



Effect of weight-based dosing of pressor agents on clinical perceptions of rational use

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BACKGROUND

- Vasopressors are used as life-sustaining medications in patients with shock
- Vasopressors are considered high-alert medications by the Institute for Safe Medication Practices
- Both weight-based dosing (WBD, i.e. mcg/kg/min) and non-WBD (i.e. mcg/min) infusion strategies are used
- There is little evidence available to assess the safety, efficacy, or clinical implications of each dosing strategy
- Purpose:** Evaluate relationship between vasopressor dosing strategy and clinical perceptions of rational use
- Hypothesis:** Clinicians using WBD will have higher perception of rational use than those using non-WBD

OUTCOMES

Primary

- Perception of rational and consistent use of vasopressors

Secondary

- Dosing strategy used for each pressor
- Maximum infusion rate for each pressor

STUDY DESIGN

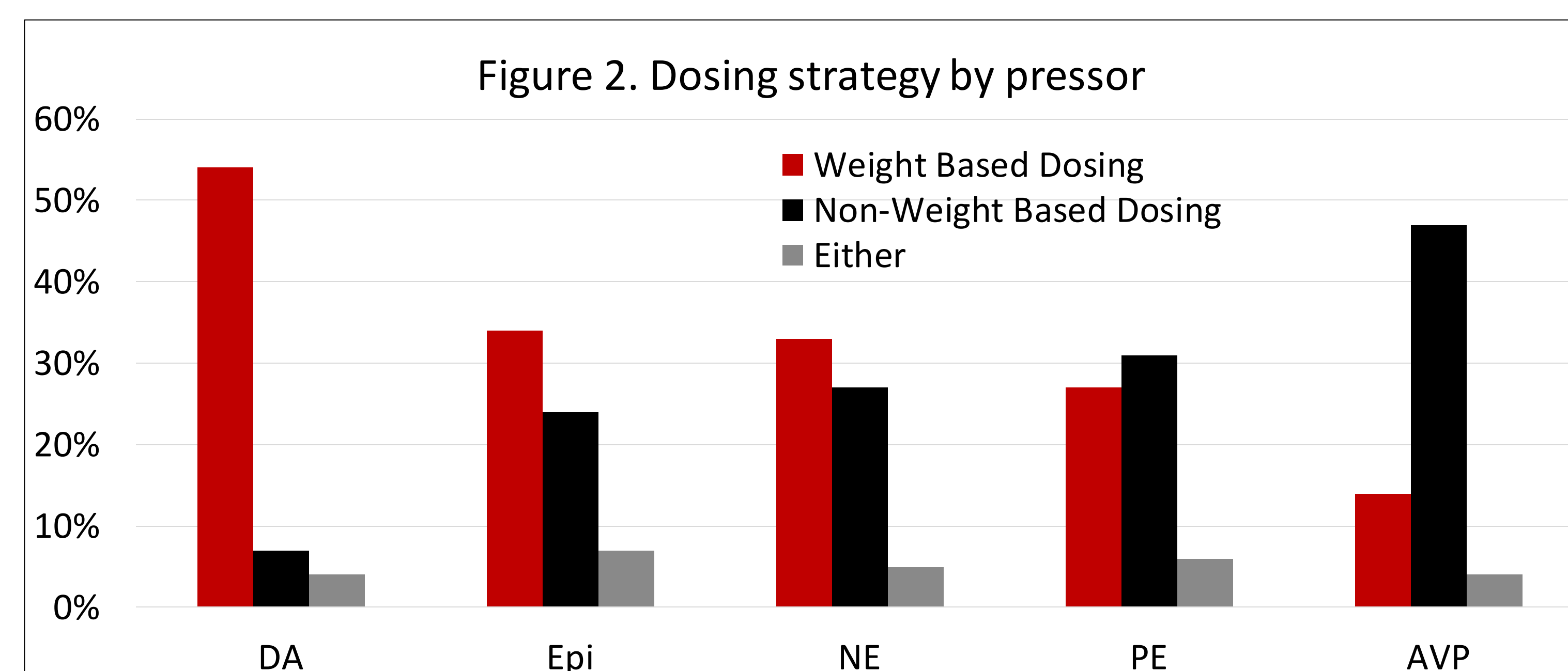
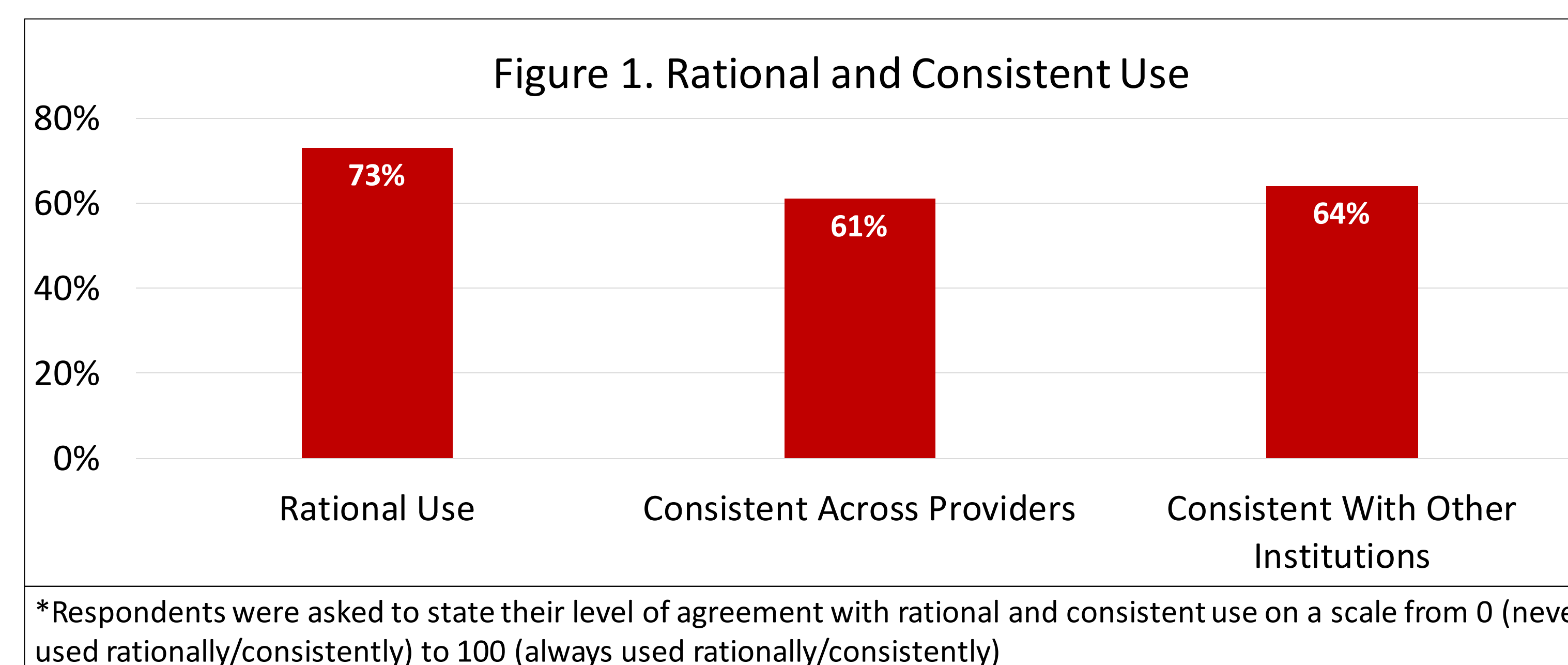
- Design:** IRB-exempt, cross sectional electronic survey administered via REDCap® through Society of Critical Care Medicine (SCCM)
- Time Frame:** 07/29/2019 – 09/09/2019
- Inclusion Criteria:**
 - SCCM member
- Statistical Plan:**
 - Descriptive statistics were used for all variables
 - Pearson correlation was used to determine correlation between dosing strategy and perceptions

Abbreviations

- Dopamine (DA)
- Epinephrine (Epi)
- Norepinephrine (NE)
- Phenylephrine (PE)
- Vasopressin (AVP)

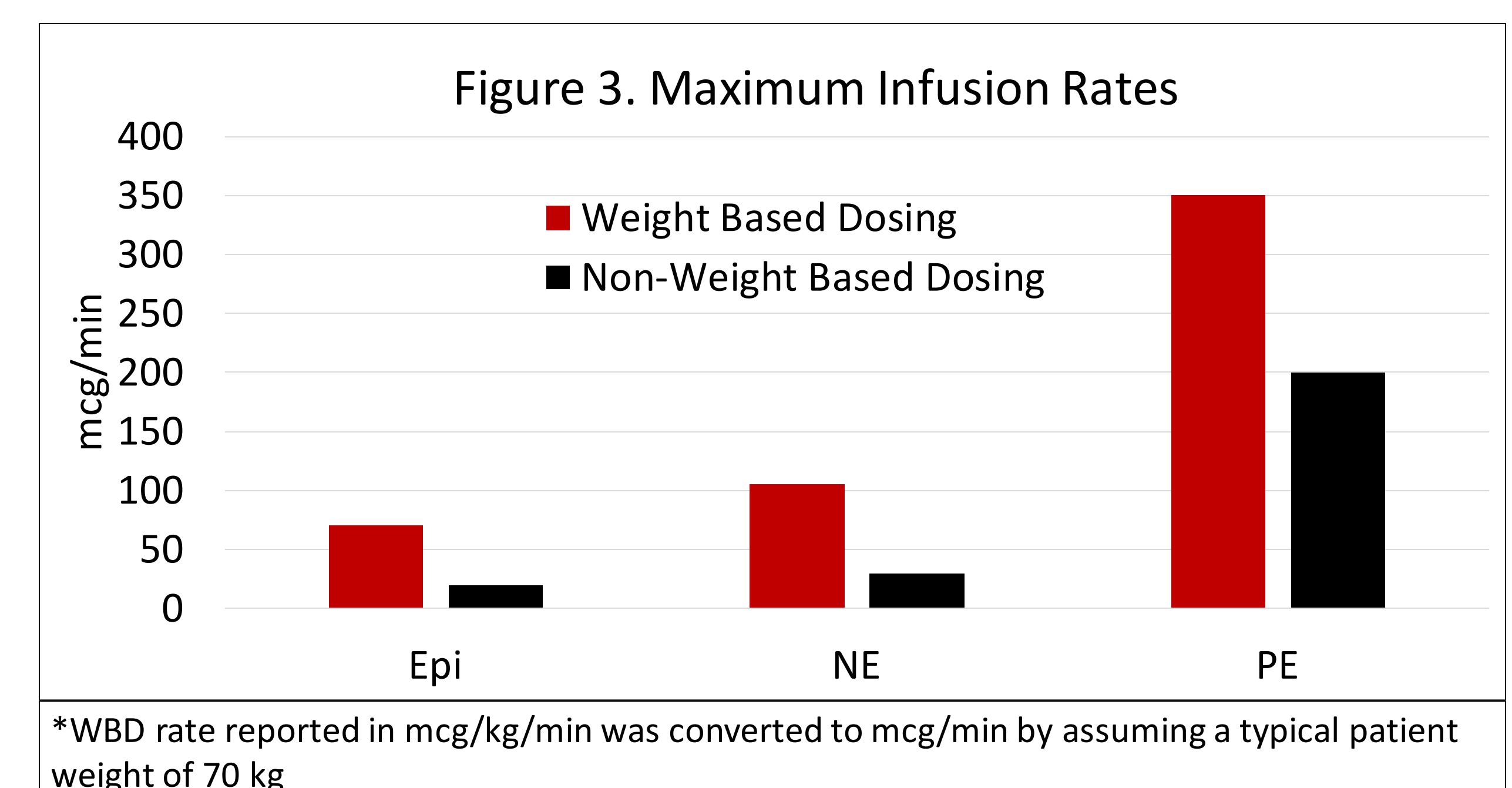
RESULTS

Table 1. Respondent Demographics		n = 2879
Institution Type		
Community Acute Care Hospital		1329 (46%)
University-Affiliated Acute Care Hospital		1066 (37%)
Academia		286 (10%)
Veterans Affairs Medical Center		65 (2%)
Rural Referral/Critical Access Hospital		55 (2%)
Other		61 (2%)
Teaching Hospital		
		2122 (74%)
Beds		
<100		167 (6%)
100-249		559 (19%)
250-500		1016 (35%)
>500		1089 (38%)
Not Applicable		30 (1%)
Profession		
Physician		1180 (41%)
Nurse		886 (31%)
Pharmacist		354 (12%)
Nurse Practitioner		294 (10%)
Physician Assistant		87 (3%)
Other		56 (2%)



RESULTS CONTINUED

Table 2. Correlation between WBD strategy and perception of rational use		
Variable	Correlation Coefficient	P-value
Norepinephrine	0.41	0.086
Dopamine	0.005	0.836
Epinephrine	0.021	0.374
Phenylephrine	0.030	0.218
Vasopressin	-.018	0.447



CONCLUSIONS

- Great variability exists in prescribing patterns of pressors
- No significant correlation exists between clinician perceptions and dosing strategy
- Clinician perceptions of rational and consistent use of vasopressors are overall low
- The effective maximum infusion rate for NE at institutions that use WBD is over three times that of institutions that use non-WBD
- Future research
 - Compare perceptions and dosing strategies across different provider types
 - Compare perceptions between those that use WBD and non-WBD

REFERENCES

ISMP List of High-Alert Medications in Acute Care Settings. 2014; <https://www.ismp.org/tools/institutionalhighAlert.asp>. Accessed Feb 2019.
Norepinephrine (Lexi-Drugs). Lexicomp. Accessed Feb 2019.

