SAEM 2026 · ED OPERATIONS

Reassessing Emergency Department Observation After High-Sensitivity Troponin Adoption

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−2.4 h

ED LOS REDUCTION · EDOU VS CONTROL

4.97 [3.32–6.93] vs 7.40 [4.88–11.43] hours · median (IQR)

394
PROPENSITY-MATCHED ENCOUNTERS
197 EDOU · 197 pre-EDOU control

40.6%
CCTA UTILIZATION IN EDOU
80/197 EDOU vs 2/197 control (1.0%)

0%
48-HOUR ED REVISIT · EDOU
vs 1.5% (3/197) controls

BACKGROUND

EDOUs were designed before hs-cTn was widespread.

High-sensitivity troponin (hs-cTn) testing has fundamentally changed emergency department (ED) chest pain evaluation by enabling rapid risk stratification and early discharge for many patients.

Emergency Department Observation Units (EDOUs), however, were largely designed prior to widespread hs-cTn adoption.

Whether observation unit care continues to add value or alters downstream diagnostic testing in this contemporary context remains unclear.

METHODS

Retrospective cohort, propensity-score matched.

Design. Retrospective cohort comparing ED patients managed in a newly implemented EDOU with patients treated prior to EDOU implementation.

Matching. Propensity score matching on age, sex, hypertension, diabetes, hyperlipidemia, and hs-cTn values.

Primary outcome. ED length of stay (LOS).

Secondary outcomes. Hospital LOS · CCTA utilization · 48-hour and 9-day ED revisits · 30-day mortality.

RESULTS

Shorter ED + hospital LOS, more CCTA, similar safety.

394	Total encounters · 197 EDOU · 197 control
4.97 h	EDOU ED LOS, median *(IQR 3.32–6.93)*
7.40 h	Control ED LOS, median *(IQR 4.88–11.43)*
2.08 d	EDOU hospital LOS, median *(IQR 0.87–2.56)*
2.79 d	Control hospital LOS, median *(IQR 1.48–4.94)*
40.6%	EDOU CCTA utilization (80/197) *vs 1.0% (2/197) control*
0% / 1.5%	48-hour ED revisits, EDOU vs control (3/197 controls)
8.1% / 8.6%	9-day ED revisit rates, EDOU vs control *(similar)*
0.0% / 0.5%	30-day mortality, EDOU (0/195) vs control (1/182)

CONCLUSION

EDOU shifts the location and intensity of diagnostic evaluation; align workflows accordingly.

EDOU care was associated with shorter ED and hospital LOS and similar short-term safety outcomes compared with usual care. Increased diagnostic imaging utilization suggests that observation units may shift the location and intensity of diagnostic evaluation, highlighting the need to align EDOU workflows with operational and resource considerations.

ASK ME ABOUT

- Propensity-matching variables
- CCTA utilization shift
- EDOU workflow design
- Safety outcome interpretation