

Assessing Urban-Regional Disparities in STEMI Outcomes

Margaret Kruthoff MD, Bryan Henry MD, FACC



BACKGROUND

- Large rural-urban gaps in the clinical outcomes for acute cardiovascular conditions remain in the Northeastern US.
- Regional systems of care have helped facilitate timely transfer of patients with STEMI from rural hospitals to those with PCI/CABG capabilities.
- Geographically-targeted public health strategies are needed to improve care delivery for acute cardiovascular conditions in rural areas.

METHODS

- Conducted a review of the electronic medical record and partnered with the UR Medicine Quality Institute to obtain demographic; in-hospital, 30-, 90-day, and >90-day-1 year mortality; cardiology follow-up appointment date, cardiac rehab attendance, and medication data for a sample population of all adult patients admitted to Strong Memorial Hospital (SMH) in 2021.

RESULTS

- Population: 369 acute STEMI patients admitted to SMH in 2021. More than half (58%) lived in regional areas surrounding Monroe County. Thirty percent were women and the average age during admission for STEMI was 64 years.
- 1 year mortality rate for patients hospitalized with a STEMI residing in regional areas was 8.2% (18/219), within Monroe County it was 7.3% (11/150), and for residents of the city of Rochester it was 10.2% (9/88).
- Cardiology follow up within 2 weeks of hospital discharge rates and cardiac rehab attendance were lower for regional patients as compared to Monroe County patients.
- The proportion of patients prescribed comprehensive medical therapy for post-PCI coronary artery disease was at least 83% regardless of stratification by zip code.

We found **disparities** in STEMI outcomes between **Monroe County** and **regional area** residents, with trends displaying increased mortality for inner-city residents, lower cardiology follow-up rates and cardiac rehab attendance for regional patients, and similar, high rates of post-STEMI medical therapy regardless of geographical location.

MORTALITY HEAT MAP - CREATED JAN 2023

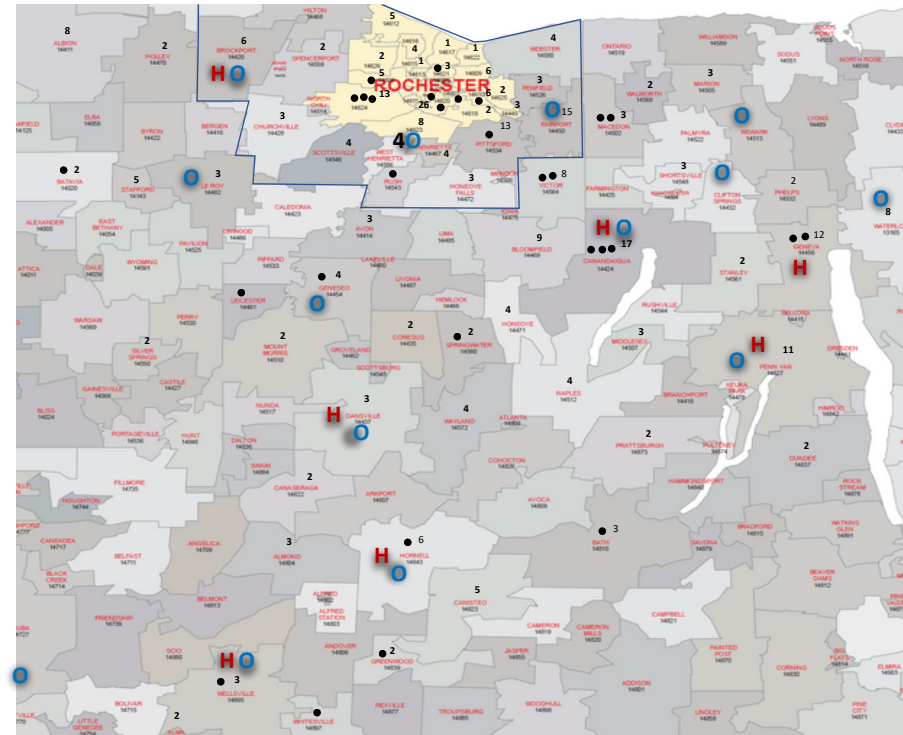
2021 STEMI
369 Total Cases
 88 from City Rochester
 150 from Monroe County
 219 from the region

Total 29/369 = 7.8 %
 Hospital 14/369 = 3.8%
 <30days 4/369 = 1.1%
 <90 days 5/369 = 1.4%
 >90 days 6/369 = 1.6%

62% (18/29) = Regional
 (50% of which were transfers to SMH)

Overall Mortality Rate:
7% Monroe vs. 8% Regional
10% City of Rochester

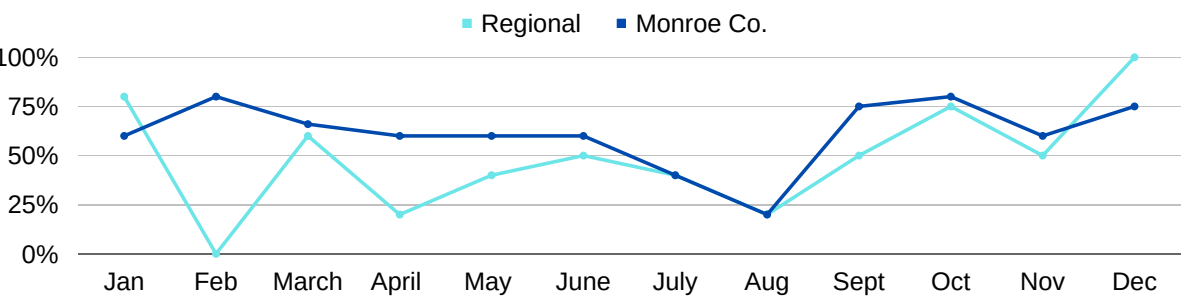
● 1 year Mortality Cases
 H URMC Affiliate Hospital
 O URMC Cardiology Offices
 (Rochester/SMH/HH not included)



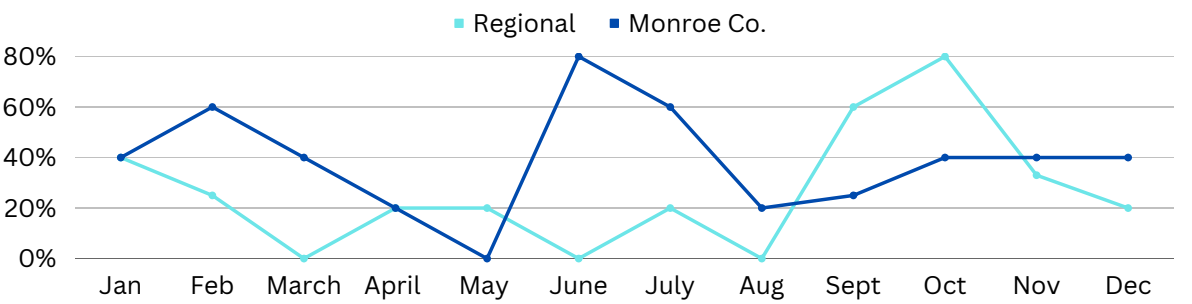
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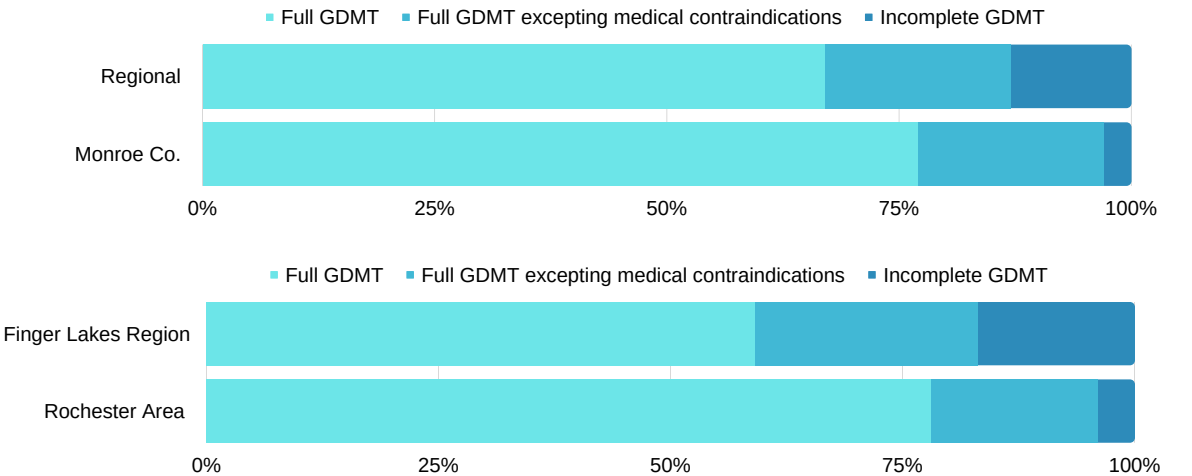
2-WEEK CARDIOLOGY OFFICE VISIT RATE



CARDIAC REHAB ATTENDANCE



POST-STEMI MEDICAL THERAPY



- Full GDMT: aspirin, P2Y12 inhibitor, BB, ACE inhibitor or ARB, and high-intensity statin
- Rochester Area: SMH, HH, CC, Red Creek, Irondequoit, Brighton, Penfield, Brockport/Strong West
- Finger Lakes Region: Canandaigua/Farmington, Clifton Springs, Danville, Geneseo, Geneva/Penn Yan, Hornell, Wellsville
- n=172 patients; Regional = 86, Monroe co. = 87, Finger Lakes Region = 54, Rochester area = 119

LIMITATIONS & NEXT STEPS

- Yet to stratify by low vs high socioeconomic status or address SDoH
- Infrastructure (e.g. only one regional cardiac rehab program at F.F. Thompson Hospital in 2021)
- Access, cost, and patient preference for cardiac rehab
- Plan to 1) Disseminate findings with regional cardiologists; 2) Examine gaps in GDMT; 3) Re-assess after possible implementation of remote cardiac rehab pilot