

# Impact of direct-to-operating room transfer protocol for ruptured abdominal aortic aneurysm (rAAA)

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## Background

- rAAA carries high mortality, with up to 59% of patients requiring interhospital transfer for repair
- To expedite aortic emergency treatment, Northwestern Memorial Hospital (NMH) instituted a multidisciplinary direct-to-operating room transfer protocol (DOR) in Jan 2020

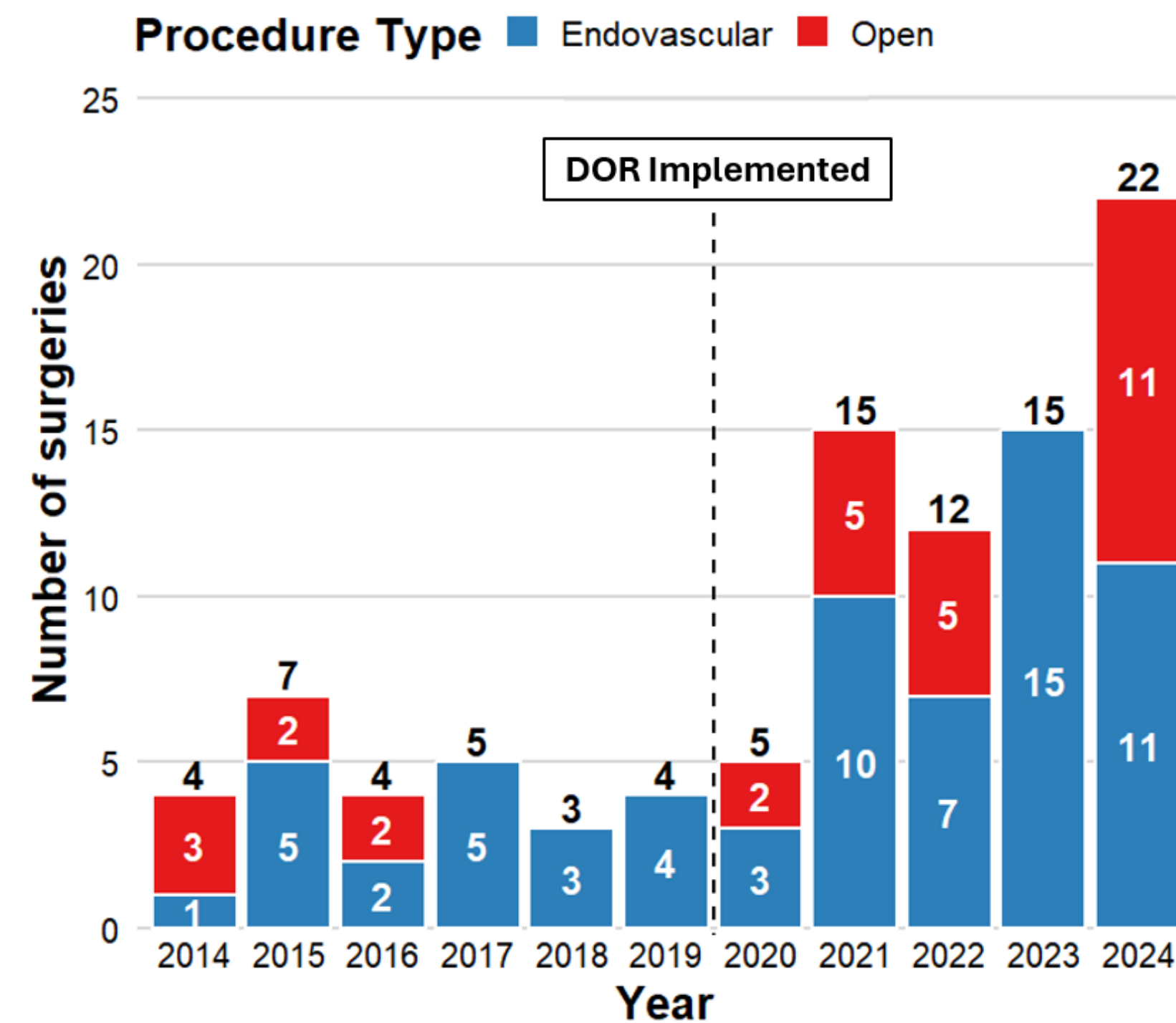
## Objective

- To evaluate the impact of DOR on rAAA repair volume, transfer patterns, time to treatment, and surgical outcomes

## Methods

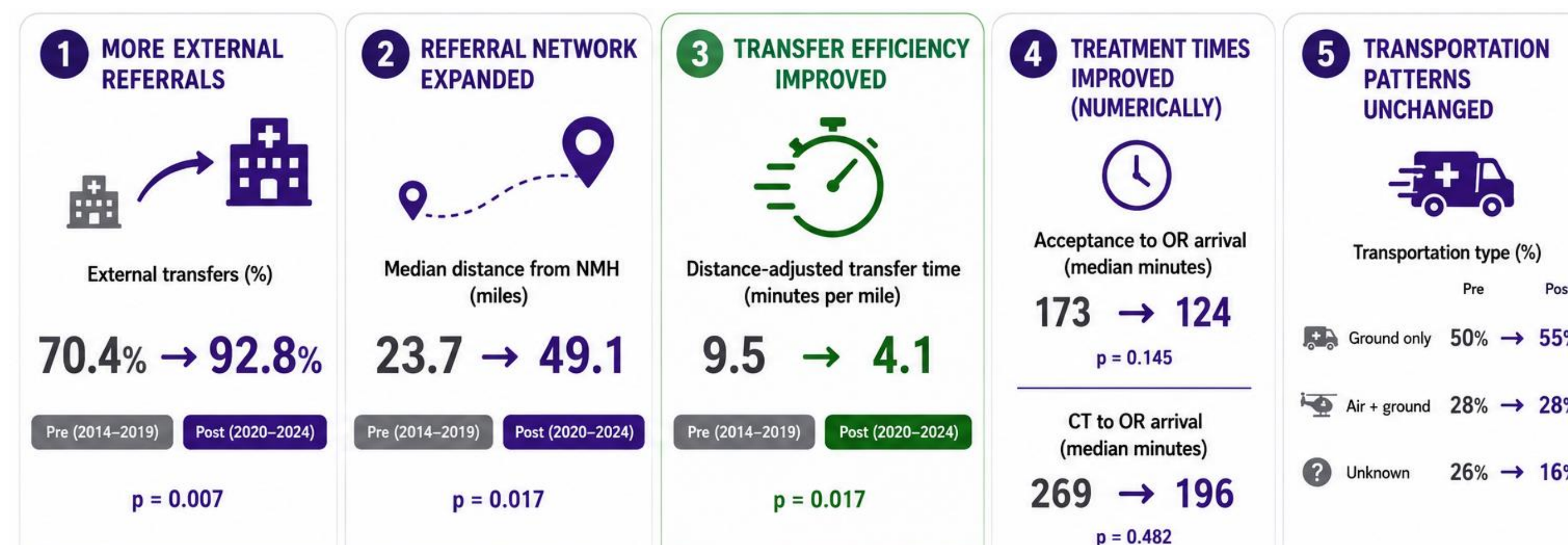
- Retrospective single-center cohort study** of patients undergoing rAAA repair at NMH from 2014–2024
- Patients identified using institutional databases, Vascular Quality Initiative, and prospectively maintained acute aortic registry
- Patients were **stratified into pre- (2014–2019) and post-DOR implementation (2020–2024) cohorts**
- 96 patients underwent rAAA surgery (pre-DOR: 27 (28.1%), post-DOR: 69 (71.9%); mean age 72.4 yrs, 76.0% male)

## Results

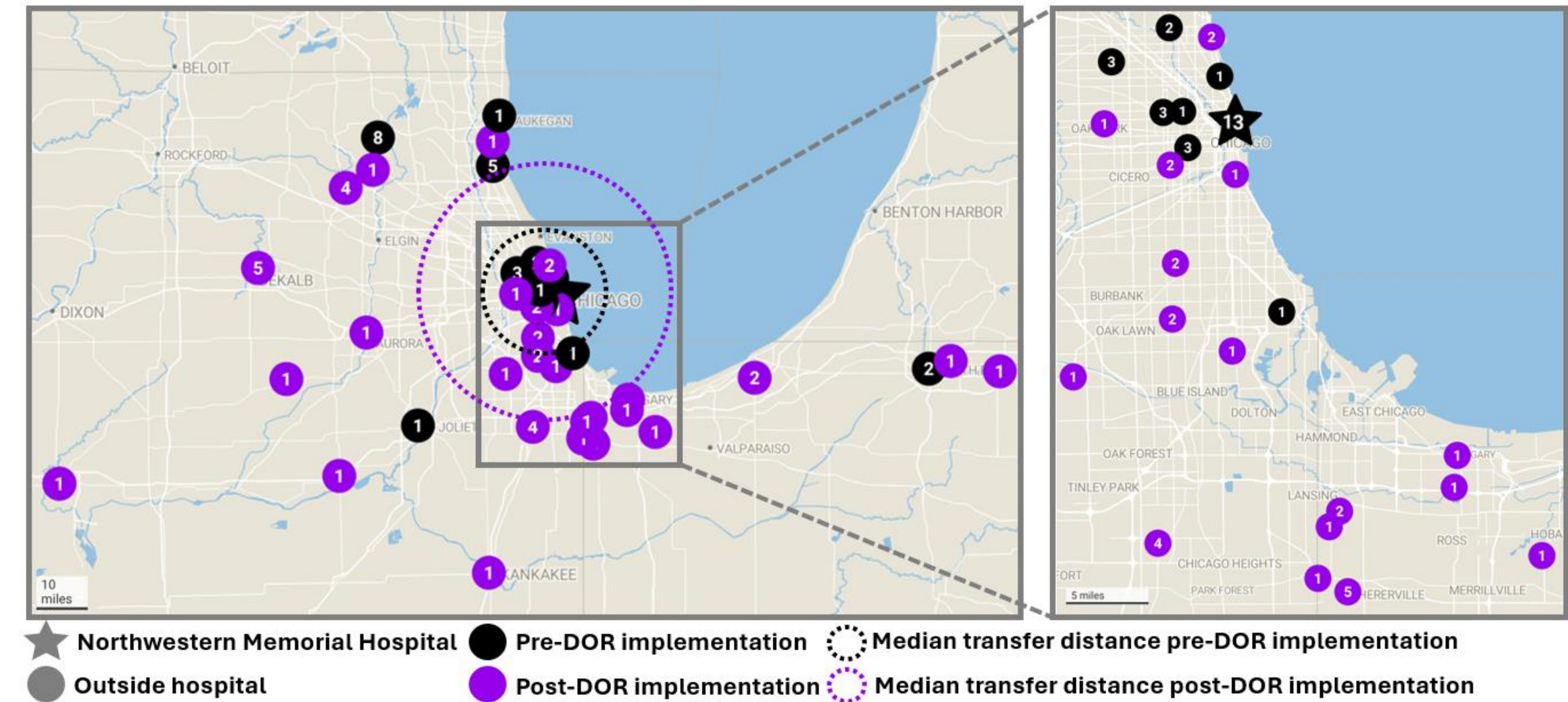


**Figure 1:** Annual rAAA repair volume before and after implementation of DOR.

- DOR implementation **increased annual rAAA repair volume from 4.5 to 13.8 repairs/year**, most were performed endovascularly (68.8%) (Fig 1.)



- Perioperative and 30-day outcomes remained comparable between cohorts



**Figure 2:** Geographic distribution of presentation sites for patients undergoing ruptured abdominal aortic aneurysm repair before (black) and after (purple) DOR implementation. Numbers indicate patients per site.

## Take Home Message

- DOR implementation was associated with a **threefold increase in rAAA repair volume**
- Transfer efficiency improved**, with a 57% reduction in distance-adjusted transfer time
- Regional referral networks expanded**, with more external transfers and longer transfer distances
- Despite broader regionalization and longer transfer distances, **clinical outcomes remained comparable** suggesting that expanded access **did not compromise patient care**