

**SERIOUS COMPLICATIONS**

Hemmila, M. R., Cain-Nielsen, A. H., Jakubus, J. L., Mikhail, J. N., & Dimick, J. B. (2018). Association of Hospital Participation in a Regional Trauma Quality Improvement Collaborative with Patient Outcomes. *JAMA Surg*. This is a comparison of MTQIP participation to ACS-TQIP participation and non-participating hospitals, quality performance regarding complications over time. There was a significant improvement in major complications after (vs before) hospital enrollment in the MTQIP collaborative compared with nonparticipating hospitals.

Hemmila, M. R., Jakubus, J. L., Cain-Nielsen, A. H., Kepros, J. P., Vander Kolk, W. E., Wahl, W. L., & Mikhail, J. N. (2017). The Michigan Trauma Quality Improvement Program: Results from a collaborative quality initiative. *J Trauma Acute Care Surg*, 82(5), 867-876. This is a study of MTQIP collaborative performance over 5 years regarding patient outcomes, resource utilization, and process measures. Collaborative participation significantly reduced serious complications, decreased resource utilization, and improved process measure execution in trauma patients.

Hemmila, M. R., Cain-Nielsen, A. H., Wahl, W. L., Vander Kolk, W. E., Jakubus, J. L., Mikhail, J. N., & Birkmeyer, N. J. (2015). Regional collaborative quality improvement for trauma reduces complications and costs. *J Trauma Acute Care Surg*, 78(1), 78-85; discussion 85-77. This is a single center analysis of quality improvement VTE prophylaxis efforts (consolidation to single VTE prophylaxis agent and dose, focused education of providers, initiation of VTE prophylaxis for all patients with clear exception rules and dose withholding minimization). There was marked VTE reduction after bundle implementation.

Haas, B., Gomez, D., Hemmila, M. R., & Nathens, A. B. (2011). Prevention of complications and successful rescue of patients with serious complications: Characteristics of high-performing trauma centers. *Journal of Trauma*, 70(3), 575-582. This NTDB study examined the extent to which trauma center mortality was reflected by the center's ability to rescue patients with major complications. Centers with low overall mortality are more successful at rescuing patients who experience complications. A lower risk of complications and better care of those with complications are factors in high-performing trauma centers.