

Policy approaches to improving sepsis diagnosis

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Disclosures

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Policy levers for quality improvement

Lever	Example
Market incentives	Public reporting
Resource allocation	HITECH/meaningful use
Regulation	Performance mandates
Financial incentives	Pay for performance

Bringing Diagnosis Into the Quality and Safety Equations

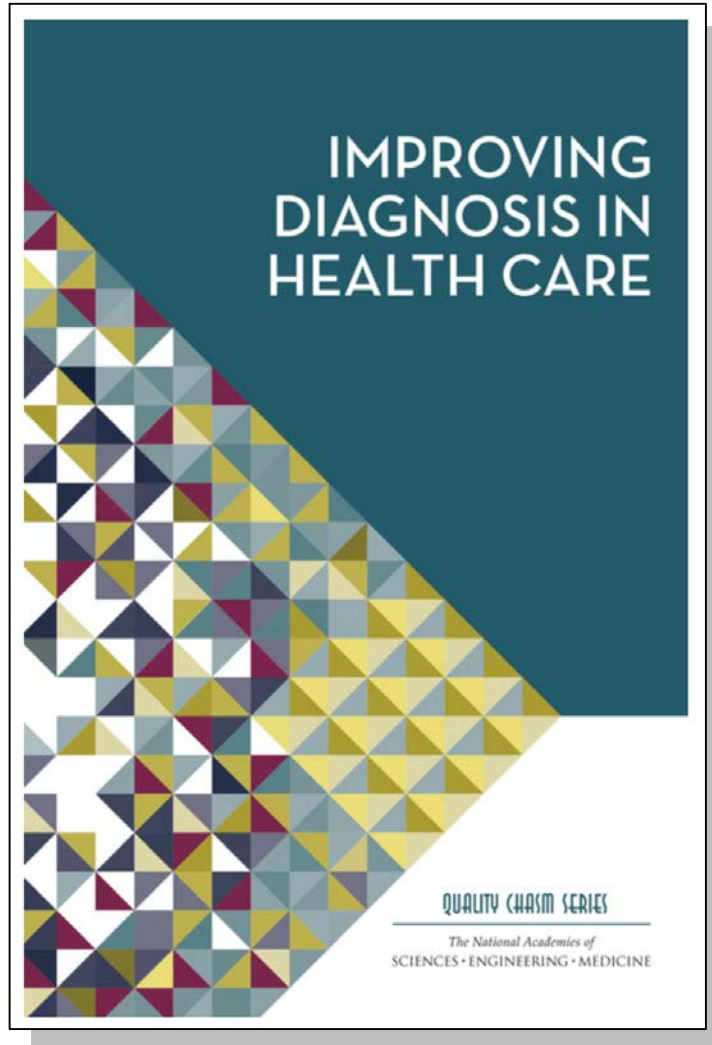
Mark L. Graber, MD

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the absence of ownership: in the quality and safety family, diagnostic error is essentially an orphan. Health care leaders assume their physicians should be responsible for ensuring reliable diagnoses, but most physicians seem to believe they are doing just fine. Through malpractice suits,

- No specific policy recommendations
- “In the policy arena, oversight agencies need to balance their standards by including performance evaluations focusing on diagnosis.”



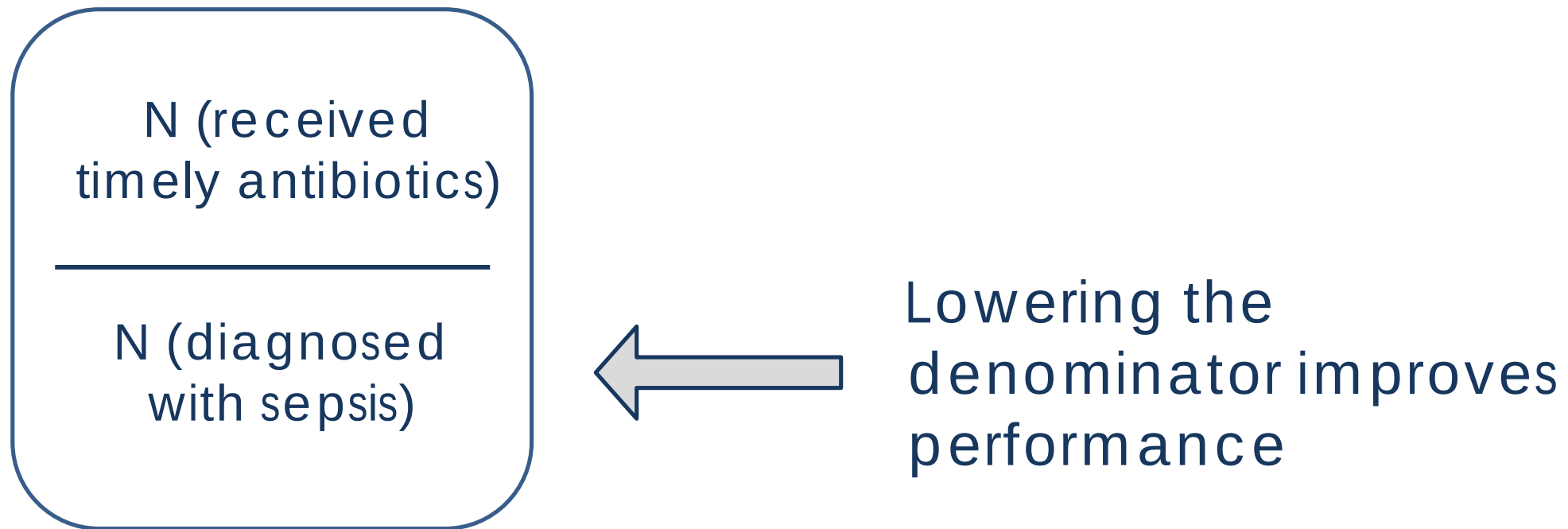
No policy recommendations
except those related to
malpractice and liability

Challenges to applying policy levers to sepsis

- Technology is not (yet) up to the task
- Diagnostic quality is difficult to measure
- There are inherent tradeoffs in the domains of diagnostic quality that underscore the unintended consequences of using policy to improve quality:

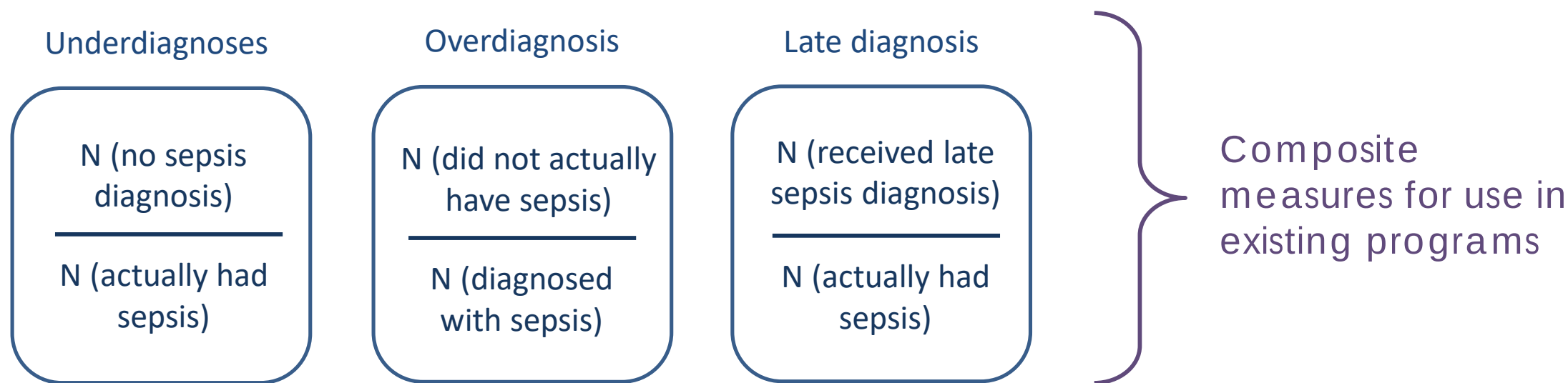
Domain	Tradeoff	Risk
Efficiency	Timely vs. rushed	Misdiagnosis
Accuracy	Underdiagnoses vs. overdiagnosis	Overtreatment

Existing policy approaches incentivize underdiagnoses



Long term solutions

- Make diagnostic quality easier to measure
- Measure underdiagnoses, but also overdiagnoses, and late diagnosis



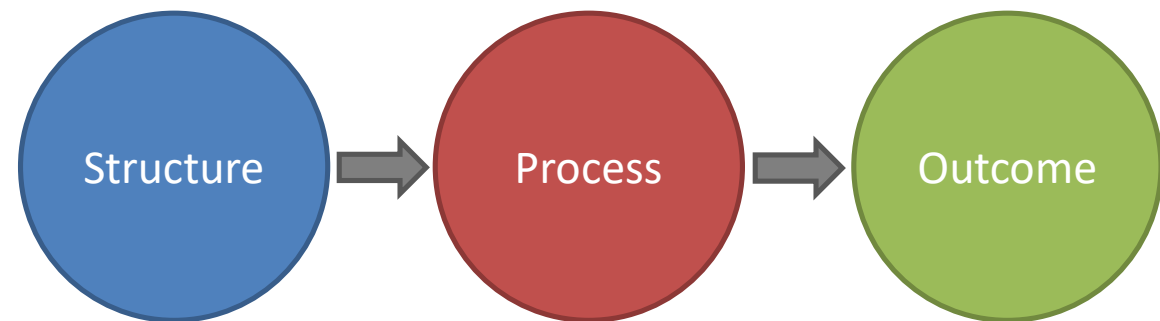
Immediate approaches

- Holistic policies that incentivize the the entire clinical process (diagnosis to outcome)
- Team-based policies that directly incentivize non-physician providers

New York State sepsis regulations



1. Protocols for recognition and treatment
2. Staff education
3. Reporting of process and outcome data
4. Mandated communication with families

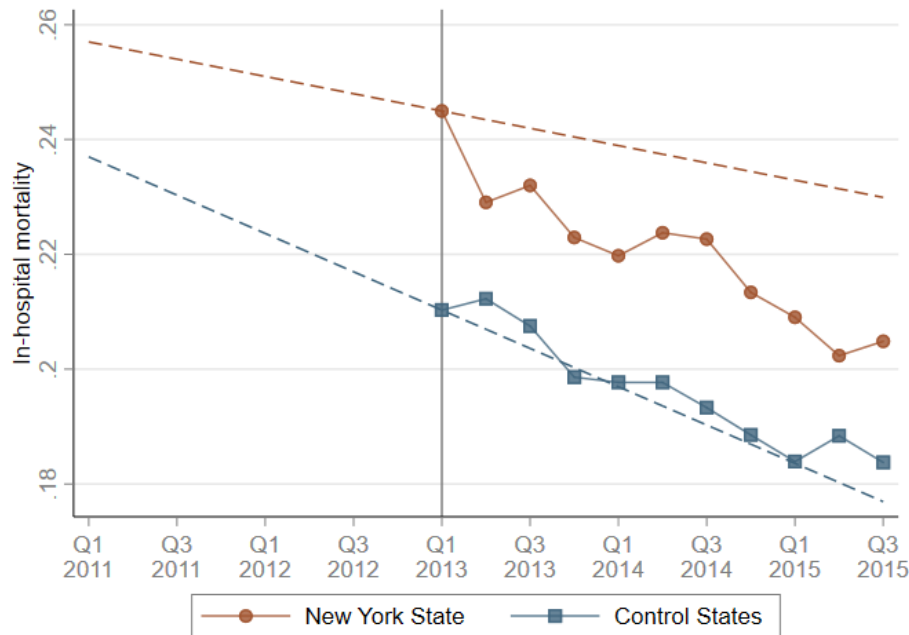


Research

JAMA | Original Investigation

Association Between State-Mandated Protocolized Sepsis Care and In-hospital Mortality Among Adults With Sepsis

Jeremy M. Kahn, MD, MS; Billie S. Davis, PhD; Jonathan G. Yabes, PhD; Chung-Chou H. Chang, PhD;
David H. Chong, MD; Tina Batra Hershey, JD, MPH; Grant R. Martsof, PhD, MPH, RN; Derek C. Angus, MD, MPH



Comparative interrupted time series model

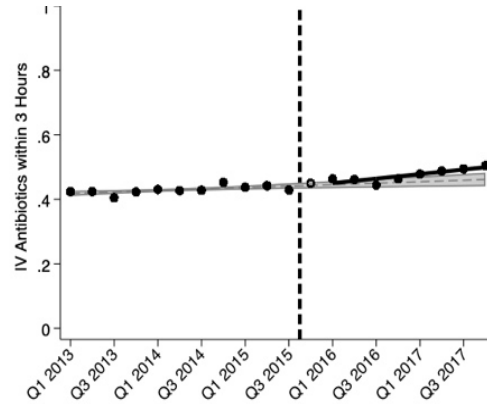
By quarter 3, 2015: NY state mortality 3.2% lower than would be expected had trends continued

Overall test of significance: $p=0.02$

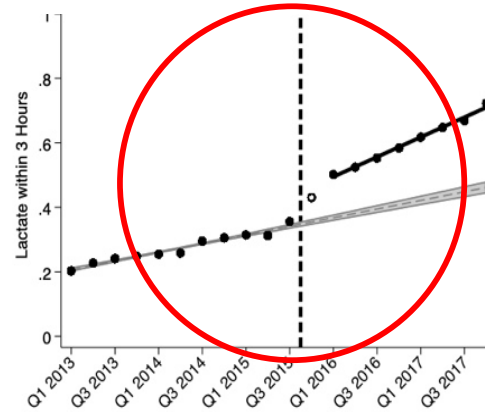
New York Regulations vs. CMS policy (SEP-1)

Rory's Regulations	SEP-1
Innovative multi-component	Traditional public reporting
Structure-process-outcome	Process only
Emphasis on education and protocols	Emphasis on data collection and reporting

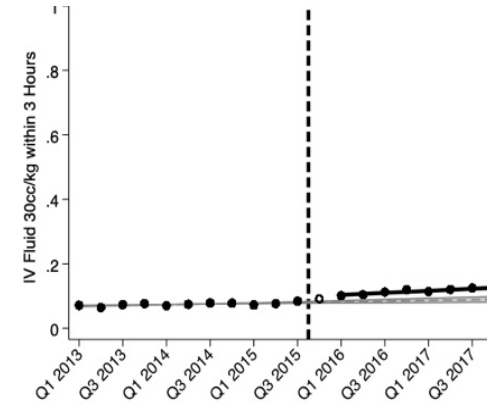
Antibiotics



Lactate

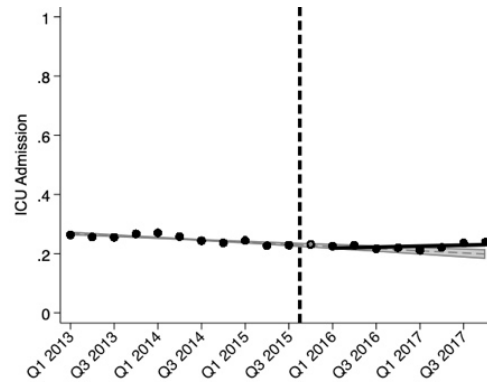


Fluids

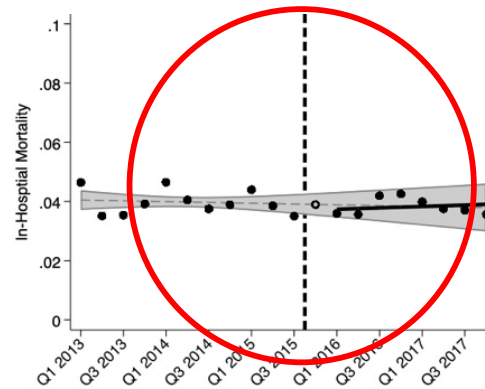


Rapid increase
in lactate
measurement

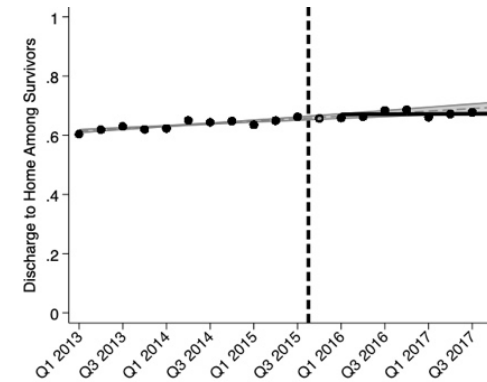
ICU admission



Mortality



DC to home

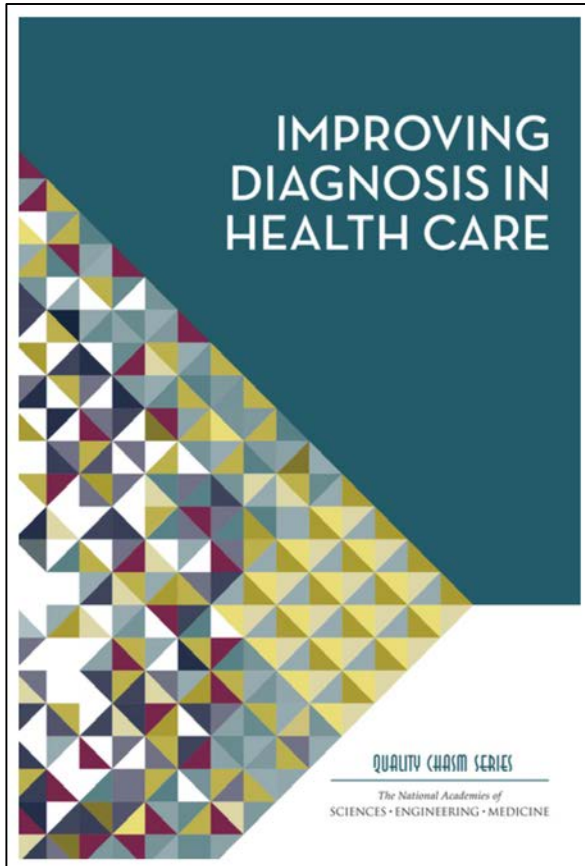


No change in
mortality

Ongoing interviews with NY policy stakeholders

“But we start with education, which with pathways for the nursing staff, the residents, and the attendants. We fine-tuned our order sets and then we then started tweaking an early warning system in the emergency room for IT to identify patients in the ED. We also changed some of the process in triage.... So what we did was we actually put an attending physician in triage with the nurses, so that person is essentially a triage nurse slash physician.”

Team-based performance incentives



Recommendation 1a: In recognition that **the diagnostic process is a dynamic team-based activity**, health care organizations should ensure that health care professionals have the appropriate knowledge, skills, resources, and support to engage in teamwork in the diagnostic process. To accomplish this, they should facilitate and support:

- **Interprofessional and intra-professional teamwork** in the diagnostic process.
- **Collaboration** among pathologists, radiologists, other diagnosticians, and treating health care professionals **to improve diagnostic testing processes**.

Team diagnosis and sepsis

- Triage nurse
- PCA
- ED nurse
- Radiology tech
- Respiratory therapist
- Patient
- Physician



Conclusions

- Health policy has neglected diagnostic performance for good reasons (and not just in sepsis)
- That will soon change
- To start: the evidence supports state regulations that emphasize structure, process, and outcome
- In the future:
 - Team-based P4P
 - Public reporting and P4P on nascent measures
 - Resources for IT adoption

Levers

Market incentives

Resource allocation

Regulation

Financial incentives