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Minimal Effect of Broader Heart Sharing on Regional Outcomes

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Disclosures

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I have no financial relationships to disclose within the past 12 months relevant to my presentation. The ACCME defines 'relevant' financial relationships as financial relationships in any amount occurring within the past 12 months that create a conflict of interest.

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Background

- New OPTN/UNOS heart allocation policy approved December 2016.
- Major changes
 - Six active status groups instead of three.
 - Status groups ordered by more granular risk of waitlist mortality.
 - Some broader sharing to most urgent candidates.

Sharing overview

- Examined 6 urgency groups, plus four broader sharing rules using thoracic simulated allocation modeling (TSAM) software.
- Share 1/2A
 - Closest to final policy.
 - Sharing to Zone B for status 1 and 2 candidates before local status 3 offers made.
 - Includes broader sharing than final policy.

Status	Definition
1	<ul style="list-style-type: none">• VA-ECMO• Non-dischargeable, surgically implanted BiV support• MCS/D with life-threatening ventricular arrhythmia
2	<ul style="list-style-type: none">• Nondischargeable LVAD• TAH• BiVAD, RVAD, Vad (single ventricle)• Percutaneous CSD• IABP• VT/VF (sustained or recurrent)• VAD malfunction
3	<ul style="list-style-type: none">• 30-day VAD• Multiple or high-dose inotropes with hemodynamic monitoring• MCS/D with complications• VA-ECMO after 14 days• IABP, percutaneous device after 14 days

First units of allocation: current vs. proposed rules

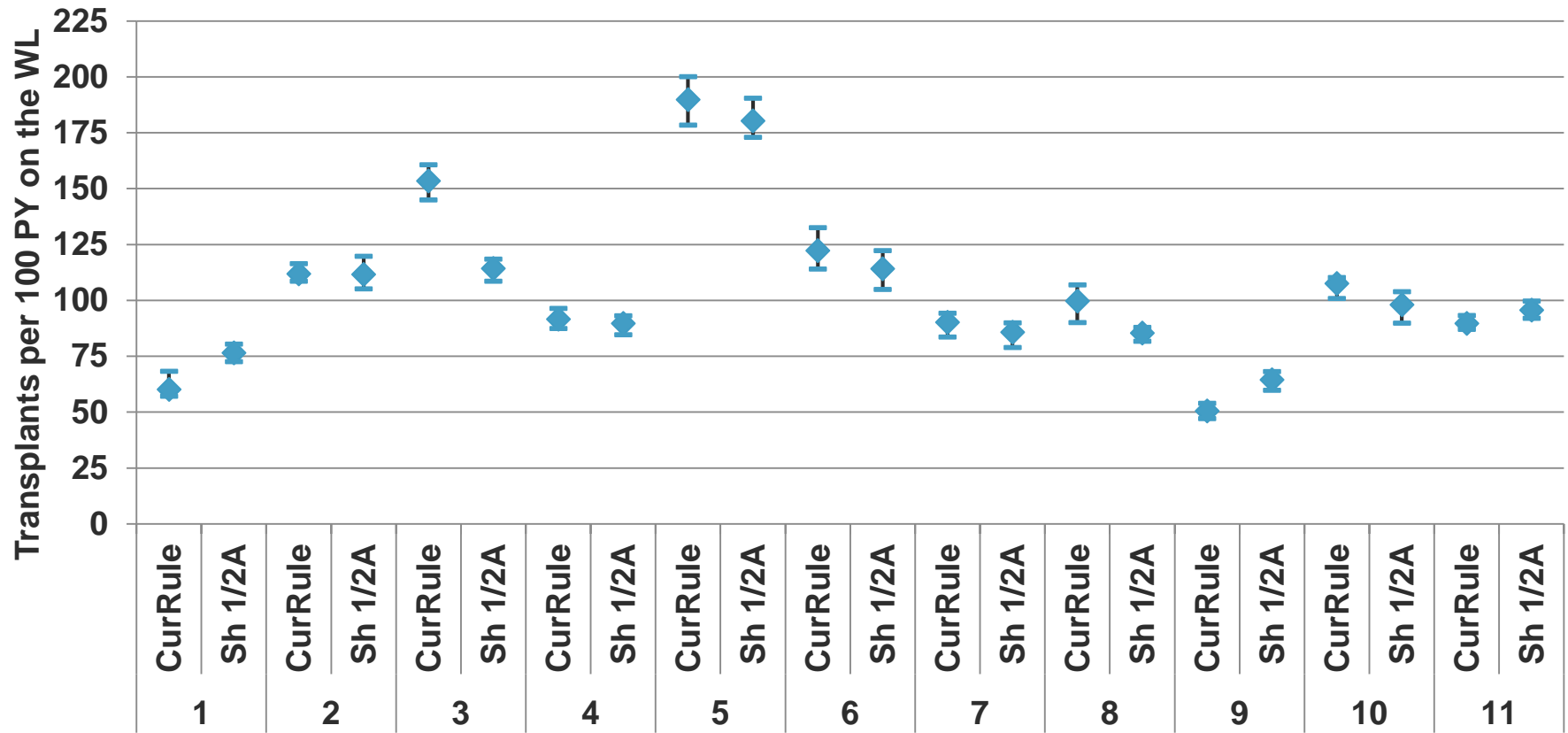
Geography	Current status
Local DSA	1A
	1B
Zone A (500 miles)	1A
	1B
Local DSA	2
Zone B (1000 miles)	1A
	1B
Zone A	2
Zone B	2
Zone C (1500 miles)	1A
	1B
	2

Geography	Proposed status
Local DSA + Zone A	1
Zone B	1
Local DSA + Zone A	2
Zone B	2
Local DSA	3
	4
Zone A	3
Local DSA	5
Zone B	3
Local DSA	6
Zone C	1
	2
	3

Analysis

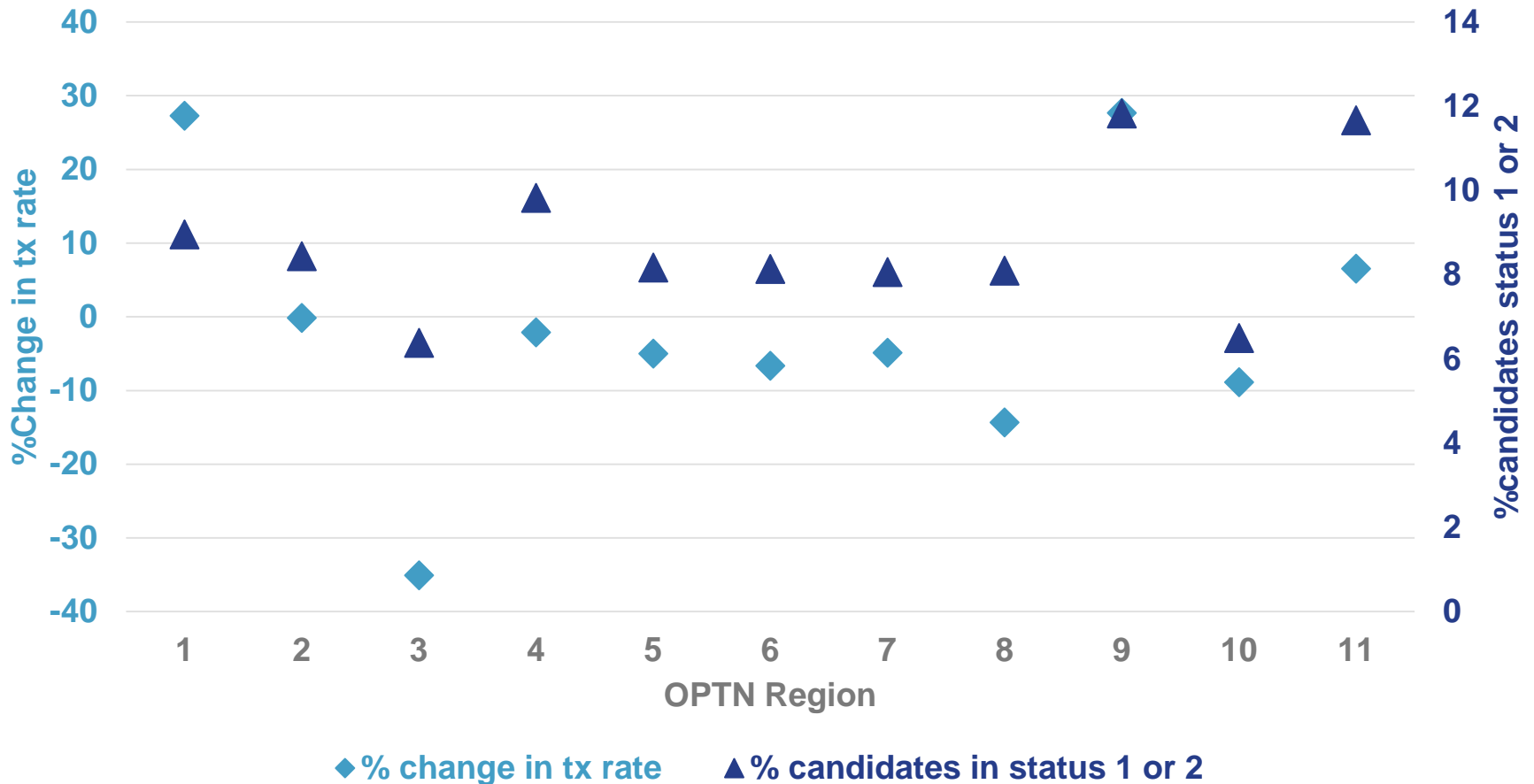
- Used TSAM software to evaluate regional effects of sharing.
- Cohort: 9725 heart transplant and 188 heart-lung transplant candidates, July 1, 2009-June 30, 2011.
- Simulated match runs of current rules vs. six status groups plus broader sharing.
- Outcomes
 - Transplant counts and rates.
 - Waitlist death counts and mortality rates.
 - Posttransplant death counts and mortality rates.

Results: Transplant rates by region, current rules vs. six statuses and broader sharing.

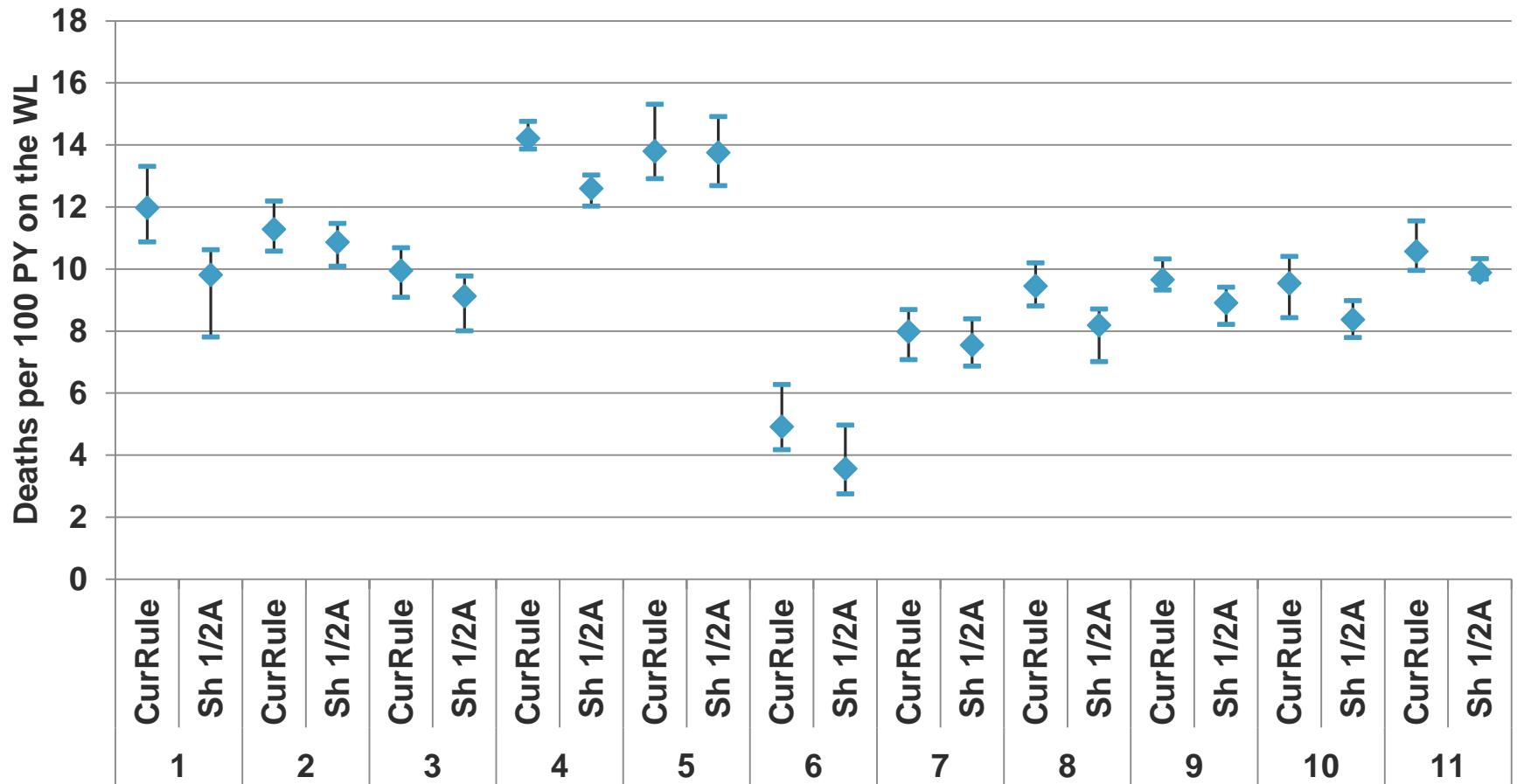


Data are shown with ranges of 10 simulation runs. Bars are min-max bars, not 95% confidence limits.

Results: Change in transplant rate and proportion of status 1 and 2 candidates by OPTN region.

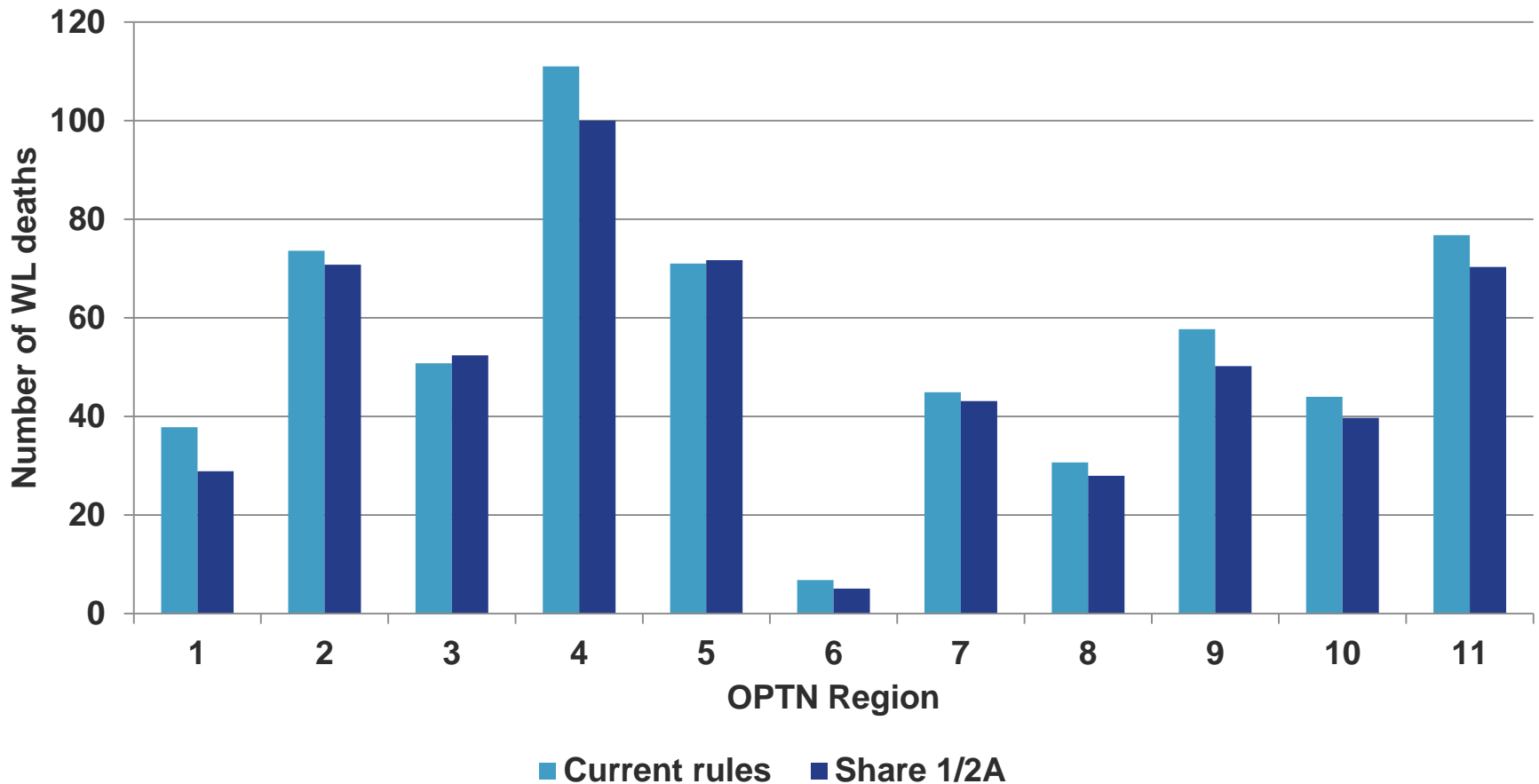


Results: Waitlist mortality rates by OPTN region, current rules vs. six statuses and broader sharing.

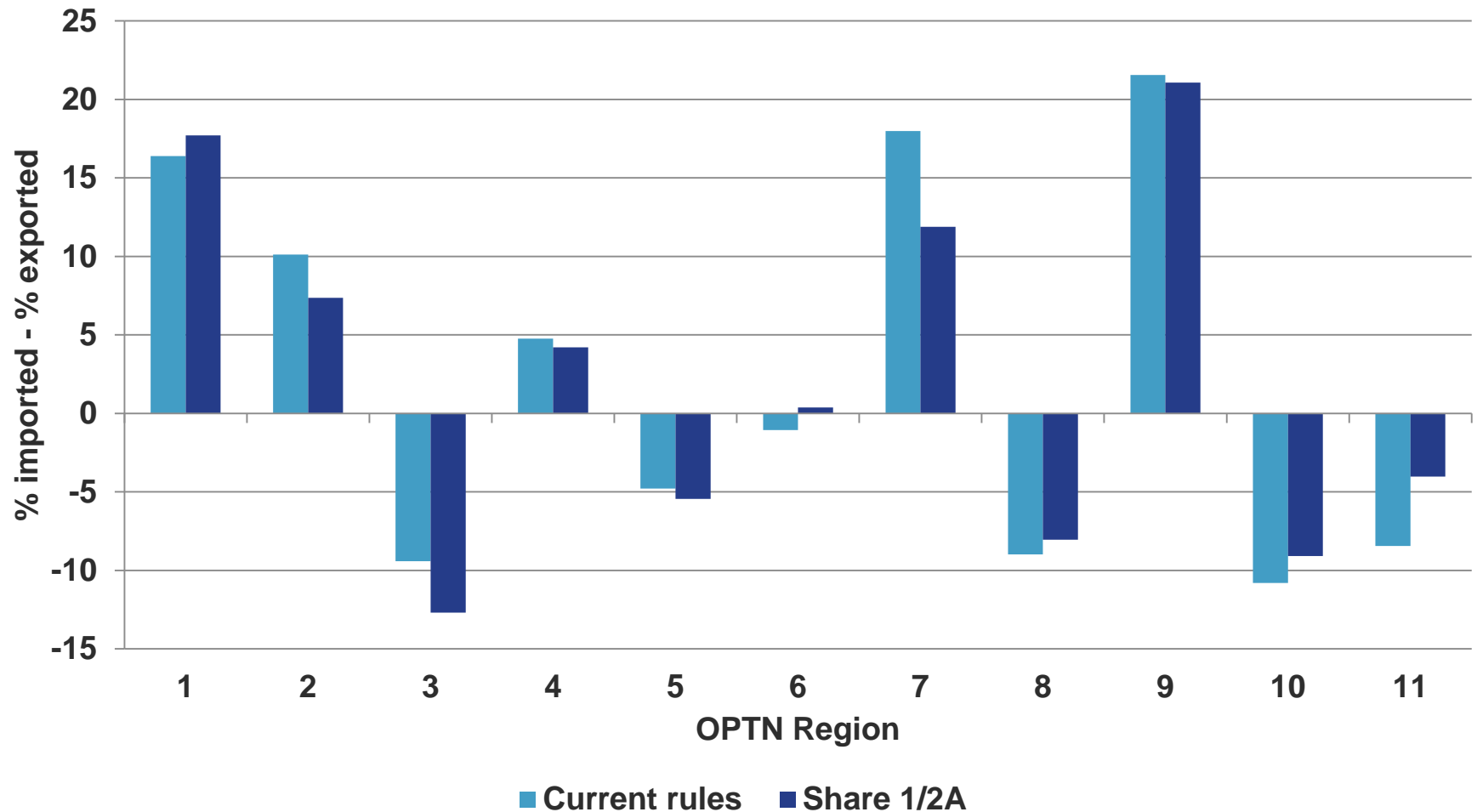


Data are shown with ranges of 10 simulation runs. Bars are min-max bars, not 95% confidence limits.

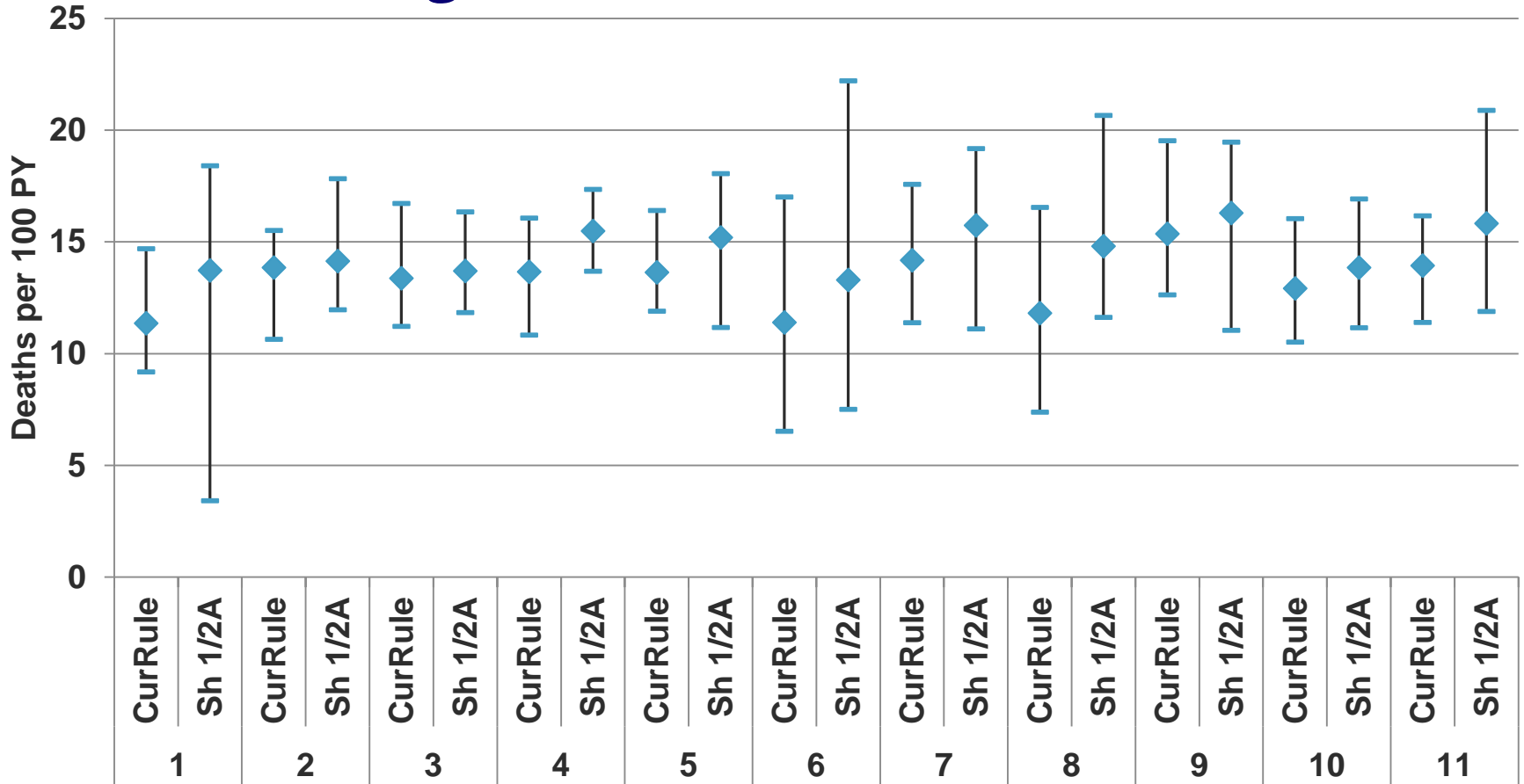
Results: Waitlist death counts by OPTN region, current rules vs. six statuses and broader sharing.



Results: Organ import/export balance by OPTN region.



Results: 1-year posttransplant mortality rates by OPTN region, current rules vs. six statuses and broader sharing.



Data are shown with ranges of 10 simulation runs. Bars are min-max bars, not 95% confidence limits.

Summary & Conclusions

Under simulation, six urgency groups and broader sharing:

- Moderated regional transplant rates.
- Decreased waitlist mortality rates.
- Changed import/export balance minimally.