SDI Associated With Access to Liver Transplant

Abstract #3730

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Introduction

- Access to liver transplant (Tx) can be influenced by social determinants of health. The Social Deprivation Index (SDI), a composite measure reflecting the socioeconomic and demographic disadvantages of a community using US Census Bureau data on years of schooling, crowding, vehicle ownership, income, renter status, and single parent status, provides a framework for assessing the impact of social inequities on health care access. This study investigates the association between SDI and time to liver Tx accounting for insurance status, cause of end-stage liver disease (ESLD), age group, and urgency status.

Methods

- Analysis cohort = 73,342 adult liver Tx candidates (on waiting list 2020-2024)
- SDI calculated and merged by candidate zip code; higher SDI quintiles reflect higher levels of social deprivation
- Candidates listed concurrently at multiple centers had listings combined
- Cox proportional hazards models performed to test SDI quintile, insurance type, ESLD cause, age group, and urgency status with time to deceased or living donor Tx from listing

Results

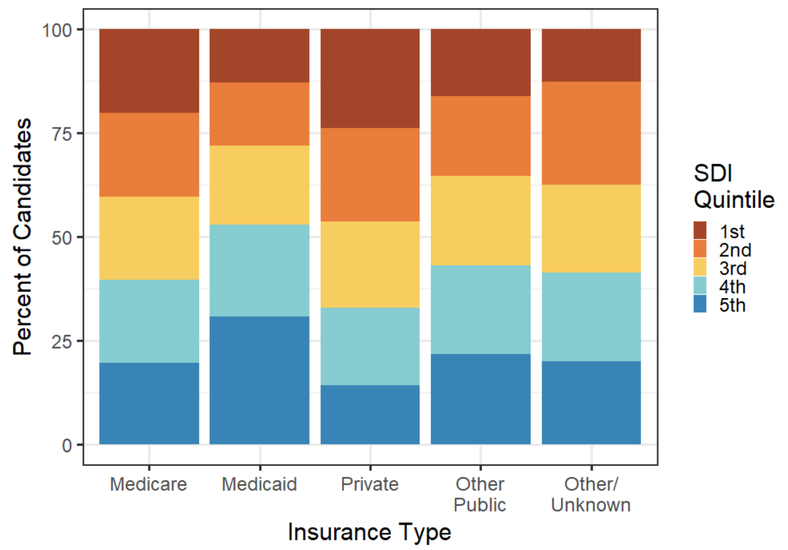
- Each characteristic in Table highly associated with SDI quintile (all $P<.001$).
- Median time to Tx was 114, 121, 121, 132, and 175 days after listing for 1st, 2nd, 3rd, 4th, and 5th SDI quintiles, respectively.
- SDI quintile, insurance type, cause of ESLD, age group, and urgency status each independently highly associated with time to Tx (all $P<.001$).
- In Cox model adjusting for insurance type, ESLD cause, age group, and urgency status, patients with higher levels of social deprivation had lower access to Tx post listing. Compared with lowest SDI quintile (least deprivation), HRs (95% CIs) were 0.94 (0.92-0.97), 0.96 (0.93-0.99), 0.94 (0.92-0.97), and 0.86 (0.83-0.88) (all $P<.001$) for 2nd, 3rd, 4th, and 5th quintiles, respectively. There was no interaction between SDI quintile and insurance type (ie, effect of SDI on Tx access was similar regardless of type).

Conclusions

- Higher levels of social deprivation are associated with reduced access to Tx after listing, independent of insurance type, cause of ESLD, age group, and urgency status. Future research should evaluate strategies for reducing barriers to Tx access in patients challenged by social deprivation.

Table. Demographics

Characteristic	1st SDI	2nd SDI	3rd SDI	4th SDI	5th SDI
Total					
All	100.00% (14984)	100.00% (15002)	100.00% (14884)	100.00% (14576)	100.00% (13896)
Transplant					
No	36.84% (5520)	38.27% (5742)	38.38% (5712)	38.72% (5644)	43.03% (5980)
Yes	63.16% (9464)	61.73% (9260)	61.62% (9172)	61.28% (8932)	56.97% (7916)
Race					
Asian	3.76% (563)	3.91% (587)	4.43% (660)	3.84% (560)	4.99% (694)
Black	2.76% (413)	3.93% (589)	4.84% (720)	7.68% (1120)	13.62% (1893)
Multiracial	0.53% (79)	0.65% (97)	0.74% (110)	0.67% (97)	0.49% (68)
Native American	0.44% (66)	0.87% (130)	1.06% (158)	1.56% (228)	2.08% (289)
Pacific Islander	0.09% (14)	0.17% (25)	0.26% (39)	0.24% (35)	0.19% (26)
White	91.74% (13746)	89.73% (13462)	88.07% (13109)	85.33% (12437)	78.07% (10849)
Unknown	0.69% (103)	0.75% (112)	0.59% (88)	0.68% (99)	0.55% (77)
Ethnicity					
Hispanic	5.73% (859)	10.28% (1542)	14.95% (2225)	21.33% (3109)	41.55% (5774)
Non-Hispanic or Unknown	94.27% (14125)	89.72% (13460)	85.05% (12659)	78.67% (11467)	58.45% (8122)
Insurance Type					
Medicare	24.39% (3655)	24.35% (3653)	24.34% (3623)	25.07% (3654)	25.37% (3525)
Medicaid	12.63% (1893)	14.54% (2181)	18.29% (2722)	21.69% (3162)	31.04% (4314)
Private	59.28% (8883)	56.66% (8500)	52.43% (7803)	48.43% (7059)	38.92% (5409)
Other Public	3.38% (507)	3.98% (597)	4.53% (674)	4.34% (633)	4.22% (587)
Other/Unknown	0.31% (46)	0.47% (71)	0.42% (62)	0.47% (68)	0.44% (61)
Cause of ESLD					
MASH	16.56% (2482)	18.40% (2761)	19.83% (2951)	20.55% (2995)	18.12% (2518)
Acute liver failure	1.51% (226)	1.81% (271)	1.86% (277)	2.04% (298)	2.63% (366)
Alcohol-associated cirrhosis	39.71% (5950)	37.91% (5688)	35.60% (5298)	34.01% (4958)	33.73% (4687)
Alcohol-associated hepatitis	4.66% (698)	4.09% (614)	3.77% (561)	3.48% (507)	3.50% (486)
Cholestatic disease	8.89% (1332)	8.15% (1222)	7.94% (1182)	7.68% (1120)	6.56% (911)
HCV	4.44% (666)	5.32% (798)	6.42% (956)	7.08% (1032)	8.28% (1150)
HCC	9.52% (1426)	9.71% (1457)	9.89% (1472)	10.69% (1558)	12.43% (1727)
Other/unknown	14.71% (2204)	14.60% (2191)	14.69% (2187)	14.46% (2108)	14.76% (2051)
Age					
18-34 years	5.93% (889)	6.51% (977)	6.78% (1009)	7.58% (1105)	7.41% (1029)
35-49 years	21.52% (3225)	22.48% (3373)	22.18% (3302)	22.02% (3209)	22.50% (3127)
50-64 years	48.97% (7337)	47.99% (7199)	48.80% (7264)	48.74% (7104)	49.15% (6830)
65+ years	23.58% (3533)	23.02% (3453)	22.23% (3309)	21.67% (3158)	20.94% (2910)
Urgency Status					
14 or lower	31.73% (4754)	30.86% (4629)	29.99% (4463)	31.15% (4540)	32.51% (4518)
15-24	34.45% (5162)	34.62% (5194)	35.76% (5323)	34.82% (5076)	33.28% (4625)
25-34	17.91% (2684)	18.60% (2790)	18.42% (2741)	17.97% (2620)	17.14% (2382)
35-39	5.23% (783)	5.25% (788)	5.15% (766)	4.96% (723)	5.27% (732)
40+	4.71% (706)	4.59% (689)	4.48% (667)	4.56% (664)	4.57% (635)
Status 1A	1.14% (171)	1.27% (190)	1.10% (164)	1.48% (215)	1.90% (264)
Inactive	4.72% (707)	4.75% (713)	4.97% (740)	4.98% (726)	5.25% (730)
Other/unknown	0.11% (17)	0.06% (9)	0.13% (20)	0.08% (12)	0.07% (10)



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