Many are called, but few are chosen: the case against proliferation of trauma centers

Nicholas Namias, MD, MBA, FACS, FCCM
Professor and Chief, Division of Acute Care Surgery
University of Miami - Miller School of Medicine
Ryder Trauma Center – Jackson Memorial Hospital
Miami, FL

Conflicts of interest

- I come from a state where there has been proliferation of trauma centers.
- My system had an existing, established, Level 1, and I actively opposed proliferation
- My system has since opened a Level 2 and in the new reality we are in, I actively support it being allowed to open
- Nobody is paying me anything to express my own opinion here today – but the ACS is covering my costs

American College of Surgeons
Inspiring Quality:
Highest Standards, Better Outcomes
100+years

The Committee on Trauma

NHTSA

NIH

The invitation is open

- Trauma centers historically improve outcomes
- Trauma center needs are based on
  - Population
  - Incidence of trauma
  - Geography affecting travel
- Historical challenge was to have *enough* trauma centers

The paradigm has changed

- Trauma centers can be good business
  - Activation fees
  - Halo effect
  - Synergies
  - Opportunity to increase charity care
  - Opportunity to share in trauma specific revenue streams
- The new problem is knowing when we have enough trauma centers

The paradigm has changed

- Trauma centers provide structure
  - Requirements for specialists
  - Requirements for resources
  - Requirements for quality review (but not necessarily quality)
  - Gain imprimateur of a larger body
    - State
    - ACS

Florida's story

- Expansion from 20 trauma centers in 2010 to 33 centers in 2017 – *with 14 letters of intent for next cycle*
- Continuous litigation
- DOH in the middle
  - Regulatory capture
  - Administrative law judge's decisions not binding
- How do you determine need?

Governor's Health Care Priority

- Complete deregulation of trauma centers
- Free market
- Latest version of Florida trauma center apportionment rule called for MINIMUM number of centers per service area!
- Where will the ACS fall on this?
  - I think ACS should verify need as a prerequisite

Mature system

Ciesla et al, 2017, JOT, epub ahead of print

- In 2010, 98% of Florida residents could reach a major trauma center within 60 minutes. (1,2)

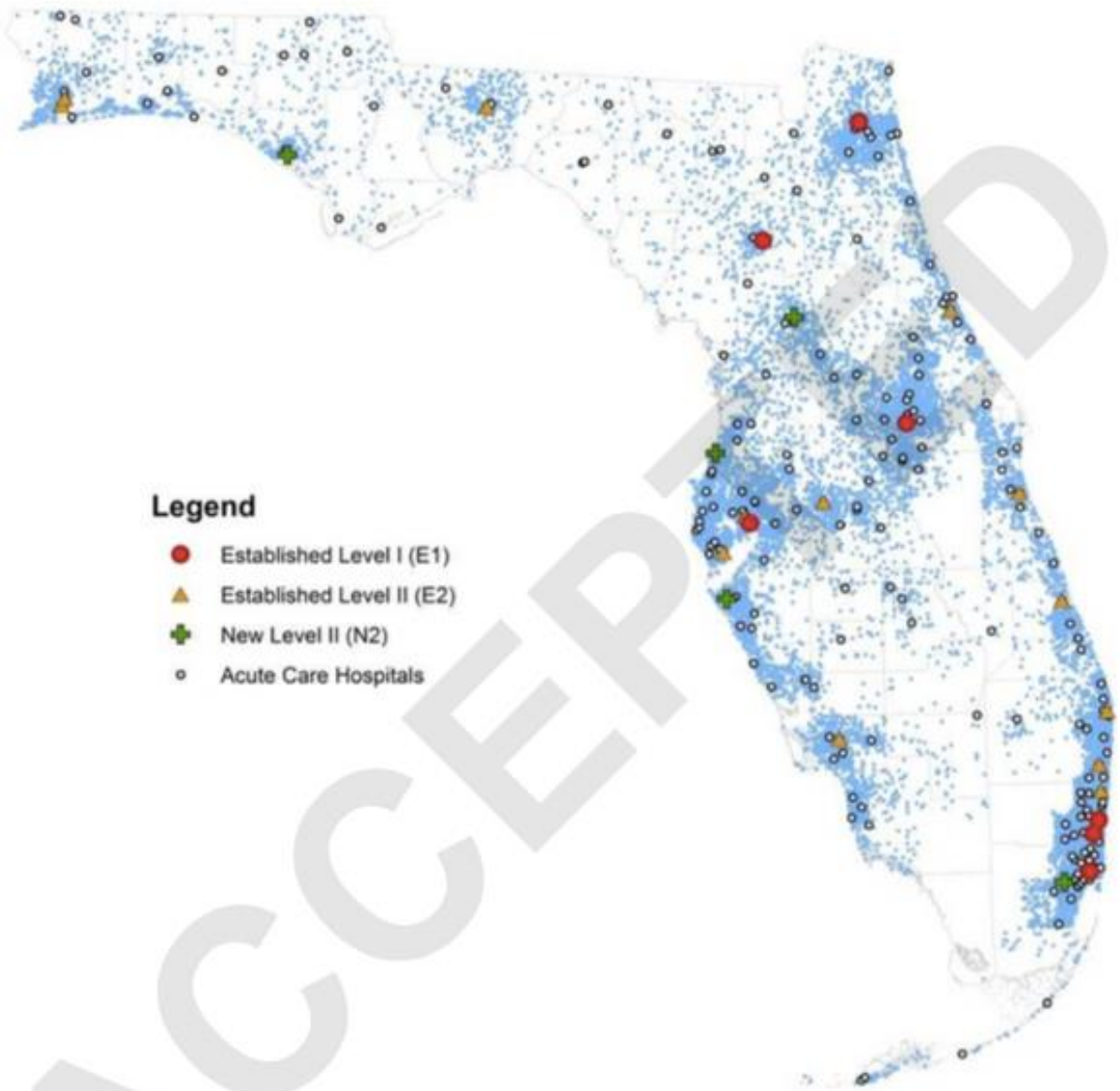
1.Mann NC, Mackenzie, E, Teitelbaum, SD, Wright, D, Anderson, C. Trauma system structure and viability in the current healthcare environment: a state-by-state assessment. J Trauma. 2005;58(1):136-147.

2.Carr BG BC. TraumaMaps.org Trauma Center Maps. Trustees of the University of Pennsylvania Available from: wwwtraumamapsorg. 2014:accessed 8-11-16.

Florida's story

The trauma ecosystem: The impact and economics of new trauma centers on a mature statewide trauma system

- 5 new centers in 4 years
- 4 of 5 in proximity to established level 1
- Overtriage increased
- Undertriage no change
- New level 2 centers increased self pay and commercial
- Established centers decreased self pay and commercial



Florida's story

The trauma ecosystem: The impact and economics of new trauma centers on a mature statewide trauma system

- Population increase – 4.7%
- Injury discharges increase – 13%
- Pre-hospital trauma alert increase – 30%
- Injured patient charges increased 47%

Free Market?

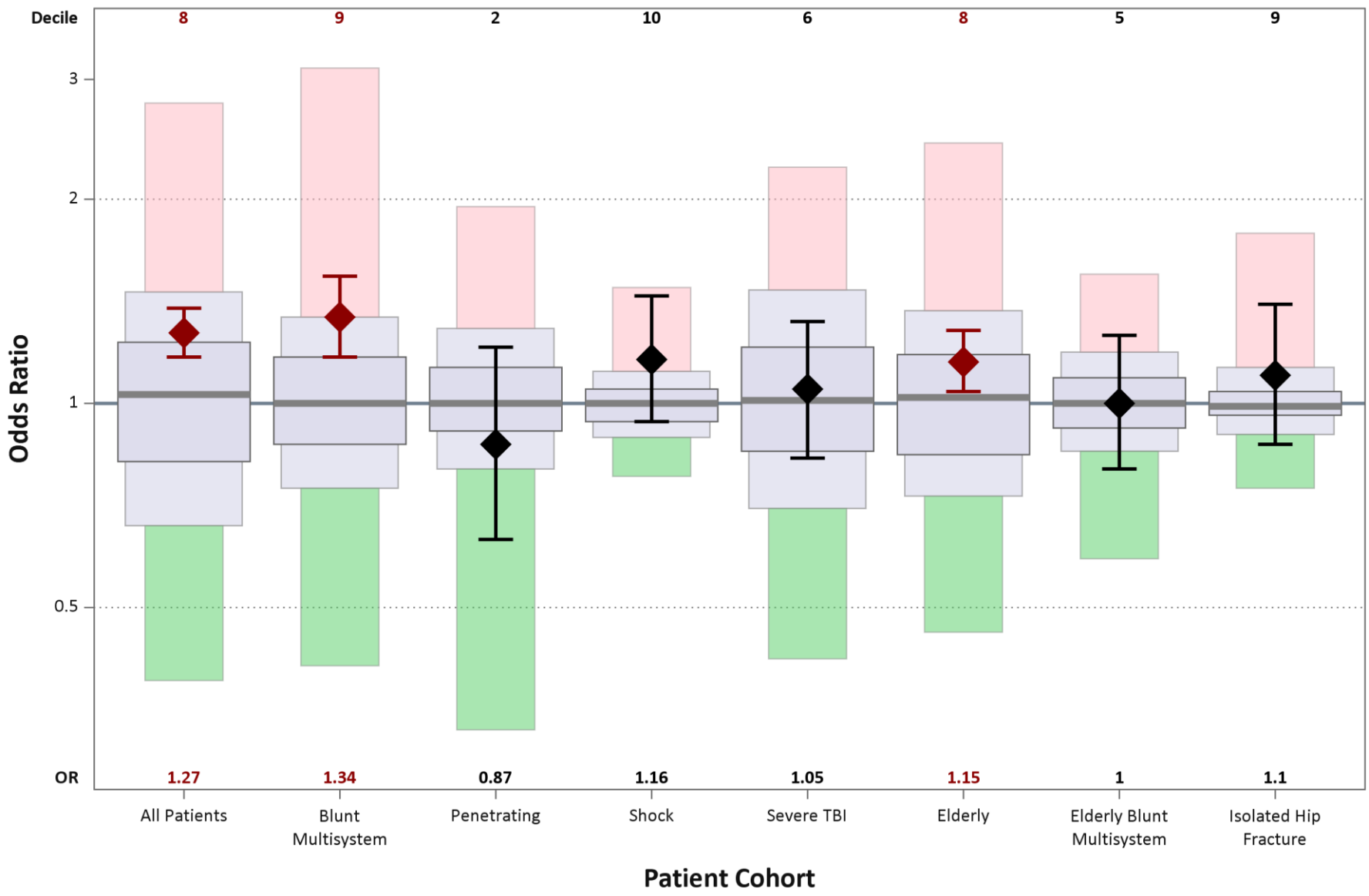
- Charges for injured patients at new Level 2 centers in Florida, 2010 vs 2014

Government (%)	2577 (71%)	4881 (53%)
Total (million)	$140.7	$561.8

- Is it really a “free market” if all the charge is to the government?

Outcomes

- Florida collaborative
  - Not good
  - National high outlier for mortality
  - But we have no pre – proliferation comparator


Risk-Adjusted Mortality by Cohort
TQIP Report ID: Florida
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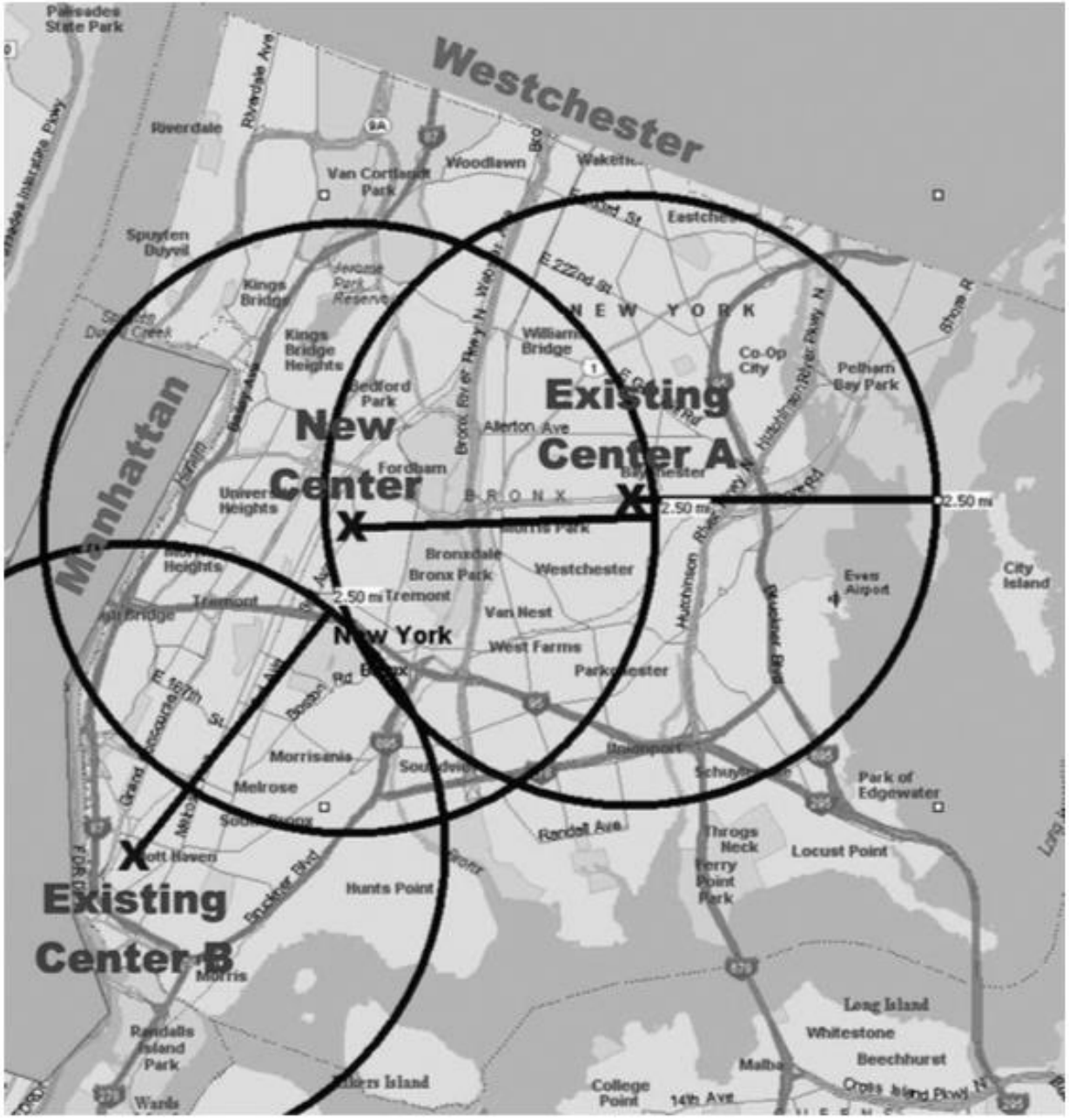
8
9
2
10
6
8
5
9
Odds Ratio
3
2
1
0.5
OR
1.27
1.34
0.87
1.16
1.05
1.15
1
1.1
All Patients
Blunt Multisystem
Penetrating
Shock
Severe TBI
Elderly
Elderly Blunt Multisystem
Isolated Hip Fracture
Patient Cohort

Conclusions

- Outcomes are poor in a state with proliferation of trauma centers (don't know what they were before)
- Proliferation induced a competitive spirit, but not competition
- Outcome to volume relationship can only be hurt by increasing number of trauma centers
- Simon et al –NYC – opening a new Level 2 near an established Level 1 worsened outcomes at the Level 1 and introduced challenges in training



Conclusions

- Either – enough trauma centers to get 98% of the population to a trauma center in <60 minutes is enough
- Or – Outcomes were even worse before, and by increasing trauma centers from 20 to 33, and by increasing charges 47%, we still haven't come into line with acceptable mortality rates
- I think it's the former

Few should be chosen

- Is there an outcome deficit?
- Is it because there is no trauma center to go to?
- Sustainability of the system
- Maintenance of training and education
- Cost to society