



SCIENTIFIC
REGISTRY OF
TRANSPLANT
RECIPIENTS

Match-Run Analysis for Designing and Evaluating Allocation Policies

Nicholas L. Wood, Grace R. Lyden, Tim Weaver, Josh
Pyke, Jon J. Snyder

Background

- Kidney continuous distribution simulation request submitted to SRTR in **March 28, 2023**

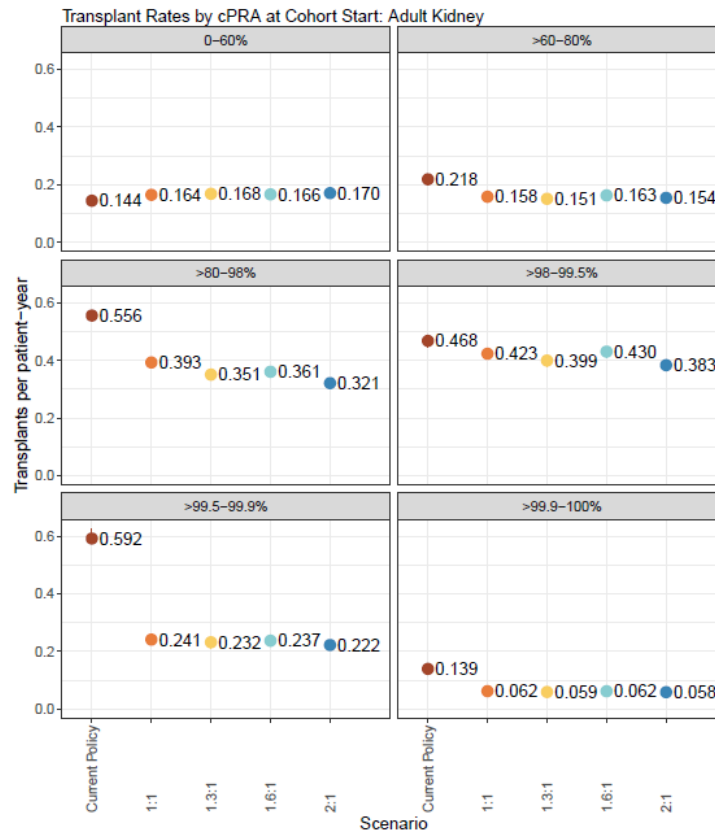
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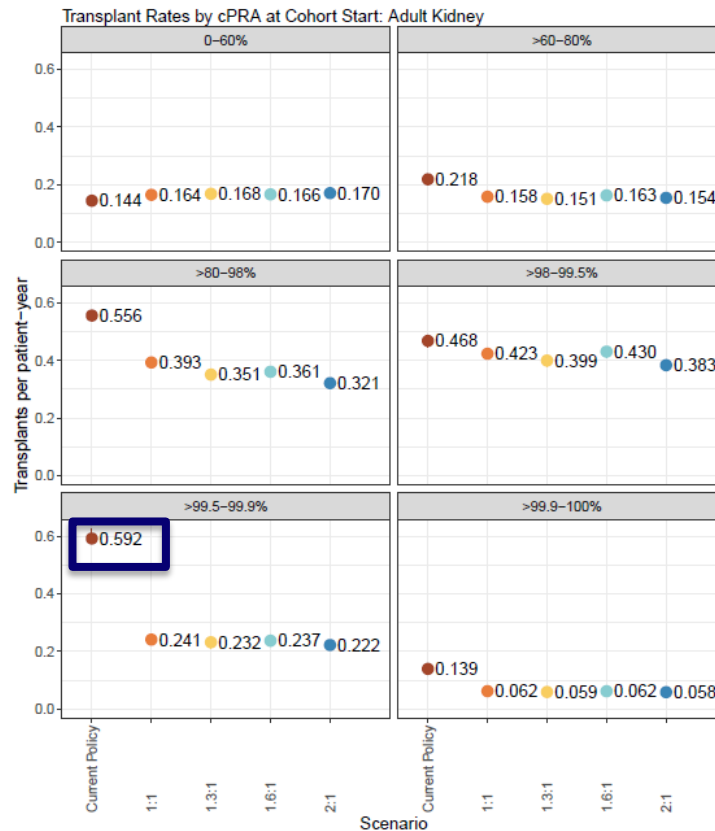
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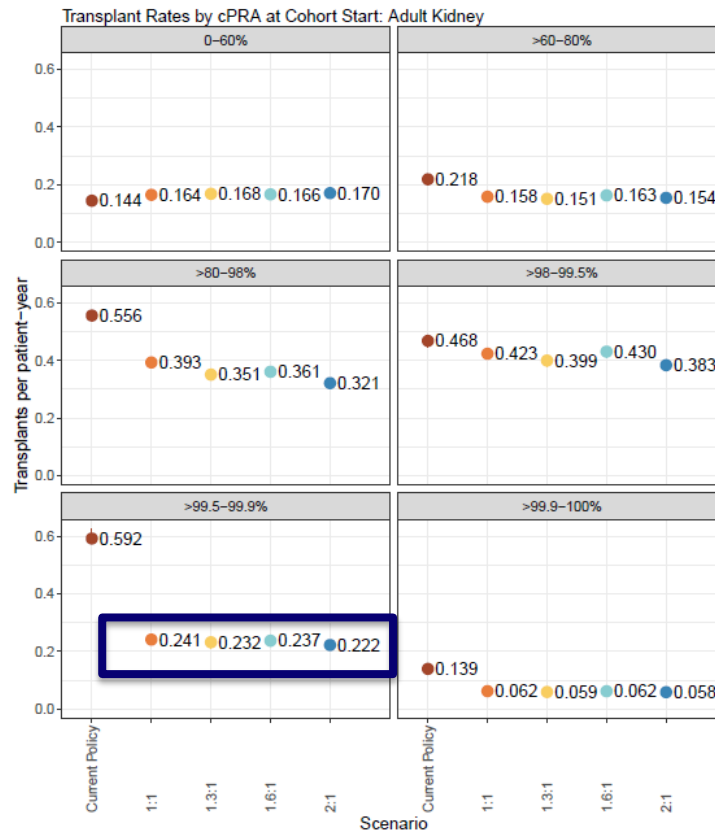
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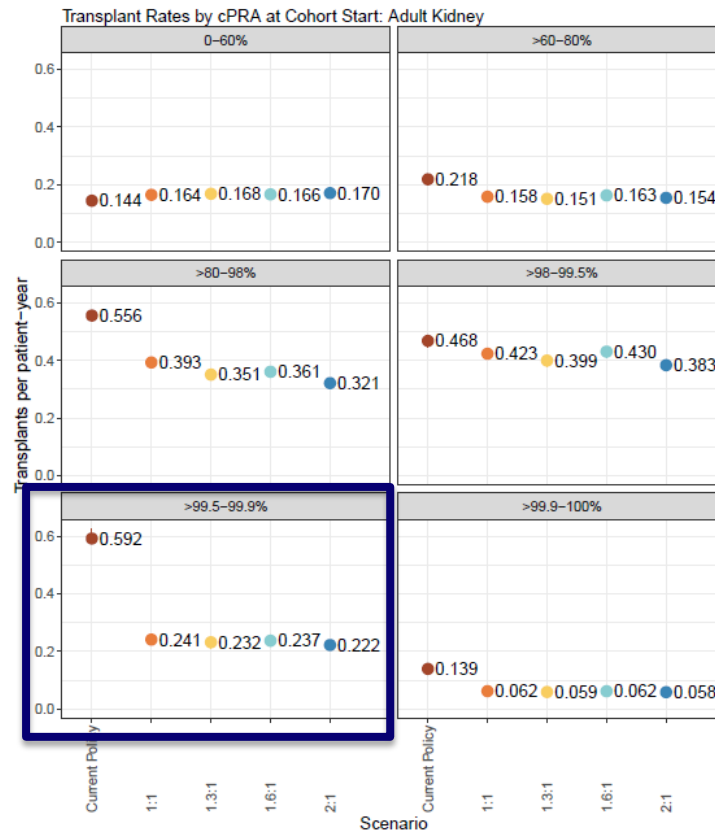
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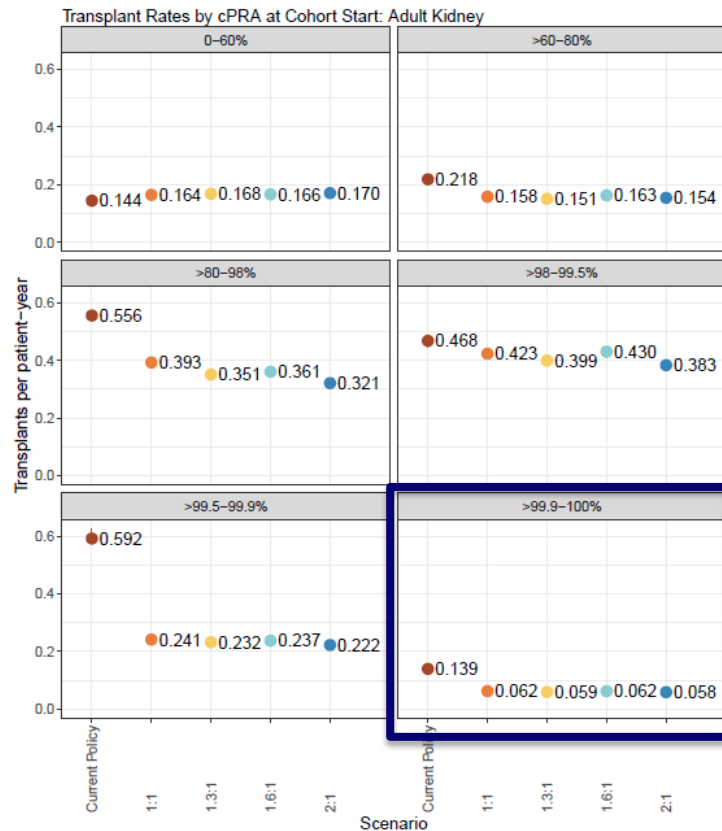
https://optn.transplant.hrsa.gov/media/jjylcifq/20230731_kidney-committee-meeting-summary.pdf



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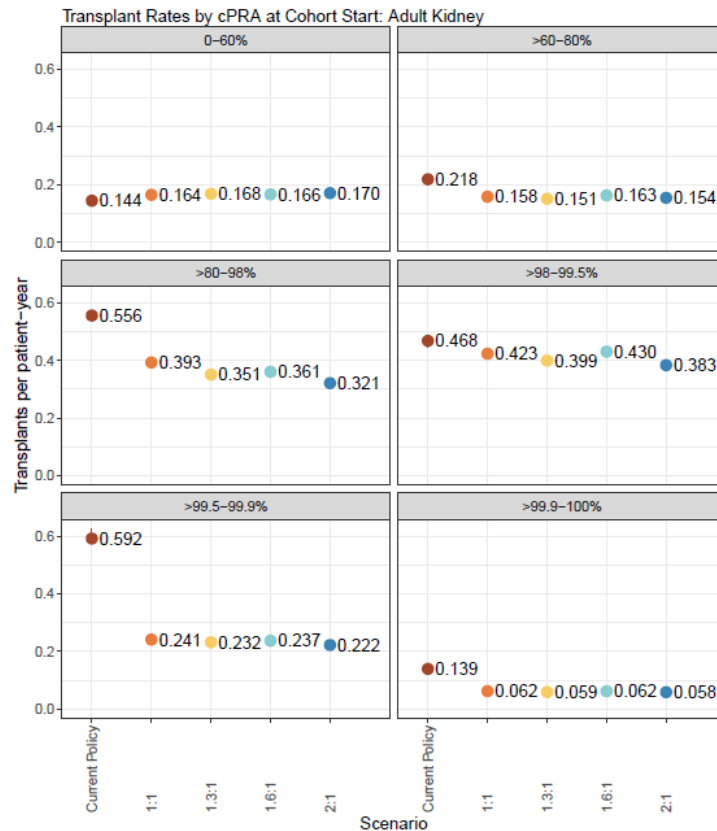


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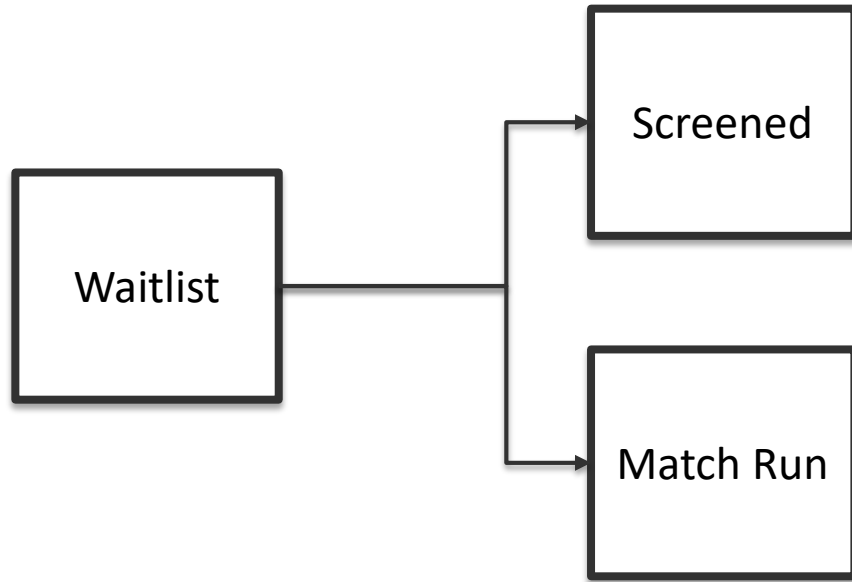


Match Run Analysis

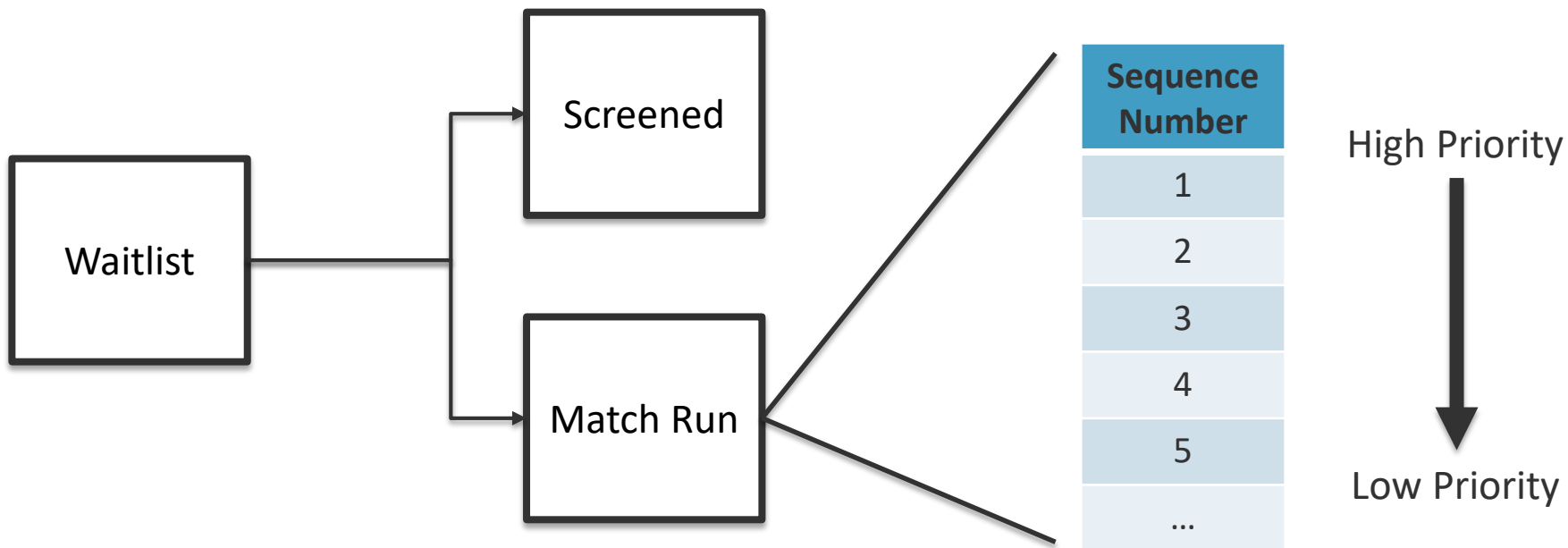


Waitlist

Match Run Analysis



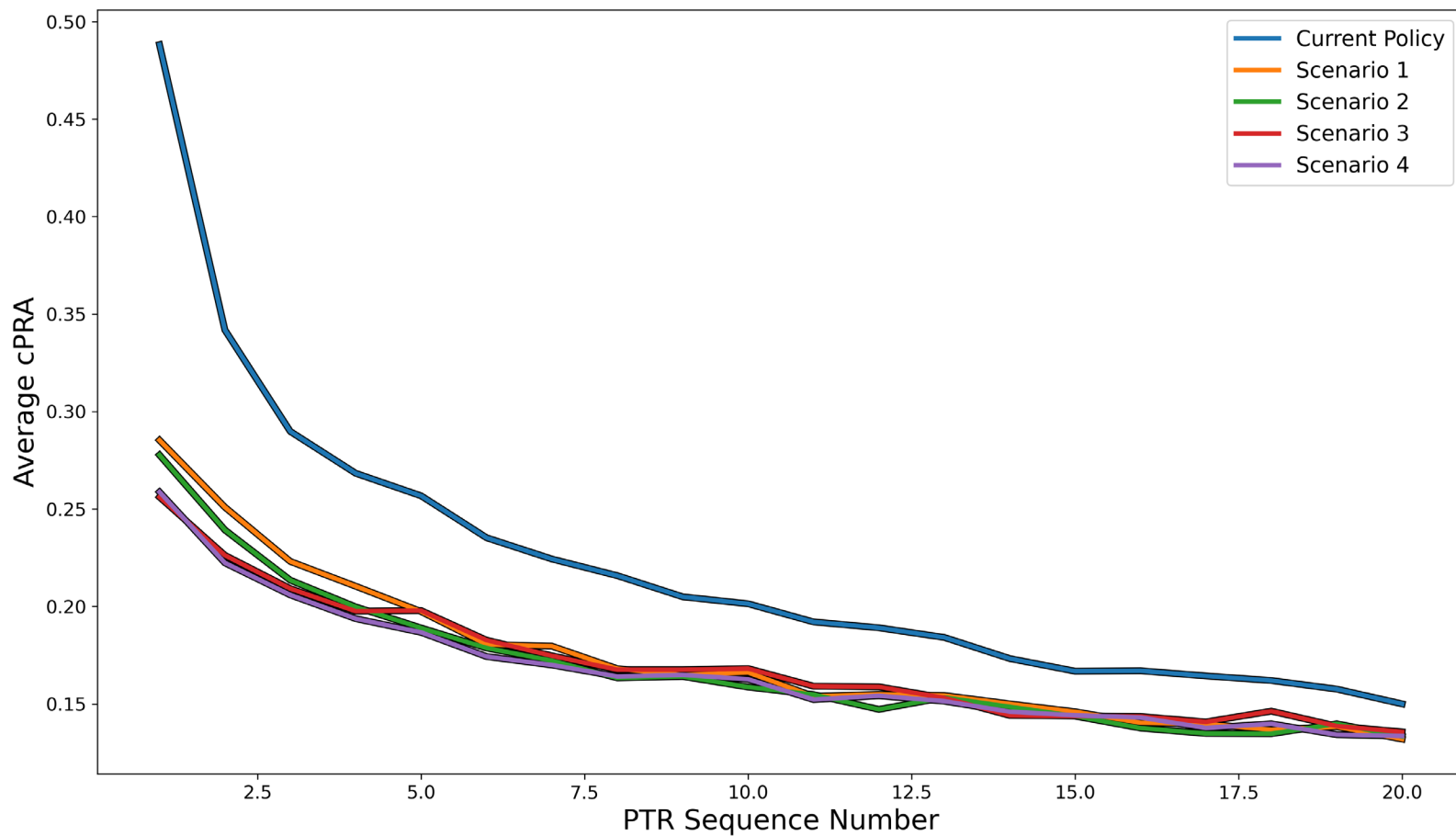
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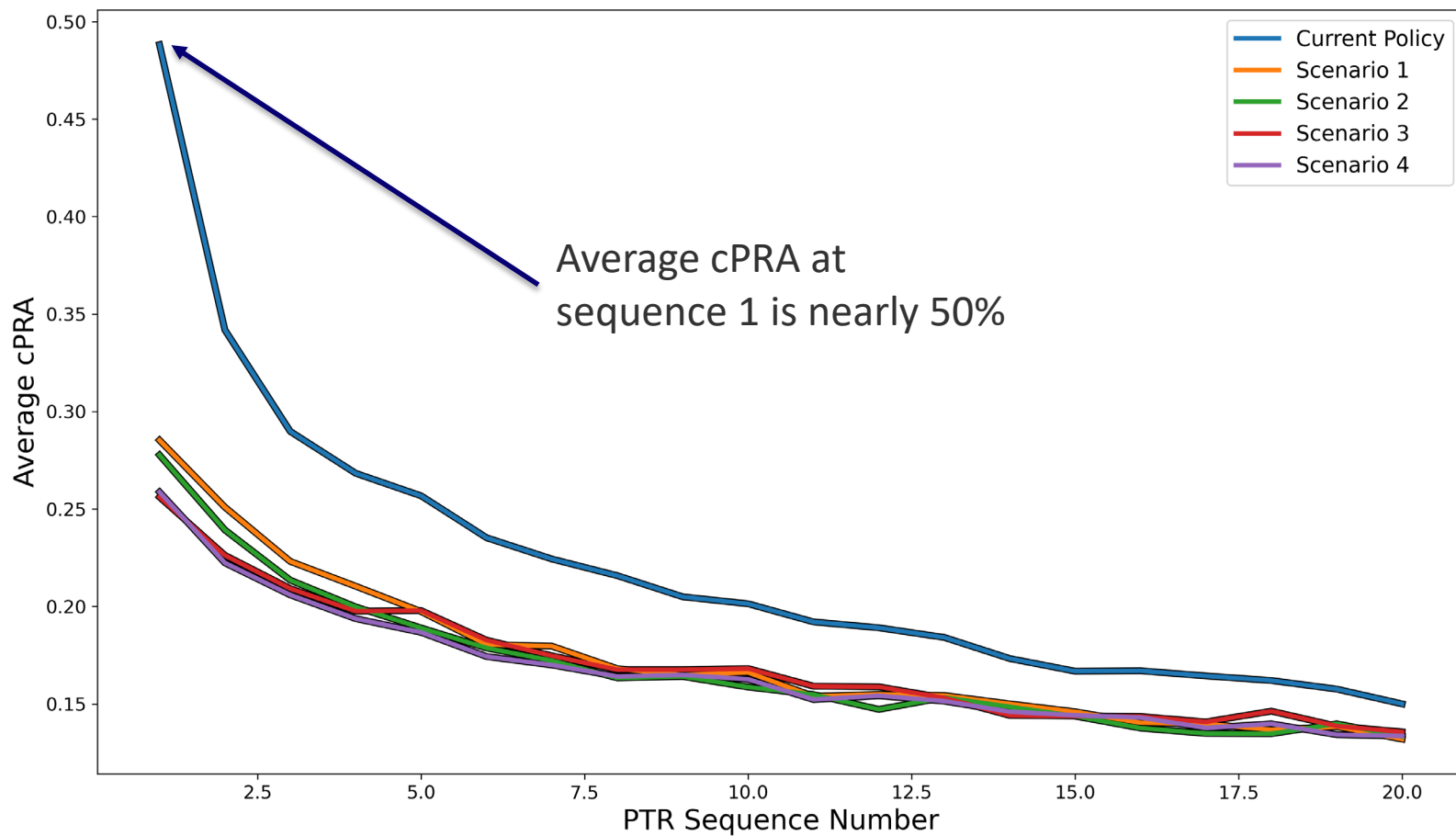


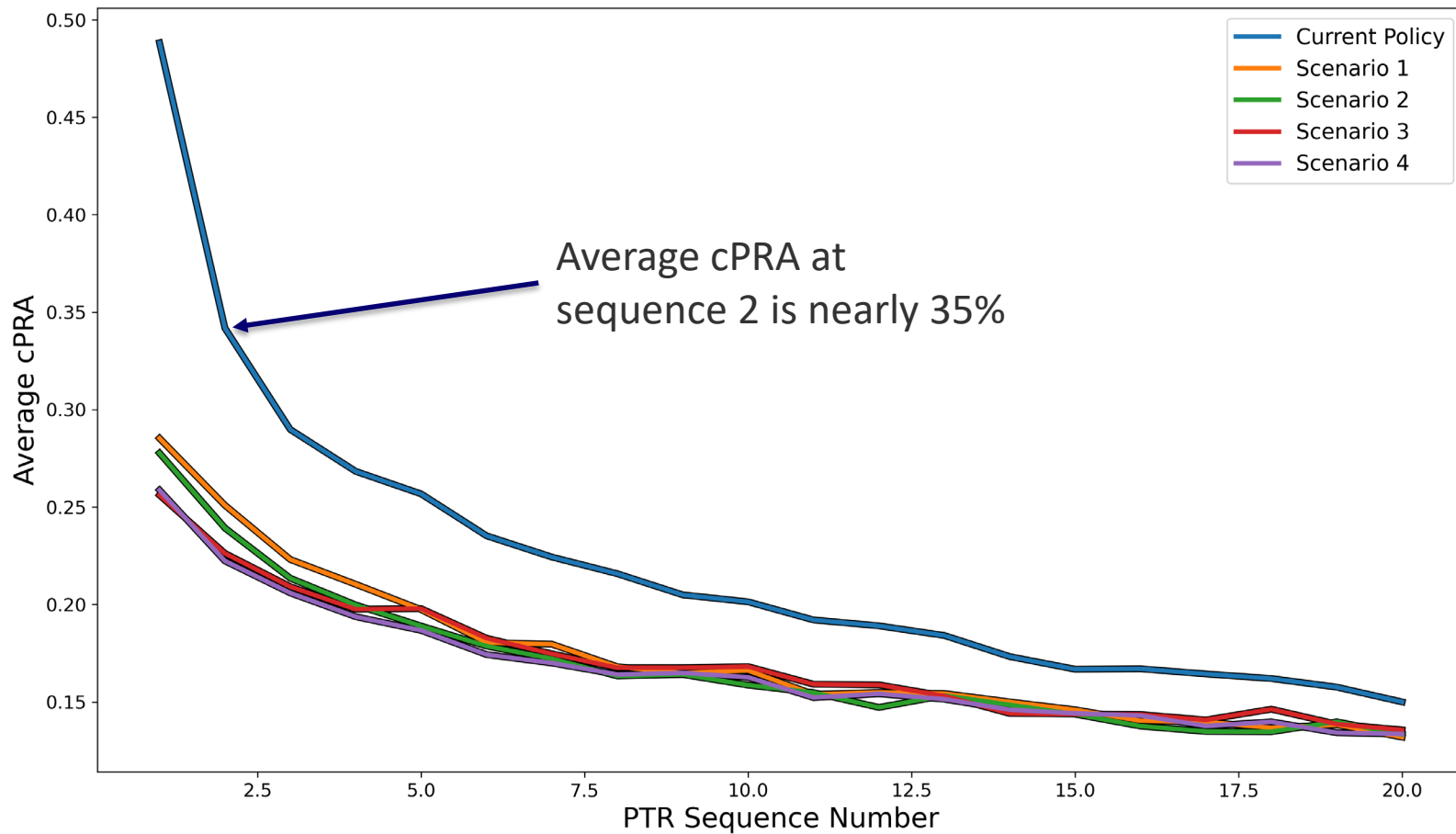
Cohort and Methods

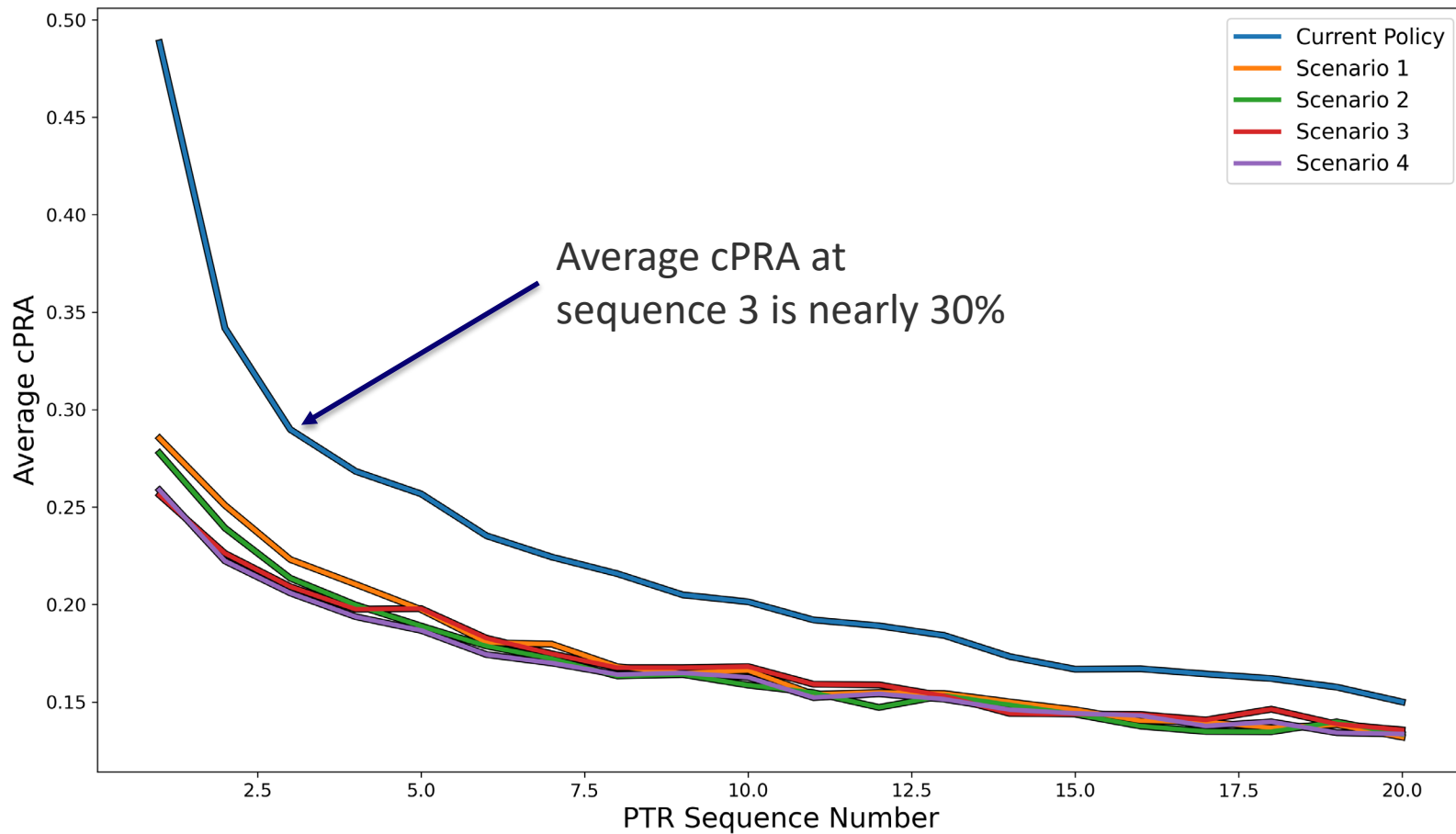
- Historic kidney-alone match runs for donors from January 1, 2024 through June 30, 2024.
- For each proposed policy, match runs were sorted according to that policy.
- The priority given to candidates based on calculated panel-reactive antibody (cPRA) was aggregated across all match runs in the cohort.
- Results were compared to those when match runs were sorted using current policy.

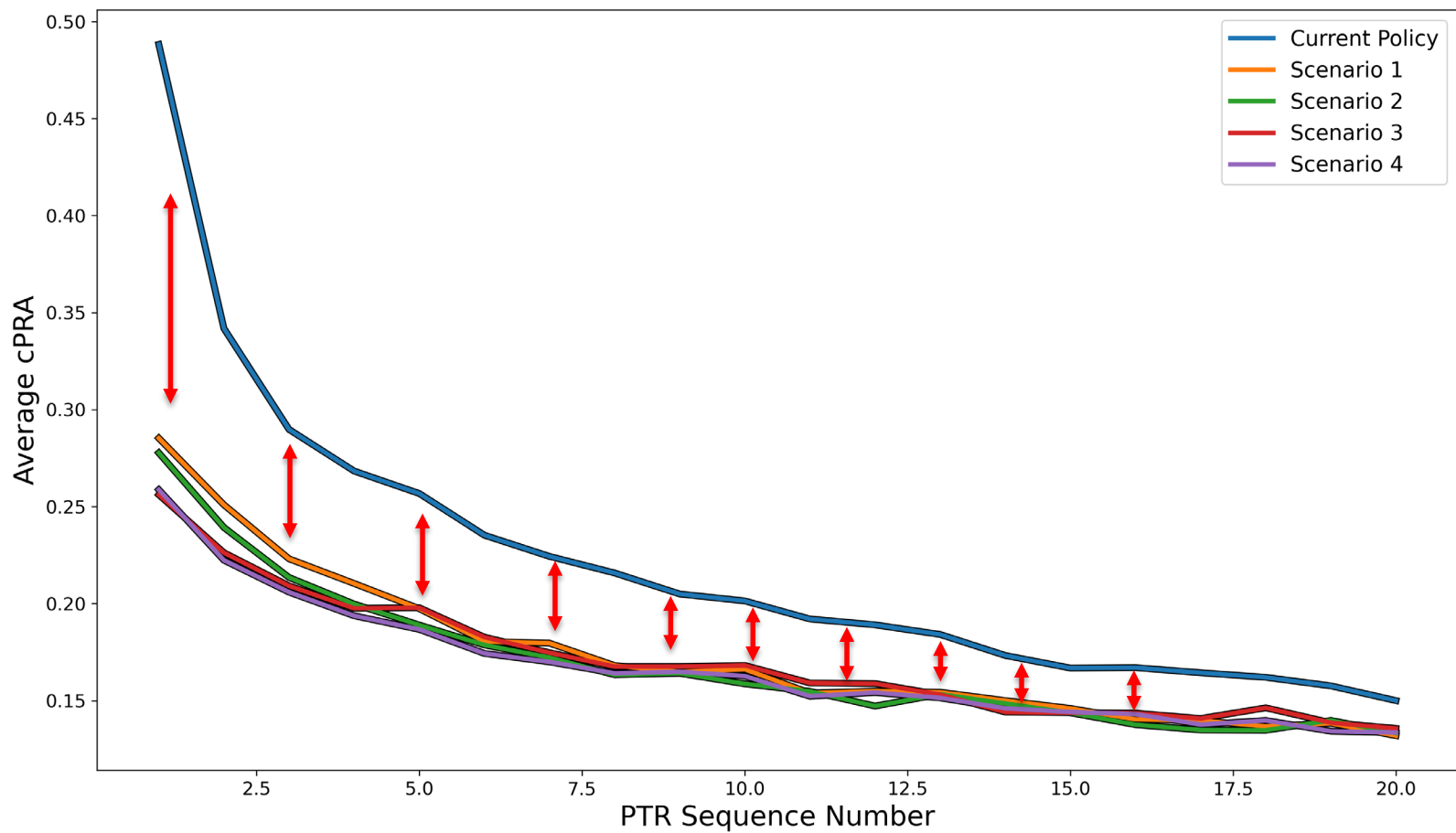












Median (IQR) Sequence Number by cPRA Group

cPRA	Current Policy	Scenario 1	Scenario 2	Scenario 3	Scenario 4
< 60%	4525 (1694, 9052)	4247 (1597, 8720)	4249 (1599, 8718)	4245 (1597, 8718)	4247 (1598, 8716)
[60%, 80%)	3284 (1167, 6886)	3483 (1216, 7553)	3435 (1195, 7542)	3509 (1224, 7641)	3452 (1198, 7596)
[80%, 98%)	1858 (528, 4105)	2238 (602, 5450)	2178 (593, 5443)	2336 (628, 5723)	2276 (618, 5682)
98%	735 (18, 2104)	349 (20, 1468)	330 (23, 1463)	287 (21, 1412)	298 (26, 1438)
99%	664 (14, 2021)	221 (10, 1087)	204 (12, 1050)	186 (13, 1076)	186 (14, 1030)
100%	2 (1, 3)	62 (10, 415)	56 (10, 357)	55 (10, 381)	52 (10, 331)

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Conclusions

- Simulation analysis is complex and time consuming.
- Match-run analysis is simple and quick, and can be used prior to simulation analysis to flag potential issues with proposed policies based solely on allocation priority.
- Match-run analysis is already being used to support both the OPTN Heart and Liver Committee's as they continue to work toward continuous distribution.





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