

# Prevalence of failed back surgery syndrome across HCA Healthcare Hospitals in the US, their correlation with mood disorders and other lifestyle-related comorbidities

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## Introduction

- Chronic back pain is the 6<sup>th</sup> most common costly condition in the US.
- Failed back surgery syndrome (FBSS) affects **10-40%** of patients following back surgery.
- Psychiatric comorbidities
- Psychosocial factors

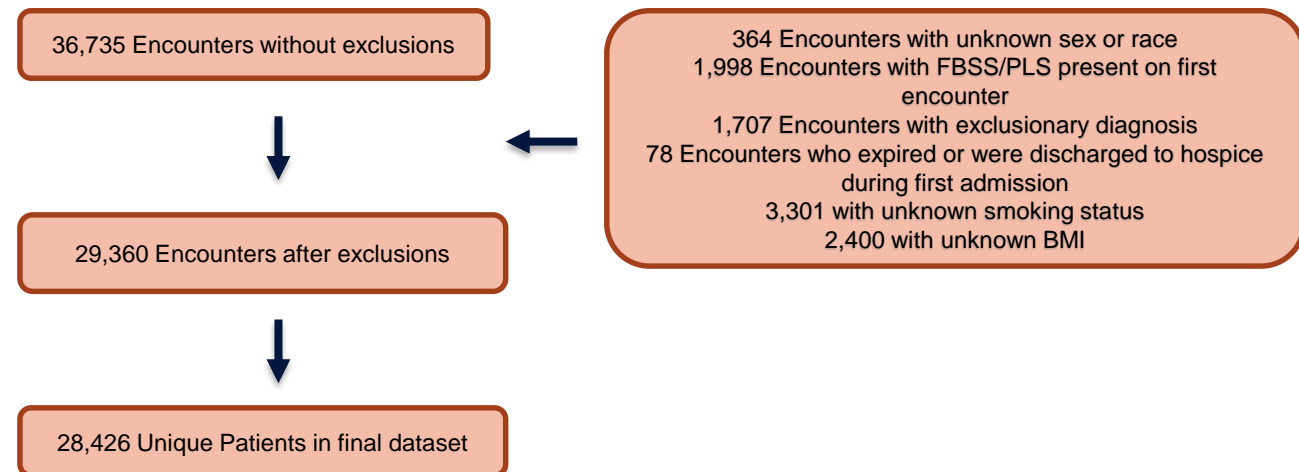


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# Design

- Retrospective cross-sectional study
- **N = 28,426** inpatient adults ages 18-80 years who underwent back surgery from **January 2019-December 2020**
- HCA Healthcare Hospitals across the US
- FBSS defined as back pain **90- 450 days** after surgery



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**Table 1.** Characteristics of patients who underwent back surgery from 2019-2020 across all HCA Healthcare Hospitals in the United States (N=28,426) by presence of failed back surgery syndrome during 90-450-day follow-up period

Characteristic	Total N (%)	No failed back surgery syndrome	Failed back surgery syndrome	Chi-square test p-value
<b>Total</b>	28426 (100%)	25992 (91.44%)	2434 ( <b>8.56%</b> )	-
<b>Sex</b>				
Female	14825 (52.15%)	13504 (51.95%)	1321 ( <b>54.27%</b> )	0.0286 <sup>e</sup>
Male	13601 (47.85%)	12488 (48.05%)	1113 (45.73%)	
<b>Race</b>				
Black	2310 (8.13%)	2059 (7.92%)	251 (10.31%)	<.0001
Other	2342 (8.24%)	2170 (8.35%)	172 (7.07%)	
White	23774 (83.63%)	2176 (83.73%)	2011 ( <b>82.62%</b> )	
<b>Smoking</b>				
No	14185 (49.90%)	13038 (50.16%)	1147 (47.12%)	0.0042
Yes	14241 (50.10%)	12954 (49.84%)	1287 ( <b>52.88%</b> )	
<b>Obesity</b>				
No	14138 (49.74%)	12978 (49.93%)	1160 (47.66%)	0.0320
Yes	14288 (50.26%)	13014 (50.07%)	1274 ( <b>52.34%</b> )	
<b>Age (years)</b>	59.7080490 (12.9279392)	59.7245 (12.9720)	59.5325 (12.1084)	0.4685

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Characteristic	Total N (%)	No failed back surgery syndrome	Failed back surgery syndrome	Chi-square test p-value
<b>Mood disorder<sup>a</sup></b>				
No	15565 (54.76%)	14443 (55.57%)	1122 (46.10%)	<.0001
Yes	12861 (45.24%)	11549 (44.43%)	1312 ( <b>53.90%</b> )	
<b>New mood disorder<sup>b</sup></b>				
No	27918 (98.21%)	25692 (98.85%)	2226 (91.45%)	<.0001
Yes	508 (1.79%)	300 (1.15%)	208 ( <b>8.55%</b> )	
<b>All mood disorder<sup>c</sup></b>				
No	15057 (52.97%)	14143 (54.41%)	914 (37.55%)	<.0001
Yes	13369 (47.03%)	11849 (45.59%)	1520 ( <b>62.45%</b> )	
<b>Elixhauser comorbidity index</b>	2.0712376 (1.6761218)	2.0472 (1.6658)	2.3274 (1.7632)	<.0001

<sup>a</sup>Mood disorder present on first admission

<sup>b</sup>Mood disorder present during follow-up period and not present on first admission

<sup>c</sup>Mood disorder present on first admission or during follow-up period

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**Table 2.** Characteristics of patients who underwent back surgery from 2019-2020 and had failed back surgery syndrome during 90-450-day follow-up period (N=2,434) by the presence of mood disorder

Characteristic	Total N (%)	No mood disorder	Mood disorder	Chi-square test p-value
<b>Total</b>	2434 (100%)	914 (37.55%)	1520 <b>(62.45%)</b>	-
<b>Sex</b>				
Female	1321 (54.27%)	391 (42.78%)	930 <b>(61.18%)</b>	<.0001
Male	1113 (45.73%)	523 (57.22%)	590 (38.82%)	
<b>Race</b>				
Black	251 (10.31%)	116 (12.69%)	135 (8.88%)	0.0003
Other	172 (7.07%)	79 (8.64%)	93 (6.12%)	
White	2011 (82.62%)	719 (78.67%)	1292 <b>(85.00%)</b>	
<b>Smoking</b>				
No	1147 (47.12%)	499 (54.60%)	648 (42.63%)	<.0001
Yes	1287 (52.88%)	415 (45.40%)	872 <b>(57.37%)</b>	
<b>Obesity</b>				
No	1160 (47.66%)	470 (51.42%)	690 (45.39%)	0.0039
Yes	1274 (52.34%)	444 (48.58%)	830 <b>(54.61%)</b>	
<b>Elixhauser comorbidity index</b>	2.3274445 (1.7632158)	1.7210 (1.4203)	2.6921 (1.8474)	<.0001

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## Discussion

- FBBS was **not common** in our patient population.
- Rehabilitative medicine is poorly developed focusing on pain relief.
- Identify common preoperative factors present that are indicators of possible FBSS.
- Lifestyle behavioral changes.



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## Limitations

- Patients who presented after 450 days were not included in the study.
- Patients who visited a different hospital over the 90-day period with complaints of back pain would be missed on the FBSS group.
- Identifying inflammatory back pain in patients with FBSS.



# Acknowledgements

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# Thank you!



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