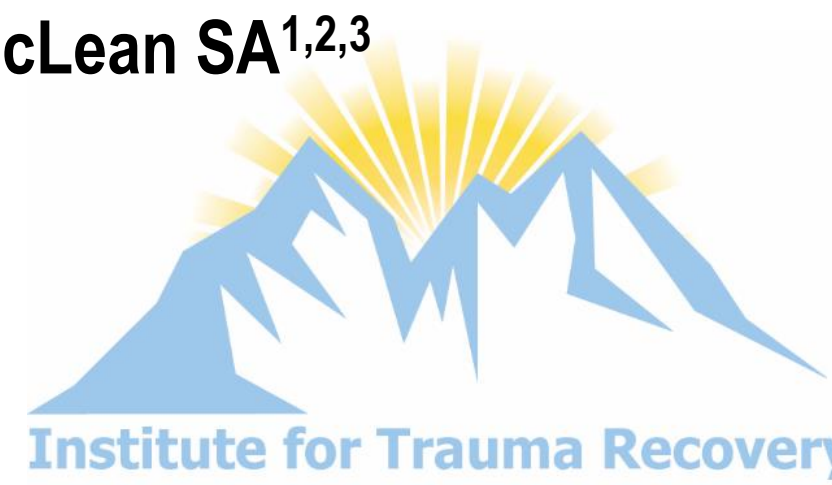


Post-Traumatic Stress Outcomes at Six Months in African Americans vs. European Americans Experiencing Motor Vehicle Collision

Borde AR^{1,2}, Bhatt K^{1,2}, Bien MT^{1,2}, Flannigan SA^{1,2}, Soward A^{1,2}, Kurz MC⁴, Hendry PL⁵, Zimny E⁶, Lewandoski C⁶, Velilla MA⁷, Damiron K⁸, Pearson C⁹, Domeier R¹⁰, Kaushik S¹¹, Feldman J¹², Rosenberg M¹³, Jones J¹⁴, Swor R¹⁵, Rathlev N¹⁶, Peak D¹⁷, Lee D¹⁸, McLean SA^{1,2,3}

¹Institute for Trauma Recovery; ²Department of Anesthesiology, University of North Carolina, Chapel Hill, NC; ³Department of Emergency Medicine, University of North Carolina, Chapel Hill, NC; ⁴Department of Emergency Medicine, University of Alabama Hospital at Birmingham, Birmingham, AL; ⁵Department of Emergency Medicine, Shands Jacksonville Medical Center, Jacksonville, FL; ⁶Department of Emergency Medicine, Henry Ford Hospital, Detroit, MI; ⁷Department of Emergency Medicine, Sinai-Grace Hospital, Detroit, MI; ⁸Department of Emergency Medicine, Einstein Medical Center, Philadelphia, PA; ⁹Department of Emergency Medicine, Detroit Receiving Hospital, Detroit, MI; ¹⁰Department of Emergency Medicine, Saint Joseph Mercy Health System, Ann Arbor, MI; ¹¹Department of Emergency Medicine, MedStar Washington Hospital Center, Washington, DC; ¹²Department of Emergency Medicine, Boston Medical Center, Boston, MA; ¹³Department of Emergency Medicine, St. Joseph's Healthcare System, Paterson, NJ; ¹⁴Department of Emergency Medicine, Spectrum Health, Grand Rapids, MI; ¹⁵Department of Emergency Medicine, William Beaumont Hospital, Royal Oak, MI; ¹⁶Department of Emergency Medicine, Baystate Medical Center, Springfield, MA; ¹⁷Department of Emergency Medicine, Massachusetts General Hospital, Boston, MA; ¹⁸Department of Emergency Medicine, North Shore University Hospital, Manhasset, NY



Introduction

- More than 4 million adults present to US emergency departments (ED) each year after MVC.¹ The great majority of these individuals are discharged to home after ED evaluation.²
- While most individuals recover following MVC, a significant proportion of individuals develop adverse post-traumatic sequelae such as post-traumatic stress (PTS).³
- The study of PTS in historically understudied groups such as African Americans (AA) is important because it promotes justice in science, can identify differences in outcomes and pathogenesis that lead to improved treatments for AAs, and because it can provide novel insights that help all those with PTS.⁴
- However, to our knowledge, no ED-based studies evaluating ethnic differences in clinically significant PTS symptoms after traumatic stress exposure have been performed.
- In this prospective observational study, we compared PTS symptoms among AAs and European Americans (EA) experiencing MVC.

Methods

- Two sister studies enrolled AAs (n=907) and EAs (n=948) presenting to one of 16 EDs in 9 states (Figure 1) within 24 hours of MVC who did not require hospital admission; study protocols of the two studies were nearly identical.
- Follow-up evaluation of enrolled participants were performed at 2 weeks, 6 weeks, 6 months, and 1 year.
- ED evaluation included the assessment of sociodemographic characteristics; 6-month follow-up assessment included an evaluation of pain (0-10 NRS, 1-3 = mild, 4-7 = moderate, 8-10 = severe), depression (CES-D; score ≥ 16 depression, score ≥ 26 major depression) and, PTS symptoms (IES-R; score ≥ 33 defined clinically significant PTS symptoms).
- Binomial logistic regression analysis was used to evaluate potential ethnic differences in clinically significant PTS symptoms, adjusting for individual sociodemographic factors.

Table 1. African American CRASH and European American CRASH cohort and baseline characteristics

	AA (n=907)	EA (n=948)	P-value
Age, mean (SD)	35 (13)	36 (13)	0.1
Females, n(%)	565 (62)	575 (61)	0.66
Highest level of education completed, n (%)			
High school or less	360 (40)	226 (33)	0.002
Some college or other training	372 (41)	302 (32)	0.001
College grad or post-grad	169 (18)	331 (35)	<0.001
Work full time, n(%)	490 (54)	553 (58)	0.08
Household Income, n(%)			
Below \$20,000	245 (27)	117 (12)	<0.001
\$20,000-\$59,999	341 (38)	337 (36)	0.37
\$60,000-\$99,999	92 (10)	207 (22)	<0.001
\$100,000 or higher	32 (3)	182 (19)	<0.001
Pain in the ED, n (%)			
None	6 (<1)	38 (4)	<0.001
Mild	44 (5)	150 (16)	<0.001
Moderate	245 (27)	407 (43)	<0.001
Severe	597 (66)	344 (36)	<0.001
ED CES-D* score, mean (SD)	10 (10)	9 (10)	0.03
ED Pain Catastrophizing, mean (SD)	14 (13)	11 (11)	<0.001
ED MCEPS**, mean (SD)	14 (6)	12 (5)	<0.001
ED Peritraumatic Distress Inventory, mean (SD)	22 (12)	19 (10)	<0.001

*CES-D: Center for Epidemiologic Studies Depression Scale
**MCEPS: Michigan Critical Events Perception Scale is a measure of dissociation

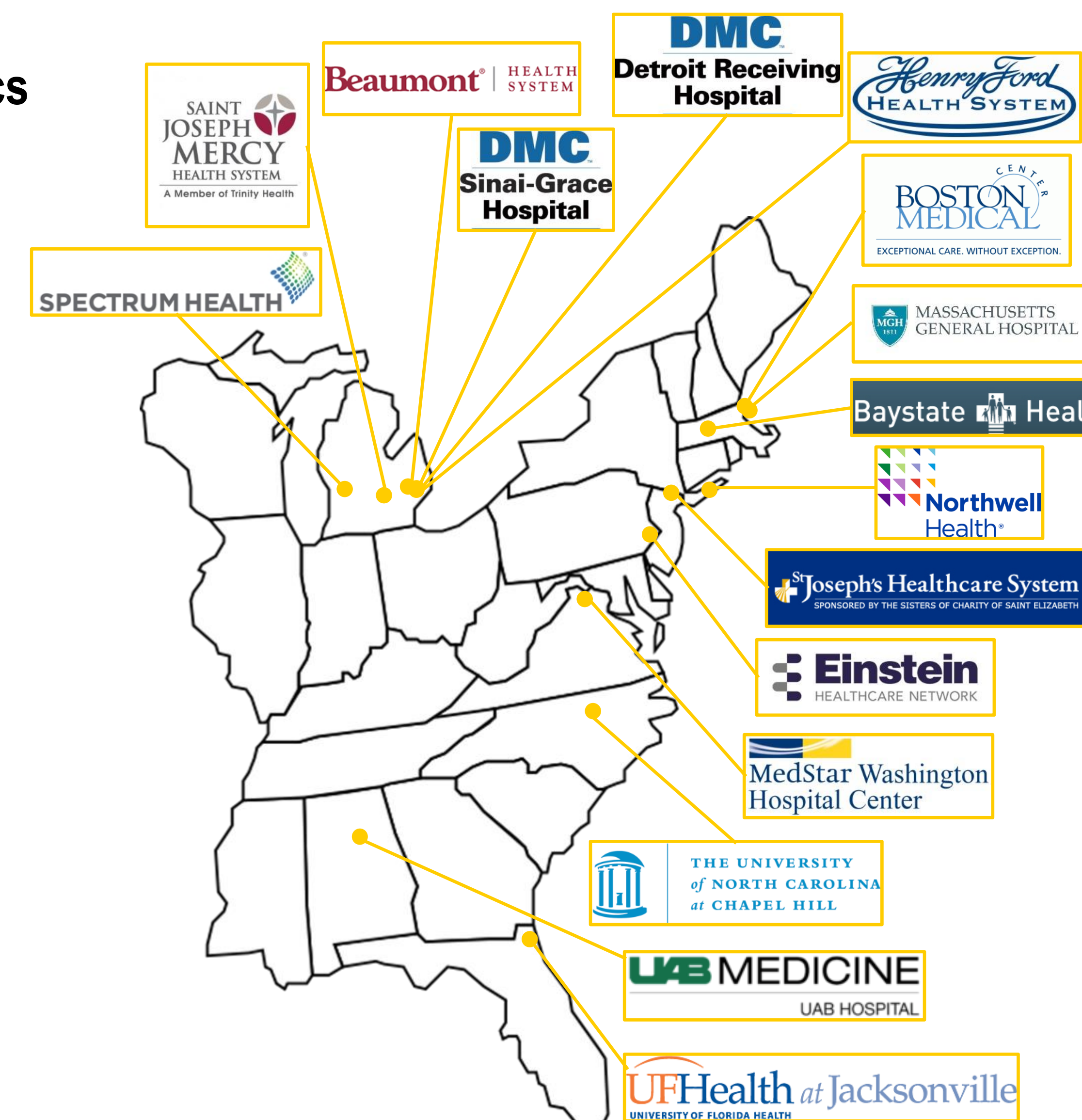


Figure 1. Sixteen ED Recruiting Sites and Coordinating Site (UNC)

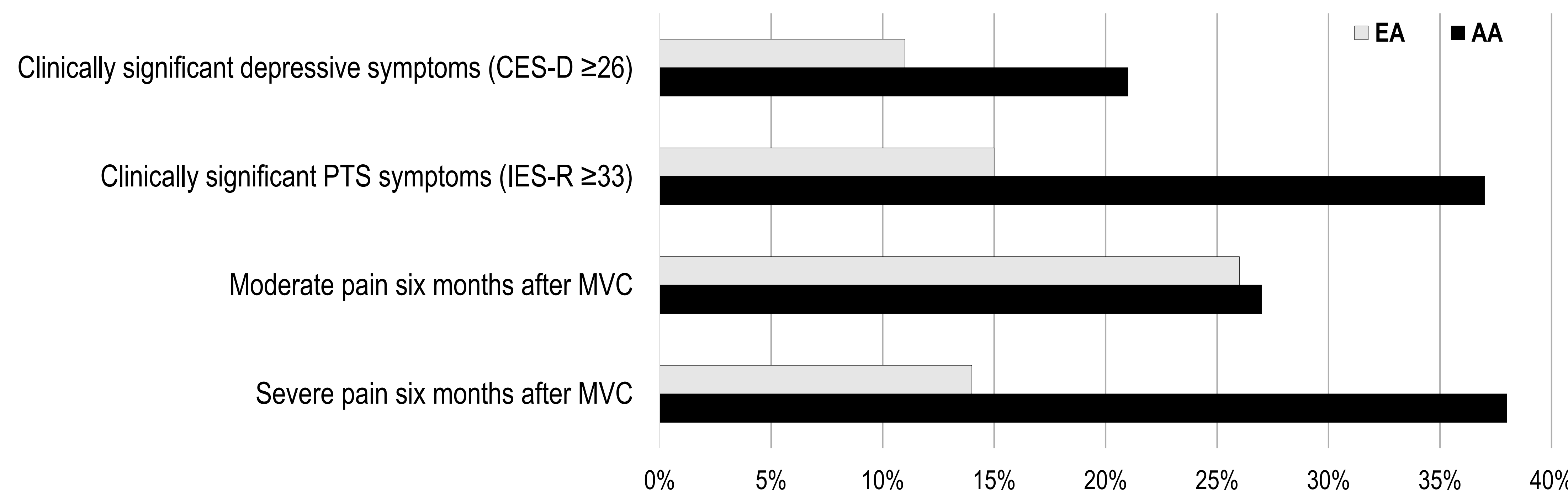


Figure 2. Six Month Outcomes in AA vs EA (bivariate analyses)

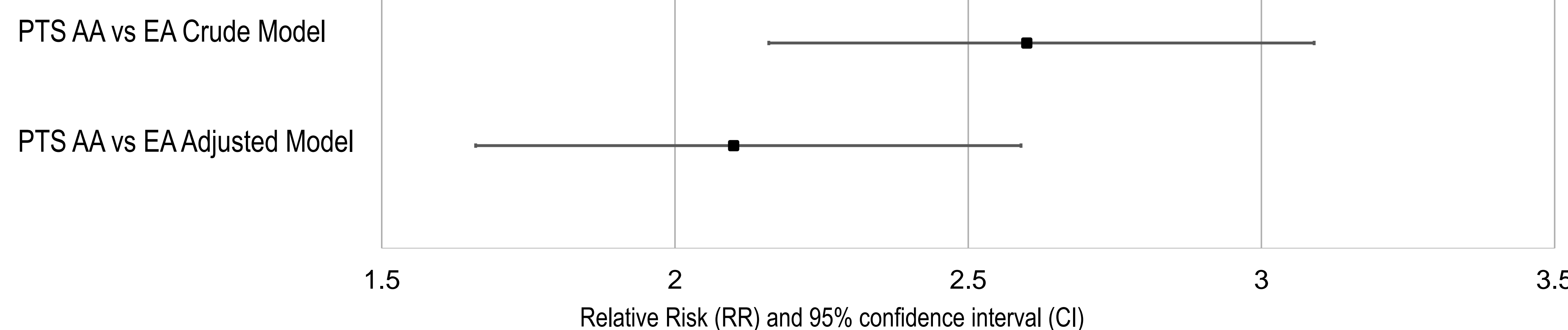


Figure 3. RR of PTS six months after MVC; adjusted for individual level factors.

Results

- Characteristics of participants enrolled are shown in Table 1.
- 1855 participants were enrolled (907 (49%) AA, 948 (51%) EA).
- 786/907 (87%) AA completed 6 month follow-up.
- 840/948 (89%) EA completed 6 month follow-up.
- Six months after the MVC, clinically significant MVC-related posttraumatic stress symptoms were much more common in AAs than EAs [295/786 (38%) AA vs. 122/834 (15%) EA] (Figure 2).
- AAs also experienced worse depression and pain outcomes.
- Relative risk of substantial PTS symptoms in AA vs. EA was 2.6.
- After adjustment for sociodemographic differences (age, sex, education, income, and employment), ethnicity remained a strong predictor of substantial PTS (RR = 2.1, 95% CI 1.66 -2.59) (Figure 3).

Conclusion

- African Americans presenting to the ED after MVC are at an increased risk of experiencing clinically significant MVC-related PTS symptoms 6 months after MVC, even after adjusting for a range of sociodemographic characteristics.
- Further studies are needed to better understand reasons for ethnic differences in PTS outcomes after MVC.

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