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Value-based care - the data to advance the vision

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Introduction

Quebec's healthcare system faces significant challenges, including prolonged surgical wait times, staff shortages, and rising costs, which will only intensify with an aging population. To address these issues, we must re-envision care delivery with a focus on value for patients. A key priority in value-based healthcare is improving surgical quality to enhance patient outcomes and quality of life, while reducing the costs associated with prolonged hospital stays, repeated surgeries, and readmissions. Standardized outcomes, transparently reported and accessible to clinicians, are essential for improving care quality, patient outcomes, and enabling informed decision-making at all levels of healthcare delivery.

In recent years, various dashboards have been developed across local and regional levels to support decision-making based on operational, financial, quality, and structural indicators. However, these tools often fail to measure health outcomes for different conditions and specific patient populations while linking total costs with care pathways and their variations, which is critical for the transition to value-based care.

Methods

The concept of health value creation relies on two fundamental elements: organizing care around the patient's medical condition across the entire care cycle, called an integrated practice unit, and using standardized outcome, quality, and cost measures. In collaboration with a BI supplier, we developed a Power BI portal that not only analyses and compares quality of care indicators but also captures patient-reported health outcomes and the actual costs per care pathway. A key feature of the portal is tracking compliance with Enhanced Recovery After Surgery (ERAS) best practices, which play a crucial role in reducing complications and shortening recovery times, thus lowering costs while improving patient outcomes. The portal integrates data from various platforms and systems, such as the National Surgical Quality Improvement Program (NSQIP), Nosokos, Encare, and the International Consortium for Health Outcomes Measurement (ICHOM), linking outcome measures with the total cost of the care cycle using the provincial costing tool CPSS-PPM, providing valuable clinical insights.

Results

The implementation of the Power BI platform has already led to significant improvements in care quality. It enabled the identification of clinical interventions that enhance processes and yield high-value care. A notable success was a targeted initiative to reduce unnecessary blood transfusions in orthopedic surgery, identified through the platform. This initiative resulted in the following outcomes:

* An 80.5% annual reduction in unnecessary blood transfusions, leading to fewer complications and risks.

* A 55% reduction in postoperative complications, resulting in shorter hospital stays and improved health outcomes.

* A decrease of 2 days in the average length of hospital stay, increasing bed availability.

* Financial savings of approximately $700,000 annually due to increased bed availability.

These results led to the decision to initiate a larger, organization-wide patient blood management program.

Discussion/Conclusions

This initiative demonstrates how data-driven, clinical improvements can reduce healthcare system costs and improve patient access to care. The value-based approach, supported by robust IT infrastructure, has deepened our understanding of care quality and patient outcomes. It underscores the importance of integrating data and adopting evidence-based practices to improve healthcare efficiency and patient satisfaction, while highlighting the need for ongoing collaboration across healthcare sectors.

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