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Opinion paper

Improving healthcare value through clinical community and supply chain collaboration

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ABSTRACT

Background: We hypothesized that integrating supply chain with clinical communities would allow for clinician-led supply cost reduction and improved value in an academic health system.
Methods: Three clinical communities (spine, joint, blood management) and one clinical community-like physician led team of surgeon stakeholders partnered with the supply chain team on specific supply cost initiatives. The teams reviewed their specific utilization and cost data, and the physicians led consensus-building conversations over a series of team meetings to agree to standard supply utilization.
Results: The spine and joint clinical communities each agreed upon a vendor capping model that led to cost savings of $3 million dollars and $1.5 million dollars respectively. The blood management decreased blood product utilization and achieved $1.2 million dollars savings. $5.6 million dollars in savings was achieved by a clinical community-like group of surgeon stakeholders through standardization of sutures and endomechanicals.
Conclusions: Physician led clinical teams empowered to lead change achieved substantial supply chain cost savings in an academic health system. The model of combining clinical communities with supply chain offers hope for an effective, practical, and scalable approach to improving value and engaging physicians in other academic health systems.
Implications: This clinician led model could benefit both private and academic health systems engaging in value optimization efforts.
Level of evidence: N/A

1. Introduction

Healthcare organizations, especially academic health systems, are under intense pressure to improve the value of care, defined as quality over costs.[1] The Centers for Medicare and Medicaid Services (CMS) provides incentives to improve performance on quality measures, and insurers exclude high cost providers from their networks.[2] In response, health systems are working to increase and objectively demonstrate their value of care.[3]

Clinical communities provide a potential strategy to improve outcomes and value, using a bottom up approach to quality improvement that supports peer learning and reinforces or

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establishes shared norms.[4] These clinician-led, health system-wide, interdisciplinary communities focus on patient safety and quality improvement in a clinical setting, for a specific patient population, or for a type of process. An administrative core supports the communities with project management and access to resources, such as data analysis, lean, and improvement tools. We hypothesized that the clinical communities model would be an effective model to relate supply chain and quality to optimize value.

Clinical community teams, typically under the leadership of one academic and one community physician lead, set safety and quality priorities, select project goals, agree to work collaboratively among themselves and their sponsoring institutions, and maintain accountability for measurable results. They can also focus on strategic goals for the health system. These clinical communities create an effective mechanism for peer learning, sharing best practices, and for accountability. They capitalize on the intrinsic motivation and wisdom of clinicians, enable change through trust, and partner on interventions "with" rather than "to" clinicians. We previously described efforts across Johns Hopkins Medicine (JHM) to leverage clinical communities, an effort coordinated by the Armstrong Institute for Patient Safety and Quality (AI).[4]

Healthcare provider organizations also focus on cost reduction efforts through improving supply chain to ultimately improve value. JHM's finance department created an infrastructure and a new company to reduce supply chain costs. However, in supply chain efforts, 15% of the savings derive from negotiating better prices, while 85% derive from influencing supply standardization and utilization by providers.

In a health system-wide effort to use the clinical community model to engage physicians in reducing medical supply costs and improve value, the Armstrong Institute partnered with the JHM finance department, responsible for the supply chain effort. The JHM Senior Vice-Presidents for Finance and for Patient Safety and Quality agreed to integrate supply chain efforts with clinical communities, recognizing that clinicians must lead these efforts and that they must be focused on improving value. The Johns Hopkins Health System comprises six hospitals– two academic hospitals and 4 community hospitals, a large primary care organization, and ambulatory surgery centers. The physicians include employed faculty, employed non-faculty, and non-employed physicians. With medical supply cost reduction opportunities spanning the health system, the clinical community/finance partnership aimed for broad health system savings achievement. This paper briefly describes the two efforts, their alignment, and their early achievements in reducing supply costs.

2. Methods

2.1. Armstrong Institute And Clinical Communities

Physician leaders convened stakeholder groups to launch clinical communities focused on joint replacement, spine surgery, and blood management. We previously described the theoretical model for clinical communities and their organizational structure.[4] Opportunity analyses identified these clinical areas as potential sources of performance improvement based on national benchmarking. Further, physician champions expressed enthusiasm for optimizing their respective programs (Figs. 1 and 2).

Each clinical community leadership team included a physician lead from at least one of the academic hospitals and at least one of the community hospitals. In most communities the leads invited trans-disciplinary stakeholders to participate, including nurses, social workers, case managers, physical therapists, and pharmacists.

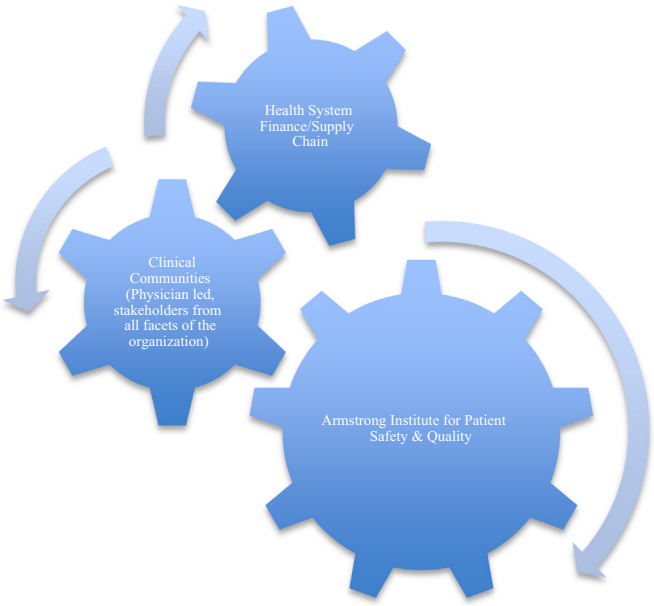

Fig. 1. Coordination of AIPSQ and health system supply chain through clinical communities.

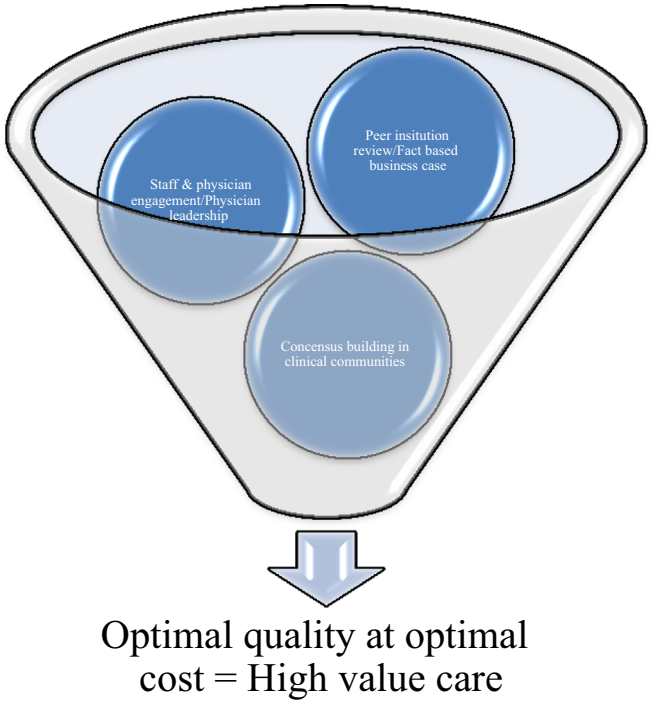

Fig. 2. Relationship between AIPSQ and supply chain acting together to promote value.

After the initial "kickoff" meeting explaining the purpose, principles and theory of clinical communities, communities met as a team at regular intervals, typically monthly. Initial meetings focused on relationship building and learning about the practices and environments at each of the hospitals. Members from each hospital shared success stories and barriers to improvement. The teams reviewed clinical and administrative data dashboards created specifically for the clinical communities, and set specific goals based on the current landscape and the desired endpoints. The specific goals of each community aimed to support the three overarching clinical community goals of partnering with patients and their loves ones to 1) eliminate harm 2) optimize patient