ Accurate documentation and regulatory compliance

/ Quality assurance measures and process validation

/ Analyzing the cost benefits and ROI of CSTD usage

/ Keeping abreast of ongoing advancements in compounding hazardous drugs

A focus on these and other similar topics will empower healthcare professionals like you, ensuring operational excellence and compliance with industry standards, thereby enhancing the ROI of CSTDs.

06

The Impact of Proactive Staff Training on Profitability

Enhancing profitability is directly linked to the expertise of your staff when it comes to using Closed System Drug-Transfer Devices (CSTDs).

Here's how investing in proper staff training can make a significant difference:

Streamlined Operations

Well-trained staff members are adept at utilizing CSTDs, leading to faster medication preparation and administration. These devices are designed to minimize connections and disconnections during compounding, ultimately saving valuable time and reducing costs.

Reduced Drug Waste

By ensuring proper handling and techniques with CSTDs, the risks of spills and leakages are minimized. This directly contributes to cost savings and improved return on investment.

Boosted Confidence and Morale

Well-trained healthcare providers gain greater confidence in handling complex devices, fostering a positive work environment with higher job satisfaction. This ultimately reduces turnover rates, saving healthcare institutions from additional expenses.

Enhanced Patient Outcomes and Satisfaction

By correctly utilizing CSTDs, healthcare providers can significantly improve patient outcomes and satisfaction ratings. This can result in better reputations, potential financial incentives, and higher healthcare ratings for the institution.

Effective Risk Management

Skilled use of CSTDs significantly reduces the risk of medication errors, avoiding potential costs associated with patient harm, lawsuits, and damage to the institution's reputation. Equashield provides free training to all healthcare professionals interested in improving occupational safety and well-being in hospitals and pharmaceutical environments.

Improving Safety & Efficiency: The Power of Closed System Transfer Devices (CSTDs) in Pharmacies

Discover how implementing Closed System Transfer Devices (CSTDs) revolutionizes the compounding process, ensuring faster and safer medication preparation. With CSTDs, pharmacies can guarantee the prompt delivery of medications to hospitals, prioritizing patient safety and preserving the sterility of drugs. This advancement establishes the pharmacy as a trusted provider of quality and reliable healthcare solutions.

Unlocking Profitable Partnerships: The Long-Term Benefits of CSTDs for Hospitals

By consistently delivering top-notch quality, safety, and timely medication compounding, pharmacies using CSTDs foster strong and enduring partnerships with hospitals. Through these long-term relationships, pharmacies secure a loyal customer base and positively impact their financial stability. Additionally, the extended shelf life of drugs prepared with CSTDs further contributes to the hospital's financial success, emphasizing the pharmacy's crucial role in optimizing operational and fiscal efficiency within the healthcare system. EQUASHIELD Closed System Transfer Device (CSTD), for instance, can prevent microbial ingress for up to 7 days. This feature is significant as it implies that the use of the device can maintain the sterility of the drugs it handles for this duration therefore having a direct impact on the shelf-life of drugs compounded with this technology.

07

Adapting to Industry Trends: Staying Ahead

The field of drug compounding and safety is rapidly developing as a result of technological advances.

Understanding and adjusting to these changes is critical for achieving the best possible Return on Investment (ROI). To accomplish this, it is important to stay informed and adaptive to industry changes, as this proactive approach is critical to financial success, regulatory compliance, and improved patient care.

Emerging trends in medication compounding and safety.

Adapting to Industry Trends: Staying Ahead for Success

The field of drug compounding and safety is rapidly evolving due to advancements in technology. To achieve the best Return on Investment (ROI), it is crucial to understand and adapt to these changes. Staying informed and proactive in response to industry shifts is essential for financial success, regulatory compliance, and improved patient care.

Key Emerging Trends in Medication Compounding and Safety

The European compounding pharmacies market is projected to experience a compound annual growth rate of 5.42% between 2023 and 2028, reaching a value of USD 4.91 billion.[8] This growth is accompanied by challenges and innovations, such as increased costs, complexity, and risk, as well as automation, robotics, and personalized medications. These factors are transforming drug compounding and safety protocols. To address these evolving challenges and harness the potential of technological advancements, solutions like Equashield PRO and Mundus are emerging as key players in revolutionizing medication compounding and enhancing safety standards.

Addressing Medication Shortages with Custom-Compounded Medications

To tackle the problem of medication shortages in some areas, pharmacists and biopharmaceutical companies are working together to make custom medications that specifically fit the needs of patients. A key part of this process is using Closed System Transfer Devices (CSTDs) to keep healthcare workers safe. The Mundus Mini HD, developed by EQUASHIELD, is a big step forward in this area. It's a new system that uses advanced technology to make the compounding of dangerous drugs safer and more efficient. By using EQUASHIELD's CSTDs and Mundus Mini HD risks like contamination and mistakes are strongly reduced, leading to safer custom-made medications.

Boosting Pharmacy Efficiency with Dose Verification Systems

The introduction of dose verification systems for intravenous (IV) drugs in manual compounding is set to improve pharmacy efficiency. This innovation serves as a steppingstone towards fully robotic compounding in pharmacies.

Maximizing Return on Investment through Industry Awareness

Keeping up with regulatory updates, technological advancements, and evolving safety protocols requires diligent attention. Ongoing education ensures professionals have cutting-edge knowledge and tools to provide patient-centric care. By staying informed and proactive, pharmacies and other healthcare facilities can maintain a competitive edge, foresee market trends, identify emerging opportunities, and make timely and effective decisions that reduce risks and increase results.

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