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Newswise — FAYETTEVILLE, Ark. – A new survey by researchers at the University of Arkansas indicates that the health-care industry’s supply chain lags behind the retail industry supply chain and could benefit significantly from adopting several of retail’s best practices.

“The retail industry has a long history of adopting automation, complemented by scientific and mathematical models, to improve supply-chain operations,” said Ed Pohl, associate professor in the department of industrial engineering. “Conversely, health care has been relatively slow to adopt these methods. Based on survey responses, we believe that considerable efficiency gains might be available to the health-care supply chain through the adoption of best practices from the retail supply chain.”

The researchers found that the retail supply chain has done a better job in the critical area of collaborative planning, forecasting and replenishment, which involves suppliers and retailers – or health-care providers – working together to adopt order forecasting and inventory planning to create an integrated supply-chain network. Also critical, health care is struggling to catch up with retail in the area of scanning technology, which is used to track materials by means of barcodes and RFID technology. The health-care supply chain also is lagging behind retail in professional training and education, specifically the skills associated with materials-management, purchasing and warehousing.

Considering retail’s success, Pohl and faculty colleagues Manuel Rossetti, Heather Nachtmann and postdoctoral fellow Vijith Varghese conducted the survey to get a better understanding of the gaps between the two supply chains and to learn how the health-care supply chain might benefit from adopting some or all of the best practices used by retail.

The first step involved identifying best practices. The researchers came up with an initial list of 22, based on an extensive literature review and guidance from a steering committee made up of industry leaders. The steering committee scored and ranked all 22 best practices according to their potential impact on business and their associated cost and ease of implementation.

From this ranking, the top 10 best practices were identified and included in the report. In addition to collaborative planning, forecasting and replenishment, scanning technology, and education and training, best practices included:

- centralized purchasing and supply,
- supply chain services reorganization,
- regular cycle counting and stock rotation,
- performance management,
- actual usage inventory management,
- e-commerce,
- data standardization

The researchers’ survey of health-care and retail managers revealed many expected findings and a few surprises, Pohl said. Not surprisingly, higher-revenue respondents – large retail stores and hospitals – were more likely to have implemented best practices. Across both industries, 80 percent

of the respondents thought the identified best practices had a significant or very significant business impact.

A minority (40 percent) of retail respondents perceived implementation of best practices to be easy or very easy. When compared to the responses from retailers, however, most health-care respondents perceived implementation of best practices to be easy. They also perceived implementation of best practices to be cheaper and require a lower minimum rate of return for many of the practices. Considering that the health-care industry lags behind that of retail in terms of implementing best practices, the researchers were surprised by the responses.

“This may indicate that the health-care industry is underestimating the investment necessary to achieve the full benefits from some of the best practices,” Varghese said.

Overall, retailers led in the implementation of best practices, despite their perception that implementation of the practices is difficult and expensive.

The study was conducted for the Center for Innovation in Healthcare Logistics at the University of Arkansas. The center is a partnership with industry that leads a nationwide effort to identify and foster system-wide adoption of innovations in health-care supply chain and logistics. The center facilitates collaboration among U of A researchers, health care providers and industrial sponsors. Additional information about the center can be found at cihl.uark.edu.

Rossetti is holder of the John L. Imhoff Endowed Chair in Industrial Engineering.