

The Michigan Spine Surgery Improvement Collaborative (MSSIC) Fact Sheet – May 2019

Purpose. The Michigan Spine Surgery Improvement Collaborative (MSSIC) is a statewide quality improvement initiative whose aim is to improve spine surgery outcomes for patients in Michigan.

Structure. Henry Ford Health System is the Coordinating Center for MSSIC. Support for MSSIC is provided by Blue Cross Blue Shield of Michigan (BCBSM) and Blue Care Network (BCN) as part of the BCBSM Value Partnerships program. MSSIC has 26 hospital sites and has followed over 50,000 patient cases since its “go-live” date in 2013.

A key element of MSSIC is a comprehensive data registry that includes pre-surgical clinical and demographic data, information on the surgical procedure(s) done for each patient and aspects of peri-operative care, and then outcomes of surgery, including any complications or adverse events and a set of patient-reported outcomes. With this registry and an associated real-time interactive “dashboard” showing variations in performance by hospital and surgeon on key quality measures, MSSIC participants can identify best-performing hospitals and best practices, and do site visits to top performers to identify methods that can be replicated to improve outcomes statewide.

Early QI Work. Active, organized quality improvement work began in 2017, with three quality improvement (QI) targets: surgical site infection, urinary retention and readmissions. Significant reductions were noted in all three “target areas” – surgical site infection, readmissions, and urinary retention – just in that one year. Specifically:

- Readmission rate reduction - 4.6%
- Urinary retention rate reduction – 27.6%
- SSI rate reduction – 16.4%

As a result of these reductions, we estimated that BCBSM and other payors potentially saved over \$7 million in costs associated with treating these adverse events in 2017.

MSSIC continued its success in quality improvement in 2018. Results through November showed continued significant improvements in readmission rates and in urinary retention rates:

- 15.1% reduction in readmissions from 2017 to 2018 (from 8.1% to 6.9%);
- 43% reduction in urinary retention rate from 2017 to 2018 (from 8.5% to 4.8%);

Each hospital had a specific area of focus for a QI initiative in 2018; of the 26 hospitals, 18 achieved or exceeded their improvement goal; five others made progress in the right direction but didn’t quite reach the goal.

A number of articles describing either insights gained from the MSSIC registry or QI success were published in peer-reviewed journals, and similar presentations were made at national scientific meetings. Two Neurosurgery residents recently won prestigious national awards for research work related to MSSIC.

Future. Looking forward, MSSIC plans to expand the QI agenda to include a focus on one or more patient-reported outcomes, and to expand collaboration with primary care physicians in important areas like opioid management. In preparation for a post-operative collaboration with PCPs, an “At Risk for Medical Readmission” (ARMR) tool was developed by MSSIC staff to help surgeons determine which patients are at high risk for readmission. Surgeons will request that patients at high risk will have an appointment to see their PCP within 7-10 days of discharge for medical management and to catch exacerbations or complications early. Several surgeons volunteered to be involved with the pilot test which will start February 1st, 2019.