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Healthcare Partner

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ABSTRACT

Abstract Healthcare Partners, a prominent regional hospital network, has encountered significant supply chain interruptions from recent natural catastrophes like earthquakes and wildfires. These disruptions have compromised access to vital medical supplies, threatening patient care and the safety of healthcare staff. This case study examines systemic vulnerabilities, assesses risk mitigation measures, and offers actionable recommendations for enhancing supply chain resilience, utilizing theoretical frameworks such as COSO ERM and DMAIC. The study, underpinned by empirical facts and academic rigor, highlights the excessive dependence on just-in-time inventory systems and geographically concentrated suppliers as primary factors contributing to the issue (World Economic Forum, 2022; Zhao et al., 2021). Natural catastrophes have risen by 30% over the past twenty years, leading to a 20% increase in operational expenses and an 18% rise in death rates in afflicted areas (Jones & Lee, 2021).

KEYWORDS

Healthcare Partners

EXECUTIVE SUMMARY

This case study examines the severe supply chain disruptions faced by Healthcare Partners, a leading hospital system, due to recent natural disasters, including earthquakes and wildfires. These disruptions have led to critical shortages of essential medical supplies, jeopardizing patient care and the safety of healthcare workers. Through a rigorous narrative literature review, this study identifies systemic vulnerabilities, such as overreliance on just-in-time inventory models and geographically concentrated suppliers, as key contributors to the crisis. Supported by evidence from the World Economic Forum (2022) and Lee et al (2011). the analysis underscores the urgency of addressing these vulnerabilities to safeguard healthcare delivery during emergencies.

The study uses a combination of theoretical frameworks and real-world case studies to explore actionable solutions to mitigate the risks posed by supply chain disruptions. Models such as COSO ERM and DMAIC are applied to identify and address supply chain weaknesses systematically. Bag, Rahman, & Chiarini (2025) and Lee's Organizational Culture Model guide fostering organizational resilience and adaptability. Recommendations include diversifying suppliers, adopting advanced technologies like AI and blockchain for real-time monitoring, developing strategic stockpiles, and engaging employees in proactive disaster preparedness. These strategies are supported by empirical evidence demonstrating their effectiveness in enhancing supply chain resilience (Bastas & Liyanage 2018; Stewart, G. (1997).

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The findings of this study emphasize the critical need for healthcare organizations to prioritize risk management and supply chain resilience as natural disasters increase in frequency and severity. By implementing the recommended strategies, Healthcare Partners can mitigate future disruptions, protect patient safety, and maintain operational stability. The study's comprehensive approach, grounded in robust academic research and practical insights, provides a roadmap for healthcare systems to navigate the complex challenges of supply chain management during crises. This executive summary encapsulates the study's key insights and reinforces adopting a proactive and resilient healthcare supply chain management approach.

BODY REFERENCES

Including body references throughout this case study ensures academic rigor and supports the credibility of the analysis and recommendations. For example, the introduction cites global statistics to contextualize the challenges faced by Healthcare Partners, referencing the World Economic Forum (2022), which highlights the 30% increase in natural disasters over two decades. Similarly, Lee et al (2011) are referenced to provide quantitative evidence on the impact of supply chain disruptions, such as an 18% rise in mortality rates in disaster-affected regions. These references establish the gravity of the issues and frame the case study's focus within a broader global context.

The problem statement integrates body references to emphasize supply chain vulnerabilities' financial and operational implications. Stewart, G. (1997) are cited to illustrate the economic costs associated with supply chain breakdowns during crises, while Bastas & Liyanage (2018) provide evidence of the risks posed by just-in-time inventory models. Additionally, references to the COSO ERM framework link the identified challenges to structured risk management strategies, reinforcing the relevance of theoretical models to practical problem-solving. This approach ensures that the analysis is firmly grounded in scholarly literature.

The recommendations section extensively references evidence-based practices to align proposed solutions with established research. For instance, Chapman et al. (2002) are cited to emphasize the importance of collaborative partnerships in enhancing supply chain resilience, while Bastas & Liyanage (2018) provide insights into the role of advanced technologies like AI and blockchain in mitigating supply chain risks. Furthermore, Chapman et al. (2002) offer guidance on creating strategic reserves, and Böhme et al. (2012) underscores the significance of fostering a culture of adaptability among employees. These references validate the recommendations and enhance their applicability by linking them to proven strategies in the field.

INTRODUCTION

Healthcare Partners, a leading hospital system with a regional network of facilities, is experiencing significant delays in supply chain management due to recent natural disasters, including an earthquake and subsequent wildfires. These disasters have caused a substantial increase in demand for critical medical supplies, exacerbating current inventory shortages and creating an urgent crisis for the hospital system. Recent global statistics indicate that the frequency of natural disasters has risen by 30% over the past twenty years, with annual economic damages surpassing billions of dollars globally (World Economic Forum, 2022). These disruptions substantially affect patient care and the safety of healthcare staff, who depend on the availability and reliability of personal protective equipment (PPE) and other essential resources.

Addressing these vulnerabilities is crucial for ensuring uninterrupted care and maintaining the operational integrity of the healthcare system (Böhme et al., 2012 & Lee et al., 2011; Stewart, G., 1997). Research highlights the vulnerability of healthcare supply chains to interruptions due to their reliance on just-in-time inventory systems and geographically dispersed suppliers (Böhme et al. (2012). Additionally, a recent investigation indicates that hospitals experiencing significant supply