

Social Determinants of Repeat Stone Surgery

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Abstract 20-577

SOCIAL DETERMINANTS OF HEALTH

- The conditions in which people are born, grow, live, work, and age that shape health

Economic Stability	Neighborhood and Physical Environment	Education	Food	Community and Social Context	Health Care System
Employment	Housing	Literacy	Hunger	Social integration	Health coverage
Income	Transportation	Language	Access to healthy options	Support systems	Provider availability
Expenses	Safety	Early childhood education		Community engagement	Provider linguistic and cultural competency
Debt	Parks	Vocational training		Discrimination	Quality of care
Medical bills	Playgrounds	Higher education		Stress	
Support	Walkability				
	Zip code / geography				

Artiga S, Hinton E. Beyond Health Care: The Role of Social Determinants in Promoting Health and Health Equity. *Kaiser Family Foundation Fact Sheet*. May 2018.

HEALTH EQUITY

- The fair and just opportunity for all to be as healthy as possible

REPEAT STONE SURGERY

- Relatively common
 - 1 in 5 individuals undergoes repeat surgery within 4 months
- Risk and burden to patient
- Cost to healthcare system
 - Procedures are the most expensive intervention for stone disease
 - Future bundled payment models disincentivize repeat surgery

OBJECTIVE

- To examine social determinants of repeat stone surgery

METHODS

- Registry for Stones of the Kidney and Ureter
- Inclusion criteria
 - Age ≥ 18 years, procedure for urolithiasis, complete data
- Independent variables
 - Race, education, language, mean income tax bracket by zip code, distance to UCSF, urologist density by county
- Dependent variable
 - Repeat surgery within 180 days of index procedure
- Logistic regression adjusted for age and gender

RESULTS

Parameter	Overall N = 317	Single Procedure N = 275	Multiple Procedures N = 42	Bivariate Analysis*
	N (%) or Mean (SD)			P-value
Age	54.7 (15.6)	55.2 (15.5)	51.2 (16.2)	0.12
Gender				0.96
Male	152 (48.0)	132 (48.0)	20 (47.6)	
Female	165 (52.0)	143 (52.0)	22 (52.4)	
Race				0.64
White	209 (65.9)	180 (65.5)	29 (69.1)	
Non-White	108 (34.1)	95 (34.6)	13 (30.9)	
Education Level				0.39
High school GED or lower	101 (31.9)	90 (32.7)	11 (26.2)	
Some college or higher	216 (68.1)	185 (67.3)	31 (73.8)	
Primary Language				0.56
English	270 (85.2)	233 (84.7)	37 (88.1)	
Other	47 (14.8)	42 (15.3)	5 (11.9)	
Average income tax score in zip code of residence	2.9 (0.6)	2.9 (0.6)	2.7 (0.6)	0.01
Distance in miles from UCSF	63.8 (75.5)	60.2 (75.6)	87.7 (71.3)	0.02
Urologists/100,000 population in county of residence	3.9 (2.3)	4.1 (2.3)	3.1 (2.0)	<0.01

* χ^2 or t-statistic, as applicable

Table 1. Baseline characteristics and bivariate analysis

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Parameter	Odds Ratio*	95% CI	P-value
Non-white race	0.83	0.41-1.67	0.60
Education level less than college	0.71	0.34-1.49	0.37
Primary language other than English	0.70	0.26-1.90	0.48
Average income tax score in zip code of residence	0.50	0.28-0.92	0.03
Distance in miles from UCSF	1.00	0.99-1.01	0.06
Urologists/100,000 population in county of residence	0.82	0.70-0.96	0.02

*Adjusted for age and gender

Table 2. Logistic regression for subjects undergoing multiple versus single procedures

RESULTS

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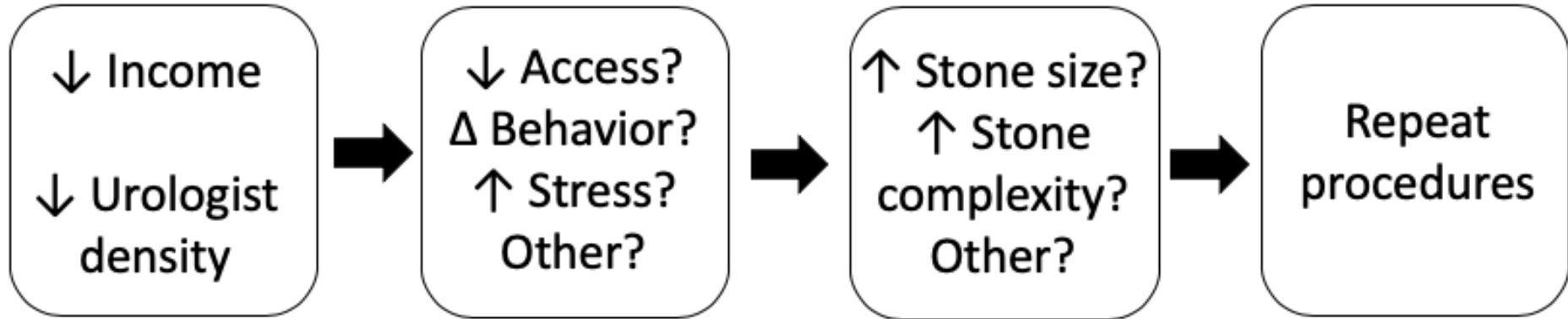
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CAUSAL PATHWAY



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LIMITATIONS

- Mean tax return data by zip code as proxy for economic status
- Single, tertiary referral center
- Limited ability to adjust for confounding variables

CONCLUSIONS

- Preliminary evidence for social determinants of repeat stone surgery
 - Lower income
 - Lower urologist density
- From equity and cost perspectives, these determinants ought to be investigated further and addressed in order to optimize stone surgery outcomes for patients and health systems

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THANK YOU AND STAY SAFE

Please feel free to email with comments or questions.

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