PHYSICIAN LEADERSHIP IN SUPPLY CHAIN: IMPORTANT NOW MORE THAN EVER

Jimmy Y Chung, MD, MBA, FACS[1]; Stacy A Brethauer, MD[2]; Bruce L Hall, MD, PhD, MBA[3]
[1]Bon Secours Mercy Health-Advantus Health Partners; [2]Ohio State University Wexner Medical Center; [3]University of California Davis Health
Presented at SAGES 2024. Corresponding Author: Jimmy Y Chung, MD, MBA, FACS; jchung@mercy.com

Introduction: Most physicians have little knowledge of supply chain (SC) let alone serve in its leadership positions. Some health systems have enlisted physicians to help SC initiatives, but this trend was slow to gain traction until the COVID-19 pandemic created a severe shortage of common healthcare products that required rationing based on clinical need.

Objective: Clinical integration of healthcare supply chain (SC) is an emerging concept designed to drive value by improving patient outcomes and reducing waste. The physician leader provides a key link between clinical practice and SC, and the COVID-19 pandemic has elevated the importance of this role. This study reports survey data from large health systems in the United States regarding personal protective equipment (PPE) use and the role of SC clinical leadership during the early months of the COVID-19 crisis.

Table 1. Daily use of PPE before and during COVID-19

PPE Category	Pre-COVID Daily Use**	COVID Daily Use**	Minimum COVID Daily Use	Maximum COVID Daily Use	Average % Increase in Daily Use
N95-Regular	260	2262	408	8,000	870%
N95-Small	96	857	27	6,000	893%
Face Shields	128	1351	108	10,074	1055%
Goggles	30	354	19	10,067	1168%
Level 1 Masks	7826	25000	6,861	110,000	319%
Level 3 Surgical Masks	3500	3676	57	78,000	105%
Isolation Gowns	7045	9077	1,194	80,000	129%
Gloves (Boxes)	1027	1574	390	6,600	153%

Methods and procedures: Two surveys were administered by Vizient Inc., to 24 health systems in their Large IDN Supply Networks (LISN) group to evaluate PPE use and the role of physician leaders in SC during the early COVID-19 crisis (4/28/20 – 5/11/20). The responses were collected and analyzed by a Supply Chain Physician Collaborative (SCPS) workgroup.

Results: The first survey reported COVID-19 patient census data and PPE use during the prescribed time period, and data was compiled for 15 of the 24 LISN members. There were dramatic increases in PPE use for all categories with wide variation based on the patient census and region of the country.
The second survey assessed the roles and value of the SC physician leader, and 17 surveys were analyzed. The primary role was to communicate with SC, clinical faculty and staff, and executive leadership to ensure PPE inventory and rapidly changing policies were aligned. The SC physician leader was highly valued by SC and executive leadership in their health systems due to their ability to connect SC to key leaders in the health system and contribute to workgroups during the crisis.

Table 2. Role of SC physician leaders during crisis

• Policy development	• Changes in practice
• COVID-19 projections	• Extended use or reuse of PPE (contingency or crisis standards)
• Monitor daily PPE use	• Applicability and safety of using substitutes
• Allocate PPE inventory	

Conclusions: Physician leadership in SC provides a critical link between clinicians and SC teams under normal circumstances. During COVID-19, the role of the SC physician leader expanded to include frequent communication between key stakeholders in the health system regarding PPE management. Hospital support for a physician leader in SC is critical to developing a culture of clinical integration and resource stewardship in times of crisis.

Table 3. Importance of physician leaders in supply chain: health system responses

Assigned role of "Medical Director of Supply Chain"	**29%**
Another physician administrator responsible for supply chain	**52.9%**
Had physician leader in place for more than three years	**64.7%**
Provided salary support for supply chain role	**65%**
Hospital executives deemed physician leadership very or extremely valuable	**82%**
Utilized physician leader 12 or more times per month	**71%**

Key Points:

- *The role of physician leaders in SC is critical for the clinically integrated SC, and the COVID-19 pandemic helped accelerate and expand their scope*
- *There are still great opportunities for hospitals to develop SC leadership roles for physicians to improve patient safety risks and reduce waste*
- *The migration to Value-Based care is both a catalyst and asset for physician leadership in SC*
- *Clinical outcomes and financial benefits of SC physician leadership should be further studied*