



ProCon ProCal THE CON

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“We are trying to use imperfect tests to resolve diagnostic uncertainty. How could it possibly work?”

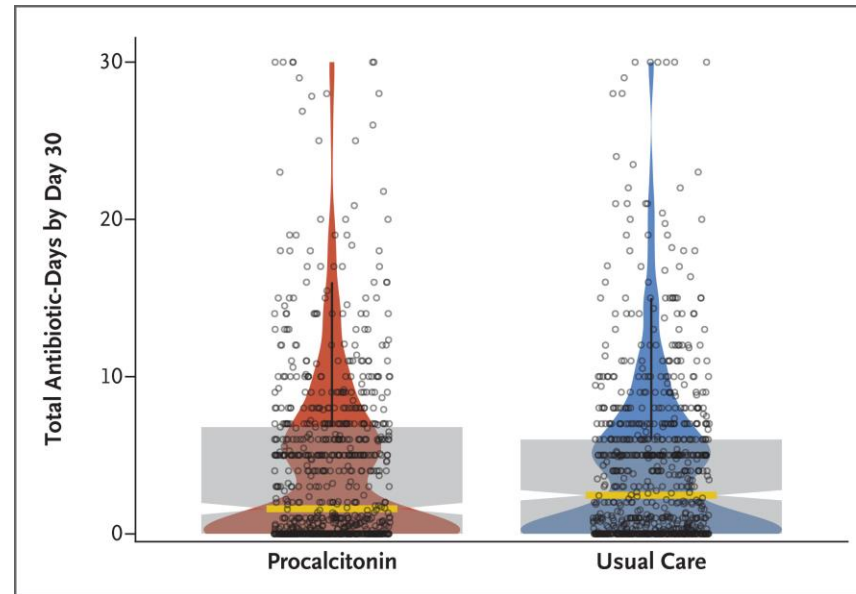
-Me to Preston, IDWeek 2026

What question are we answering here?

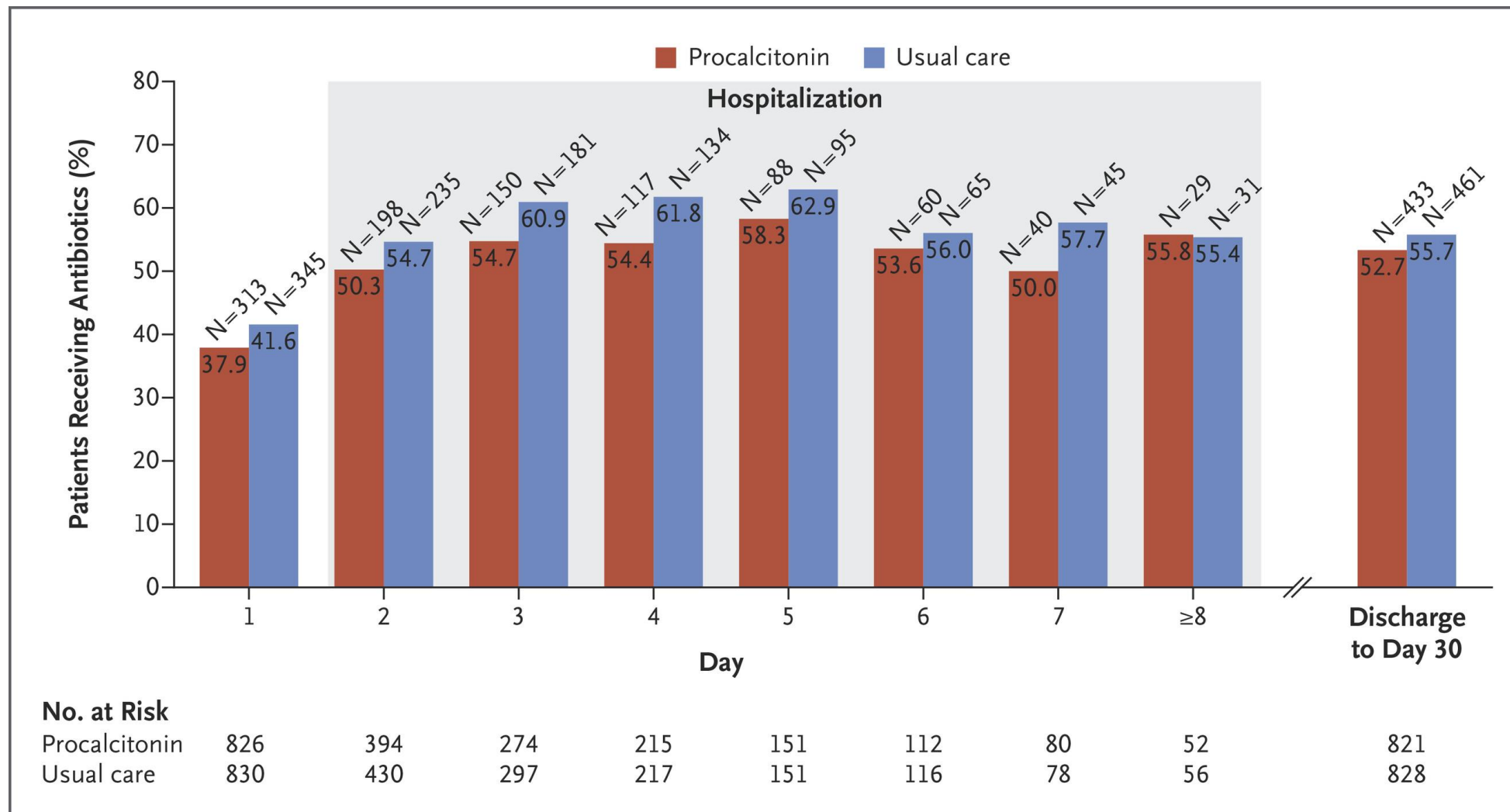
- Is Procalcitonin the secret sauce that is going to curtail unnecessary antibiotic use in your hospital?

ProACT Study

- RCT of 14 US hospitals – procalcitonin QI implementation vs. control
- Antibiotic exposure in 30 days (ITT) 4.2 procal vs. 4.3 control

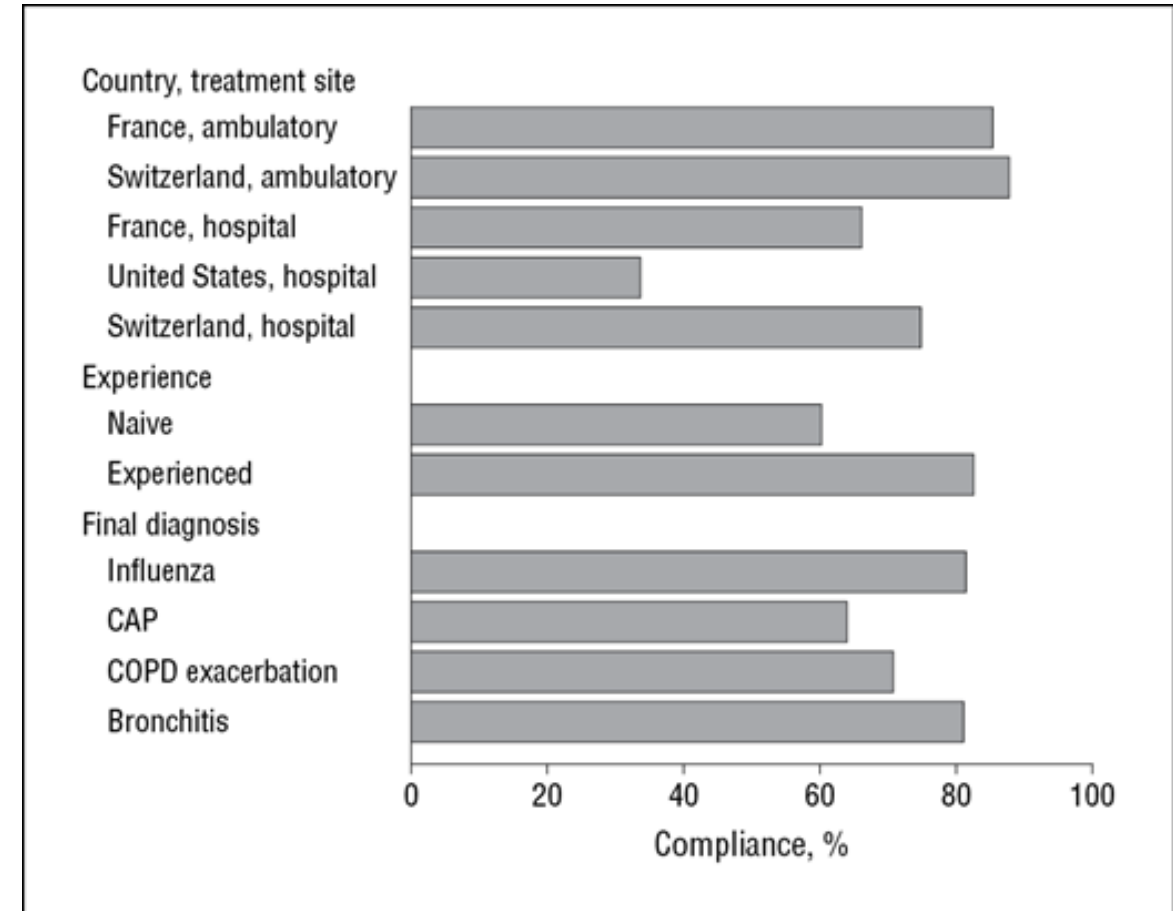


ProACT Study



ProREAL

- International, observational study
- 1520 patients with LRTI
- Mean duration of therapy in 30 days
 - 5.9 vs. 7.4 days $P < 0.001$ if algorithm followed vs. not



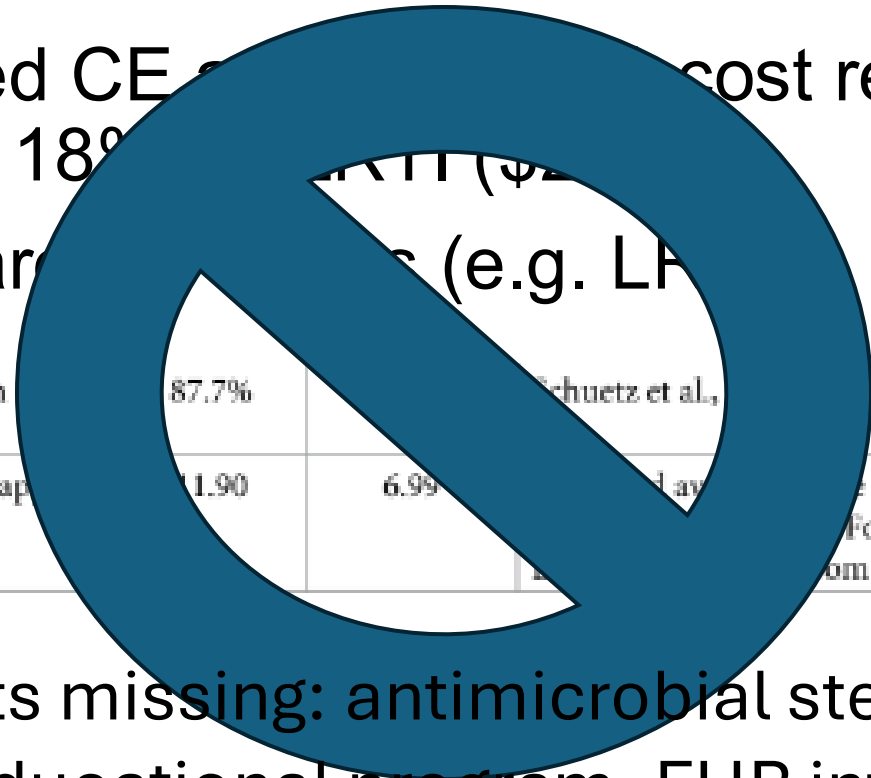
Contemporary Data

- Retrospective, non-ICU CAP patients at 12 US hospitals
 - >17k patients (60% got a procalcitonin on admission)

Outcome	Comparison	N	Effect Estimate (95% CI) ^a	P-Value
PCT testing				
Total antibiotic duration	PCT vs No PCT	13 211	-0.32 (-.52, -.12)	.002
Time to ESA de-escalation ^b	PCT vs No PCT	4558	HR: 1.05 (.99, 1.12)	.11
30-Day mortality	PCT vs No PCT	13 211	OR: 0.95 (.76, 1.18)	.6

Are The Cost Effectiveness Data TGTBT?

- Highly cited CE study showing cost reduction for sepsis (\$11,311), 18% reduction in antibiotic days (ADT) (\$2,000)
- But here are some examples (e.g. LHM)



Proportion of patients treated with antibiotics, %	87.7%	Schuetz et al.,	Switzerland
Number of days on antibiotic therapy	11.90	6.99	US

For Broyles, 2017 the data specifically for [redacted] from the author.

- Cost inputs missing: antimicrobial stewardship program staffing, educational program, EHR integration

Burden of testing

- 85% of CAP patients had a test (Deshpande, et al 2026)
- \$25-70 per test
- Most patients get 2 tests (IQR 1-3)
- LRTI is the leading ID hospitalization nationally

Deshpande, et al. 2026

Gupta, et al. CID 2026. DOI: [10.1093/cid/ciaf336](https://doi.org/10.1093/cid/ciaf336)

Take Aways – is the juice worth the squeeze?

- In the real-world, this test only works with good adherence (which requires unmeasured, significant resources)
- Doesn't seem to be harmful
- But if it doesn't add much, it's just

