



Analyzing the Social Vulnerability Index With Metabolic Surgery

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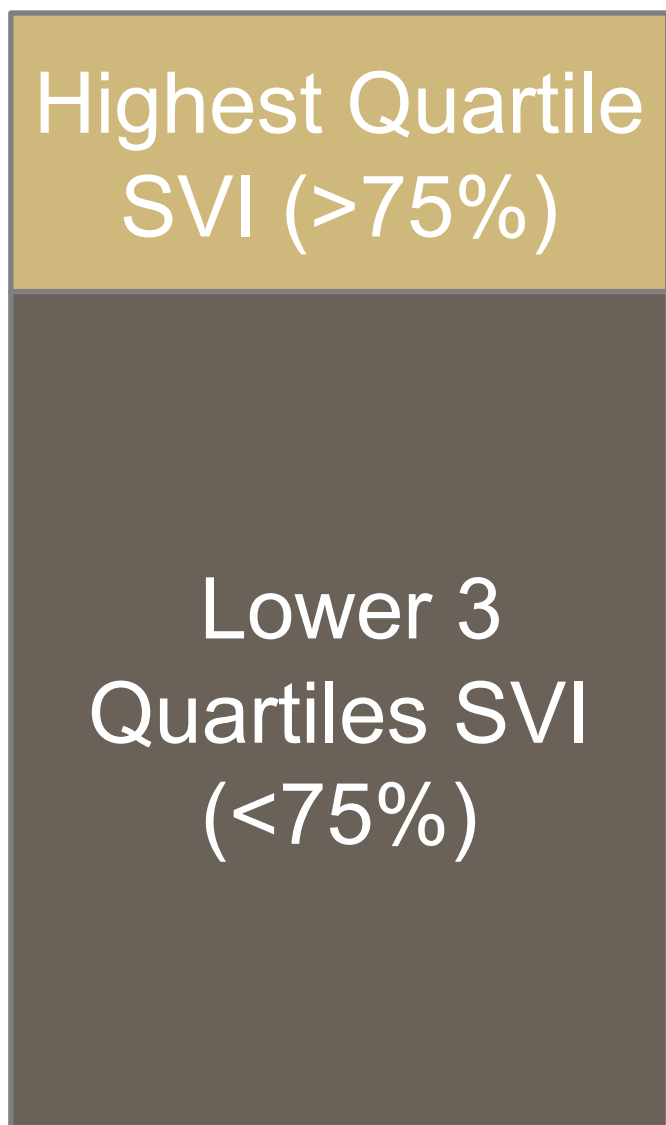
Background

- Social Vulnerability Index created by CDC to identify communities at risk during disaster
- Captures social drivers of health
- Metabolic surgery (MBS) has seen rising utilization
- Disparities in access to metabolic surgery persist
- Choice of procedure in MBS is provider-dependent
- **Does SVI predict procedure in MBS?**

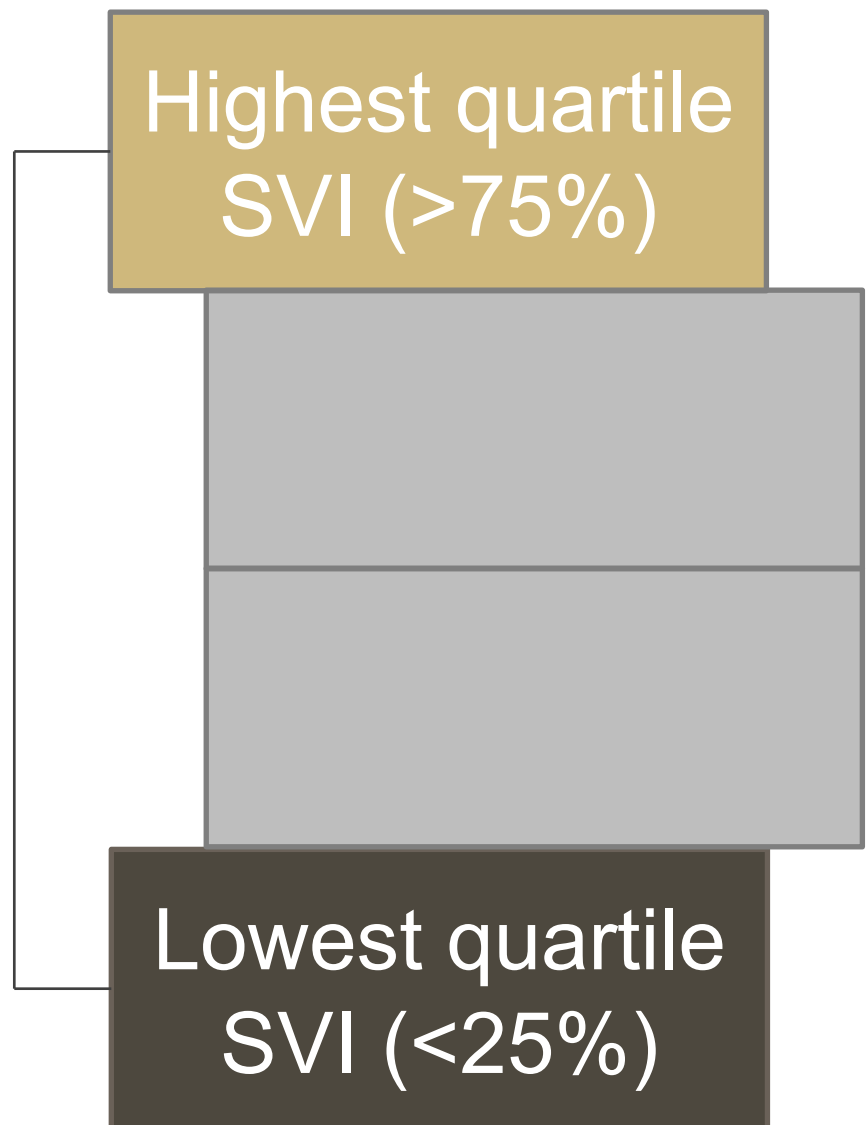
Methods

- Identified patients undergoing metabolic surgery via NSQIP
- SVI identified with patient address
- Analyzed to see if SVI associated with choice of surgery
- Multivariable regression of SVI compared to marginalized status in predicting risk
- Two measures of SVI used to compare to marginalized status: >75% vs <75% and >75% vs <25%

Measure 1



Measure 2



- SVI is not predictive of procedure type in MBS
- SVI functions similarly to individual-level markers of marginalization

Table 4 – Logistic regression comparing SVI in two measures to individual characteristics.

	Measure 1*			Measure 2*			Individual characteristics [†]		
	Odds ratio of receiving sleeve gastrectomy	95% CI	P-value	Odds ratio of receiving sleeve gastrectomy	95% CI	P-value	Odds ratio of receiving sleeve gastrectomy	95% CI	P-value
BMI categories, n (%)									
Normal	-			-			-		
Overweight	-			-			-		
Obese-class I	0.95	0.33-2.8	0.93	1.2	0.30-4.36	0.834	0.97	0.33-2.8	0.955
Obese-class II	1.4	0.85-2.3	0.20	2.1	0.99-4.55	0.053	1.4	0.85-2.3	0.18
Obese-class III	Reference			Reference					
Smoker, n (%)	1.3	0.66-2.4	0.487	1.3	0.51-3.4	0.555	1.2	0.64-2.3	0.534
History of COPD, n (%)	1.2	0.30-4.6	0.806	0.63	0.12-3.2	0.571	1.01	0.26-3.89	0.983
Gender	0.86	0.53-1.4	0.564	1.6	0.70-3.7	0.260	0.87	0.53-1.41	0.569
Age	1.01	0.99-1.02	0.407	1.02	0.98-1.05	0.214	1.01	0.99-1.02	0.410
High SVI	0.774	0.50-1.2	0.246						
Highest quartile versus Lowest quartile				0.95	0.49-1.89	0.895			
Minority race							0.82	0.52-1.3	0.373
Model Chi2	5.23		0.008	7.29		0.03	4.67		0.008
AUC	0.561			0.620			0.561		

*Measure 1 compares High SVI (>75%) to all 3 other quartiles (<75%). Measure 2 is comparing high SVI (>75%) to the lowest quartile (<25%).

[†] Individual Characteristics focused on Race as a marginalized status as this is used in the SVI calculations but age is not.

Conclusions

- Social vulnerability is not affecting procedure selection in metabolic surgery
- Metabolic surgery continues to be a safe procedure
- SVI is as predictive as individual-level markers of surgical risk
- Comparing top quartile against the lowest quartile of SVI can highlight highest level of disparities

Implications

- Metabolic surgery is multidisciplinary by nature- could this ameliorate the disparate outcomes seen in other fields?
- The use of SVI is still evolving
- SVI is a versatile tool that can be used across different models and domains

Disclosures

The authors have no conflicts of interest to disclose