

2022 MID-ATLANTIC CONFERENCE
10th ANNUAL CURRENT CONCEPTS IN
VASCULAR THERAPIES

2022



Hilton Virginia Beach Oceanfront
Virginia Beach, Virginia

APRIL 28-30



Sentara Vascular Specialists



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VASCULAR THERAPIES

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**SHOULD AORTIC
CARE BE
REGIONALIZED?**

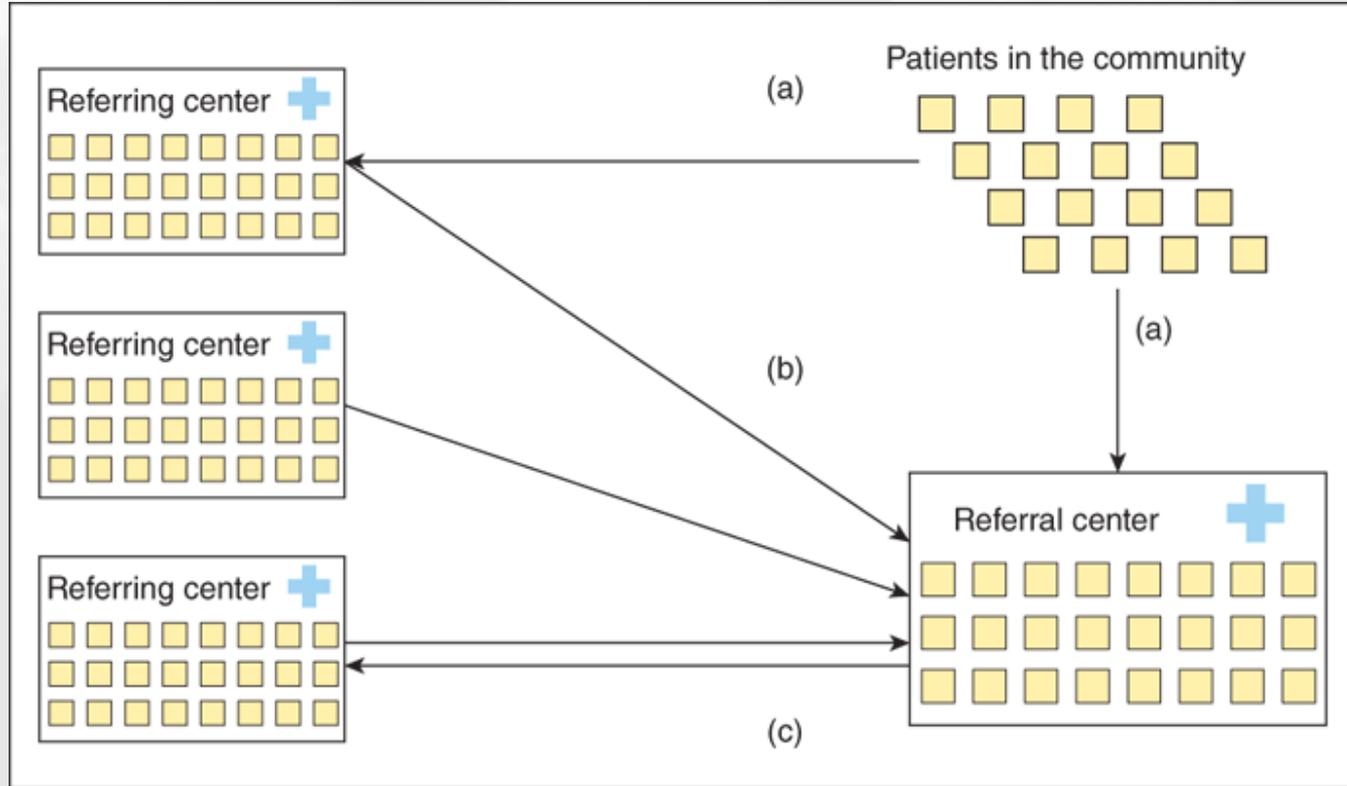
Outline

- Definition
- Reinventing the wheel?
- Low volume
- Advantages: outcome, cost, training, decreased treatment times, efficiency, quality, market coverage
- High volume surgeon versus high volume hospital
- Barriers
- Disadvantages: inconvenient, need for transfer, community physician (clinical skills, knowledge gap), community hospital (inadequate equipment, income loss)
- What are we doing here at Sentara (aortic alert, hybrid OR, MDC, dedicated team, education, research)
- Conclusions



Definition

- ✓ Regionalization of healthcare: shifting of care to designated centers within a certain system or region
- ✓ Hub and spoke model



Source: John M. Oropello, Stephen M. Pastores, Vladimir Kvetan: Critical Care
www.accessmedicine.com
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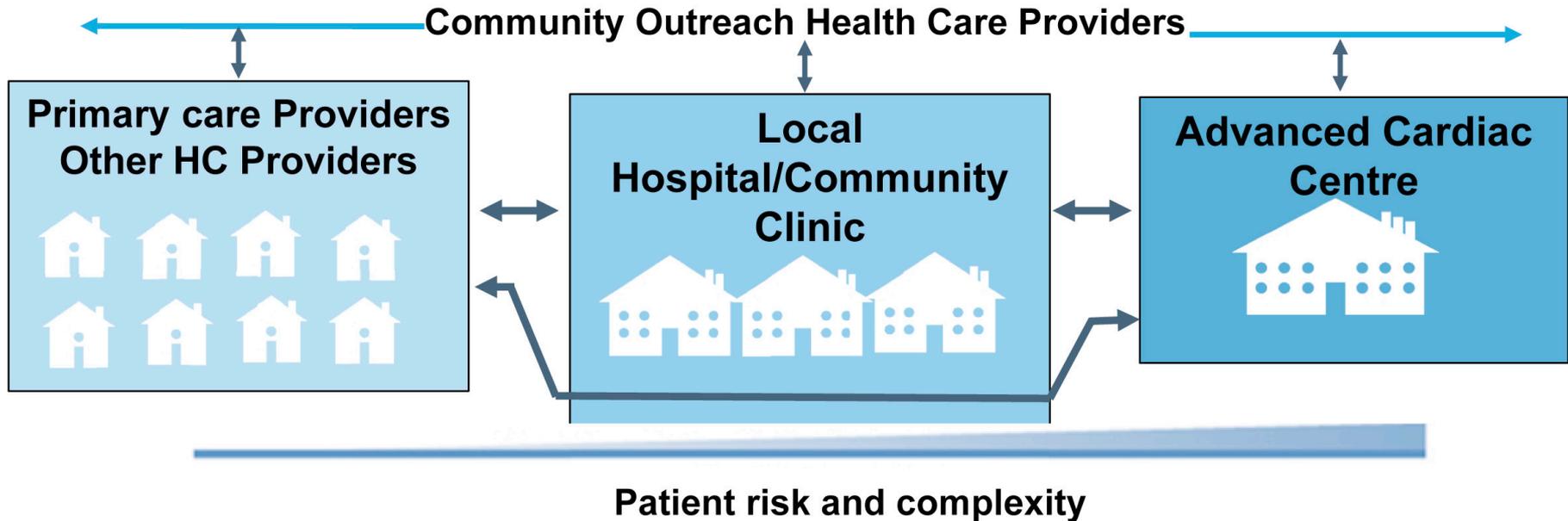
**Stable, low risk patient,
few co-morbidities**



**Moderate risk, multiple,
stable co-morbidities**



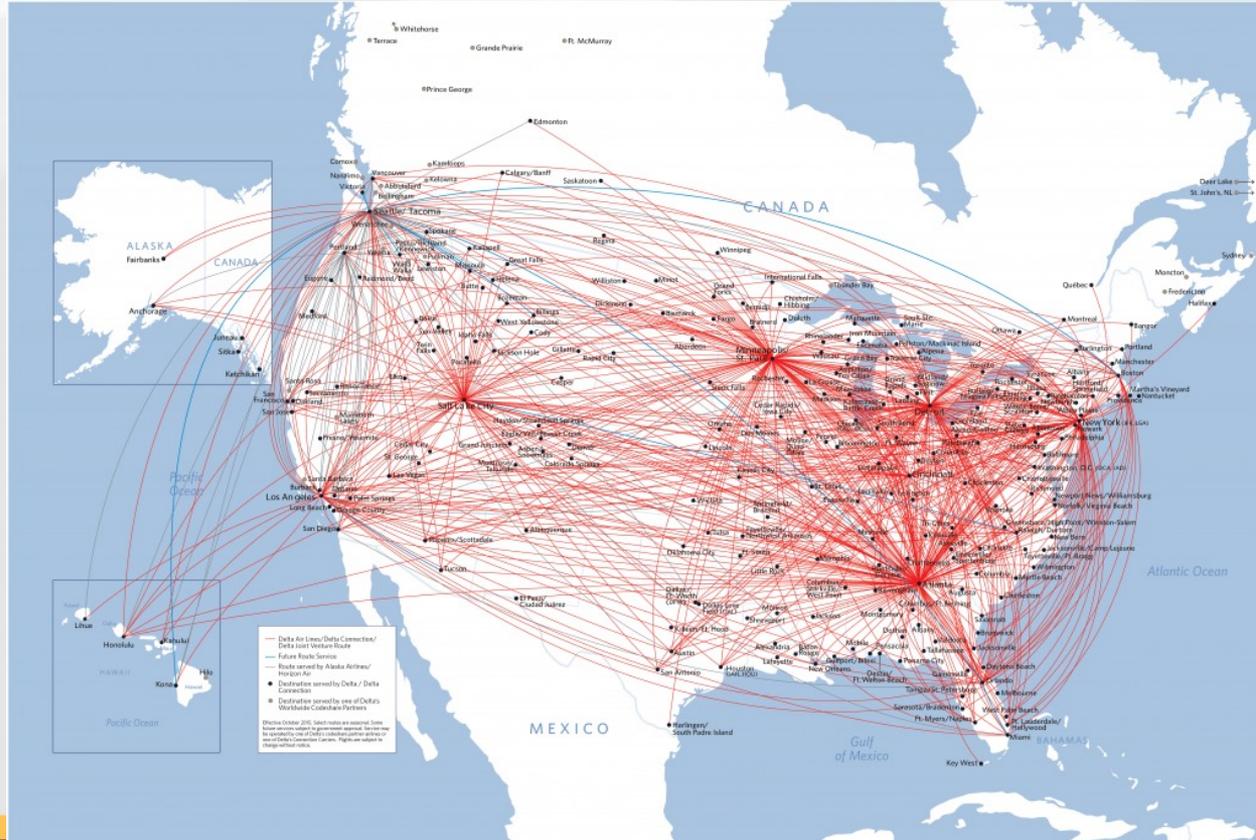
**High risk, multiple co-
morbidities, complex needs**



Two way **communication** between Levels of care: Face-to-face visits, phone, e-consult

Are we reinventing the wheel?

- Aviation industry
- Amazon, Target
- Other medical specialties



High volume center, a new buzzword?



high volume center



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2023



What about a low volume center

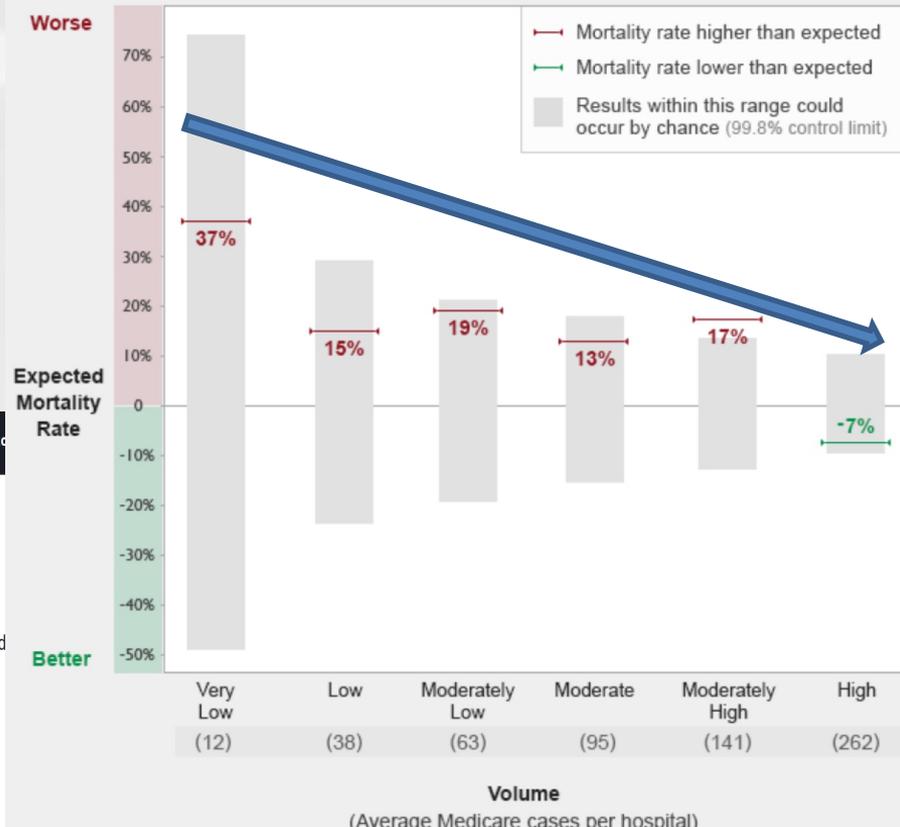
- 11000 hospital deaths could be prevented between 2010-2012 if patients from the lowest 5th volume center were treated at the highest 5th centers

Risks Are High at Low-Volume Hospitals

Patients at thousands of hospitals face greater risks from common operations, simply because the surgical teams don't have enough practice.

By [Steve Sternberg](#) and [Geoff Dougherty](#) | May 18, 2015, at 12:01 a.m.

More Cases, Fewer Deaths: Heart Bypass Surgery



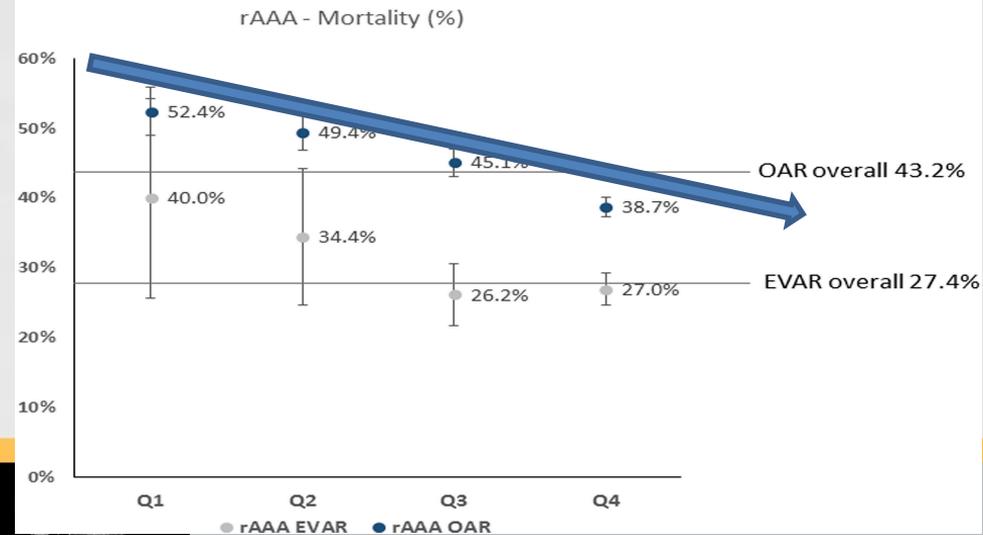
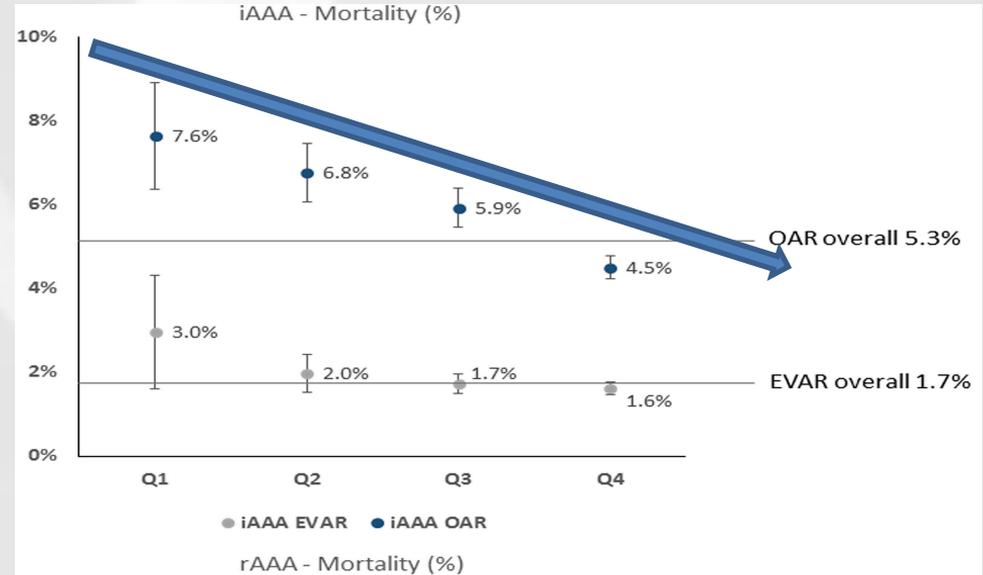
Advantages

- Improved outcomes (mortality, length of stay, hospital complications)
- Decreased cost of care
- Improved efficiency
- Enhancing team skill (MDs, RNs, other staff)
- Better healthcare coverage?
- Education and research



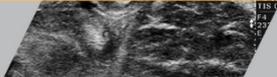
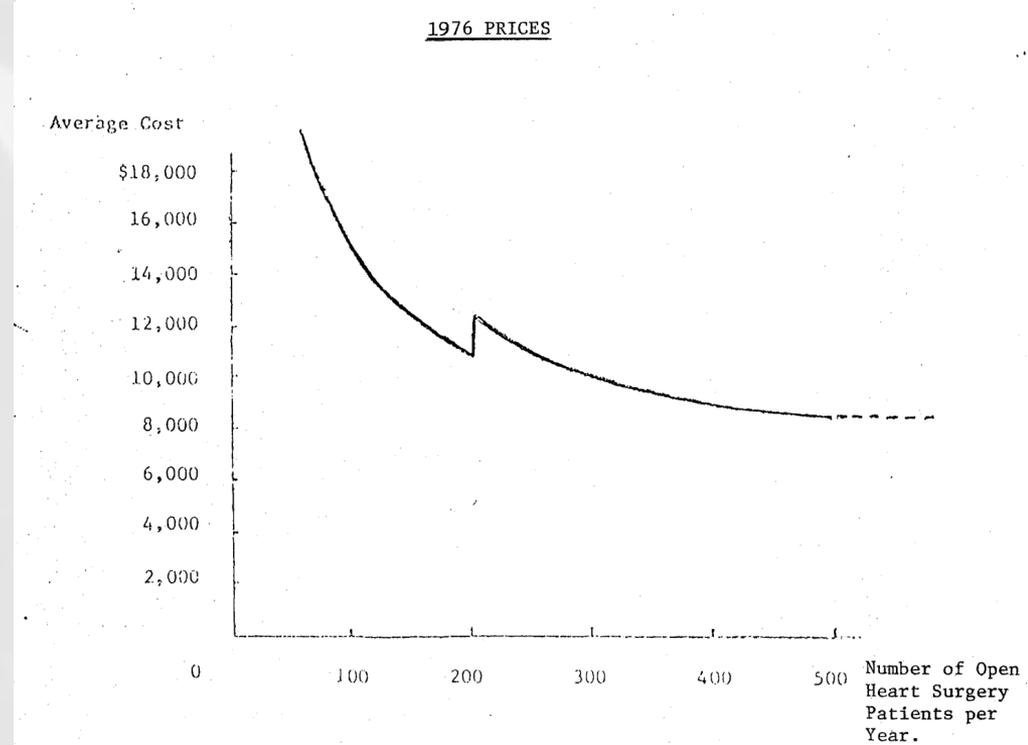
Advantages

- Mortality: rAAA and iAAA mortality (HR 1.73, 1.61) Q1 vs Q4
- Secondary outcomes: ICU stay, amputation, blood transfusion, bowel resection
- Q1 <5, Q4 > 30



Advantages

- Cost of care: decreased construction, training, equipment



Advantages

- Resident/Fellow training for open aortic surgery

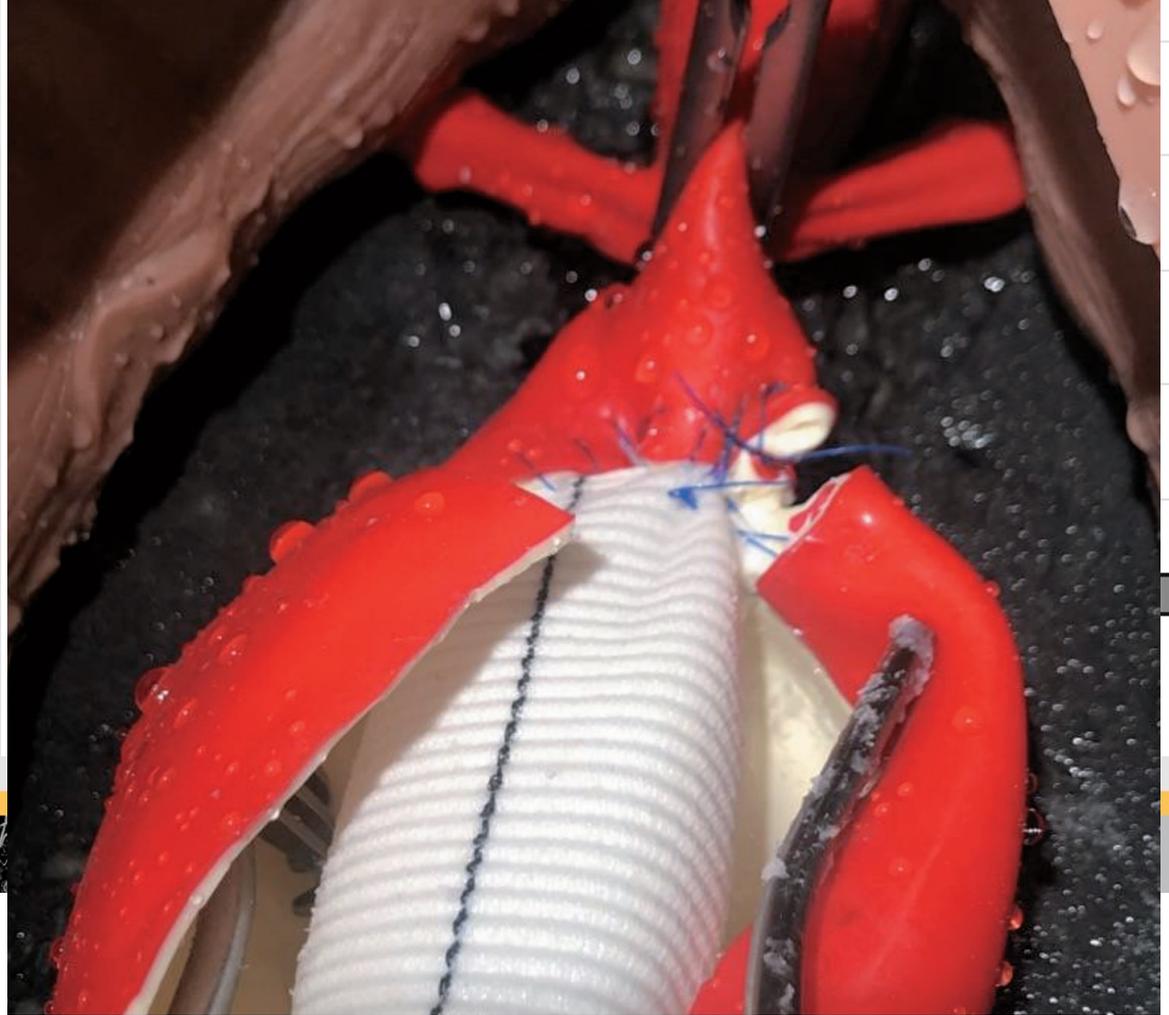


Figure 1.—Example of a failed aortic anastomosis.



Advanta

- Quality of care
- Training and research

Declining institutional memory of open abdominal aortic aneurysm repair

Anna Kinio ¹, Tim Ramsay ², Prasad Jetty ³, Sudhir Nagpal ⁴

Affiliations + expand

PMID: 32712346 DOI: [10.1016/j.jvs.2020.06.001](https://doi.org/10.1016/j.jvs.2020.06.001)

Abstract

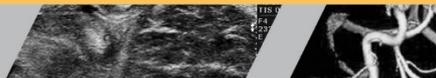
Objective: Since its introduction, endovascular treatment of abdominal aortic aneurysms (AAA) has led to a reduction in perioperative ef

The objective of this study was to de

Methods: A retrospective cohort of consecutive juxtarenal AAA (2014-2017) and consecutive juxtarenal AAA controls (2005-2007)

Compared open juxtarenal AAA repair outcomes from 2005-2007 to 2014-2017

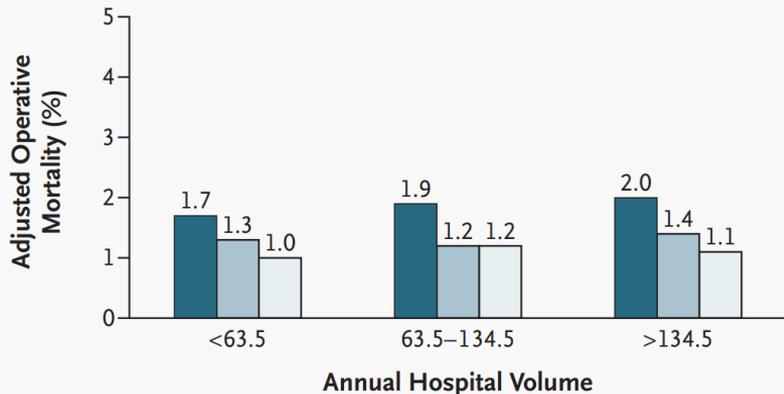
- 61% less surgeries
- Higher OR time, anesthesia time
- Higher complications/death



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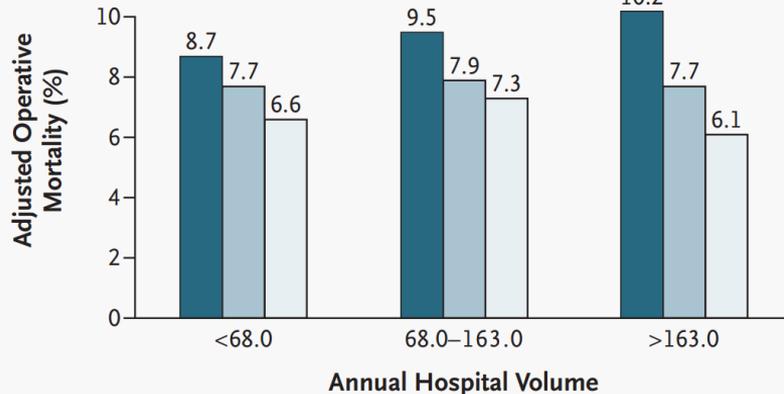
Carotid Endarterectomy

Surgeon volume: ■ <18.0 ■ 18.0–40.0 □ >40.0



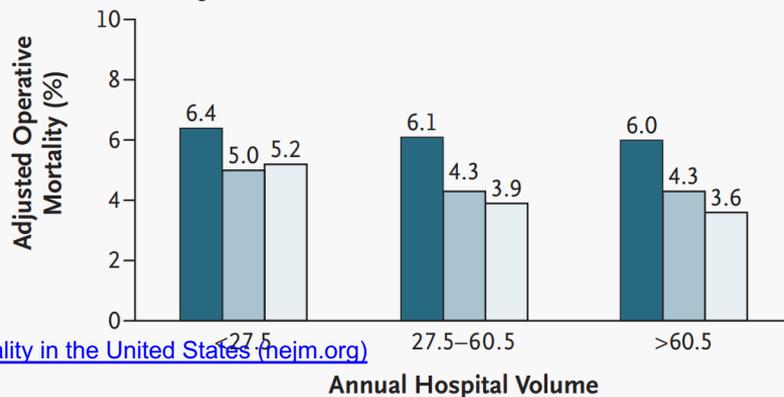
Aortic-Valve Replacement

Surgeon volume: ■ <22.0 ■ 22.0–42.0 □ >42.0



Elective Repair of an Abdominal Aortic Aneurysm

Surgeon volume: ■ <8.0 ■ 8.0–17.5 □ >17.5



Surgeon volume and hospital volume both are important.

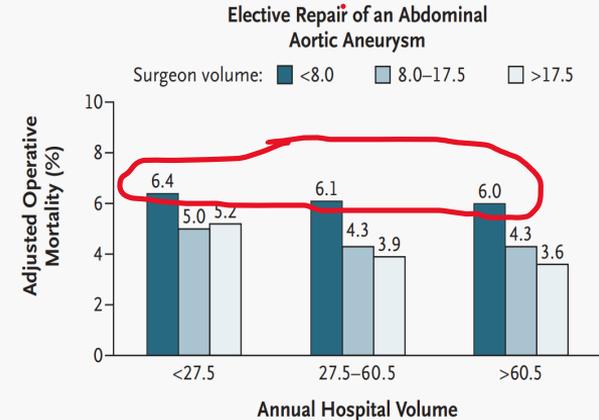
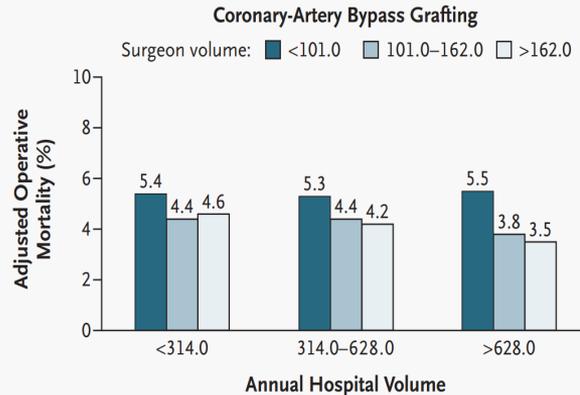
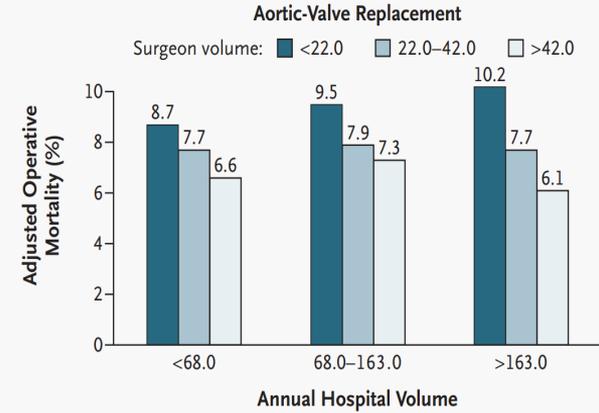
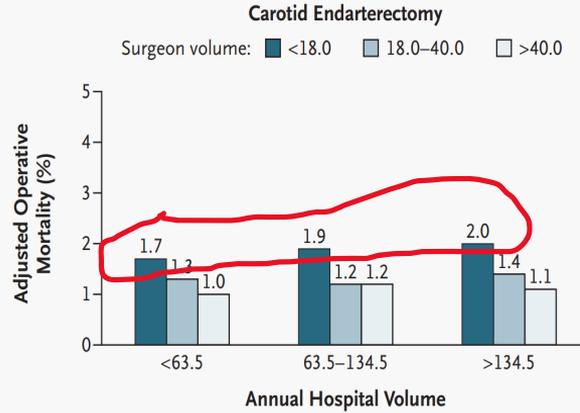
CEA vs AAA surgery

[Surgeon Volume and Operative Mortality in the United States \(nejm.org\)](https://www.nejm.org)

But wait!

Surgeon volume vs hospital volume

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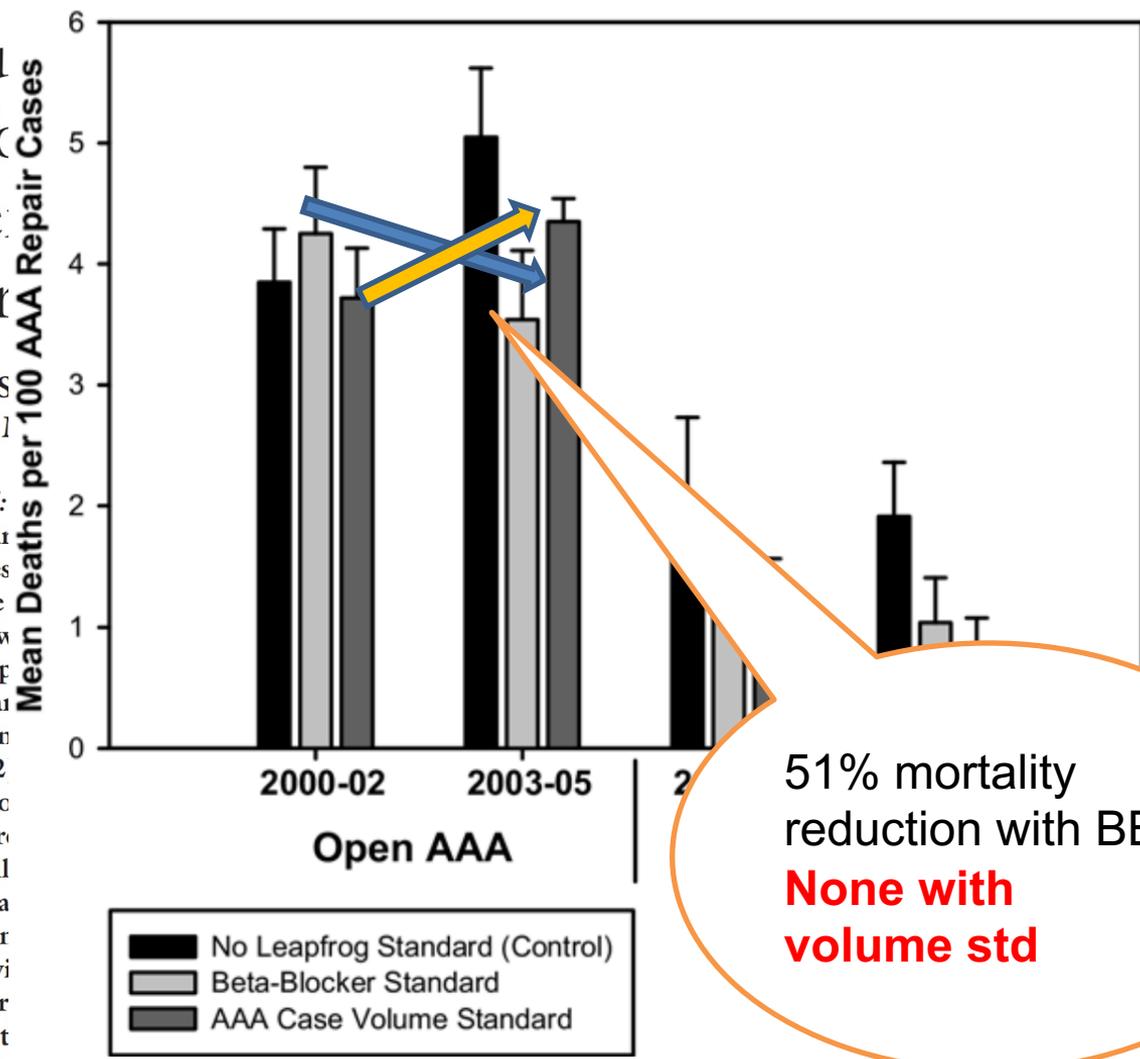


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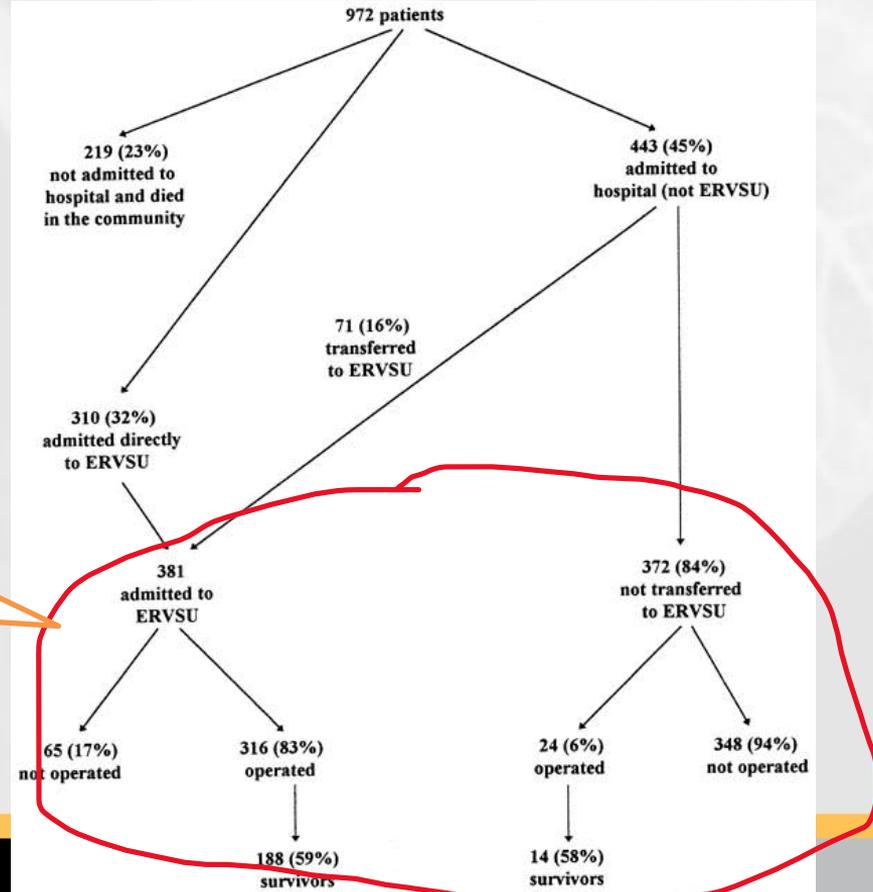
51% mortality
reduction with BB
**None with
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But wait!

What about those who cannot be transferred

No survival advantage to transfer with rAAA to a high volume center

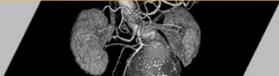
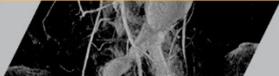
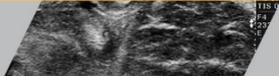


[Community and hospital outcome from ruptured abdominal aortic aneurysm within the catchment area of a regional vascular surgical service - Journal of Vascular Surgery \(ivasc.org\)](http://ivasc.org)



Other factors

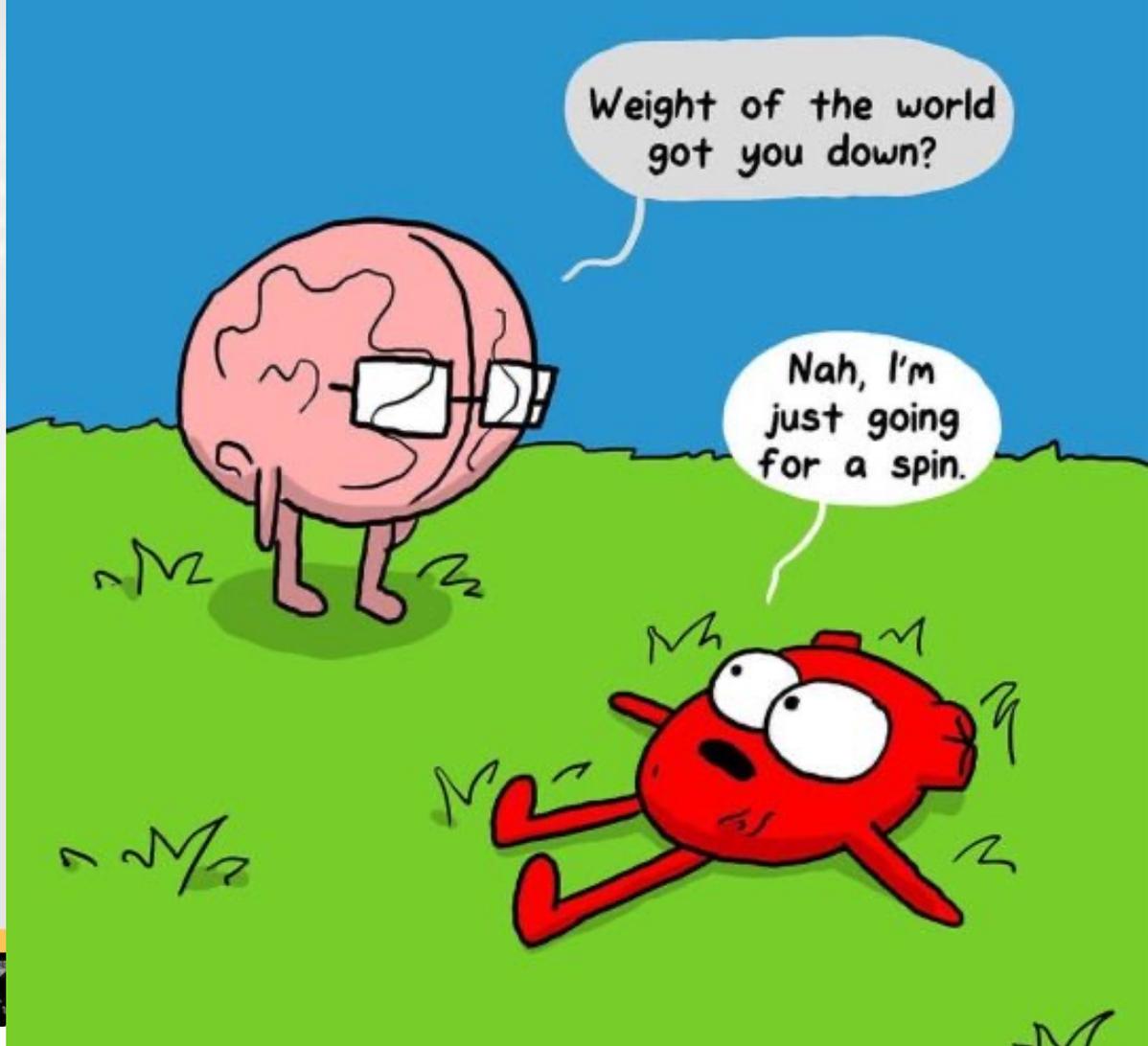
- Patient preference for local hospital
- “Distance decay”
- Knowledge and technology gap among hospitals
- Income loss for smaller community hospitals



So whats the answer

- Repair and transfer?
- Bidirectional hub and spoke
- Enhanced outreach and community education





Weight of the world
got you down?

Nah, I'm
just going
for a spin.

Whats happening here?

- Aortic alert process
- Treatment protocols
- Multidisciplinary conference and clinic
- Hybrid operating room
- Dedicated team (MDs, RNs, Techs, ICU)
- Education, research, outreach



Questions

