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**MAXIMIZING LOGISTICS PERFORMANCE IN THE SUPPLY CHAIN:
LINEARITY ANALYSIS IN PREDICTING A HOSPITAL SYSTEM'S PRODUCT
LINE DEMAND FUNCTIONS**

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ABSTRACT

Facing rising healthcare costs and increasingly volatile supply chain costs, the effective and efficient management of the supply chain is crucial for a hospital system to maintain financial viability while maximizing performance for time-sensitive medical supplies (Nagurney and Nagurney 2012). We discuss a key role in the logistics function within the hospital supply chain: purchasing and procurement. We demonstrate the use of linearity analysis to predict the product line demand function for one costly cardiac program supply – Drug Eluting Stents (DES) – for a large multi-hospital system in the Midwest U.S.A. Our results lay the foundation for further empirical research and the basis for modeling and analysis of supply chain networks for other crucial, time-sensitive medical products.
