

# Development and Implementation of a Metropolitan Orthopaedic Trauma Network

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## INTRODUCTION:

We describe the construction of an integrated network that provides high quality fracture care across competing health systems and community hospitals in a medium sized metropolitan area.

## METHODS:

In recent history, our community of over 3 million people has been served by a dozen hospitals, owned by three large health-systems. Though three Level 1 trauma hospitals serve this community, one is staffed by university employed, trauma-trained surgeons. The remainder of these hospitals previously managed trauma call and fracture care via contracts with private practice orthopaedic surgery groups or locum tenens services.

We established a network of surgeons with a dedicated trauma career focus to partner with these hospitals, with strong support of the infrastructure at our flagship Level 1 center. Prior to implementation, an assessment of trauma volumes and resources as well as opportunity at each site was studied. Investments in programmatic, academic, administrative, and clinical resources were scoped on a per hospital basis. A leadership model and principles of engagement were defined. A trauma led, trauma trained, trauma team and culture were developed within each hospital.

## RESULTS:

Since 2018, the senior Medical Director orthopaedic trauma surgeon and his team have built a group of twenty orthopaedic trauma surgeons, twenty-six advanced care practitioners, across seven hospitals in three health systems, including a Level 1 Children's hospital, a Level 2 Trauma Hospital, and four Level 3 hospitals, anchored by our Level 1 University Teaching Trauma Center.

The network has implemented metro-wide quarterly meetings, established an academic 501C<sub>3</sub> society, invested in and shared a patient-reported outcomes database, and an expanded educational experience for the trauma and combined adult reconstruction/trauma fellows. From 2018 - present day, surgeons within the network have published 168 manuscripts and trained 14 Trauma and Combined Arthroplasty and Trauma (CART) fellows.

As a measure of validation, we examined volumes across five sites, before and after implementation of the trauma network. We demonstrate a mean of 250% growth in trauma case volumes at all the community hospitals with concomitant growth at our Level 1 trauma center. (Figure 1)

## DISCUSSION AND CONCLUSION:

This metropolitan trauma network was developed to pursue exceptional care of fractured patients, through teaching, learning, tracking, and sharing results, while growing a team of likeminded professionals dedicated to a single hospital providing superior care. This model may provide a blueprint for the creation of trauma networks to better serve communities by connecting fracture specialists to patients with fractures. These networks can provide much greater work not only clinically but for other causes in the academic and patient care mission.

