Enhance Transplant Program Performance Monitoring System

OPTN Membership and Professional Standards Committee (MPSC)

Purpose of Proposal

- **Develop** a holistic review of member performance throughout all phases of transplant
  - Current performance monitoring evaluates only 1-year post-transplant patient and graft survival
- **Identify** real-time patient safety issues
- **Provide** support and collaboration to transplant programs for identified opportunities for improvement
- **Evaluate and modify** any system of review to ensure maximum support for increasing the number transplants, promoting equitable access to transplantation and fostering innovation

Proposal

- Four metrics evaluate multiple aspects of transplant program performance
- Performance review process
  - MPSC intervention or “red” zone – inquiry and interaction with MPSC
  - Performance improvement or “yellow” zone - Notice and offer of assistance, if desired
- Separate criteria for adult and pediatric transplants
- New peer visit section codifies current process
- Administrative revisions to bylaw definitions
- Does **not** relate to or have an affect on the SRTR public website

Proposal - Criteria for Identification

Adult Transplant Criteria: > 50% probability that any of following criteria are met:

Waiting List Mortality rate ratio > 1.75	Offer Acceptance rate ratio < 0.30	90-day graft survival hazard ratio > 1.75	1 year graft survival conditional on 90 day graft survival hazard ratio >1.75

Pediatric Transplant Criteria: > 50% probability that any of following criteria are met:

Waiting List Mortality rate ratio > 1.75	Offer Acceptance rate ratio < 0.35	90-day graft survival hazard ratio > 1.60	1 year graft survival conditional on 90 day graft survival hazard ratio >1.60

Rationale – Choosing Metrics

MPSC evaluated suggested metrics using following criteria:

- Measures aspects of care that
  - Are clearly within the authority of the OPTN
  - Are discrete and provided by transplant programs
  - The transplant program can sufficiently influence
- Does not require collection of new data or development of a new metric
- Is risk adjusted
- Has a clear desired outcome
- Incentivizes behaviors that will increase transplants

Rationale – Setting Boundaries

- Identify outliers with clinically meaningful differences in performance
- Do not identify more programs for review
- Utilize the same boundaries across all organs
  - Identify system outliers, not outliers within each organ
- 50% probability to reduce the effect of program volume size, waiting list size or number of offers
- Only evaluate graft survival for post-transplant metrics

Implementation

- Programs have been evaluated on post-transplant survival for years. Implement updated post-transplant metrics first and quickly.
- Though pre-transplant metrics have been available for some time, the MPSC would only utilize data collected after the Board of Directors approves the proposal.
- For example, if Board of Directors approved in December 2021:
  - July 2022: Post-transplant metrics (evaluating July 2019 – Dec 2021 cohort)
  - July 2023: Organ offer acceptance (evaluating Jan – Dec 2022 cohort)
  - July 2024: Waiting list mortality (evaluating Jan 2022 – Dec 2023 cohort)

Implementation

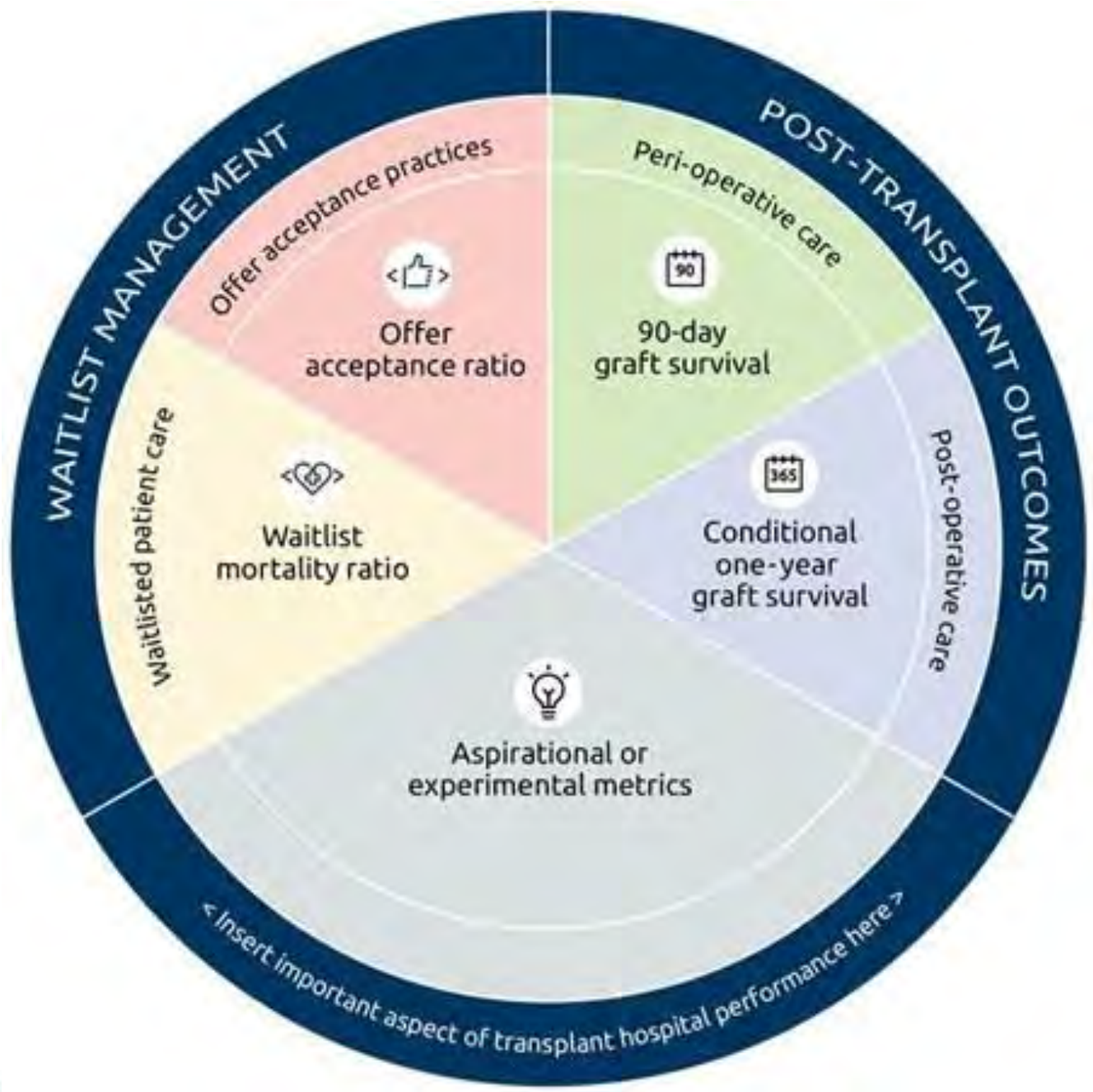
- MPSC will use time between approval and implementation to:
  - Collect information on effective practices from high performing programs
  - Distribute educational resources for members on pre-transplant metrics and risk adjustment
  - Notify programs that are likely to be identified once the metrics are implemented and help them prepare

What do you think?

- A monitored entity should understand the measures being used
  - What types of resources do you anticipate needing to respond to these new metrics?
  - Are you comfortable with the concept of risk adjustment or do you think additional education on risk adjustment is needed?
  - What education resources do you need to describe these metrics to your patients?
- What types of assistance would be most helpful to programs that fall within the performance improvement or “yellow” zone?
- Would you support use of a longer-term period prevalent metric in the future?
  - Future addition or replacement of 1-year conditional post-transplant survival

Extra slides

Proposed metrics for more holistic approach for evaluating and monitoring transplant program performance.



Adult Transplant Suggested Boundaries

Adult Suggested Boundaries	Heart	Kidney	Liver	Lung	Total Programs
Waiting List Mortality - 50% Probability RR > 1.75	5	0	3	5	**13**
Offer Acceptance – 50% Probability RR < 0.30	1	6	5	2	**14**
90-day Graft Survival – 50% Probability HR > 1.75	3	10	4	2	**19**
Conditional 1-year Graft Survival – 50% Probability HR > 1.75	3	9	1	3	**16**
Total Programs	**12**	**25**	**13**	**12**	**62**

Adult Transplant Programs Identified by Multiple Metrics

Metrics	Number of programs
90-day & 1-year conditional	2
Waiting list mortality & 90 day	2
Waiting list mortality & 1 year	1
Offer Acceptance & 1 year	1

- Total of 56 unique programs flagged in four metrics
- Of those 56 programs, 2 withdrawn & 1 inactive so 53 active programs identified

Pediatric Suggested Boundaries

Pediatric Suggested Boundaries	Heart	Kidney	Liver	Lung	Total Programs
Waiting List Mortality - 50% Probability RR > 1.75	8	0	2	0	10
Offer Acceptance – 50% Probability RR < 0.35	2	3	0	1	6
90-day Graft Survival – 50% Probability HR > 1.60	4	2	1	1	8
Conditional 1-year Graft Survival – 50% Probability HR > 1.60	1	1	2	1	5
Total Programs	**15**	**6**	**5**	**3**	**29**

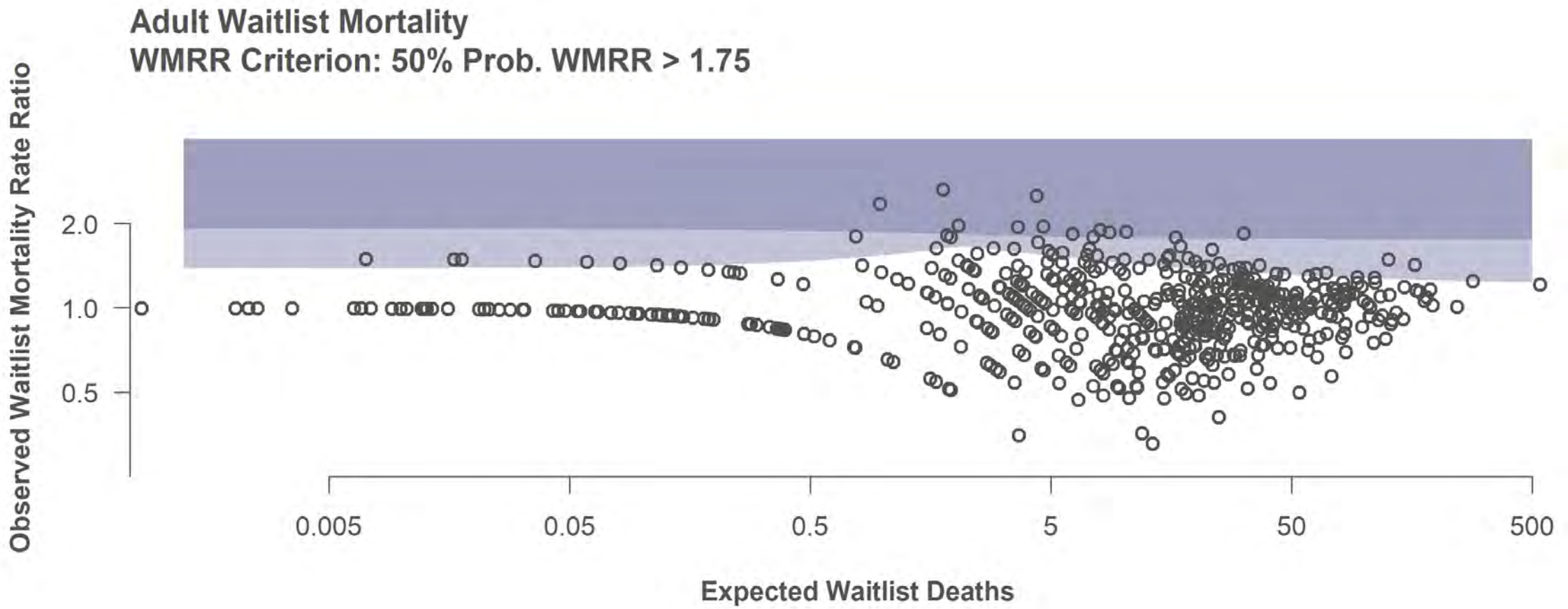
Pediatric Transplant Programs Identified by Multiple Metrics

Metrics	Number of programs
Waiting list mortality & 90 day	1
Waiting list mortality & 1 year	1

- Total of 27 unique programs flagged in four metrics
- Of those 27 programs, 2 do not have approved pediatric components

Adult Waiting List Mortality with Current MPSC Threshold

All Programs



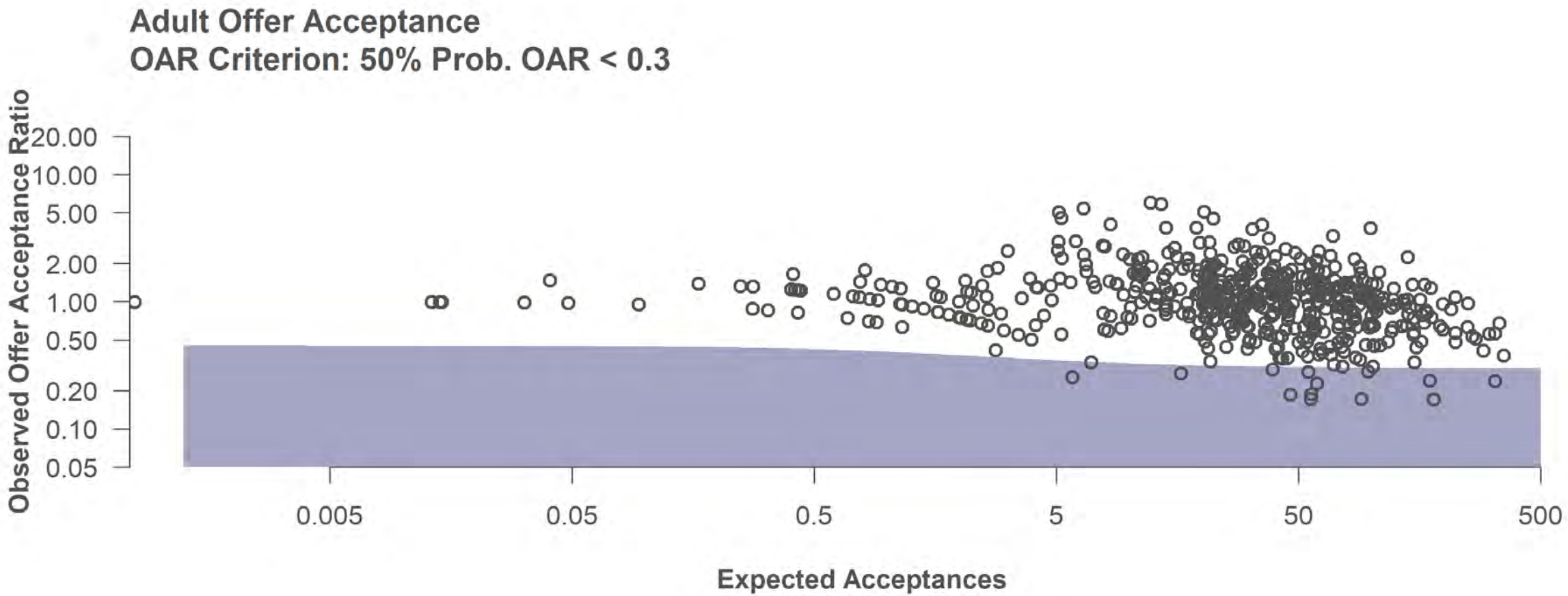
Waiting List Mortality

Programs Identified

Number	Organ	Person Years	Observed	Expected	Waitlist Mortality Rate Ratio
1	HR	24.01	8	1.79	2.64
2	HR	70.32	14	4.37	2.51
3	HR	10.17	5	0.97	2.35
4	LU	24.13	6	2.06	1.97
5	LU	29.66	11	4.65	1.95
6	LU	43.68	9	3.66	1.94
7	LU	90.23	17	8	1.9
8	LI	77.78	21	10.3	1.87
9	LI	78.61	18	8.75	1.86
10	LU	248.43	60	31.66	1.84
11	HR	89.24	13	6.16	1.84
12	HR	82.05	15	7.49	1.79
13	LI	101.65	31	16.48	1.79

Adult Offer Acceptance

All Programs



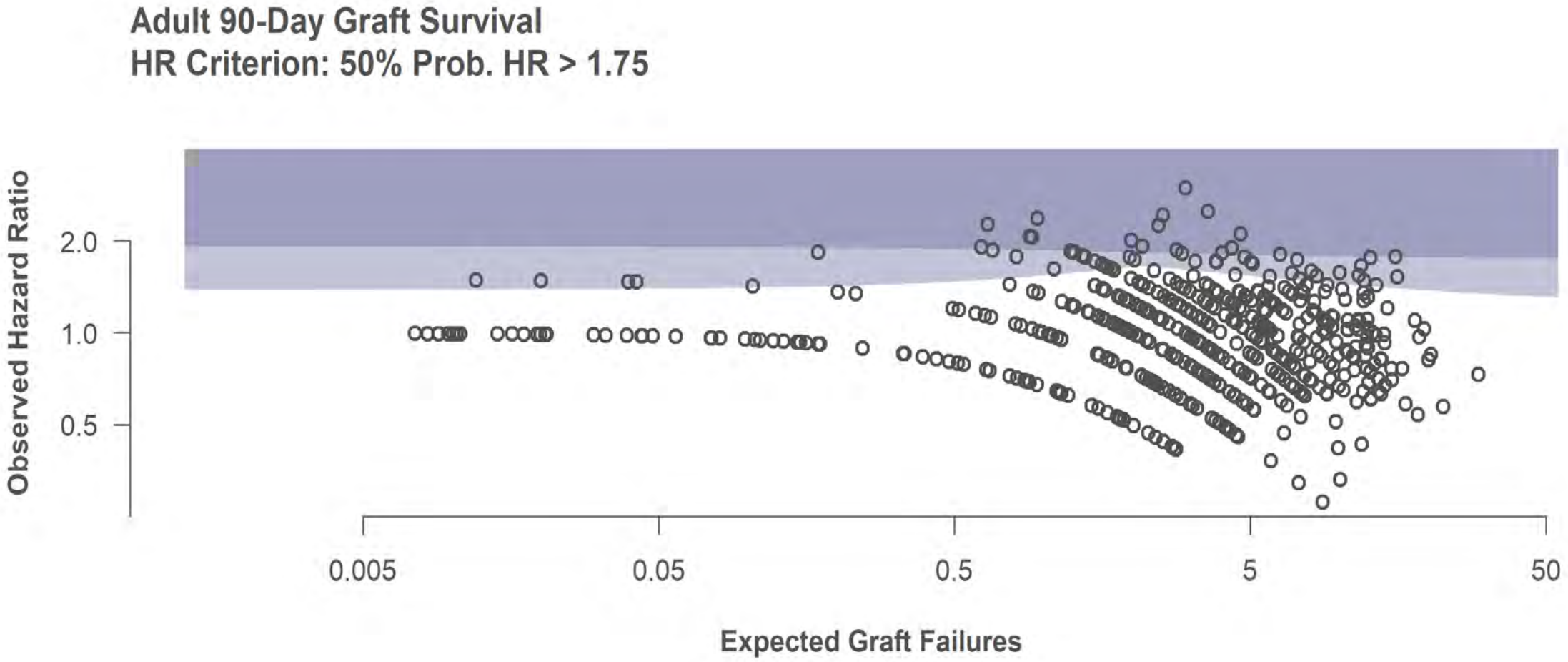
Offer Acceptance

Programs Identified

Number	Organ	Offers	Observed	Expected	Offer Acceptance Rate Ratio
1	KI	12953	29	180.72	0.17
2	KI	4970	8	56.21	0.17
3	LI	1266	14	90.85	0.17
4	LU	1041	7	46.31	0.19
5	KI	1913	9	56.53	0.19
6	LI	1269	12	59.7	0.23
7	KI	68962	75	323.66	0.24
8	KI	3556	40	174.03	0.24
9	LI	26	0	5.83	0.26
10	LU	352	3	16.36	0.27
11	LI	1021	14	54.94	0.28
12	HR	1674	26	97.1	0.28
13	LI	349	10	39.12	0.29
14	KI	2825	1	6.96	0.33

Adult 90-Day Graft Survival with Current MPSC Threshold

All Programs



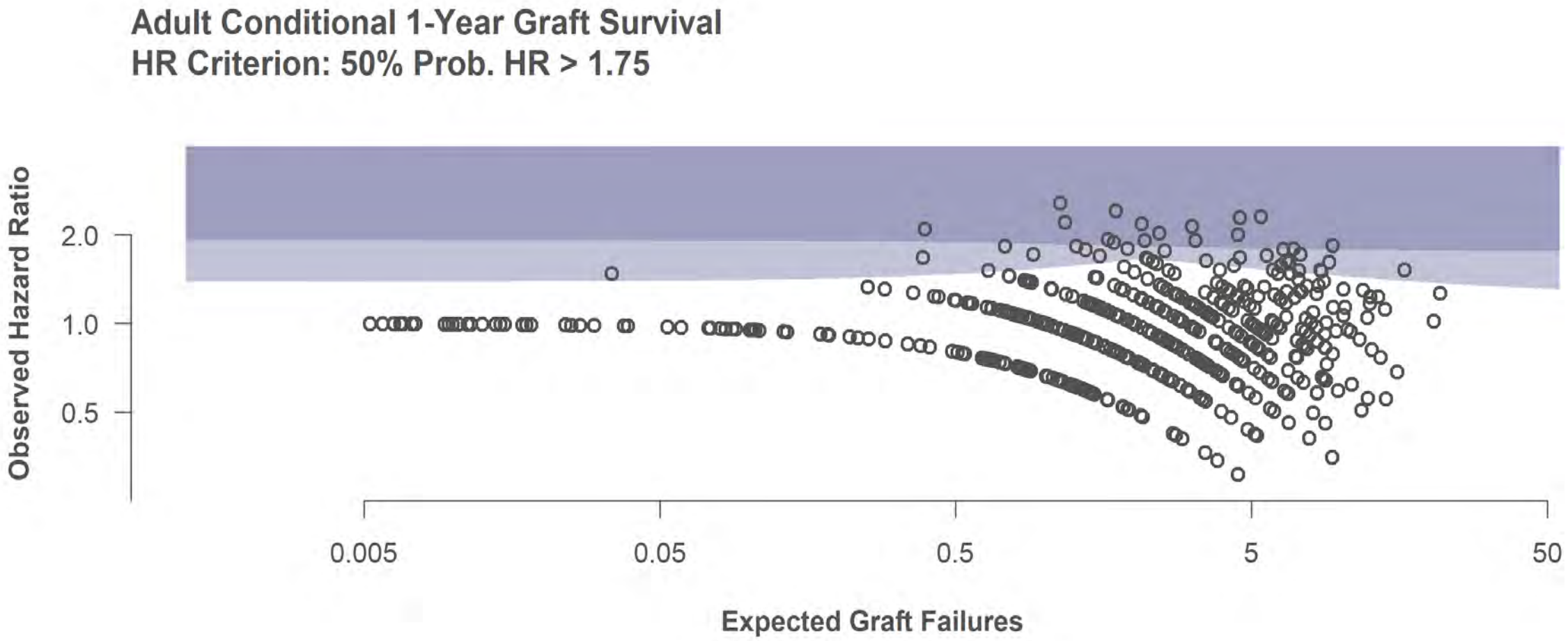
90-day Graft Survival

Programs Identified

Number	Organ	Transplants	Observed	Expected	Hazard Ratio
1	KI	140	13	3.01	2.99
2	KI	120	12	3.6	2.5
3	LI	59	9	2.54	2.43
4	KI	53	5	0.95	2.37
5	KI	41	4	0.65	2.27
6	HR	53	8	2.44	2.25
7	KI	198	12	4.63	2.11
8	LU	21	4	0.9	2.07
9	KI	44	4	0.91	2.06
10	KI	101	6	1.97	2.01
11	KI	86	6	2.16	1.93
12	HR	11	3	0.62	1.91
13	KI	200	10	4.33	1.9
14	LI	62	7	2.82	1.87
15	HR	28	4	1.23	1.86
16	LU	94	9	4.01	1.83
17	LI	60	7	2.93	1.82
18	LI	127	13	6.3	1.81
19	KI	633	29	15.44	1.78

Adult 1-Year Conditional Graft Survival with Current MPSC Threshold

All Programs



1-Year Conditional Graft Survival

Programs Identified

Number	Organ	Transplants	Observed	Expected	Hazard Ratio
1	KI	75	6	1.12	2.56
2	KI	107	7	1.74	2.41
3	LI	192	15	5.37	2.31
4	HR	166	13	4.57	2.28
5	LU	23	5	1.17	2.21
6	LU	43	7	2.13	2.18
7	LU	70	9	3.15	2.14
8	KI	24	3	0.39	2.09
9	KI	142	7	2.44	2.03
10	KI	248	11	4.49	2
11	KI	86	5	1.63	1.93
12	HR	80	6	2.18	1.91
13	KI	200	8	3.23	1.91
14	HR	59	5	1.71	1.89
15	KI	506	19	9.4	1.84
16	KI	482	14	6.93	1.79