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Gerard Corsi

HCA Healthcare, Gerardo.Corsi@hcahealthcare.com

Steven Sprenger

HCA Healthcare, Steven.Sprenger@hcahealthcare.com

Manpreet Bindra

HCA Healthcare, Manpreet.Bindra@hcahealthcare.com

Jeffrey Anderson

HCA Healthcare, jeffrey.anderson3@hcahealthcare.com

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Recommended Citation

Corsi, Gerard; Sprenger, Steven; Bindra, Manpreet; and Anderson, Jeffrey, "Inpatient Hospital Stay Duration by Suicide Attempt Method: A Retrospective Cohort Study" (2023). *TriStar Division Research Day 2023*. 8. <https://scholarlycommons.hcahealthcare.com/tristar2023/8>

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Inpatient Hospital Stay Duration by Suicide Attempt Method: A Retrospective Cohort Study

Gerardo Corsi MD, Steven Sprenger MD, Manpreet Bindra DO, J. Scott Anderson MD

Background

- Suicide is a psychiatric emergency
- Suicide has been found to be related to more severe psychiatric illness
- 10th leading cause of death in North America
- 1.5% increase annually
- 3.9 to 13.2 per 100,000.800,000 annual completed suicides in 2019
- Small studies have found varying effects of suicide attempt on Length of Stay(LOS)
- Limited data comparing length of stay by attempt type

Objective

The purpose of this study was to explore the consequences of suicide method on LOS and readmission.

Methods

A total of 6,623 records representing 5,814 unique admissions from a nationwide healthcare organization for suicide attempt were reviewed from January 1, 2019 to December 31st 2021. Demographic information including age, gender, race, and ethnicity were collected. ICD 10 codes were used to determine comorbid personality disorders. A one-way ANOVA was administered to investigate the impact of suicide method on LOS. Logistic regression was used to assess the association of suicide method, ethnicity, personality disorder and race on 90-day readmission. Odds ratios and 95% confidence intervals were used to determine significance.

Results

- Firearm use had a significantly longer LOS (7.55 days, SD 9.75, $p < 0.05$) than all other methods
- No method was associated with higher risk of readmission; personality disorder was (OR=1.517, 95%CI 1.125-2.044, $p=0.0062$)

		N	%
Gender	Male	3076	52.9%
	Female	2738	47.1%
Race	White	4303	74.0%
	Black	802	13.8%
	Other	709	12.2%
Ethnicity	Hispanic	979	16.8%
	Non-Hispanic	4670	80.3%
	Unknown	165	2.8%
Personality	Personality disorder	210	3.6%
	No personality disorder	5604	96.4%
Method	Alcohol use	368	6.3%
	Benzo/Sedative Hypnotic use	285	4.9%
	Firearms/Explosives	51	0.9%
	Hanging/Suffocation/Drowning	42	0.7%
	Illicit Substance Use	289	5.0%
	Prescription medications	741	12.7%
	Trauma/Self injury	857	14.7%
	Other/Unspecified	3181	54.7%

Table 1: Demographic information and frequency of suicidal method

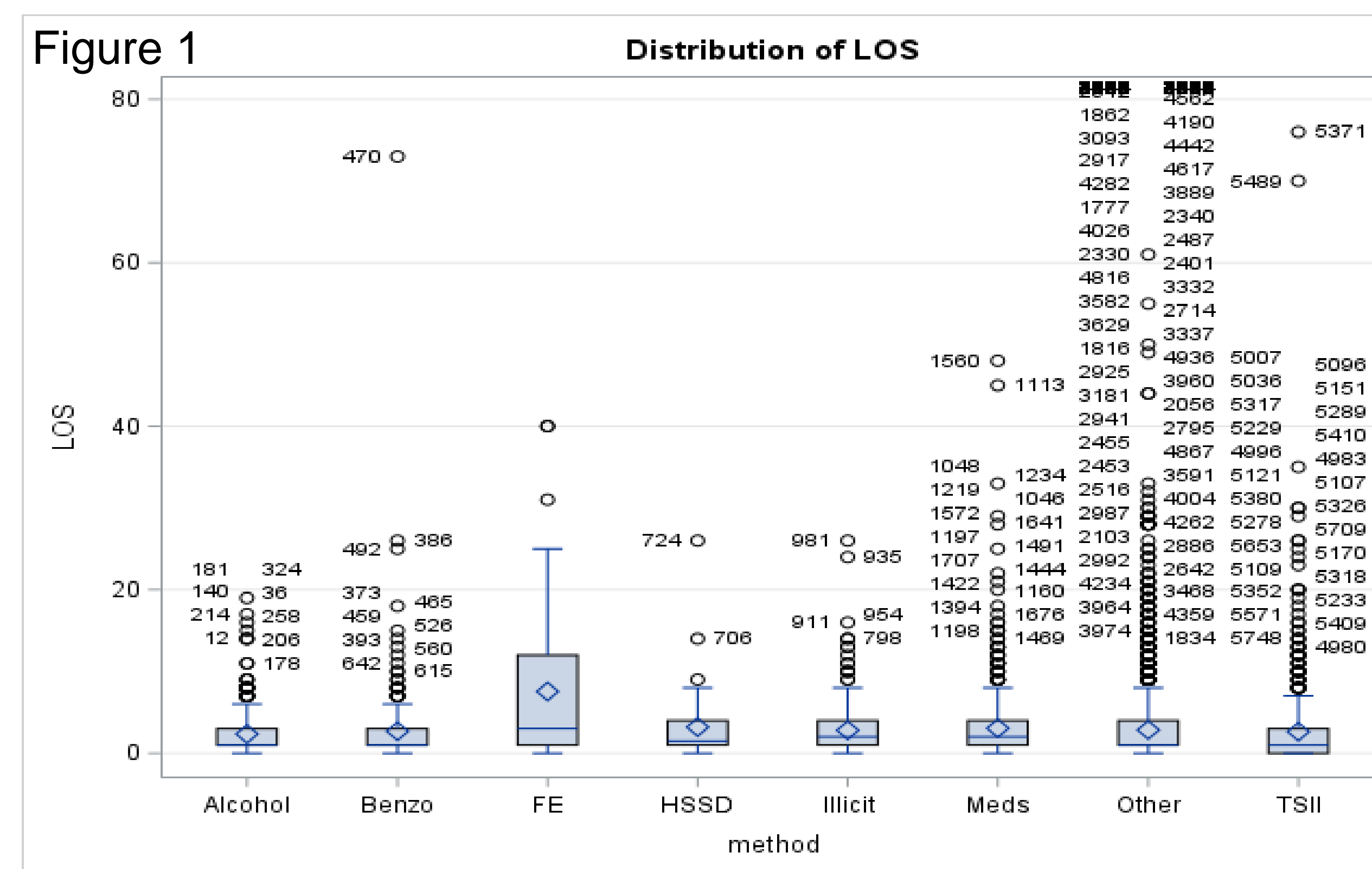


Figure 1: LOS for each suicidal method

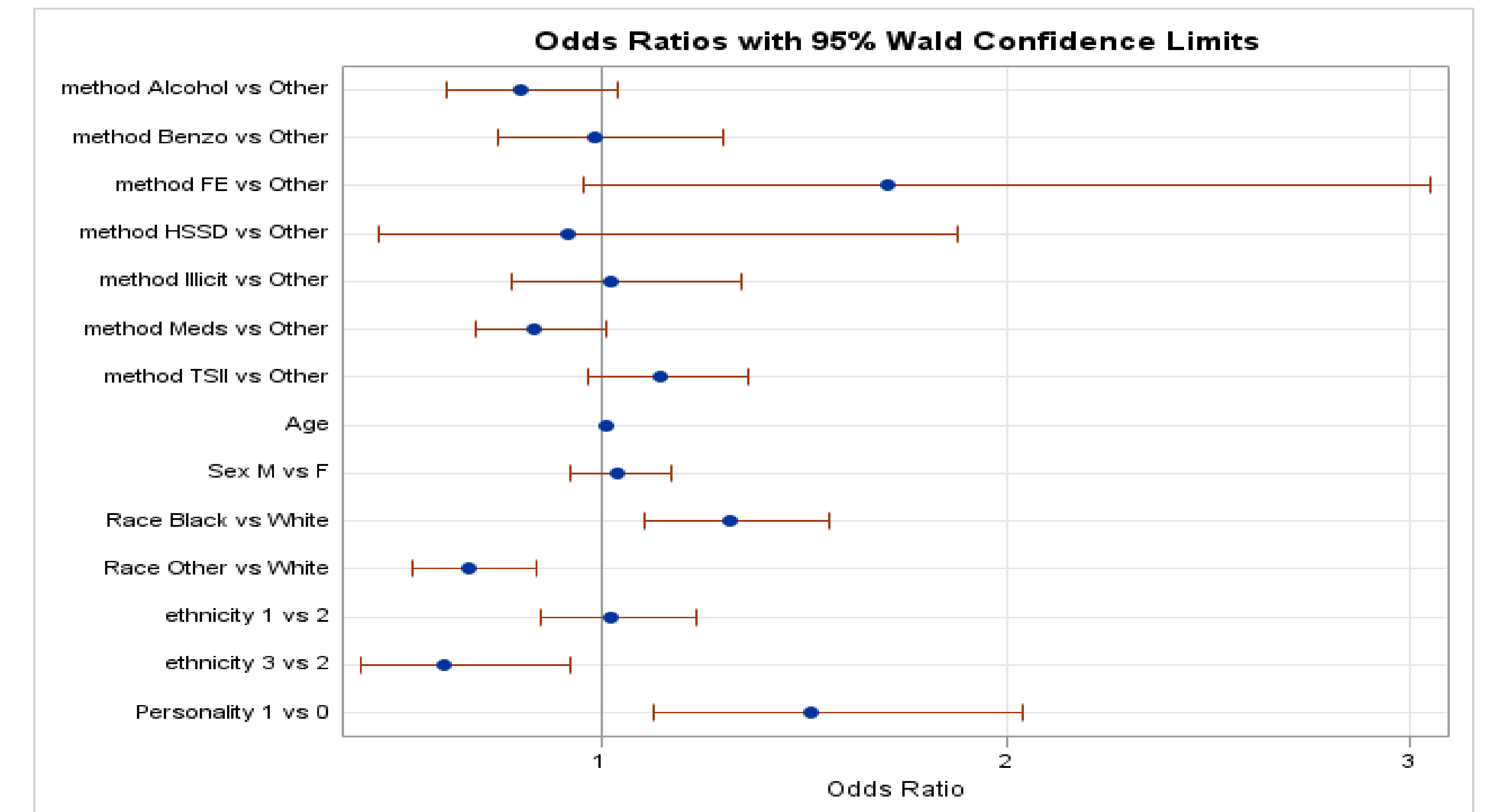


Figure 2: OR with 95%CI for 90-day readmission comparing method

Discussion

- Within suicidal methods LOS varies greatly
- Firearm use was associated with the longest average LOS
 - Physician treat this suicide method more due to significant risk of completion
- Personality disorders were associated with a higher risk of readmission
- Longer LOS's were not associated with decrease risk of readmission
- Previous studies have shown similar effect from disease severity
- Limited study due to low number of specified methods

Conclusion

Firearm use led to higher utilization of healthcare services but continued to show poor outcomes. Measures of symptom severity may help guide future treatment. This topic warrants further investigation with a larger sample size.

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