SCIENTIFIC REGISTRY OF TRANSPLANT RECIPIENTS

Exception Scores For Patients on the Liver Waiting List

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Introduction

- Liver waitlist candidates are prioritized for allocation using model for end-stage liver disease (MELD) scores calculated from measured laboratory values.
- For some liver diseases, risk of death or dropout is not well represented by the MELD score.
- In such cases, candidates may receive higher allocation MELD scores through an exception process.
- The number of waitlist candidates with exceptions increased from 445 on December 31, 2004 (2.9% of the list population), to 2318 (15.9%) on December 31, 2014.
- Hepatocellular carcinoma (HCC) exceptions have been the subject of much discussion in the liver transplant community.
- Exception points are granted automatically for candidates with T2 HCC.
- Exception points for candidates with HCC not meeting T2 criteria can be granted on an individual basis by regional review boards.
- We describe trends in the use of HCC and non-HCC exceptions.

Methods

- Using SRTR standard analysis files, we sampled four quarterly snapshots per year from 2004 to 2015 and computed:
  - number of candidates on the waiting list
  - exception status (no exception, T2 HCC, other HCC, non-HCC)
  - allocation MELD
  - waitlist outcomes 90 days after the snapshot
- Dropout (death or removal as being too sick) and transplant rates were computed for candidates with allocation MELD ≥22 to focus the comparison on candidates most likely to undergo transplant.
- Candidates who received a living donor liver and those with allocation status 1, 1A, or 1B were excluded.

Results

- Distribution of exception status has shifted. No exceptions accounted for 48% of candidates with an allocation MELD ≥22 in 2004 and 26% in 2015; T2 HCC accounted for 30% of such candidates in 2004 and 26% in 2015; other HCC accounted for 3% in 2004 and 23% in 2015 (Figure 1).
- The numbers of transplants in non-exception and T2 HCC exception candidates were comparable over the entire period (Figure 2), and other exception transplants reached similar counts by 2015.
- Ninety-day dropout and transplant rates were similar among the three exception types (Figure 3).
- We observed decreasing transplant rates and moderately decreasing dropout rates in all exception groups.
- Transplant rates were similar for candidates with and without exceptions until 2010.
- After 2010, rates for non-exception candidates were higher.
- Dropout rates were consistently four to five times higher for non-exception candidates.

Figure 1: Distribution of Exception Status with MELD ≥ 22

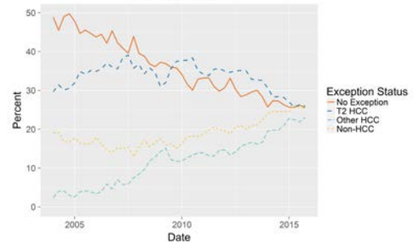

Figure 2: Waitlist Outcomes Among Candidates with MELD ≥ 22 By Exception Status

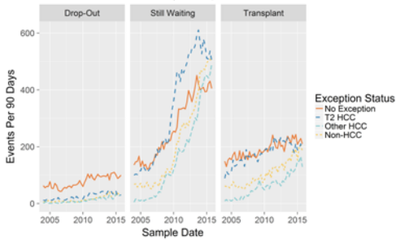

Figure 3: Waitlist Outcome Rates Among Candidates with MELD ≥ 22 By Exception Status

Conclusions

- At the national level, by the end of the study period, only a quarter of candidates with MELD ≥ 22 were listed without exception.
- Regardless of exception status, large decreases in transplant rates have occurred, increasing numbers of waitlisted candidates, and dropout rates have decreased modestly.
- Since 2010, non-exception and exception:
  - transplant rates have diverged, with exception rates dropping faster than non-exception rates,
  - waiting rates have diverged, with exception rates increasing more quickly than non-exception rates, and
  - differences in dropout rates have remained constant because of the divergence in transplant and waiting rates, although non-exception candidates continue to have a higher likelihood of dropout than exception candidates.

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