

Using Machine Learning Predictions to Improve Utilization and Reduce Discards in Deceased Donor Organ Allocation



ORGANIZATIONS:

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IMPACT GOAL:

Reduce Kidney Discards.



PROJECT BACKGROUND:

As of October 2021, more than 90,000 patients are on the waiting list for a cadaveric kidney in the United States. At the same time around 20% of recovered kidneys from deceased donors are discarded during the offering process.

OPOs, which offer each kidney to transplant centers on behalf of patients on the waiting list, are faced with time constraints and typically expedite the offering process and bypass patients when an organ is at risk of being discarded. When a kidney is at risk of being discarded, OPO coordinators expedite offers based on their experience with transplant centers to quickly identify a candidate that will accept the kidney.

This process is based solely on the coordinators' judgement and not on systematic evidence.



STRATEGY:

Project specific goals include generating prediction tools using Machine Learning that will aid in the allocation of kidneys and reduce discards.

The tool will assist in the decision by providing a data-driven recommendation to expedite the placement and target specific transplant centers based on the predicted likelihood of a placement at the top of the match and the predicted likelihood that each transplant center will accept the organ.

The tool will also help shorten coldischemic times and help transplant centers in making their acceptance decisions, as it can also generate information about the expected wait time for an organ of similar quality.



INTENDED RESULTS:

The major goal of this project is to help to reduce discards of deceased donor kidneys by developing an assistive recommendation system for OPOs to help in placing kidneys.

FOR MORE INFORMATION,

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