The Joint Commission
Journal on Quality and Patient Safety®

# Reducing unnecessary IV antihypertensive use

Asymptomatic severe hypertension, also known as hypertensive urgency, is frequently encountered in inpatient settings, and is sometimes treated with one-time doses of intravenous (IV) or oral antihypertensives. Although evidence suggests these single-dose treatments may increase incidences of acute kidney injury, myocardial injury, or hypotension, they remain common in emergency departments and inpatient settings.

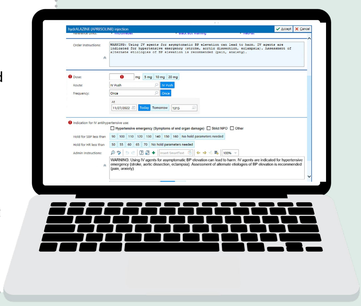
A study featured in the June/July 2023 issue of *The Joint Commission Journal on Quality and Patient Safety (JQPS)* analyzes changes to electronic orders for IV hydralazine and IV labetalol with the aim of reducing inpatient administration of aggregate IV hydralazine and IV labetalol orders.

## THE STUDY:

This quality initiative was launched at **New York City Health + Hospitals**, the largest safety net hospital system in the United States, from November 2021 to October 2022 across **11 hospitals**.

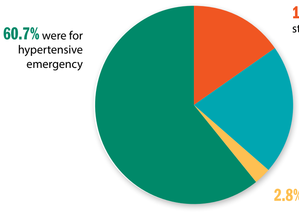
### Two changes were made to electronic orders for IV hydralazine and IV labetalol:

1. A nonintrusive nudge was included in the order instructions and an additional advisory statement identified the appropriate indications and recommended assessment of alternate etiologies as a potential treatment alternative.
2. A mandatory requirement to document the indication for IV antihypertensive use was introduced.



## THE RESULTS:

### Indications selected for IV antihypertensive orders:




### For emergency department-only encounters (per 1,000 patient encounters):

**IV hydralazine orders**
were 1.07 preintervention and 0.54 postintervention
→ 49.5% reduction

**IV labetalol orders**
were 1.46 preintervention and 1.02 postintervention
→ 30.1% reduction

**Aggregate IV hydralazine and IV labetalol orders**
were 2.53 preintervention and 1.55 postintervention
→ 38.7% reduction

### For inpatient encounters (per 1,000 patient-days):

**IV hydralazine orders**
were 8.27 preintervention and 6.45 postintervention
→ 22% reduction

**IV labetalol orders**
were 9.98 preintervention and 9.34 postintervention
→ 6.3% reduction

**Aggregate IV hydralazine and IV labetalol orders**
were 18.25 preintervention and 15.81 postintervention
→ 13.4% reduction

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The study found that the quality improvement initiative successfully reduced unnecessary IV antihypertensive use. Variations were noted among individual hospitals within the system and further study is needed to determine patterns in variation.

**To learn more about this study, visit:**
**https://www.jointcommissionjournal.com/article/S1553-7250(23)00061-2/fulltext**