

Preliminary Results

Data request from the OPTN Liver and Intestinal Organ Transplantation Committee

Date: 8/11/2017

This report was provided to HRSA by SRTR in support of ongoing policy consideration by the OPTN Liver and Intestinal Organ Transplantation Committee. The analysis described herein was conducted at the specific request of the OPTN Committee and does not represent a full or final analysis related to the policy issue under consideration.

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Data Request ID#: LI2017_02

Timeline:

Committee met	June 19, 2017
Request made	June 29, 2017
Analysis plan submitted	July 13, 2017
Preliminary results submitted	August 11, 2017
Analysis report to be submitted	October 3, 2017
Next Committee meeting	October 10, 2017

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Executive Summary

Policy Scenarios

The liver transplantation policy scenarios simulated in this set of interim findings include:

- **Current:**
 - Distribution: current distribution
 - DCD/≥70 allocation: Uses the same allocation order for all deceased donors
 - Proximity points: No proximity points
 - Sharing threshold: Share35 / sharing threshold of MELD/PELD ≥35 for the third tier of allocation (after allocation to Statuses 1A and 1B)
 - Ranking in 3rd tier of allocation proceeds by allocation MELD/PELD
- **M29 150m:**
 - Distribution: 11 OPTN Regions plus 150 mile radius circles from the donor hospital
 - DCD/≥70 allocation: Uses a different allocation order for organs from donors who are DCD or ≥70 years of age
 - Proximity points: Candidates listed at centers within a 150 mile radius circle from the donor hospital receive 5 additional proximity points added to their lab MELD for adults and their allocation MELD/PELD for candidates <18
 - Sharing threshold: sharing threshold of MELD/PELD ≥29 for the third tier of allocation (after allocation to Statuses 1A and 1B)
 - Ranking in 3rd tier of allocation proceeds by adjusted MELD/PELD. The adjusted MELD/PELD is equal to the calculated (lab) MELD plus proximity points (as applicable) for adults, or the allocation MELD/PELD plus proximity points (as applicable) for candidates aged <18.
- **M29 150m DSA:**

- Distribution: 11 OPTN Regions plus 150 mile radius circles from the donor hospital
 - DCD/ \geq 70 allocation: Uses a different allocation order for organs from donors who are DCD or \geq 70 years of age
 - Proximity points: Candidates listed at centers within either (a) the DSA of the donor hospital or (b) a 150 mile radius circle from the donor hospital receive 5 additional proximity points added to their lab MELD for adults and their allocation MELD/PELD for candidates <18
 - Sharing threshold: sharing threshold of MELD/PELD \geq 29 for the third tier of allocation (after allocation to Statuses 1A and 1B)
 - Ranking in 3rd tier of allocation proceeds by adjusted MELD/PELD. The adjusted MELD/PELD is equal to the calculated (lab) MELD plus proximity points (as applicable) for adults, or the allocation MELD/PELD plus proximity points (as applicable) for candidates aged <18.
- **M22 150m:**
 - Distribution: 11 OPTN Regions plus 150 mile radius circles from the donor hospital
 - DCD/ \geq 70 allocation: Uses a different allocation order for organs from donors who are DCD or \geq 70 years of age
 - Proximity points: Candidates listed at centers within a 150 mile radius circle from the donor hospital receive 5 additional proximity points added to their lab MELD for adults and their allocation MELD/PELD for candidates <18
 - Sharing threshold: sharing threshold of MELD/PELD \geq 22 for the third tier of allocation (after allocation to Statuses 1A and 1B)
 - Ranking in 3rd tier of allocation proceeds by adjusted MELD/PELD. The adjusted MELD/PELD is equal to the calculated (lab) MELD plus proximity points (as applicable) for adults, or the allocation MELD/PELD plus proximity points (as applicable) for candidates aged <18.
- **M22 150m DSA:**
 - Distribution: 11 OPTN Regions plus 150 mile radius circles from the donor hospital
 - DCD/ \geq 70 allocation: Uses a different allocation order for organs from donors who are DCD or \geq 70 years of age
 - Proximity points: Candidates listed at centers within either (a) the DSA of the donor hospital or (b) a 150 mile radius circle from the donor hospital receive 5 additional proximity points added to their lab MELD for adults and their allocation MELD/PELD for candidates <18
 - Sharing threshold: sharing threshold of MELD/PELD \geq 22 for the third tier of allocation (after allocation to Statuses 1A and 1B)

- Ranking in 3rd tier of allocation proceeds by adjusted MELD/PELD. The adjusted MELD/PELD is equal to the calculated (lab) MELD plus proximity points (as applicable) for adults, or the allocation MELD/PELD plus proximity points (as applicable) for candidates aged <18.
- **150m:**
 - Distribution: 11 OPTN Regions plus 150 mile radius circles from the donor hospital
 - DCD/≥70 allocation: Uses a different allocation order for organs from donors who are DCD or ≥70 years of age
 - Proximity points: Candidates listed at centers within a 150 mile radius circle from the donor hospital receive 5 additional proximity points added to their lab MELD for adults and their allocation MELD/PELD for candidates <18
 - Sharing threshold: No sharing threshold
 - Ranking in 3rd tier of allocation proceeds by adjusted MELD/PELD. The adjusted MELD/PELD is equal to either the exception MELD score, or the calculated (lab) MELD score plus proximity points (as applicable), whichever is higher. For pediatrics, the adjusted score equals the allocation MELD/PELD plus proximity points (as applicable) for candidates aged <18.
- **150m DSA:**
 - Distribution: 11 OPTN Regions plus 150 mile radius circles from the donor hospital
 - DCD/≥70 allocation: Uses a different allocation order for organs from donors who are DCD or ≥70 years of age
 - Proximity points: Candidates listed at centers within either (a) the DSA of the donor hospital or (b) a 150 mile radius circle from the donor hospital receive 5 additional proximity points added to their lab MELD for adults and their allocation MELD/PELD for candidates <18
 - Sharing threshold: No sharing threshold
 - Ranking in 3rd tier of allocation proceeds by adjusted MELD/PELD. The adjusted MELD/PELD is equal to either the exception MELD score, or the calculated (lab) MELD score plus proximity points (as applicable), whichever is higher. For pediatrics, the adjusted score equals the allocation MELD/PELD plus proximity points (as applicable) for candidates aged <18.

Overview data tables

Table 1 Overview of main metrics

	variance in median allocation M/P at transplant	median allocation MELD/PELD at transplant	median transport time (hours)	median transport distance (miles)	% of organs flown
Current	10 (8.7,11.9)	29 (29,29)	1.7 (1.69,1.72)	88.5 (86.9,90)	50.7 (50.2,51.1)
M29 150m	6 (5.3,7.6)	29 (29,29)	1.74 (1.73,1.75)	100.7 (98.7,103.4)	55.2 (54.5,55.9)
M29 150m DSA	5.8 (5.2,7.4)	29 (29,29)	1.74 (1.74,1.75)	102.1 (99.8,103.7)	55.6 (55,56.1)
M22 150m	4.1 (3.4,4.6)	29 (29,29)	1.77 (1.76,1.77)	112.5 (110.2,115.4)	59.5 (58.8,60.1)
M22 150m DSA	4.3 (3.5,4.9)	29 (29,29)	1.77 (1.77,1.78)	113.8 (111.7,115.1)	59.9 (59.5,60.2)
150m	4.4 (3.9,4.8)	29.2 (29,30)	1.79 (1.78,1.79)	118.4 (117.2,119.3)	61.1 (60.8,61.7)
150m DSA	4.3 (3.9,5.3)	29.2 (29,30)	1.79 (1.78,1.79)	119.9 (118.5,122.3)	61.4 (61,62.1)

All metrics reported as *mean (min, max)* across the 10 simulation iterations.

Table 2 Overview of additional metrics

	transplant rate	transplant count	waitlist mortality rate	waitlist mortality count	post-tx mortality rate	post-tx mortality count
Current	0.444 (0.436,0.452)	6651 (6575,6727)	0.097 (0.095,0.1)	1455 (1425,1504)	0.077 (0.075,0.08)	686 (666,721)
M29 150m	0.437 (0.429,0.446)	6651 (6586,6728)	0.09 (0.088,0.092)	1366 (1335,1404)	0.077 (0.075,0.08)	682 (659,717)
M29 150m DSA	0.437 (0.431,0.445)	6644 (6563,6724)	0.09 (0.089,0.092)	1369 (1343,1408)	0.078 (0.074,0.08)	688 (662,712)
M22 150m	0.434 (0.428,0.445)	6644 (6558,6746)	0.087 (0.085,0.088)	1337 (1302,1358)	0.077 (0.076,0.078)	681 (670,702)
M22 150m DSA	0.434 (0.429,0.443)	6647 (6562,6725)	0.087 (0.087,0.089)	1339 (1319,1366)	0.078 (0.076,0.08)	691 (669,718)
150m	0.436 (0.429,0.445)	6623 (6537,6709)	0.091 (0.09,0.093)	1390 (1368,1421)	0.078 (0.076,0.08)	687 (667,718)
150m DSA	0.435 (0.427,0.445)	6617 (6547,6713)	0.091 (0.089,0.093)	1387 (1349,1414)	0.078 (0.075,0.082)	686 (663,734)

All metrics reported as *mean (min, max)* across the 10 simulation iterations. All rates are per patient-year.

Results

Results for the simulated scenarios are reported primarily in the form of plots, with each plot displaying the values for a given metric across the 5 scenarios tested. In viewing these results, it is important to compare each of the 5 scenarios with the current allocation policy scenario to identify changes in outcome metrics due to the proposed policy changes. Each scenario was simulated 10 times, and the plot displays the range of results across the 10 simulations as a vertical line extending from the minimum value to the maximum value found for that metric and scenario. A point along that line marks the mean value of the metric across the 10 iterations.

Allocation MELD/PELD at Transplant

Variance in Median Allocation MELD/PELD at Transplant by DSA

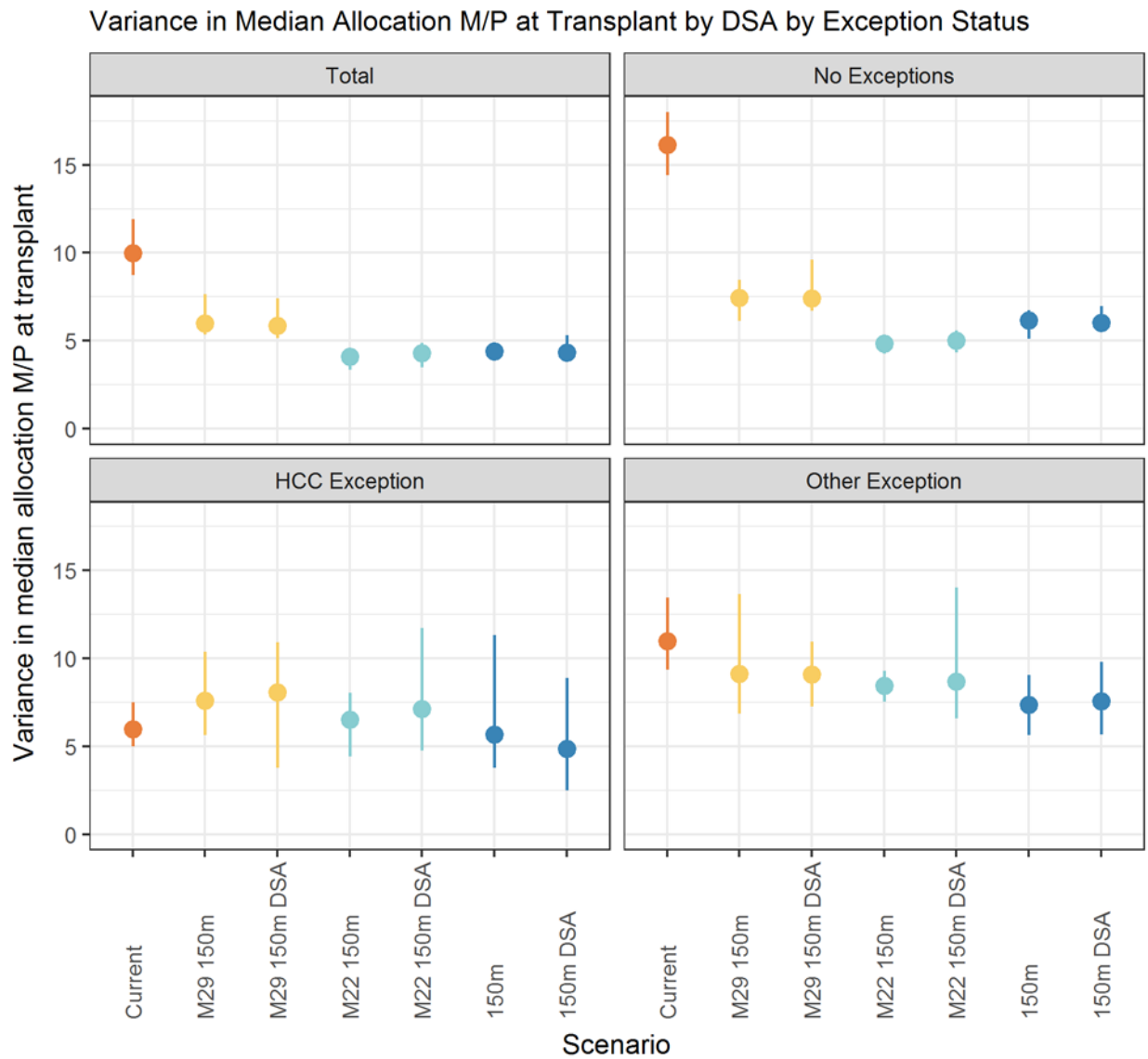


Figure 1 Variance in median allocation M/P at transplant by DSA by exception status

Median Allocation MELD/PELD at Transplant

Median Allocation M/P at Transplant by Exception Status - All Regions

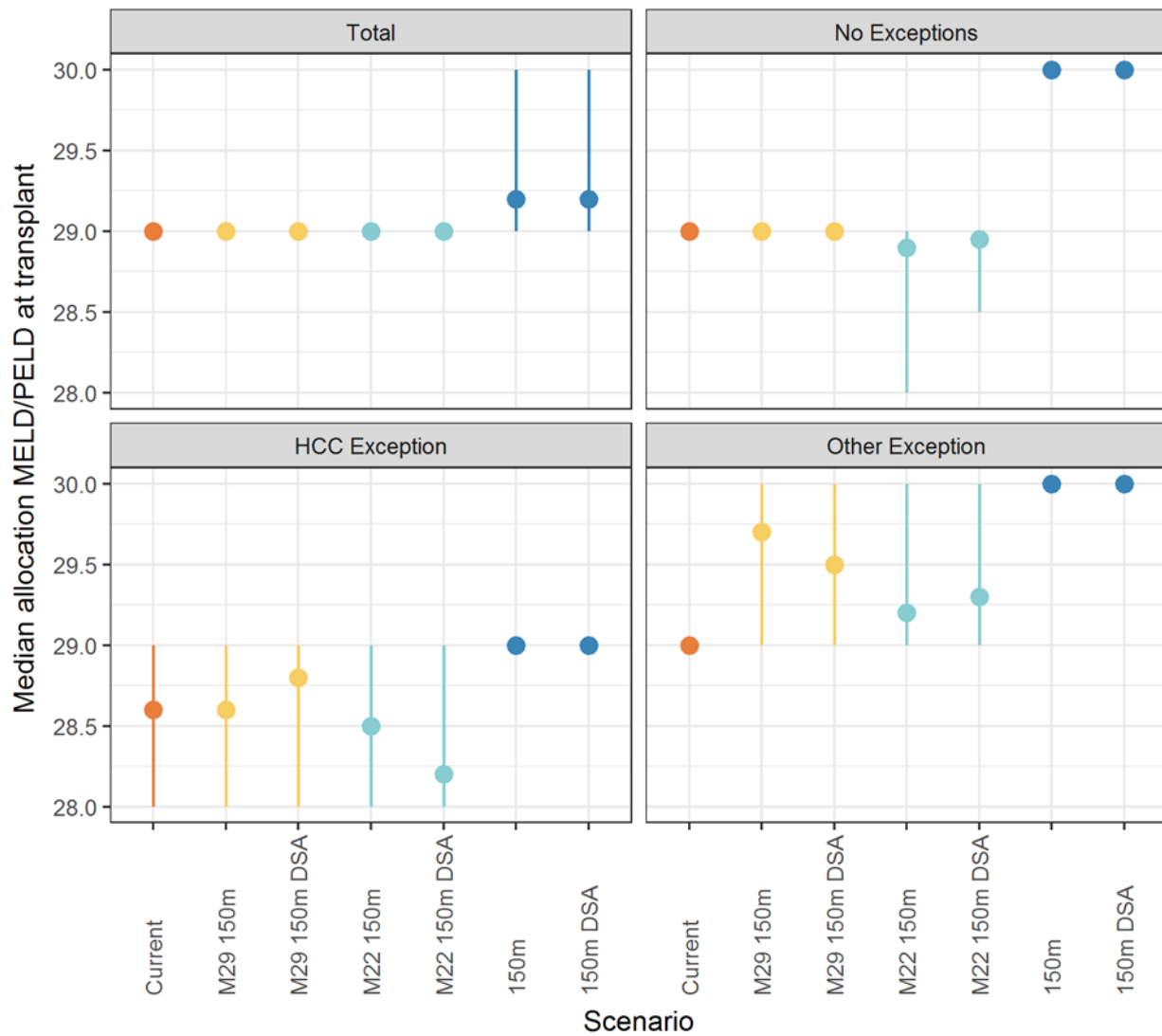


Figure 2 Median allocation MELD/PELD at transplant by exception status - all regions

Maps of Median Allocation MELD/PELD at Transplant by DSA

Maps of Median Allocation MELD/PELD at Transplant by DSA

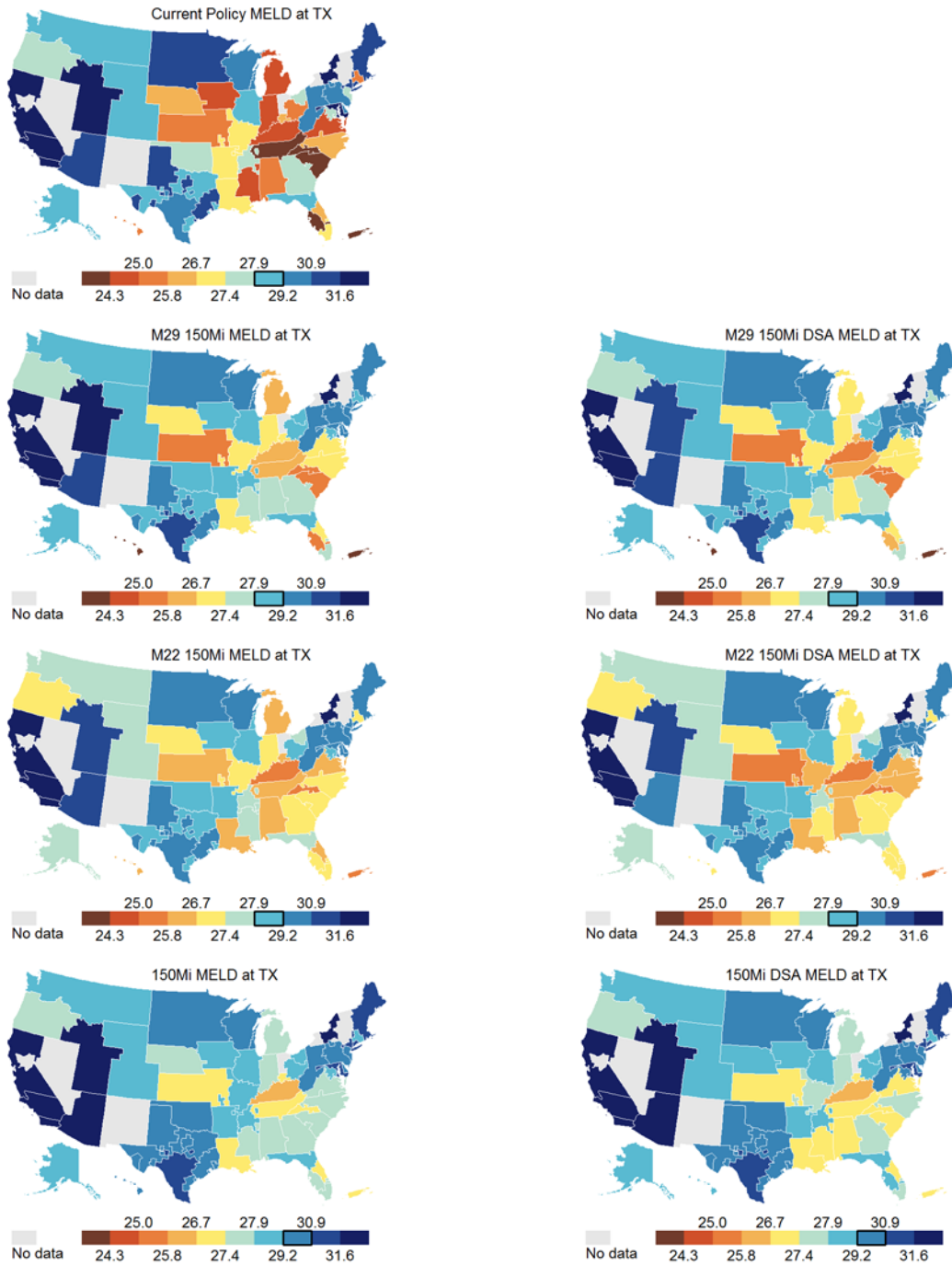


Figure 3 Maps of median allocation MELD/PELD at transplant by DSA

Transplant

Transplant Rates

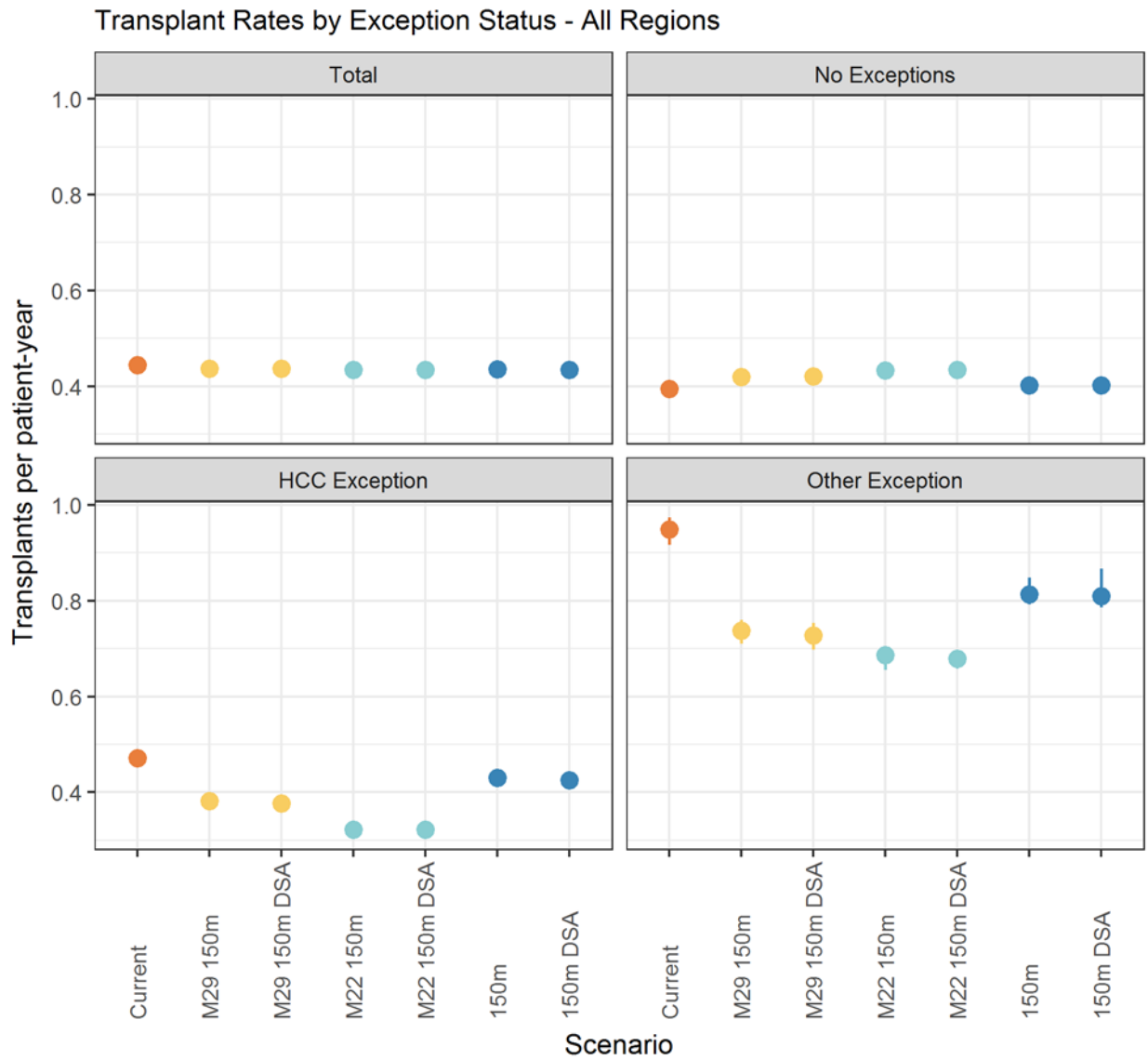


Figure 4 Transplant rates by exception status - all regions

Transplant Counts

Transplant Counts by Exception Status - All Regions

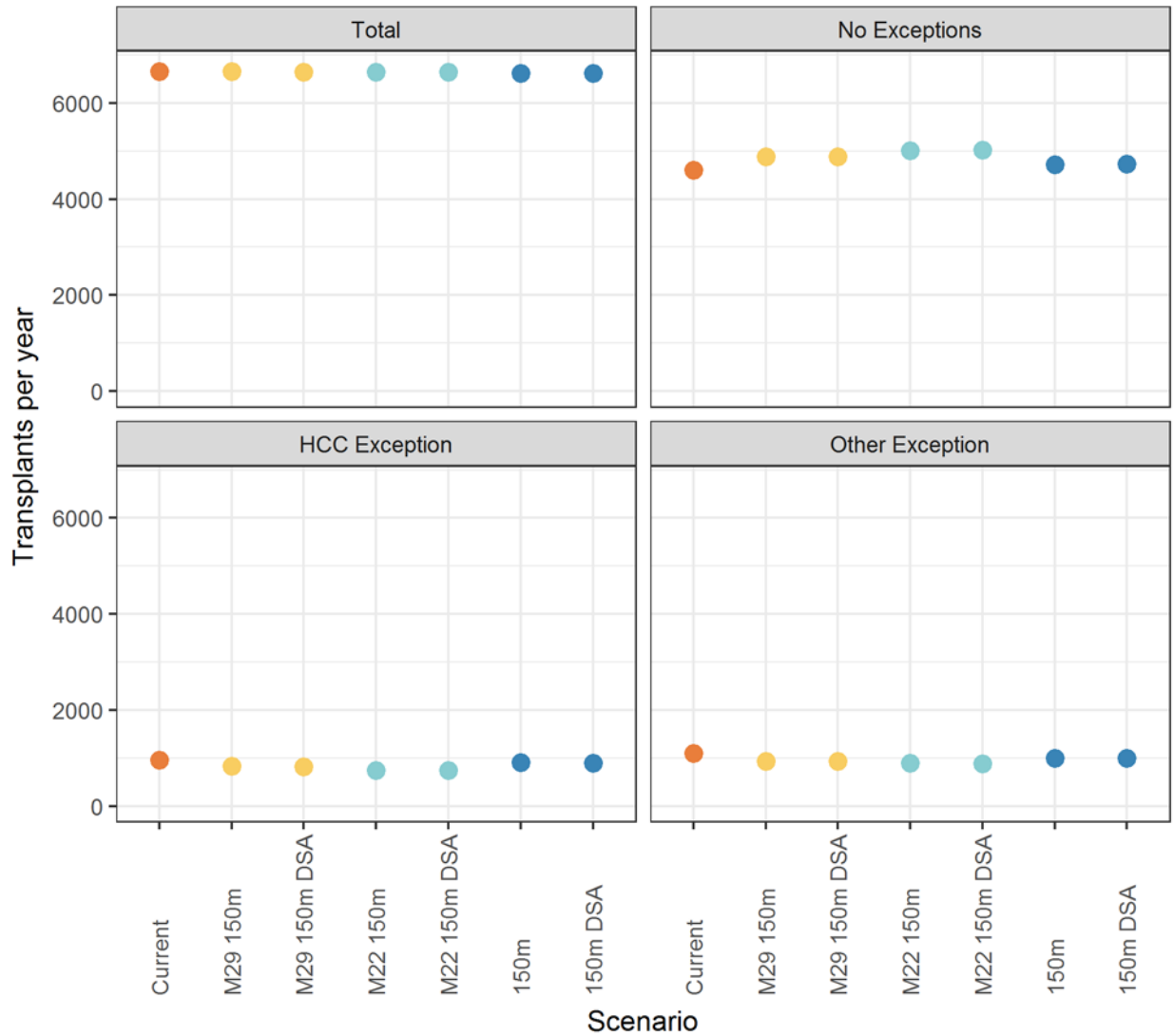


Figure 5 Transplant counts by exception status - all regions



Transplant Rates by Allocation MELD/PELD

Transplant Rates by Allocation MELD/PELD - All Regions

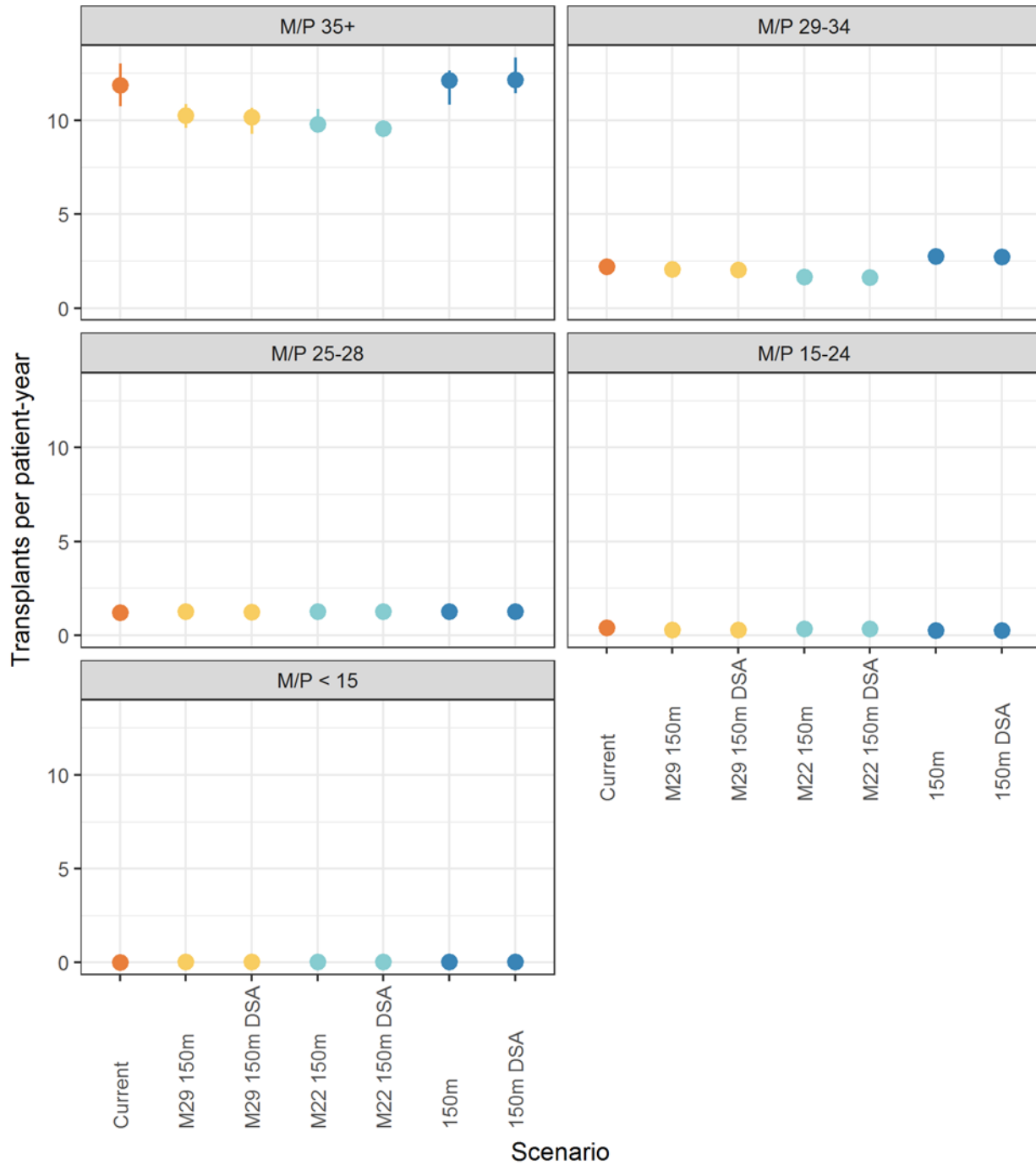


Figure 6 Transplant rates by allocation MELD/PELD - all regions

Transplant Counts by Allocation MELD/PELD

Transplant Counts by Allocation MELD/PELD - All Regions

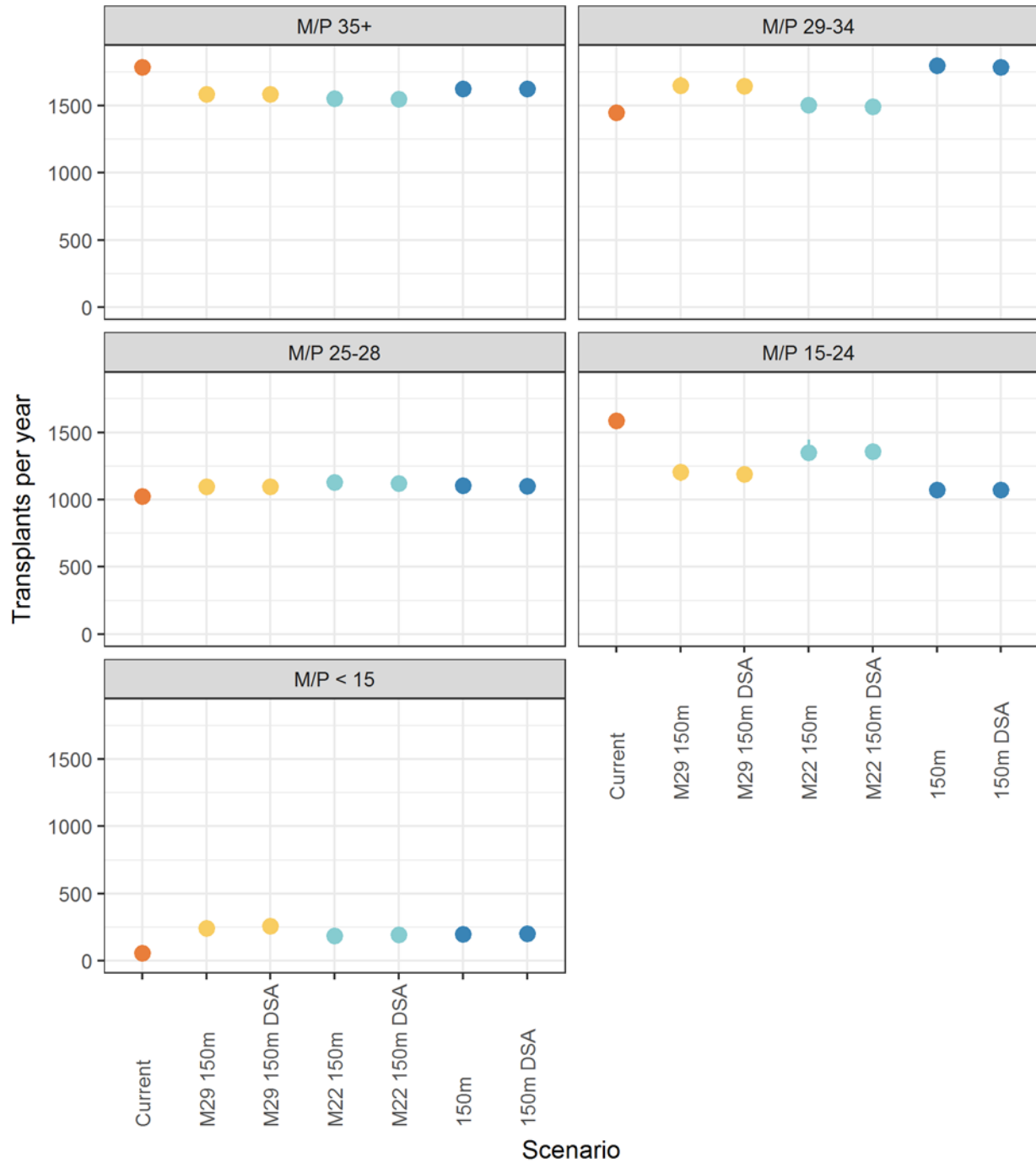


Figure 7 Transplant counts by allocation MELD/PELD - all regions

Variance in Transplant Rates by DSA

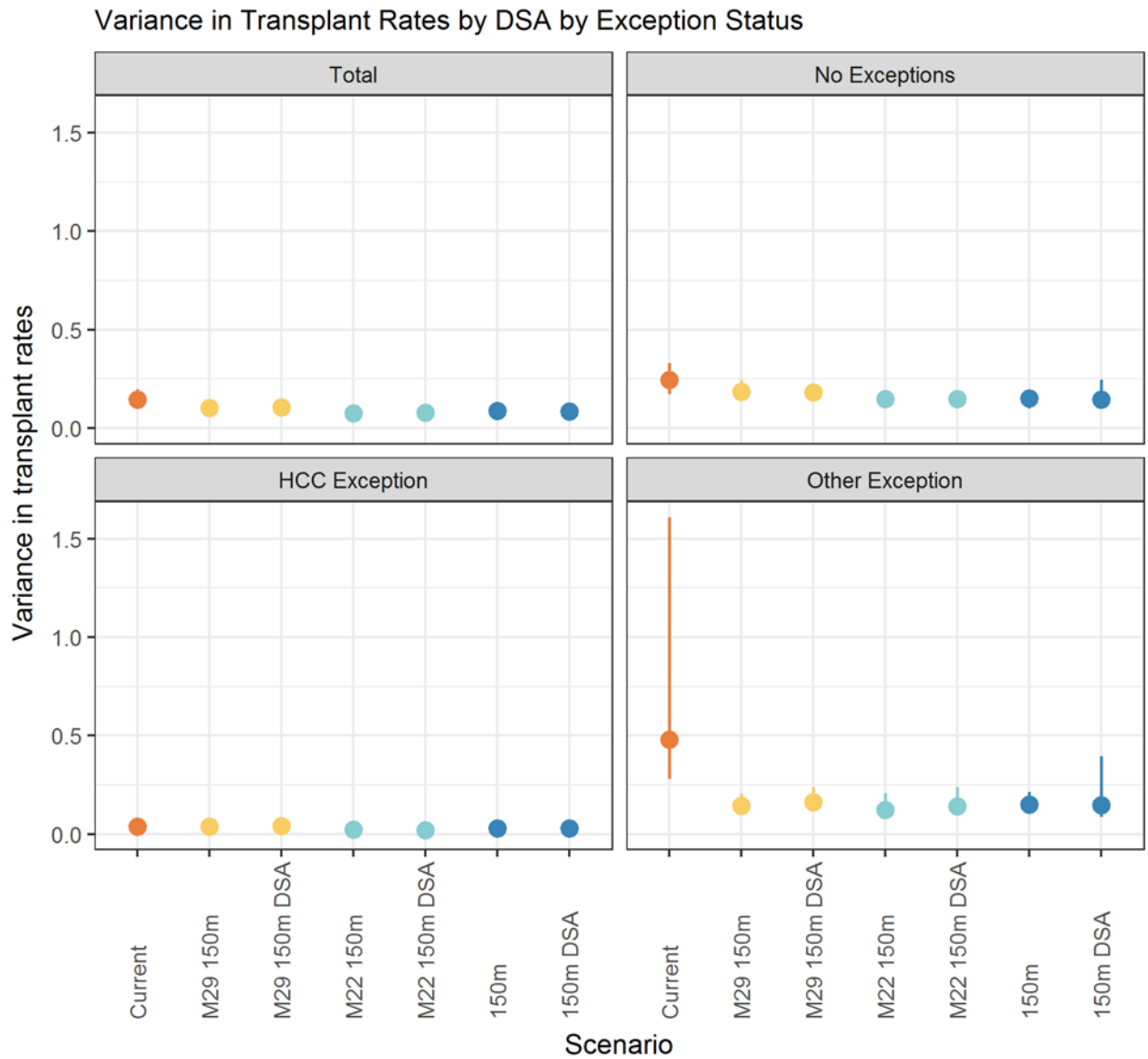


Figure 8 Variance in transplant rates by DSA by exception status

PRV

Maps of Transplant Rates by DSA

Maps of Transplant Rates by DSA

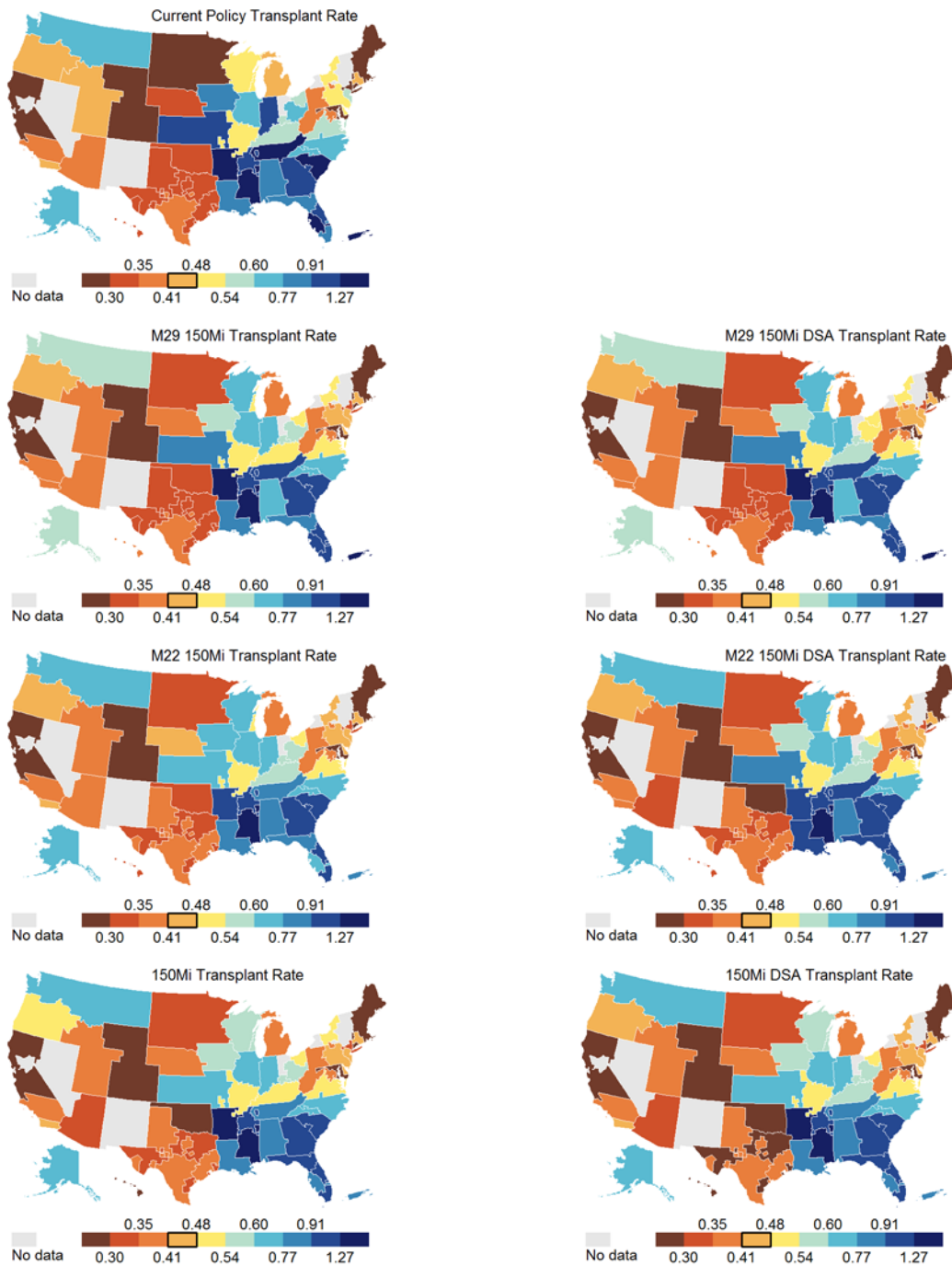


Figure 9 Maps of transplant rates by DSA

Waitlist Mortality

Waitlist Mortality Rates

Waitlist Mortality Rates by Exception Status - All Regions

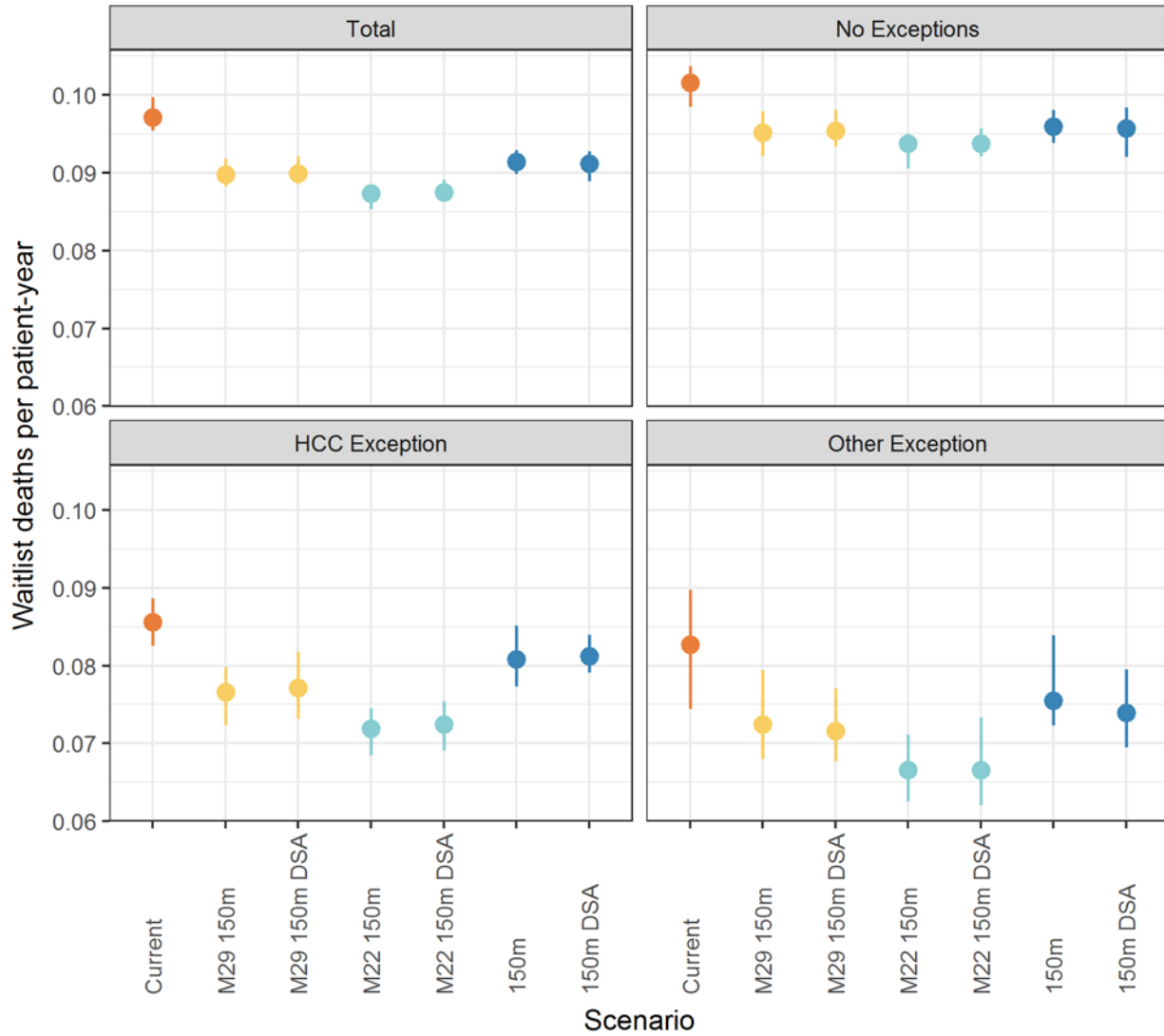


Figure 10 Waitlist mortality rates by exception status - all regions

Waitlist Mortality Counts

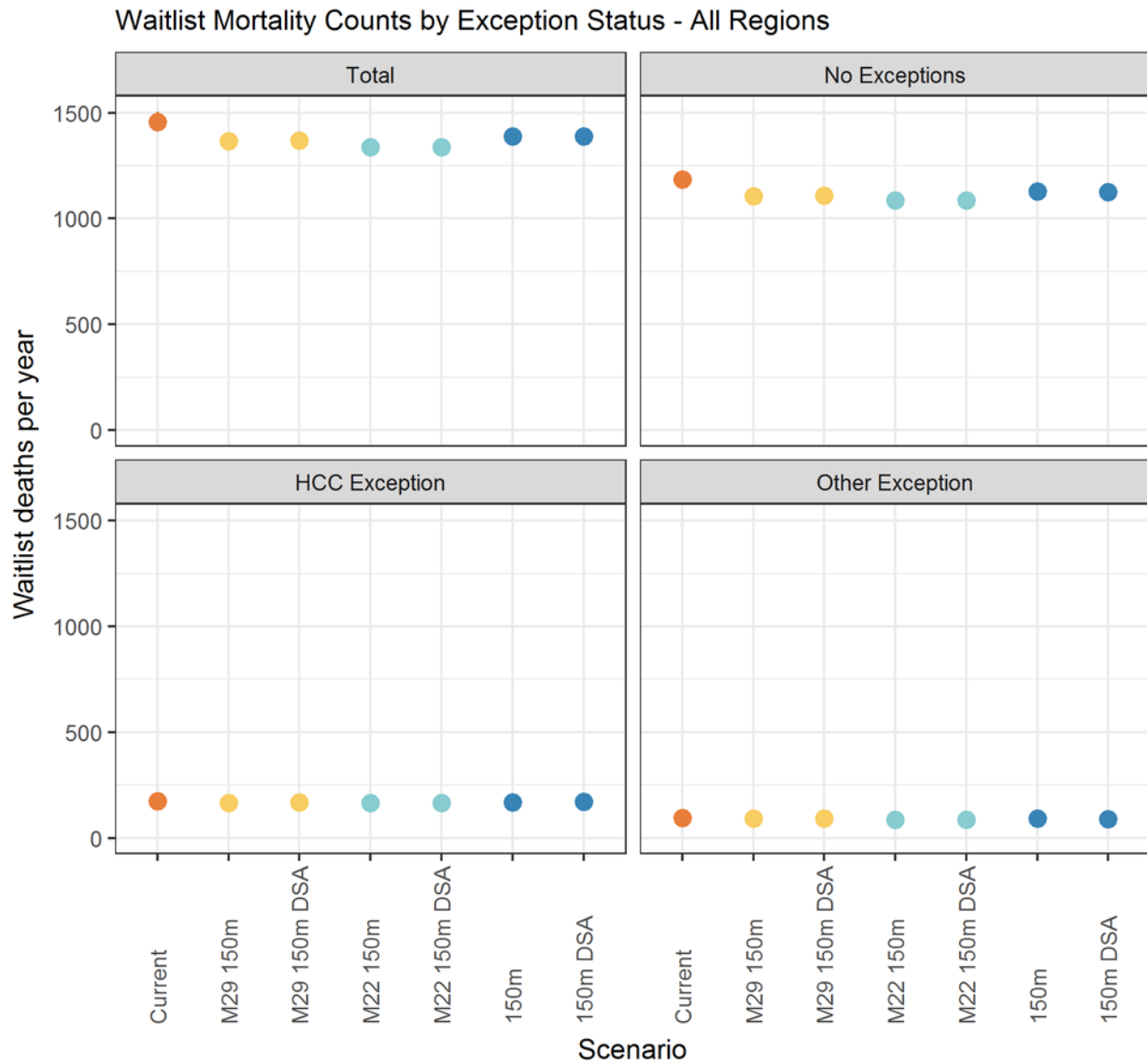


Figure 11 Waitlist mortality counts by exception status - all regions

Waitlist Mortality Rates by Allocation MELD/PELD

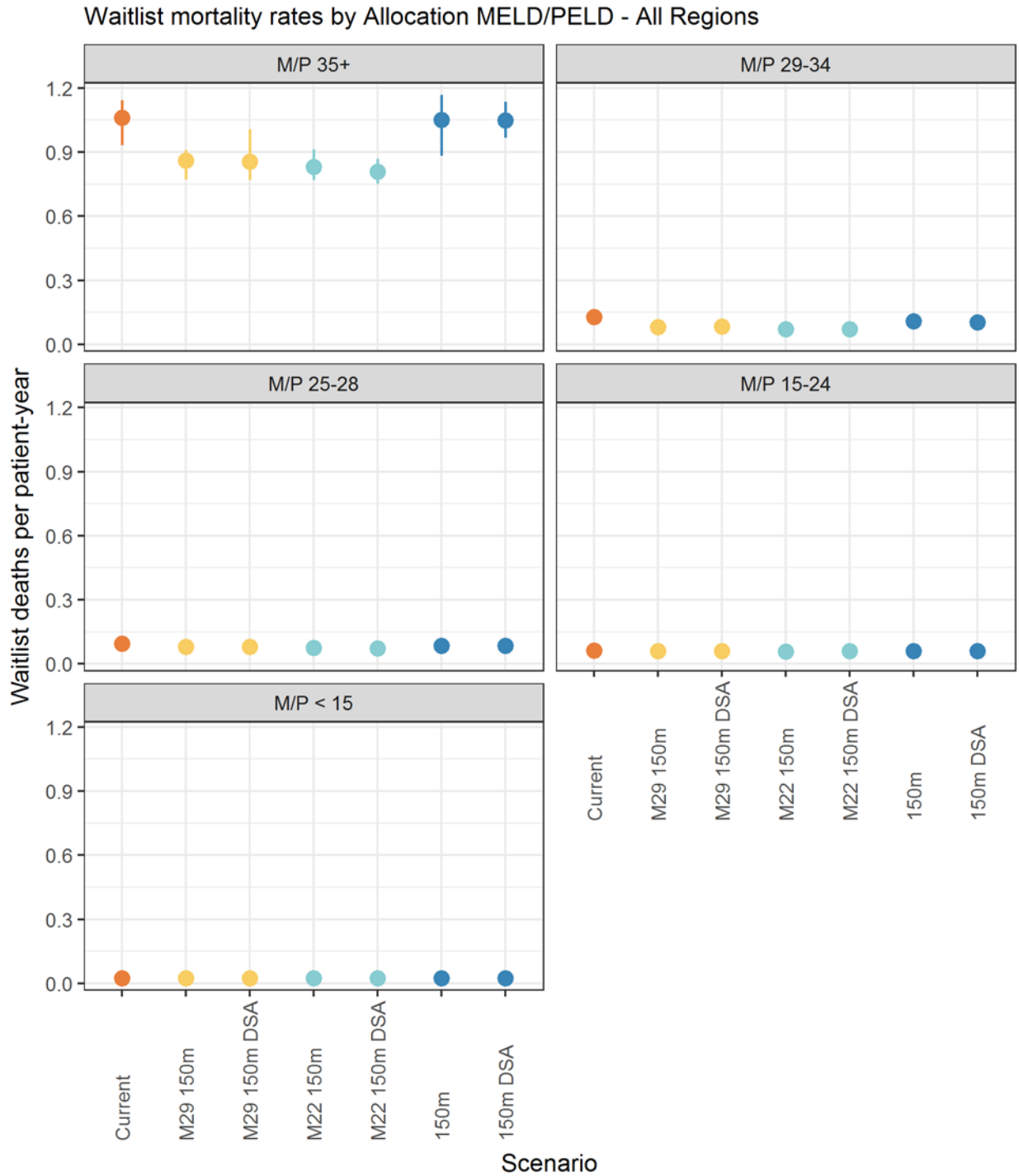


Figure 12 Waitlist mortality rates by allocation MELD/PELD - all regions

Waitlist Mortality Counts by Allocation MELD/PELD

Waitlist Mortality Counts by Allocation MELD/PELD - All Regions

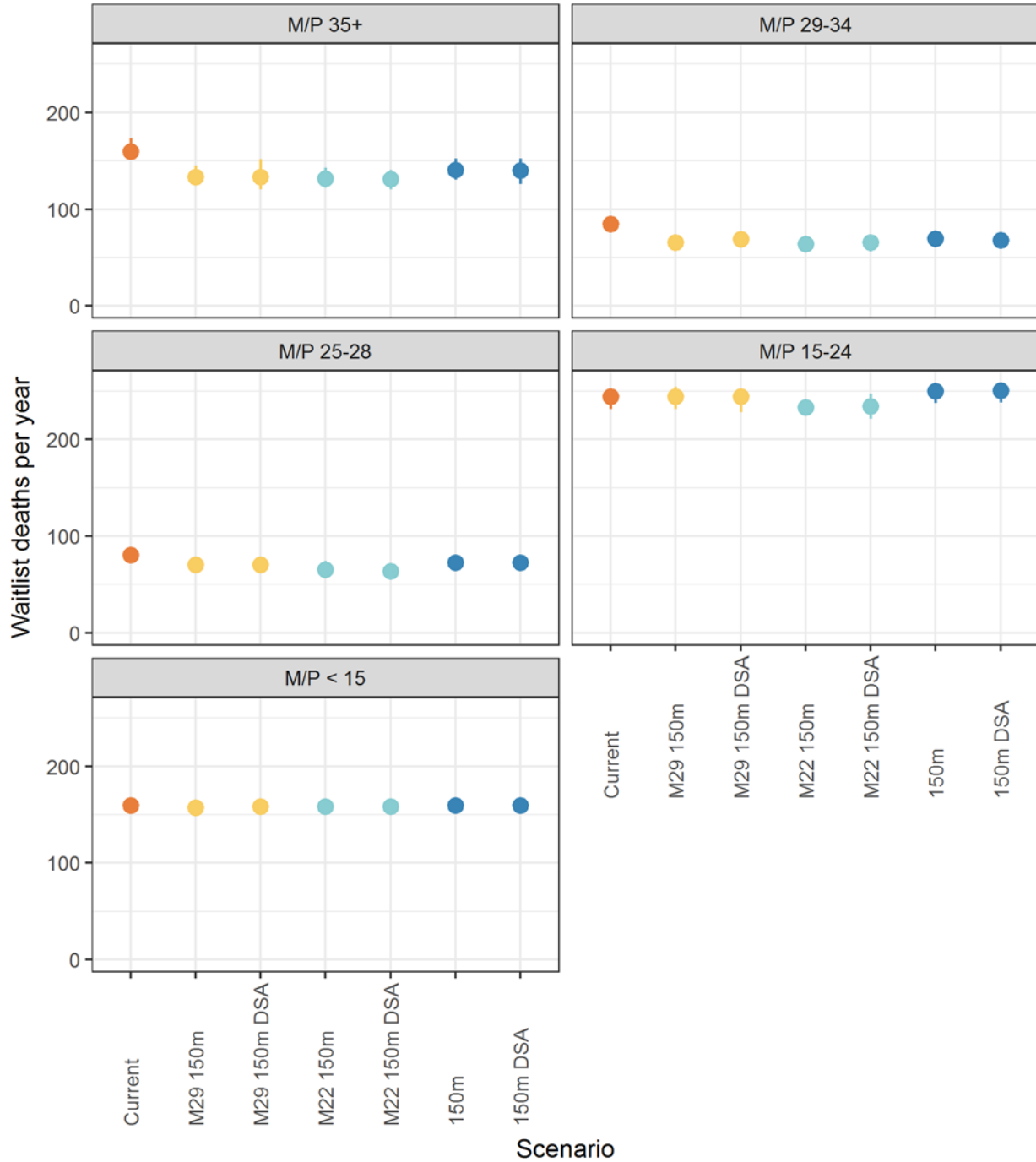


Figure 13 Waitlist mortality counts by allocation MELD/PELD - all regions

Variance in Waitlist Mortality Rates by DSA

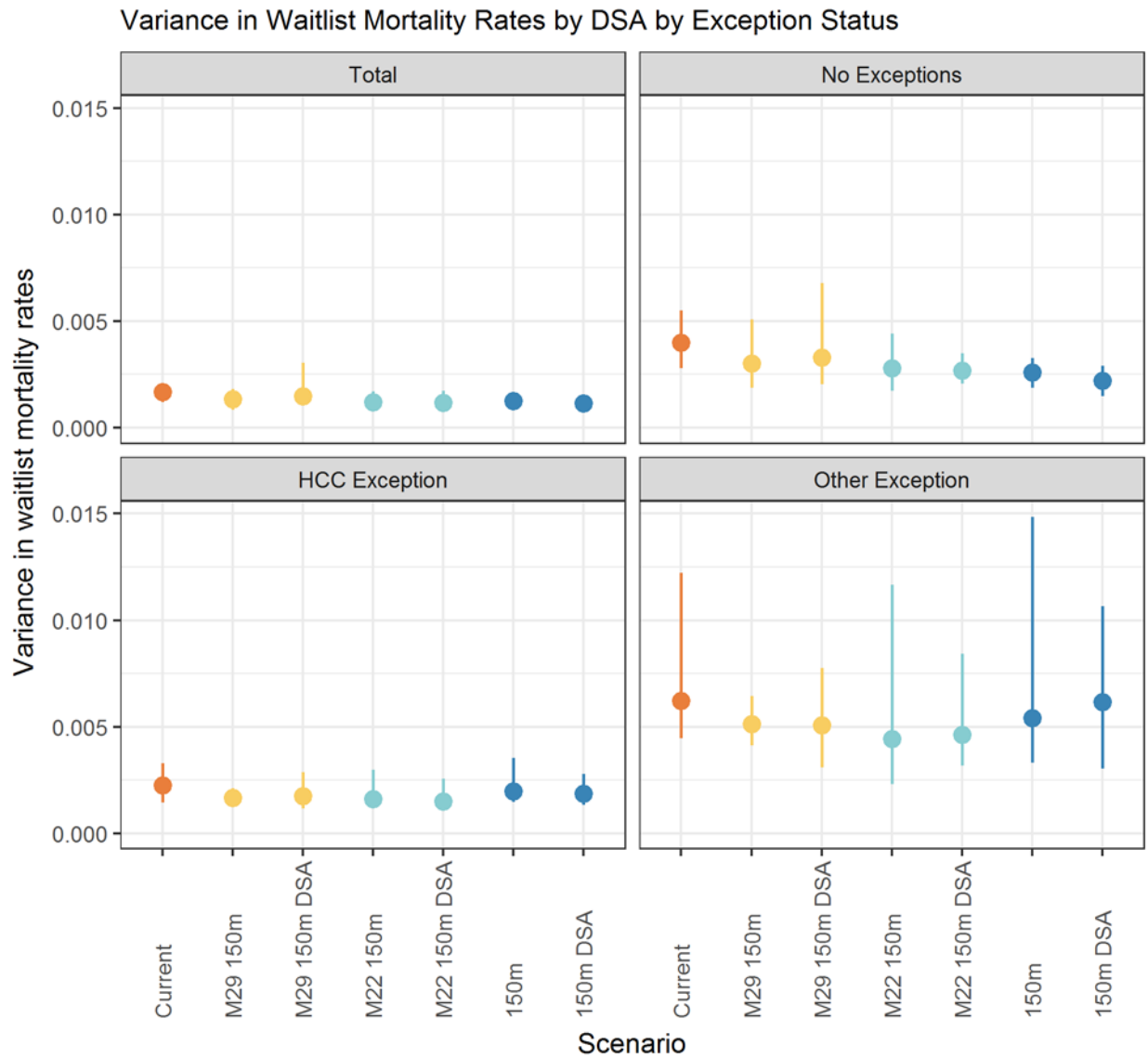


Figure 14 Variance in waitlist mortality rates by DSA by exception status

PR

Maps of Waitlist Mortality Rates by DSA

Maps of Waitlist Mortality Rates by DSA

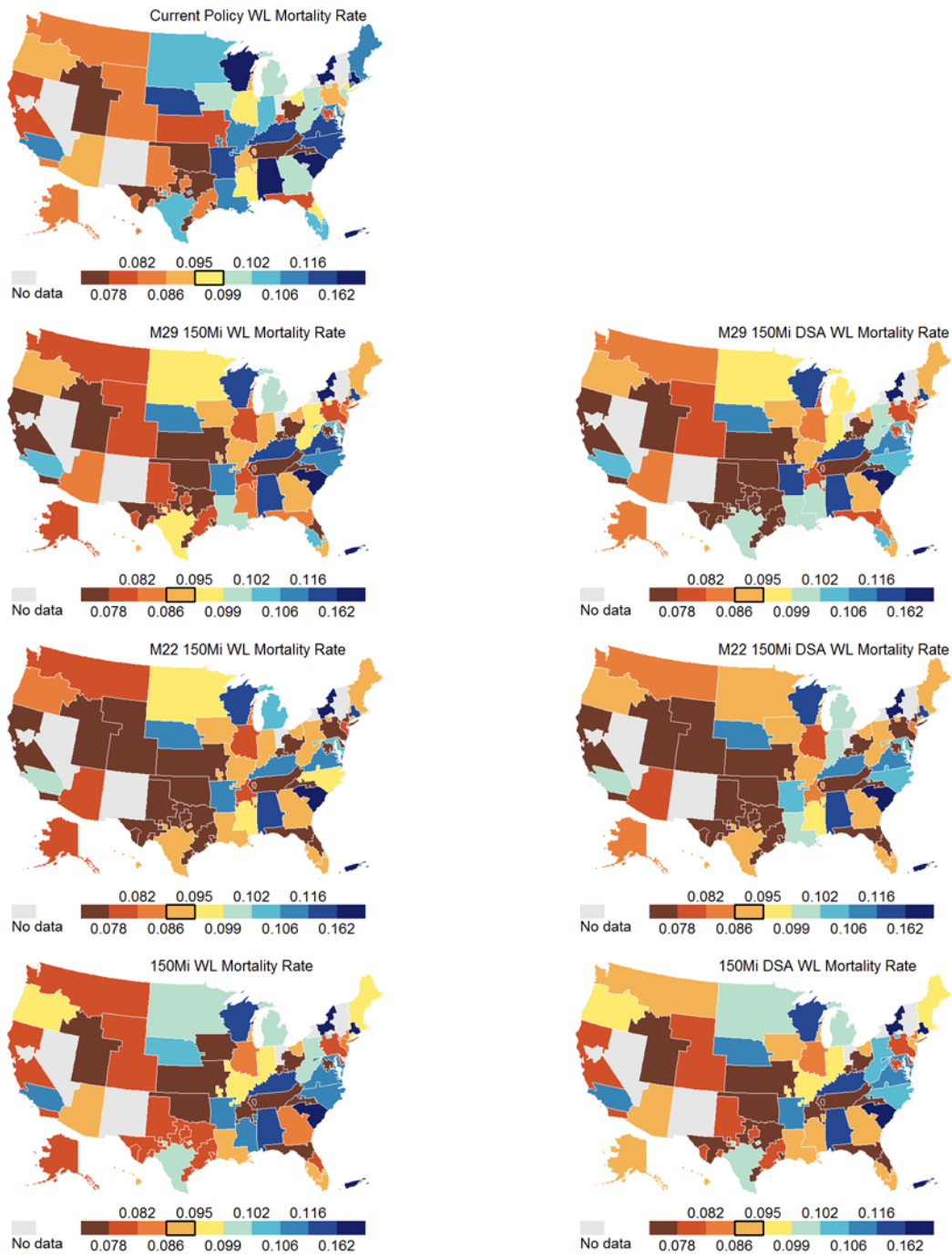


Figure 15 Maps of waitlist mortality rates by DSA

Posttransplant Mortality

Posttransplant Mortality Rates

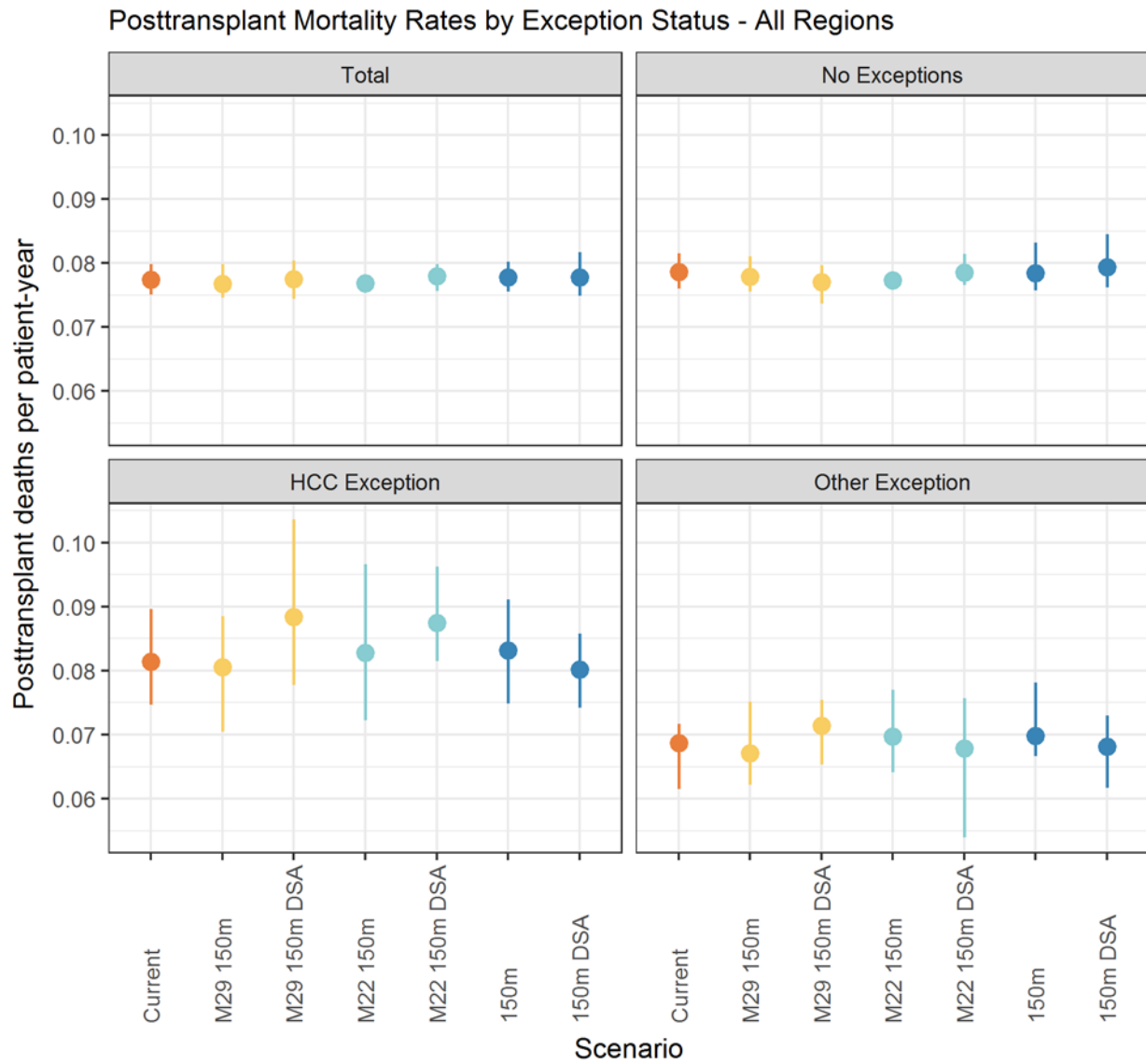


Figure 16 Posttransplant mortality rates by exception status - all regions

Posttransplant Mortality Counts

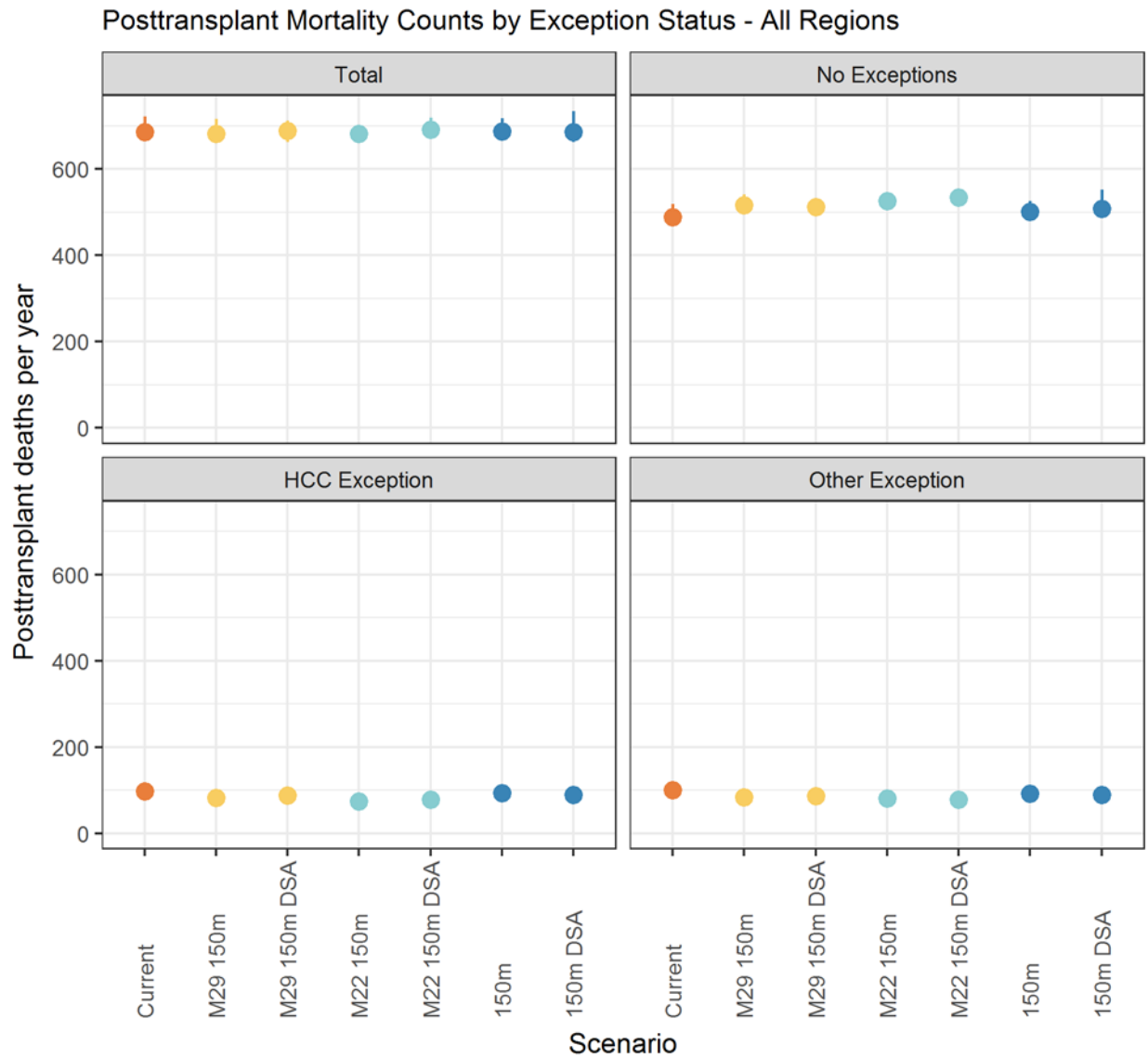


Figure 17 Posttransplant mortality counts by exception status - all regions



Transport

Median Transport Time

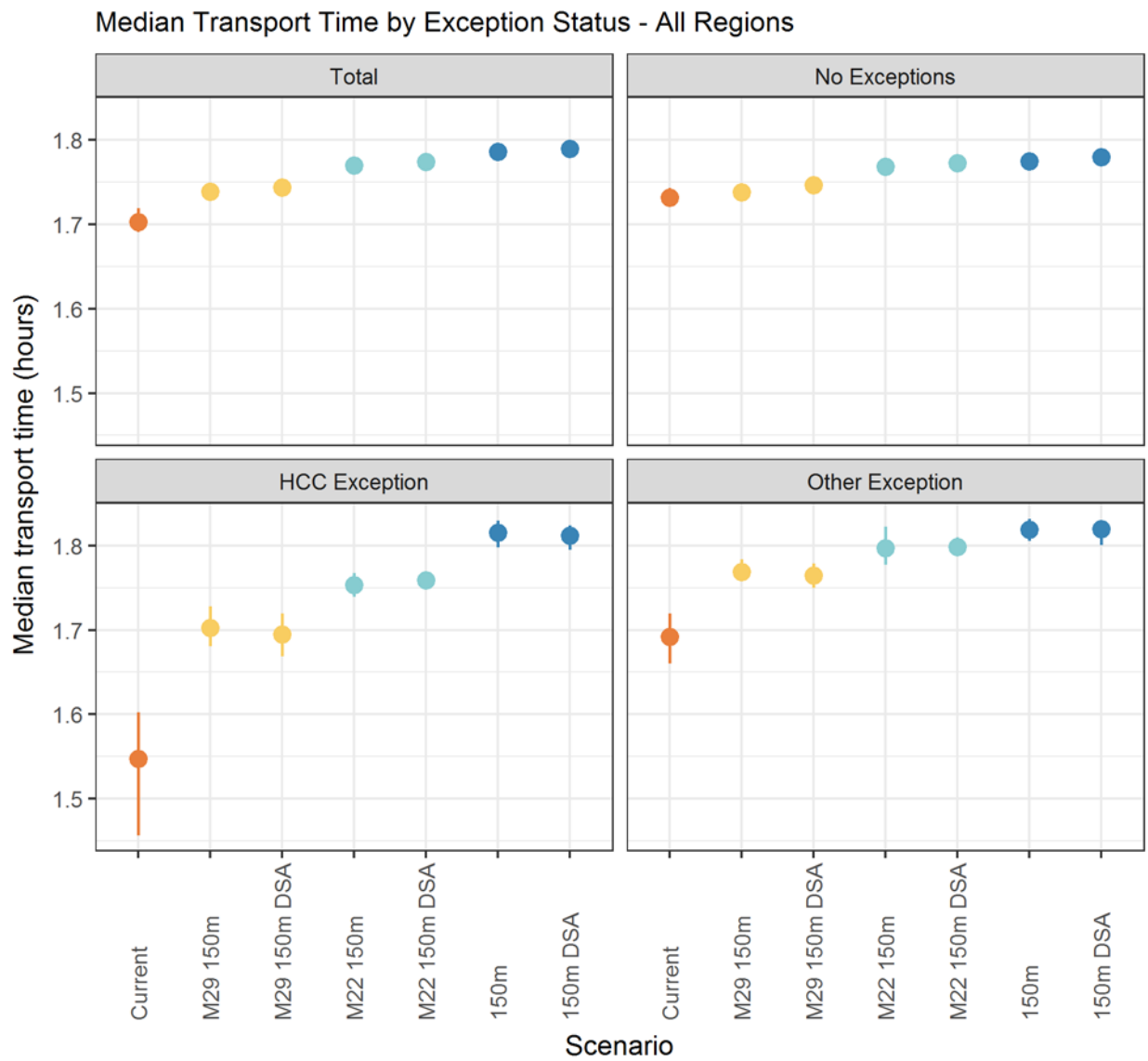


Figure 18 Median Transport Time by exception status - all regions

Median Transport Distance

Median Transport Distance by Exception Status - All Regions

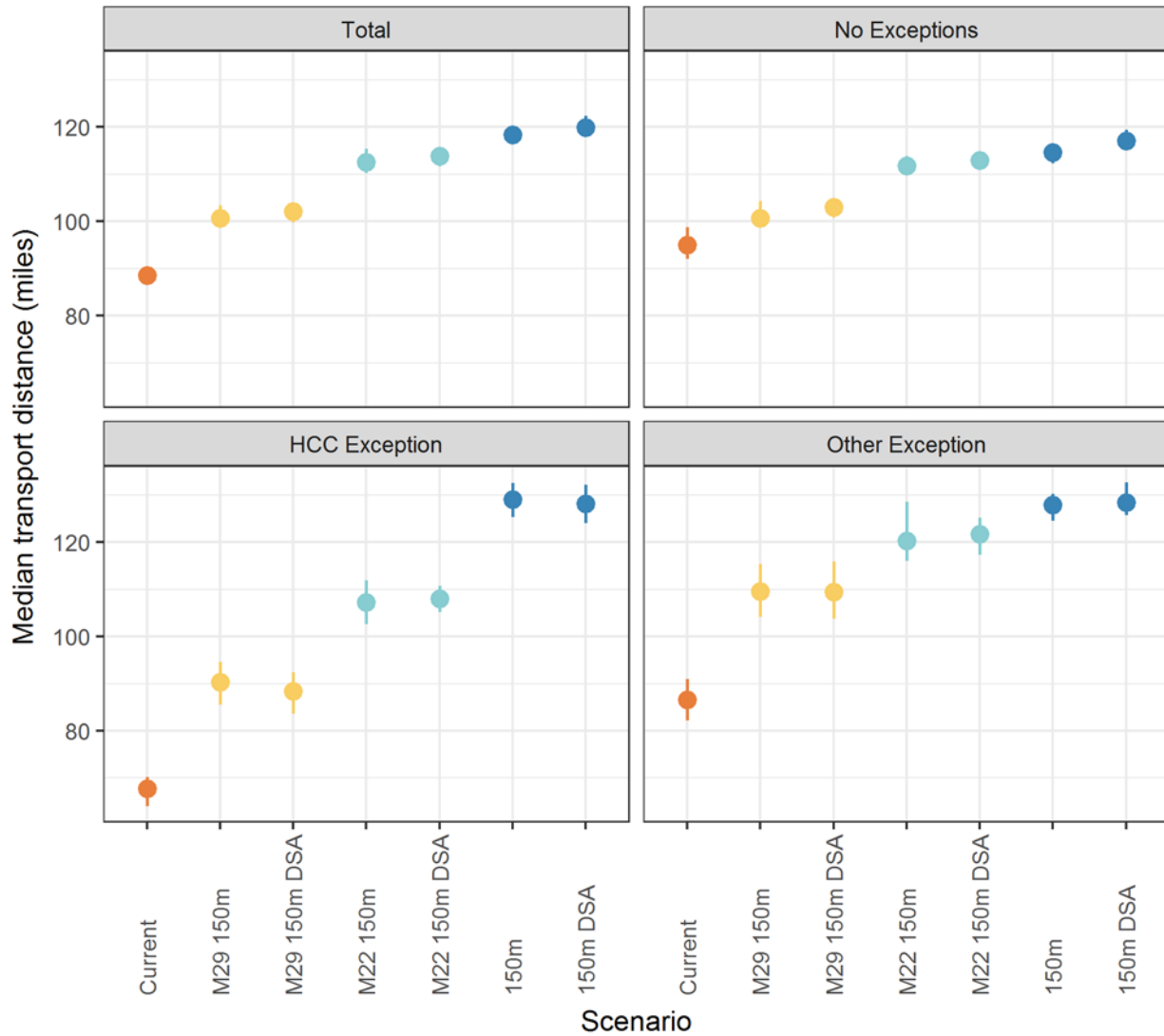


Figure 19 Median Transport Distance by exception status - all regions

Percent of Organs Flown

Percent of Organs Flown by Exception Status - All Regions

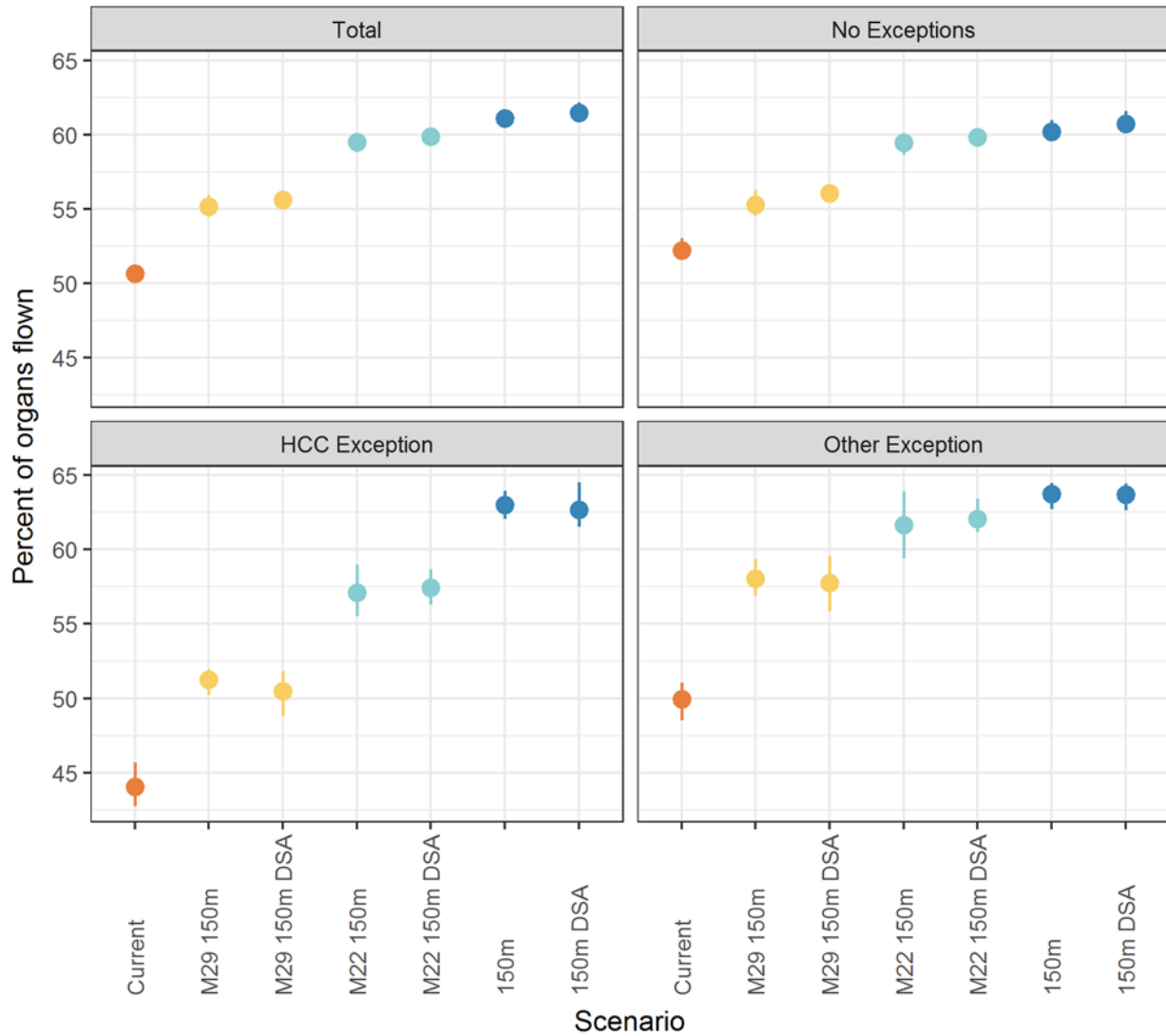


Figure 20 Percent of Organs Flown by exception status - all regions

Percent of Organs Transplanted Locally (Within Donor DSA)

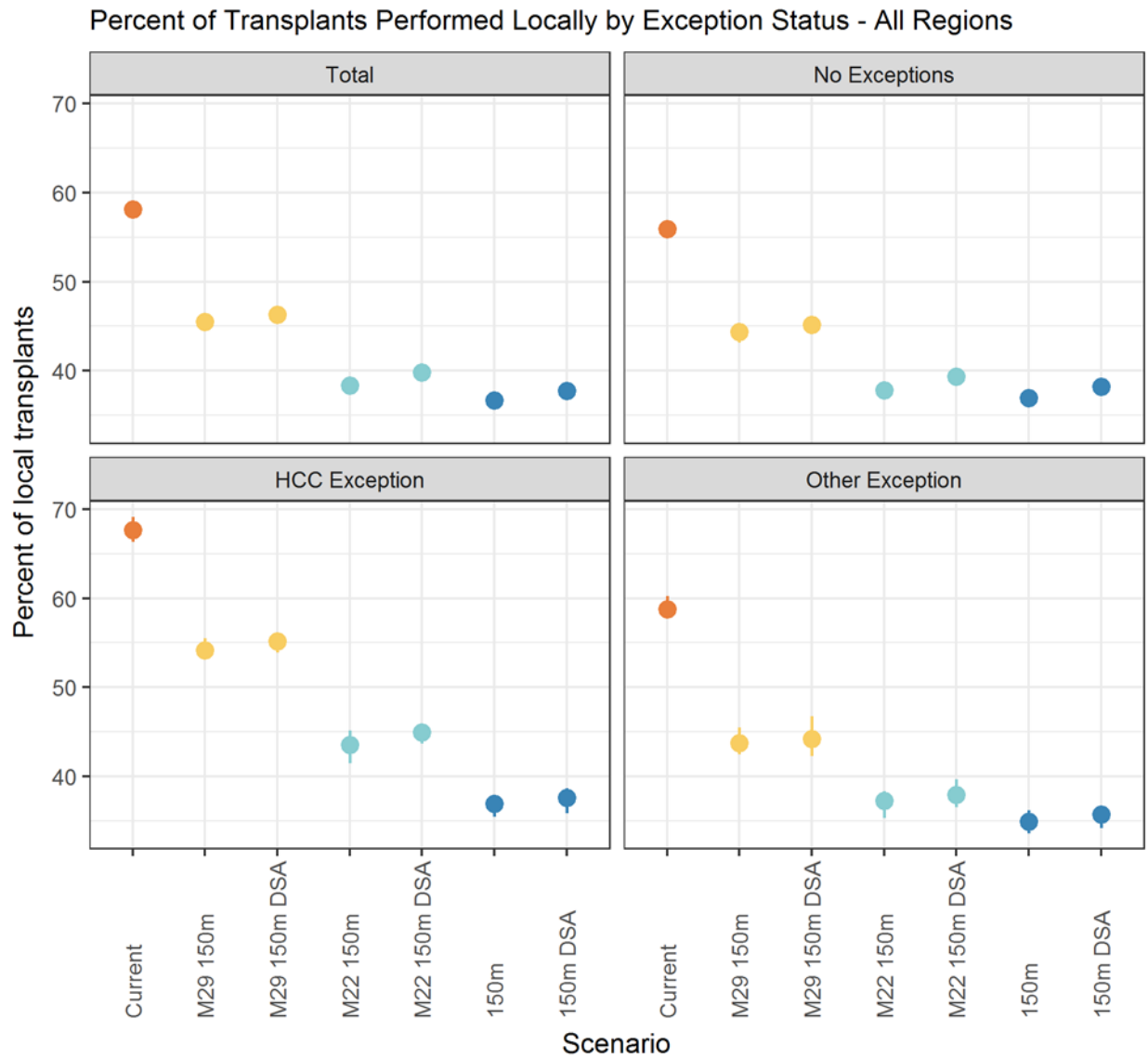


Figure 21 Percent of Organs Transplanted Locally by exception status - all regions

Appendix A: Results by UNOS region

Allocation MELD/PELD at Transplant

Median Allocation MELD/PELD at Transplant

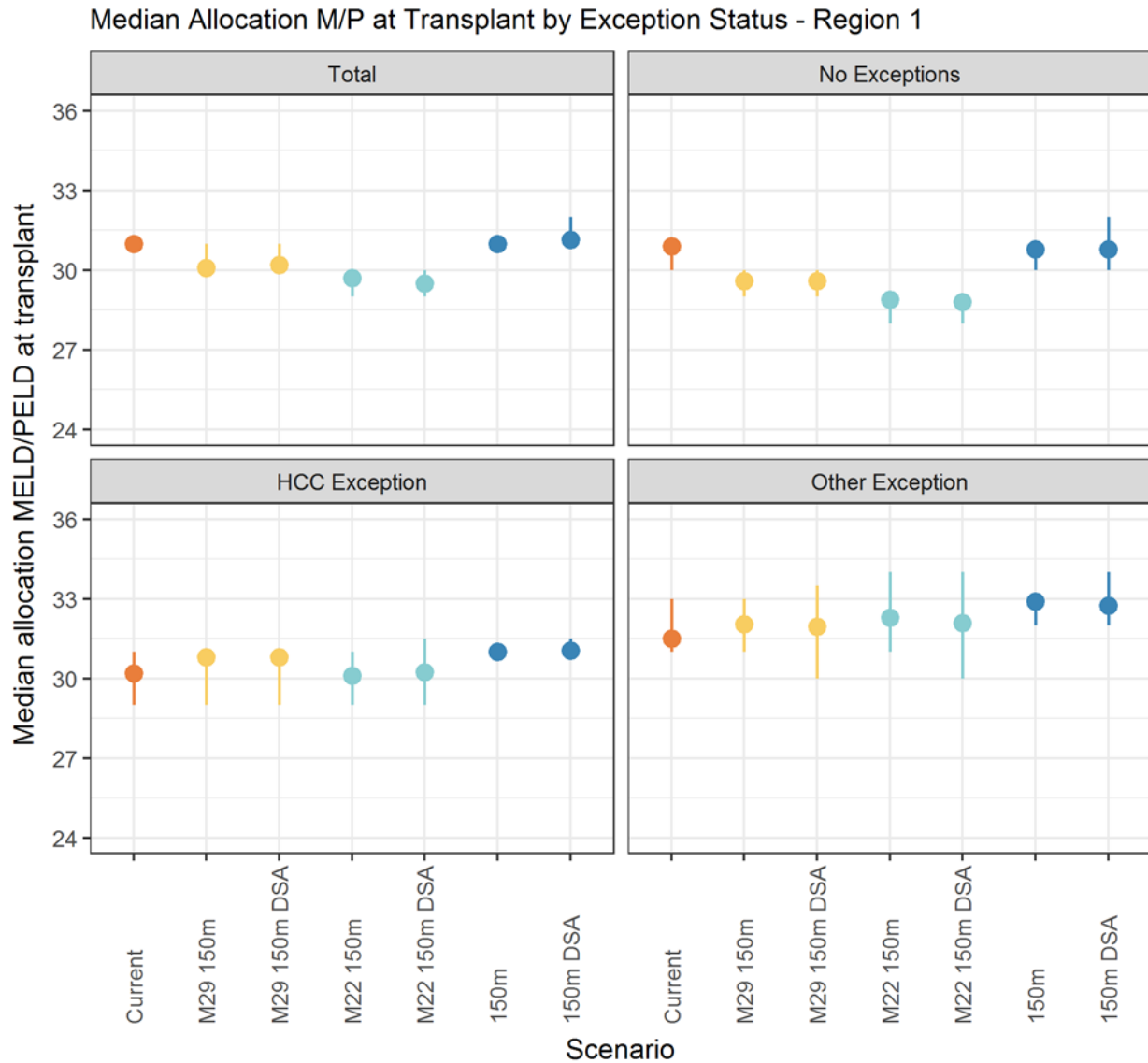


Figure 22 Median allocation MELD/PELD at transplant by exception status - region 1

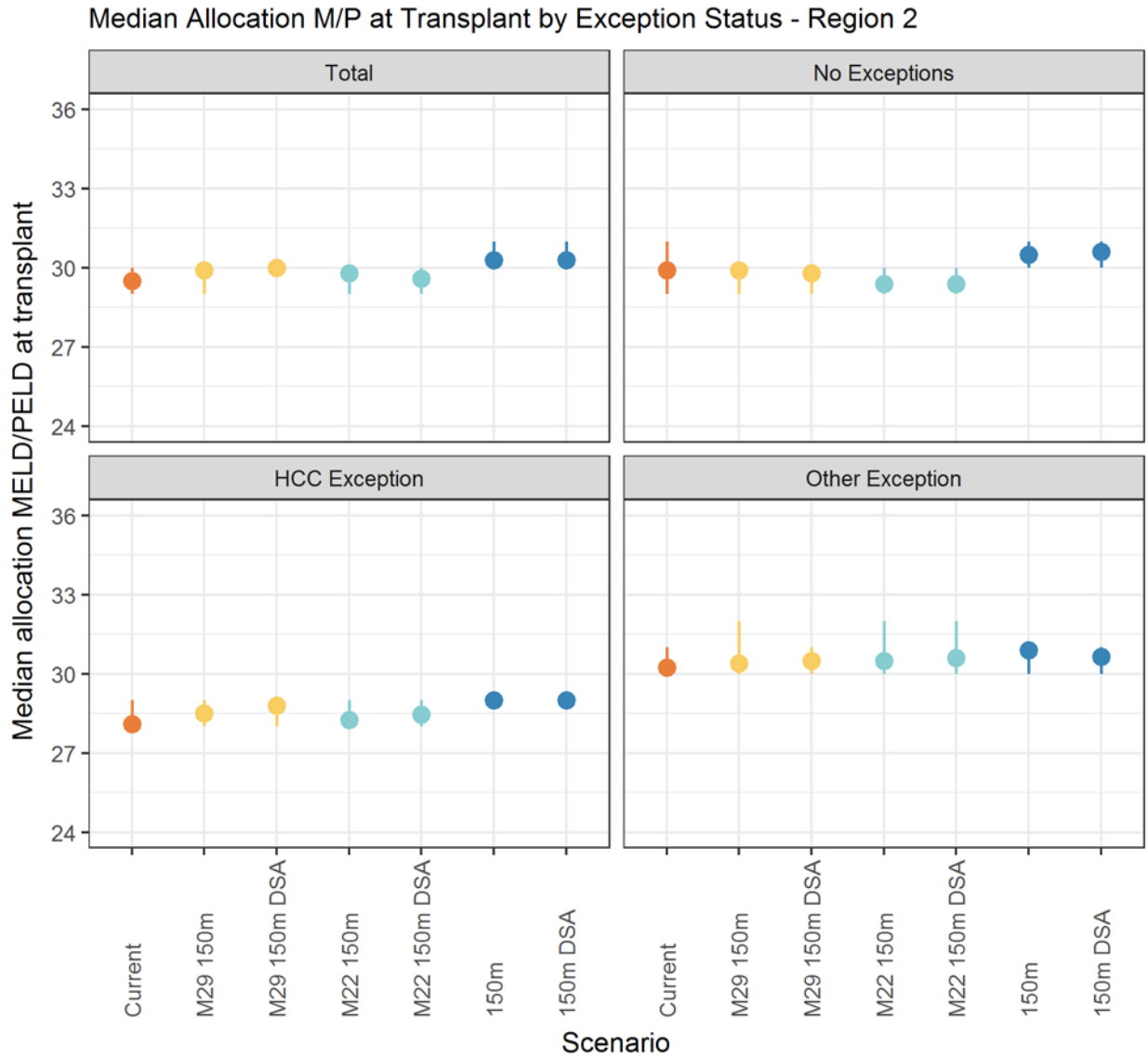


Figure 23 Median allocation MELD/PELD at transplant by exception status - region 2

PRELIMINARY

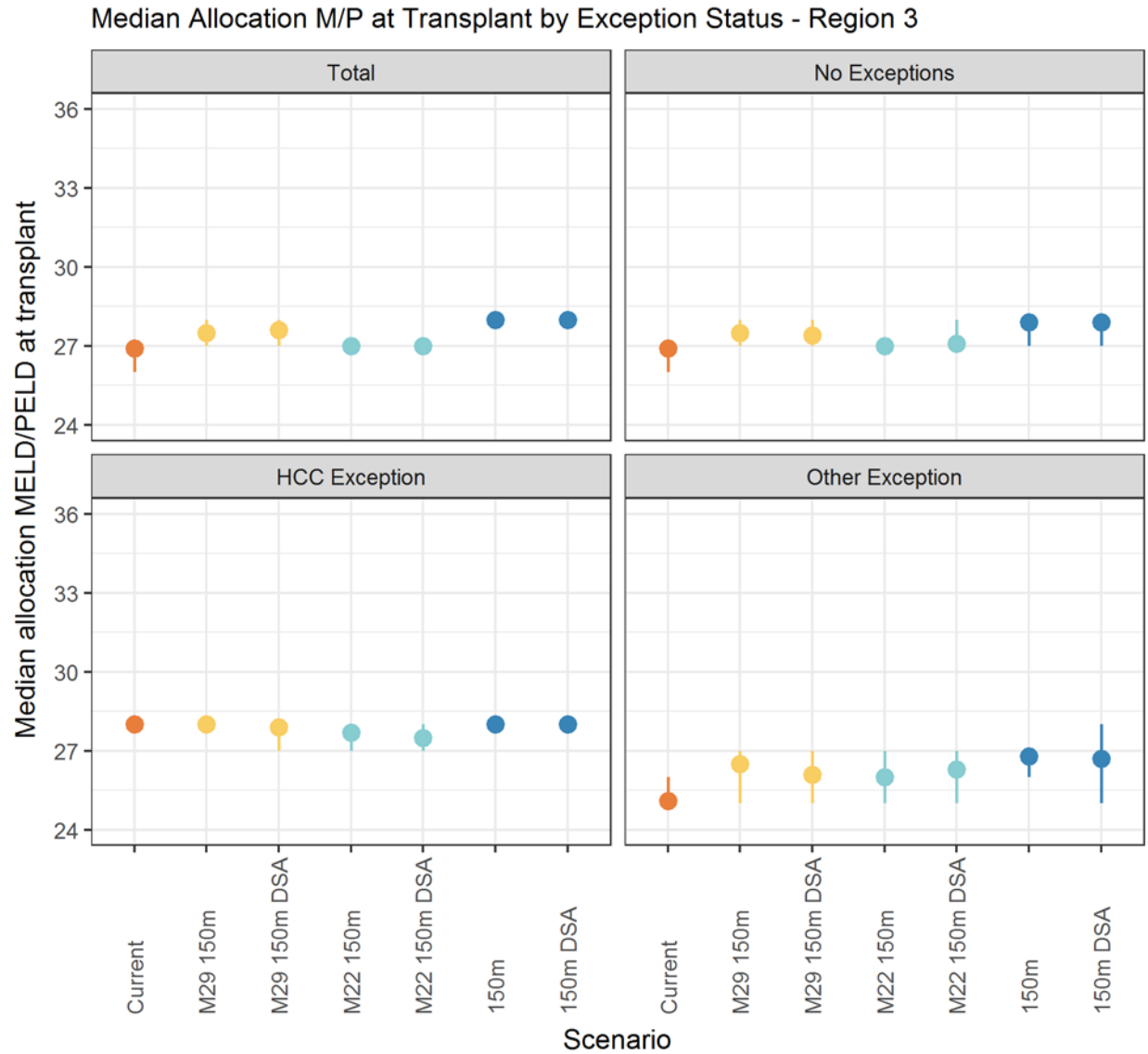


Figure 24 Median allocation MELD/PELD at transplant by exception status - region 3

PRELIMINARY

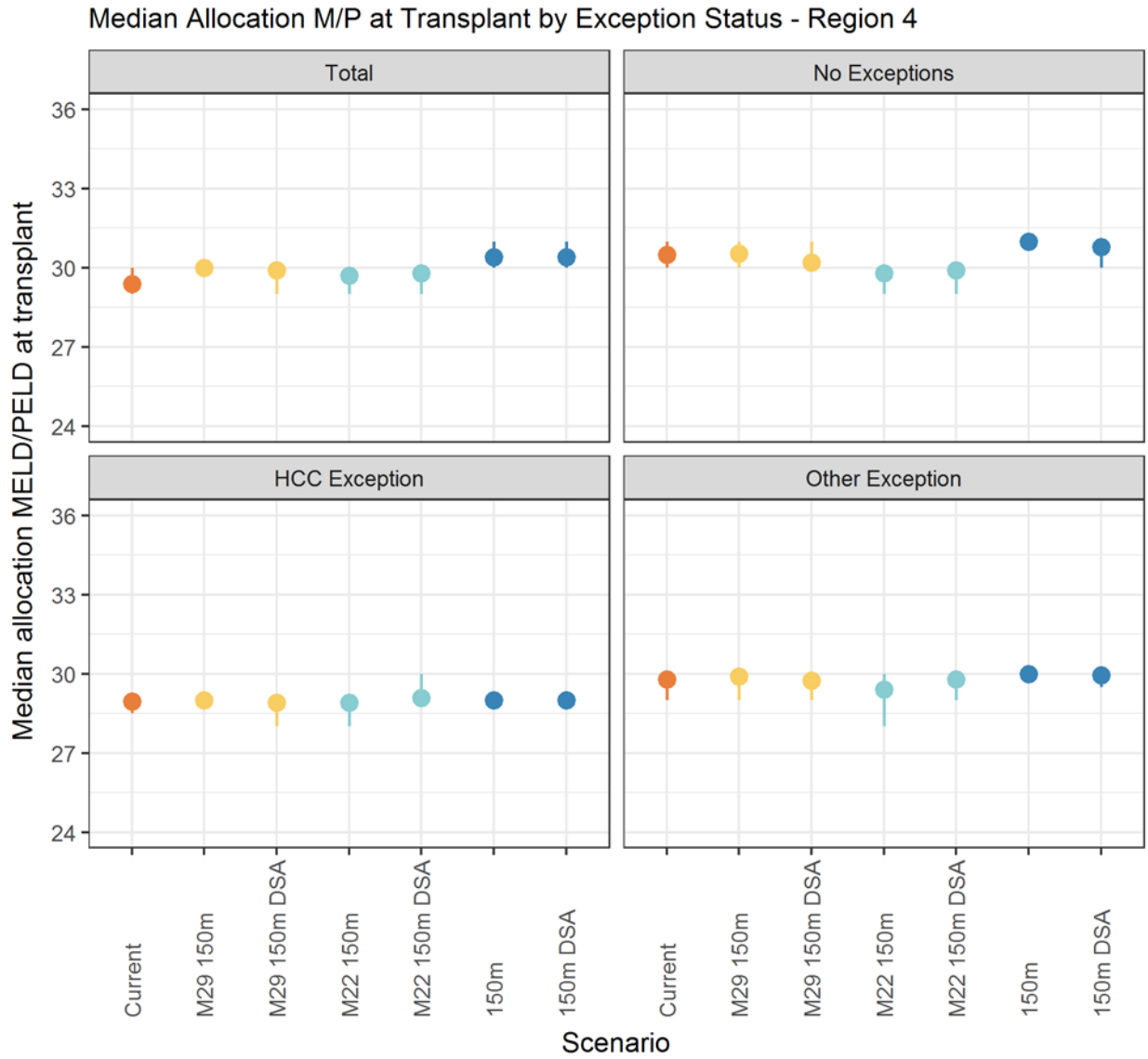


Figure 25 Median allocation MELD/PELD at transplant by exception status - region 4

PRELIMINARY

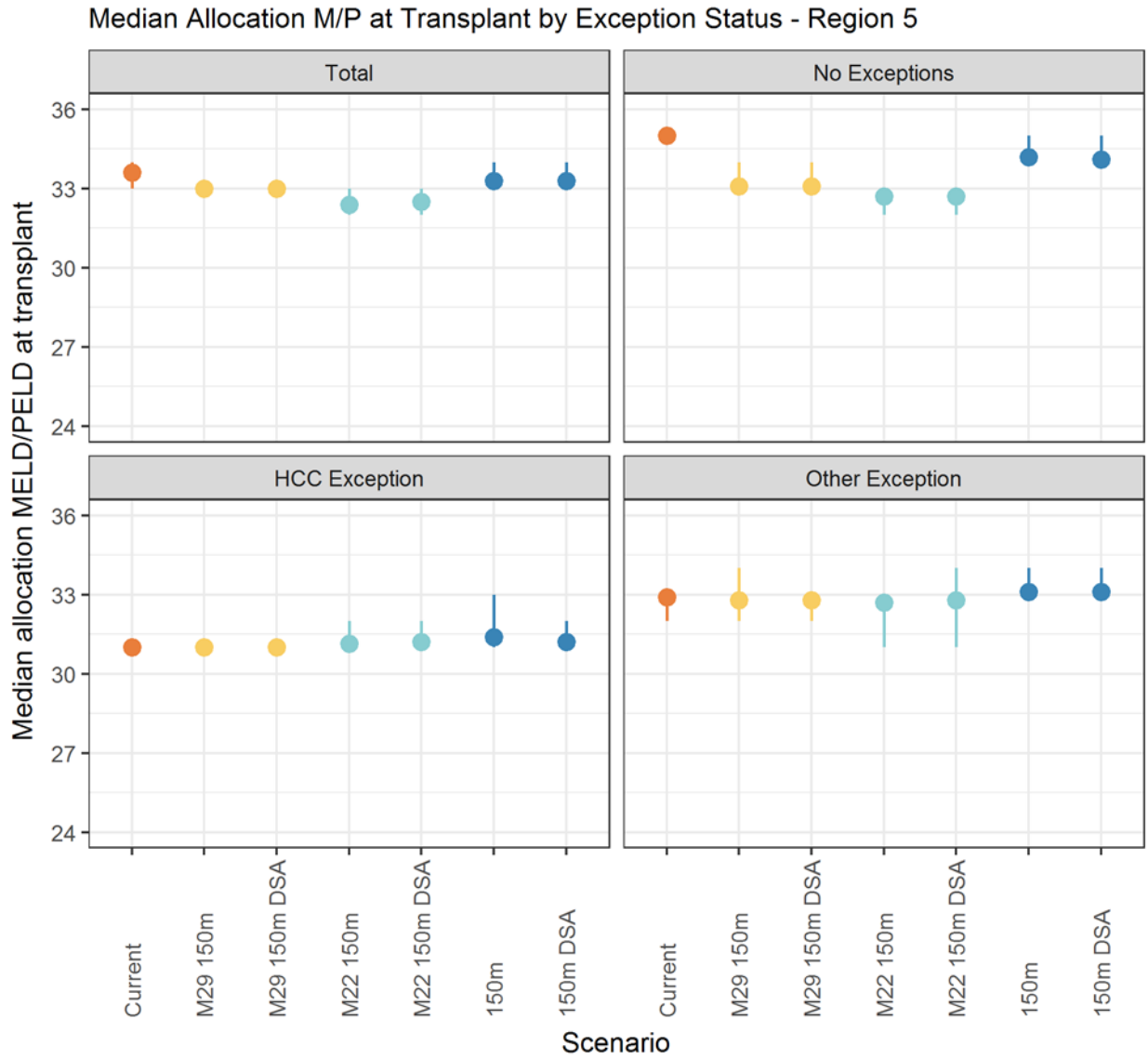


Figure 26 Median allocation MELD/PELD at transplant by exception status - region 5

PRELIMINARY

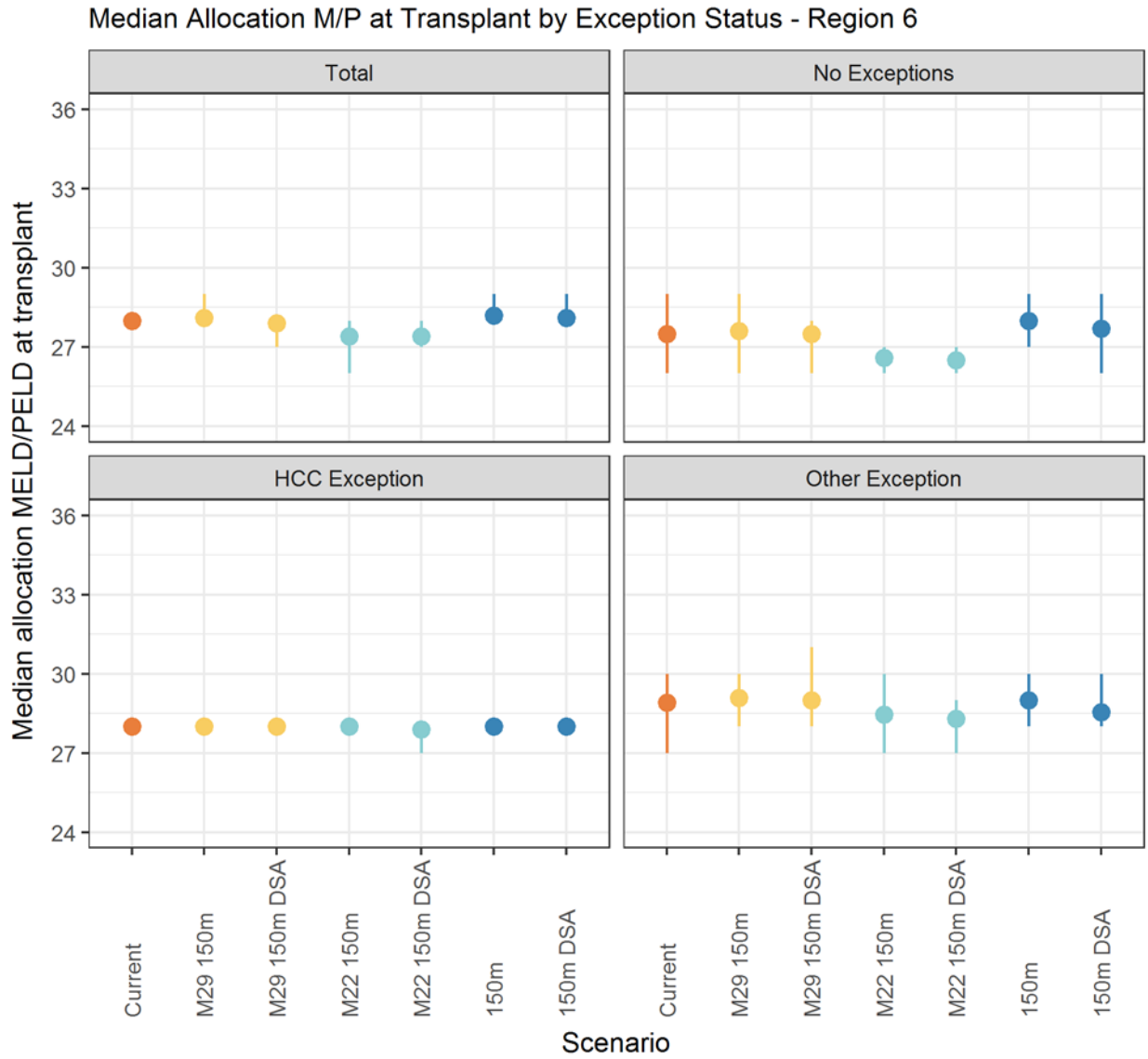


Figure 27 Median allocation MELD/PELD at transplant by exception status - region 6

PRELIMINARY

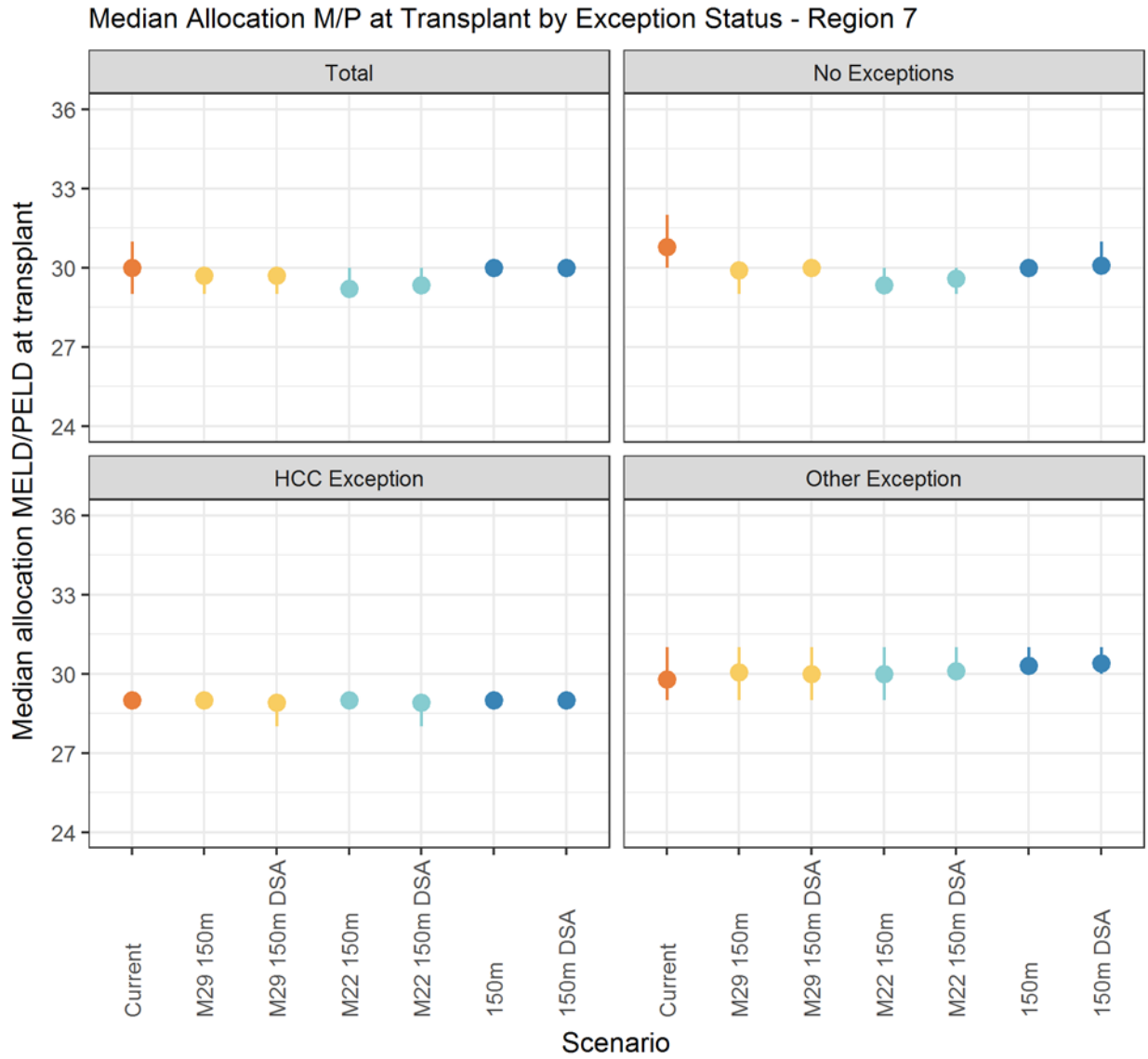


Figure 28 Median allocation MELD/PELD at transplant by exception status - region 7

PRELIMINARY

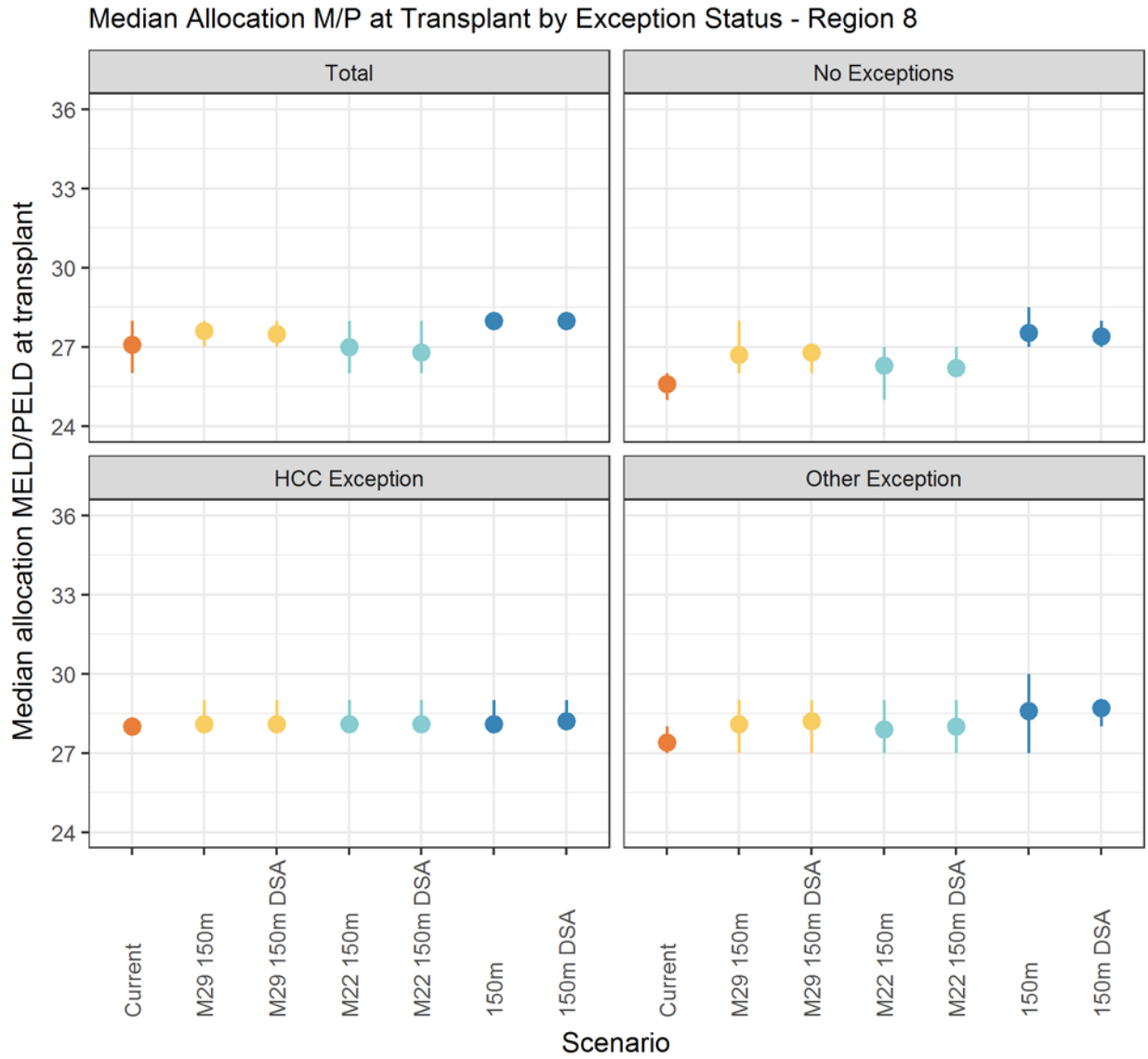


Figure 29 Median allocation MELD/PELD at transplant by exception status - region 8

PRELIMINARY

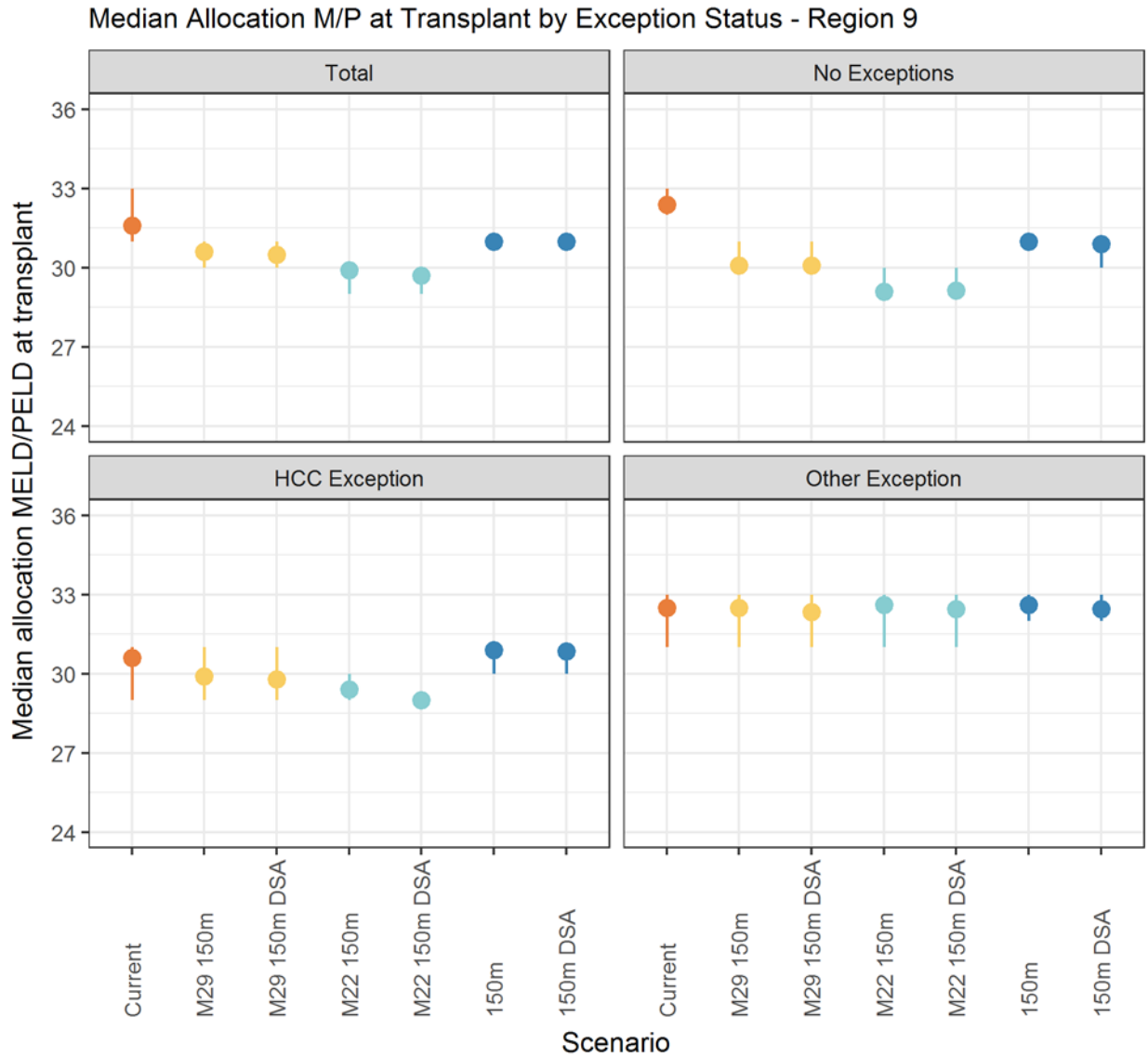


Figure 30 Median allocation MELD/PELD at transplant by exception status - region 9

PRELIMINARY

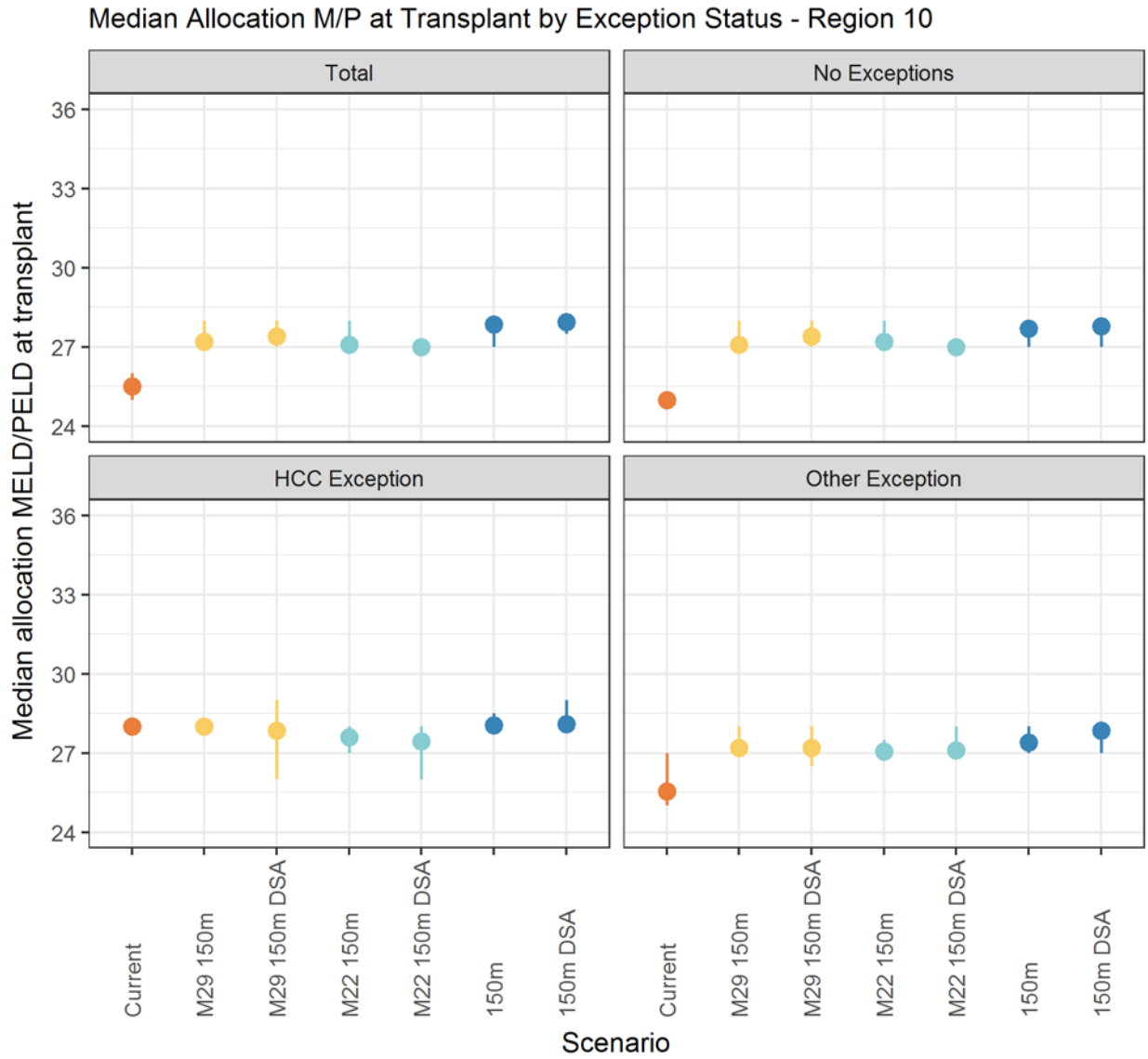


Figure 31 Median allocation MELD/PELD at transplant by exception status - region 10

PRELIMINARY

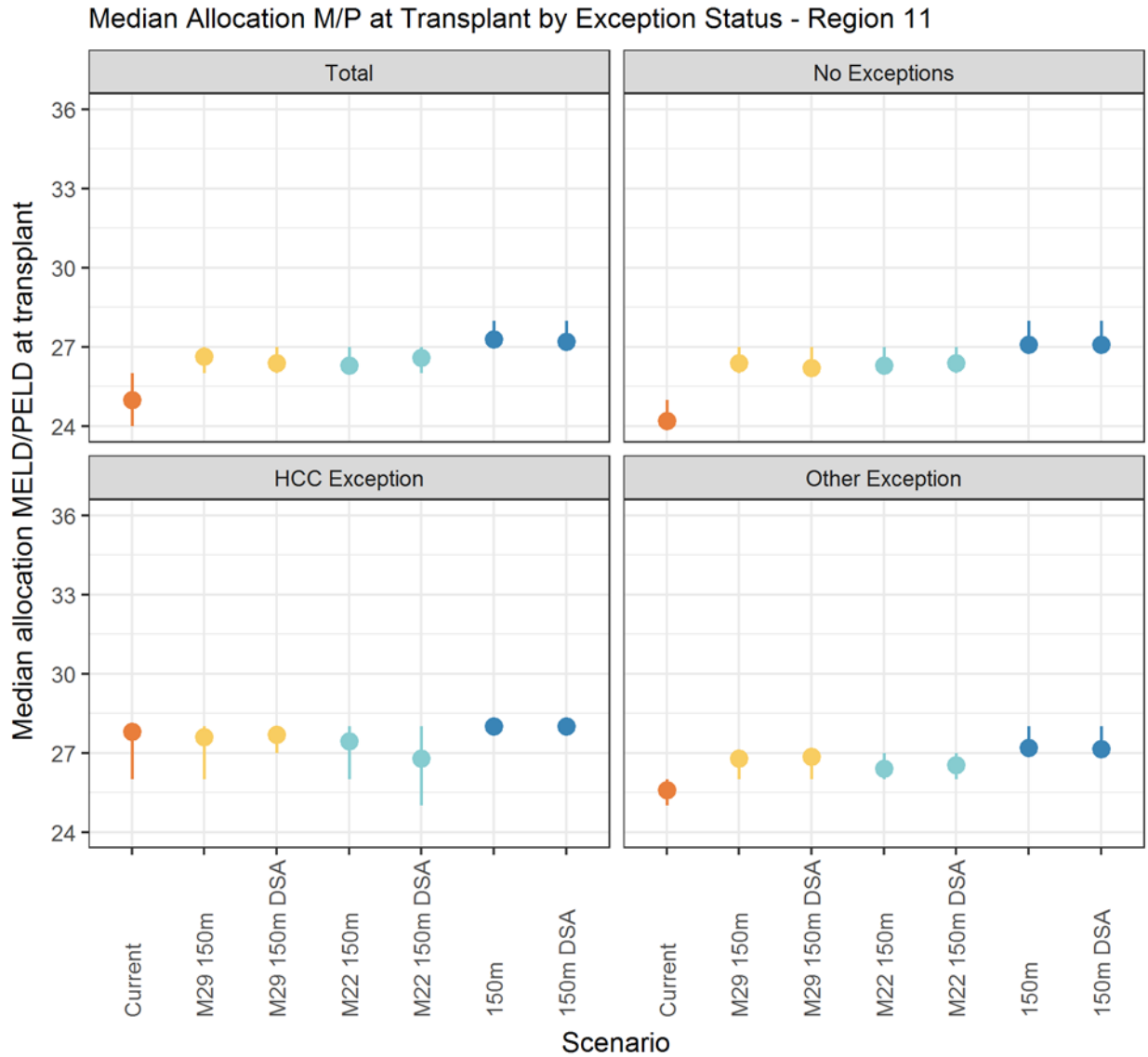


Figure 32 Median allocation MELD/PELD at transplant by exception status - region 11

PRELIMINARY

Transplant

Transplant Rates

Transplant Rates by Exception Status - Region 1

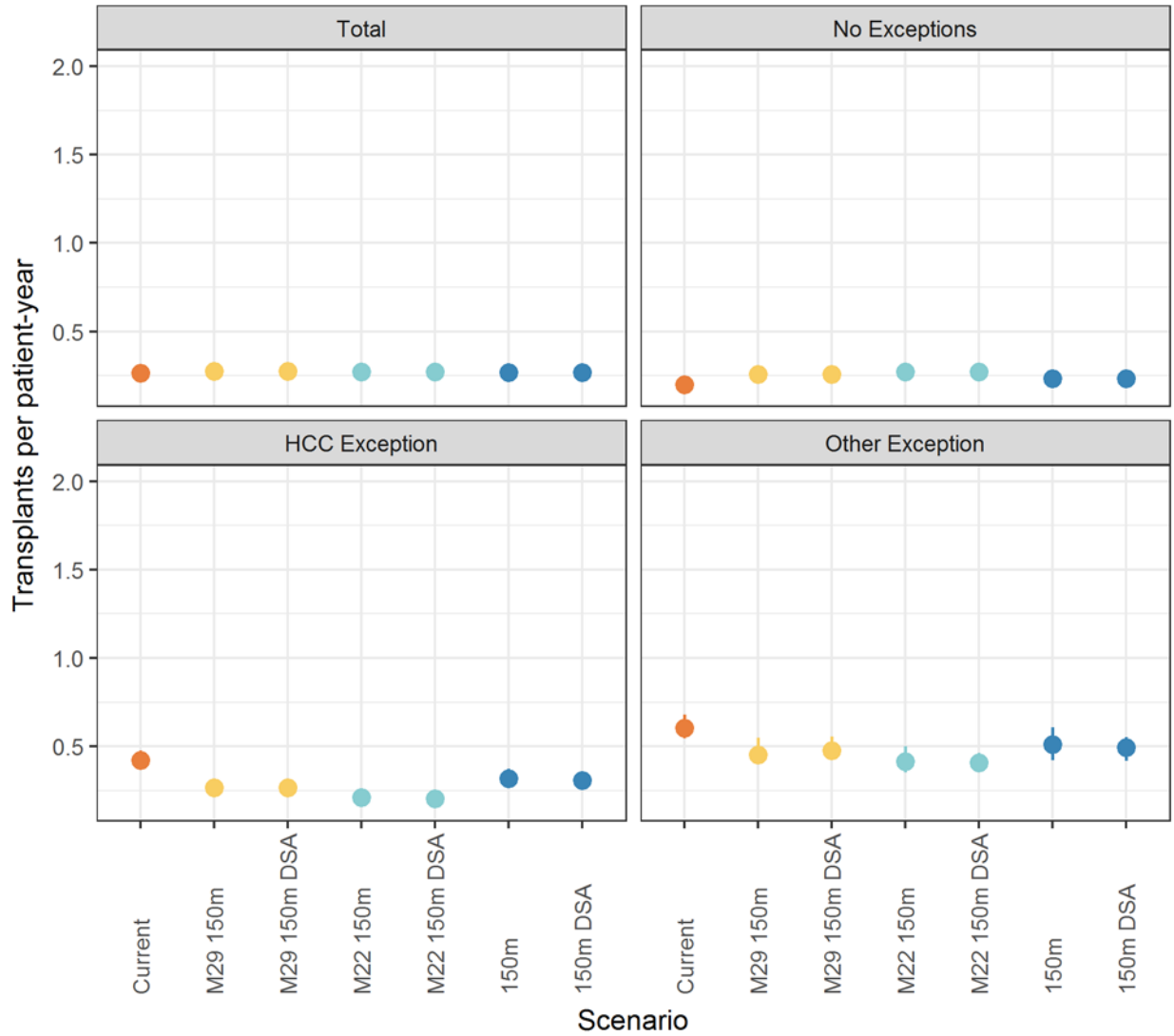


Figure 33 Transplant rates by exception status - region 1

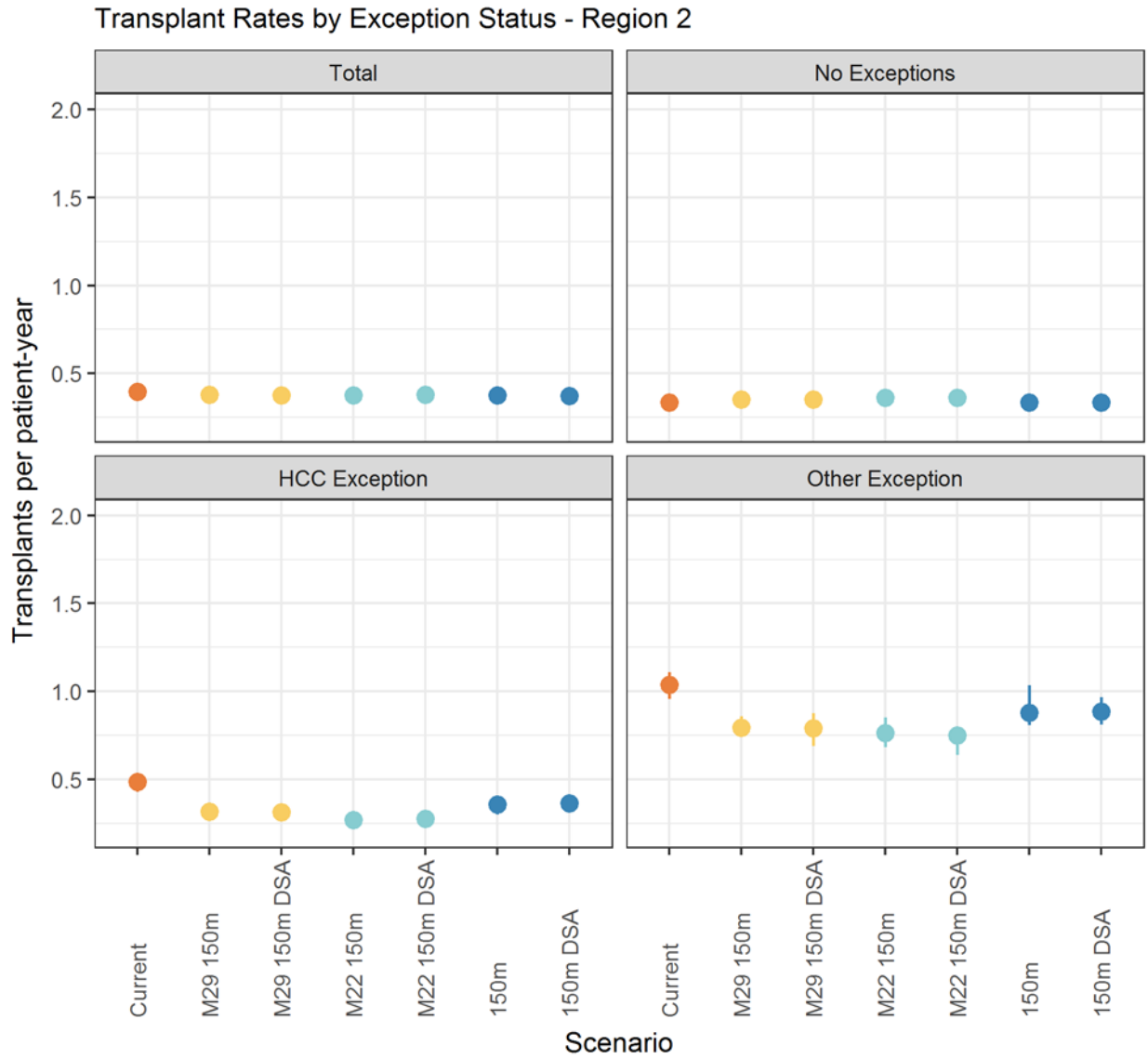


Figure 34 Transplant rates by exception status - region 2

PRELIMINARY

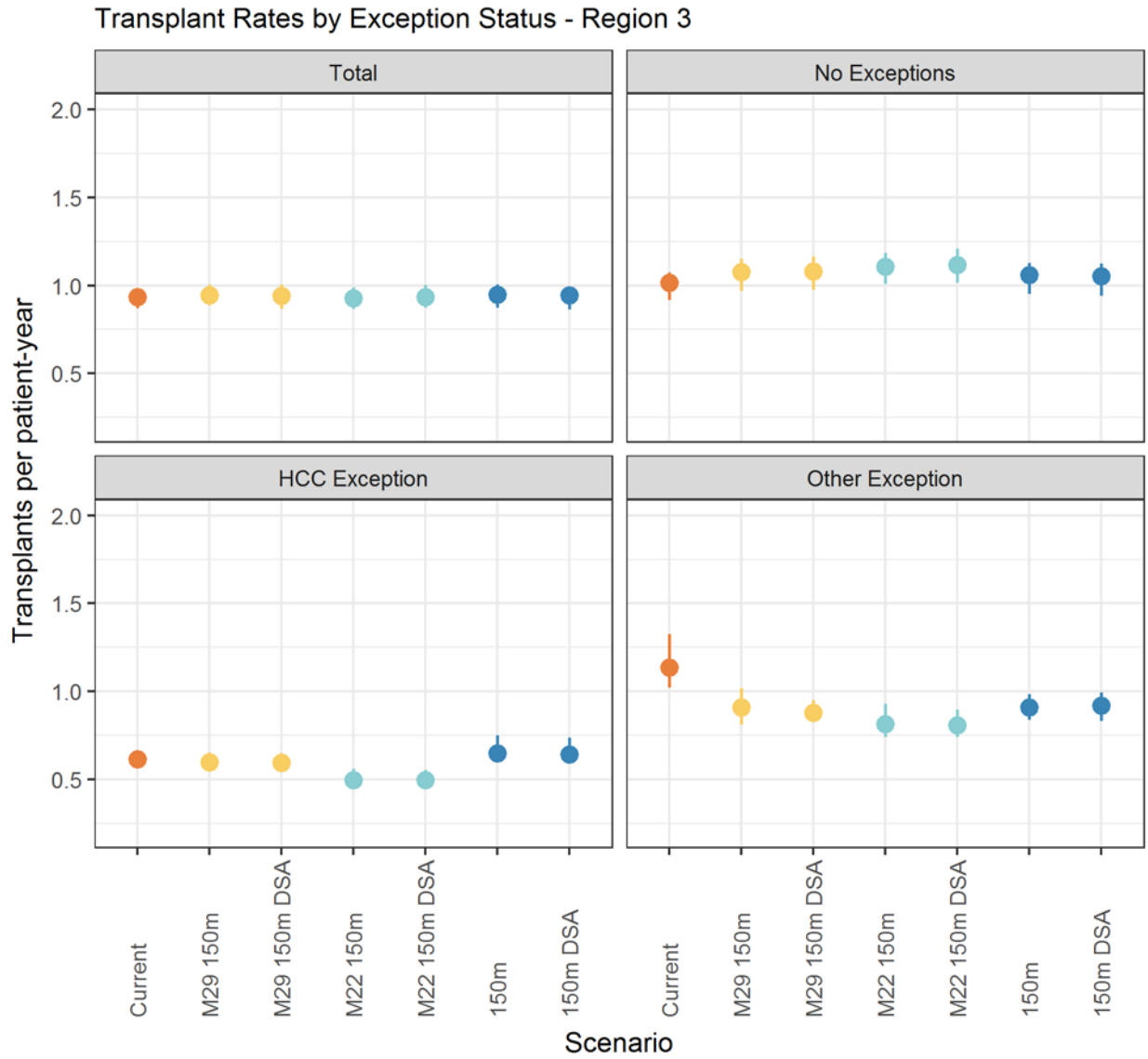


Figure 35 Transplant rates by exception status - region 3

PRELIMINARY

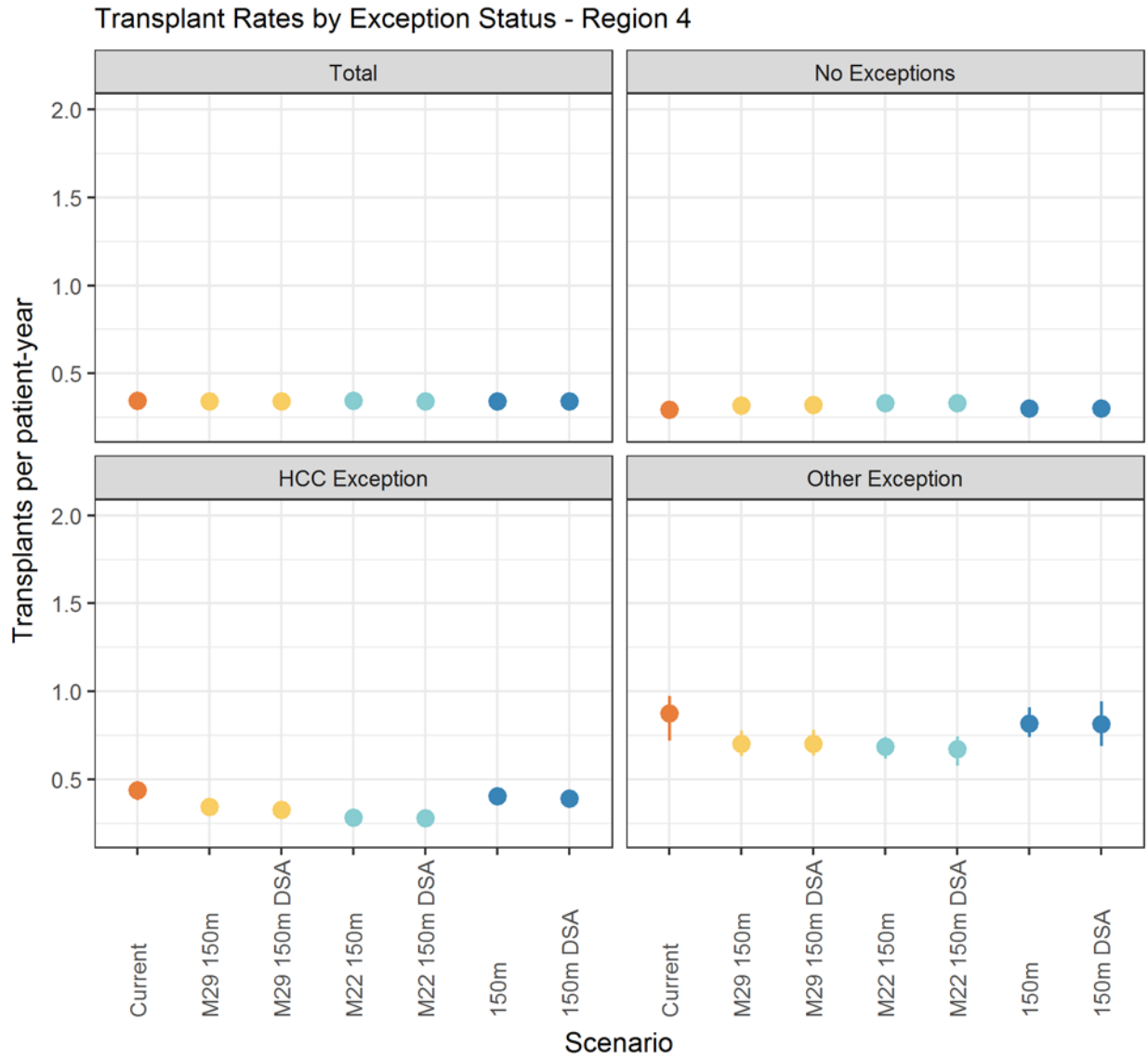


Figure 36 Transplant rates by exception status - region 4

PRELIMINARY

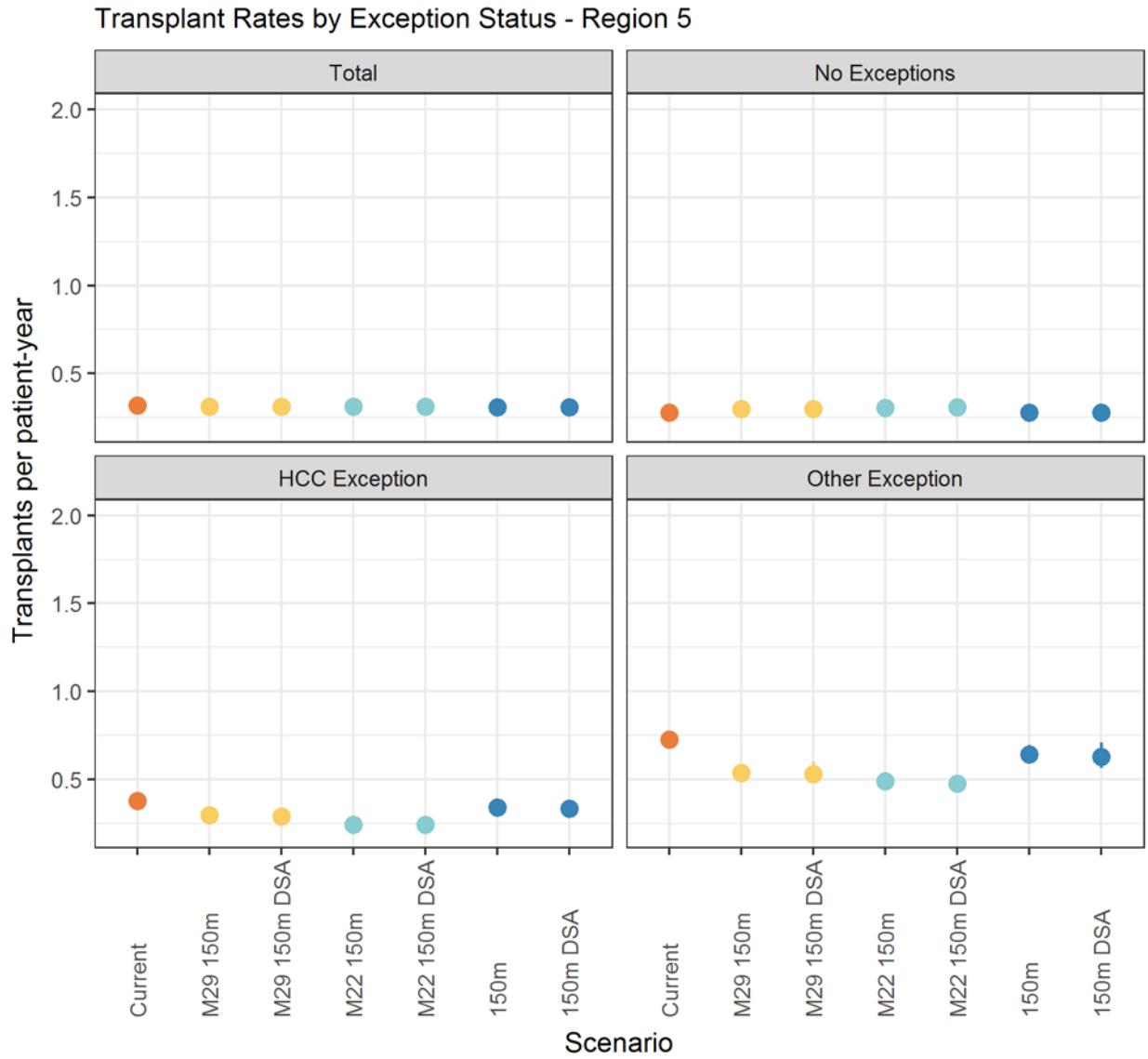


Figure 37 Transplant rates by exception status - region 5

PRELIMINARY

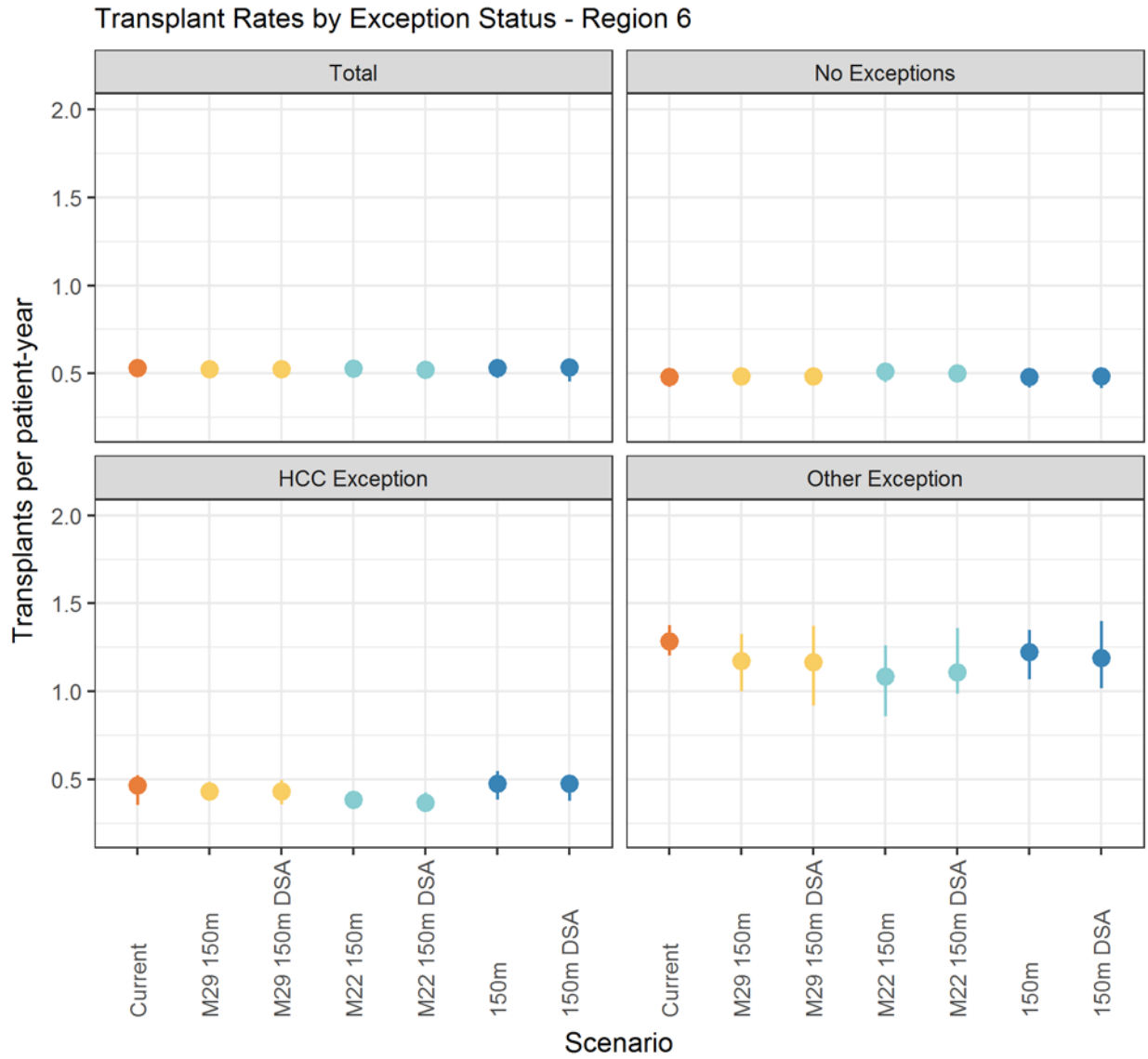


Figure 38 Transplant rates by exception status - region 6

PRELIMINARY

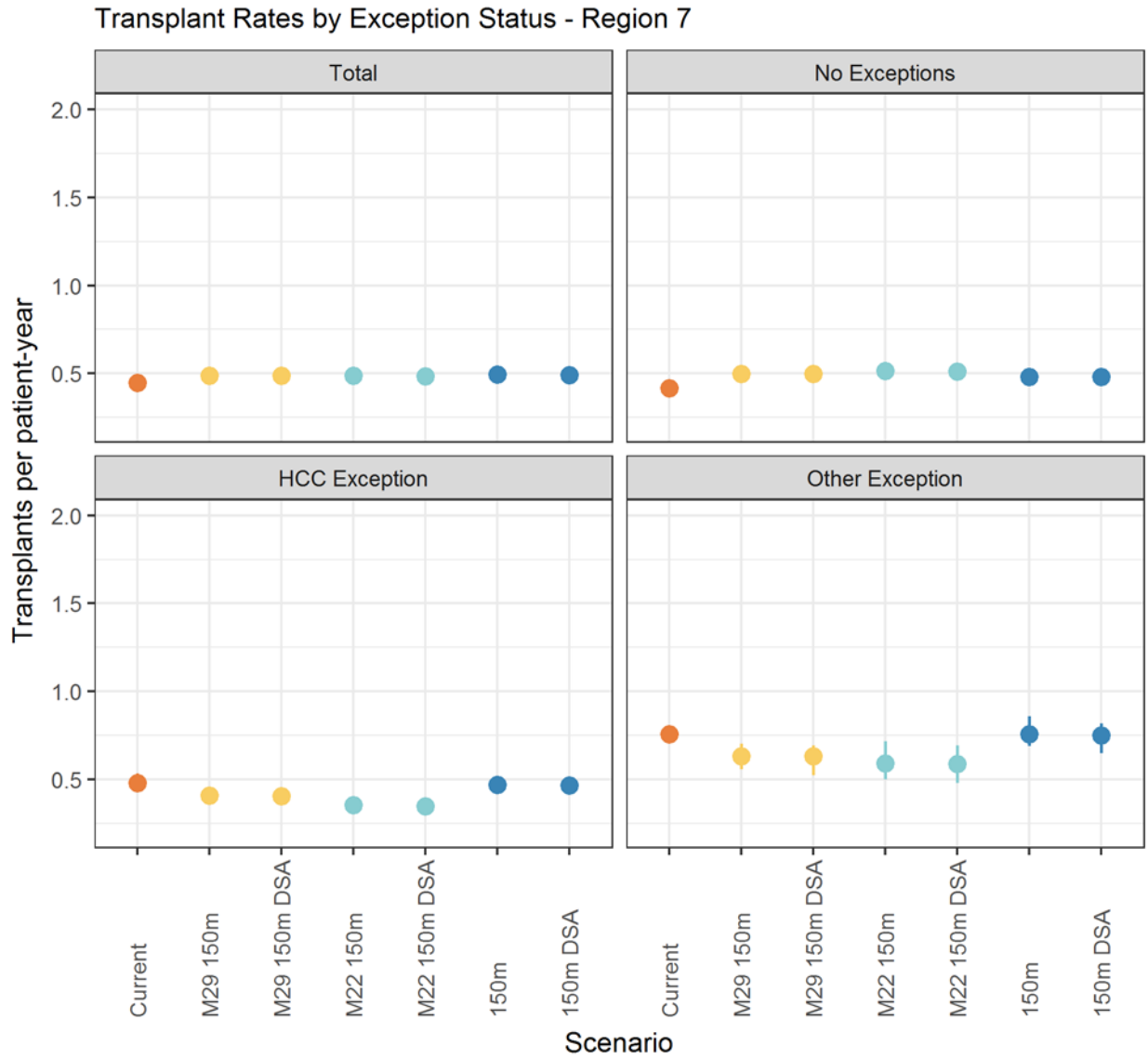


Figure 39 Transplant rates by exception status - region 7

PRELIMINARY

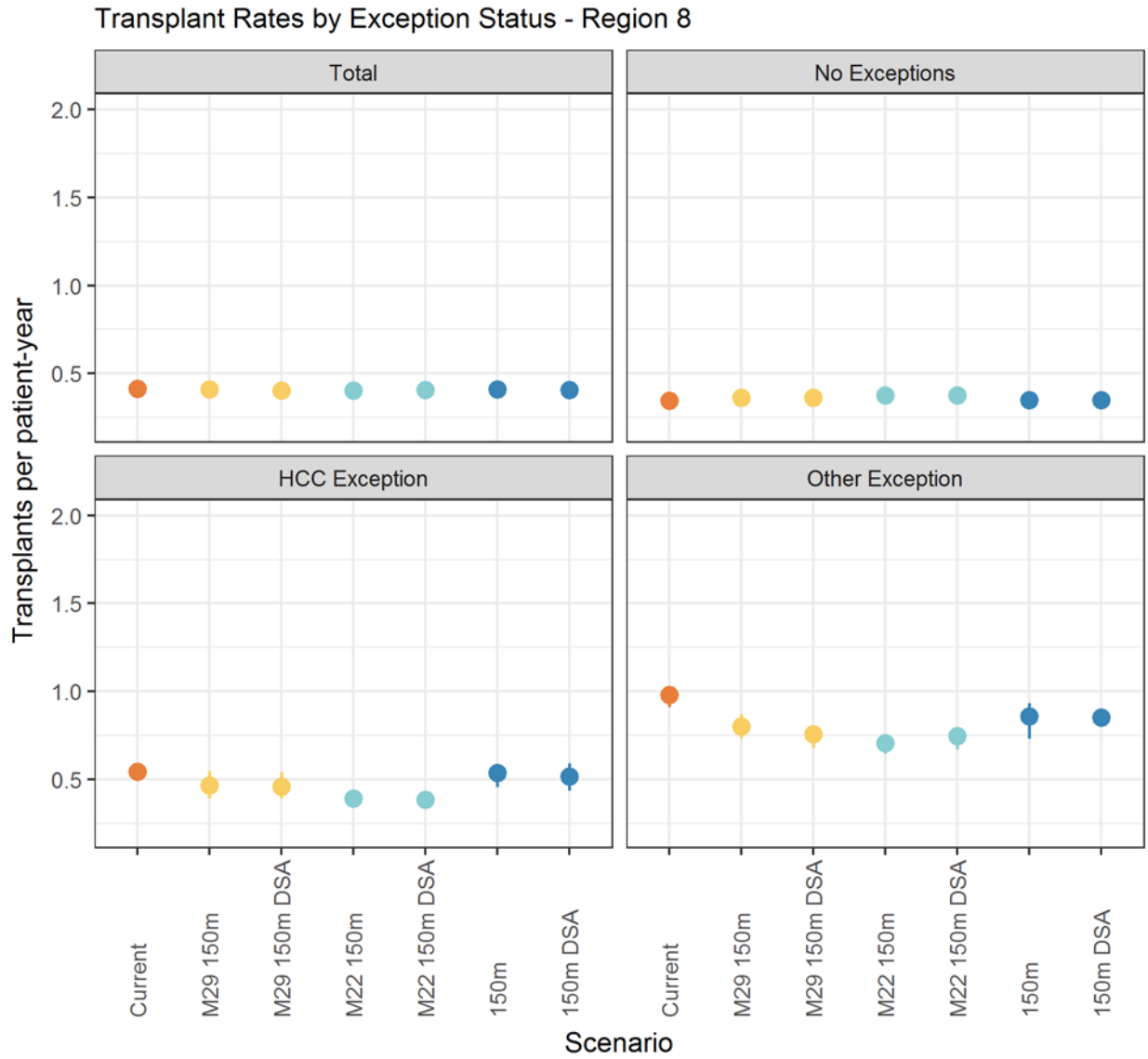


Figure 40 Transplant rates by exception status - region 8

PRELIMINARY

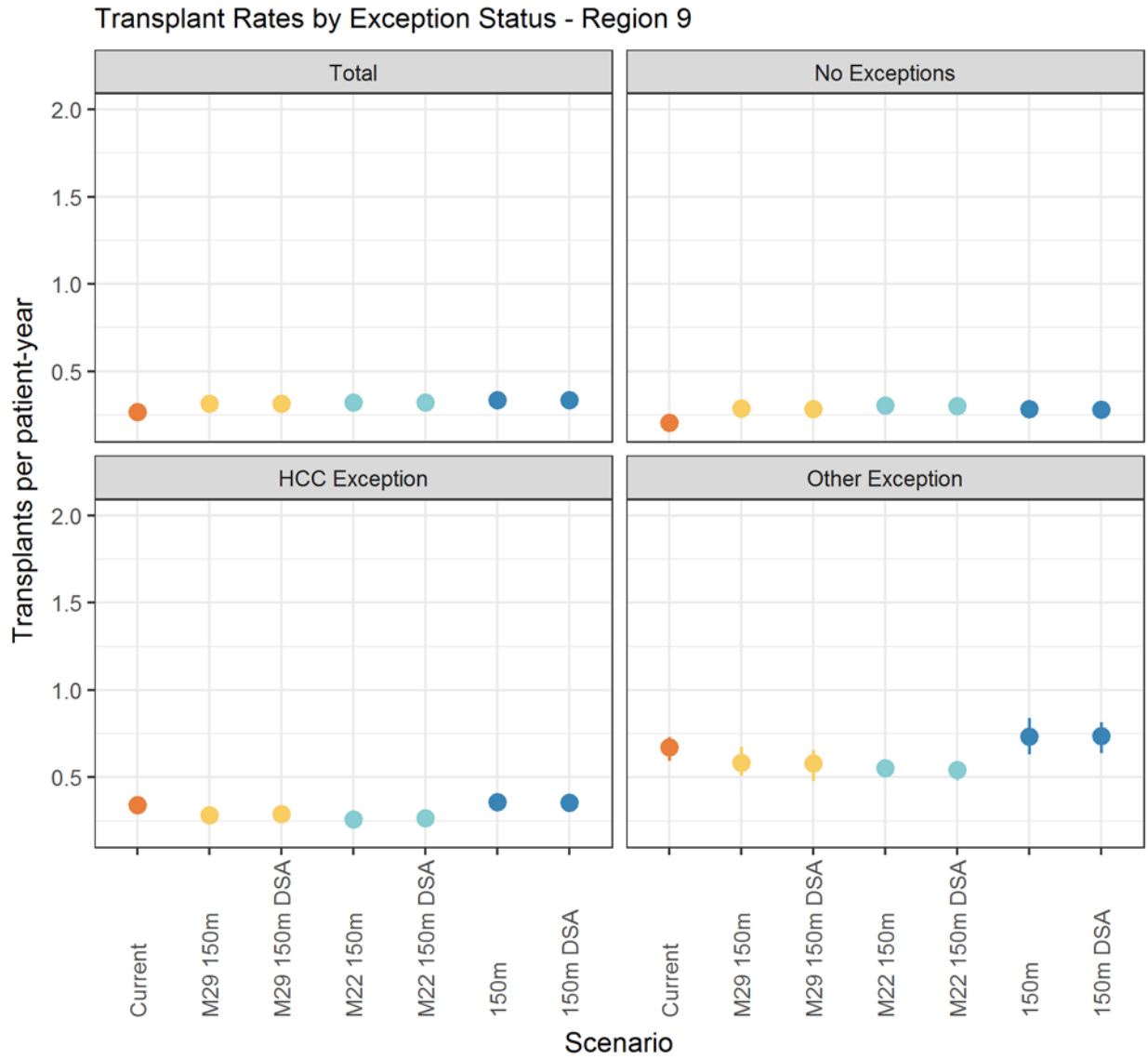


Figure 41 Transplant rates by exception status - region 9

PRELIMINARY

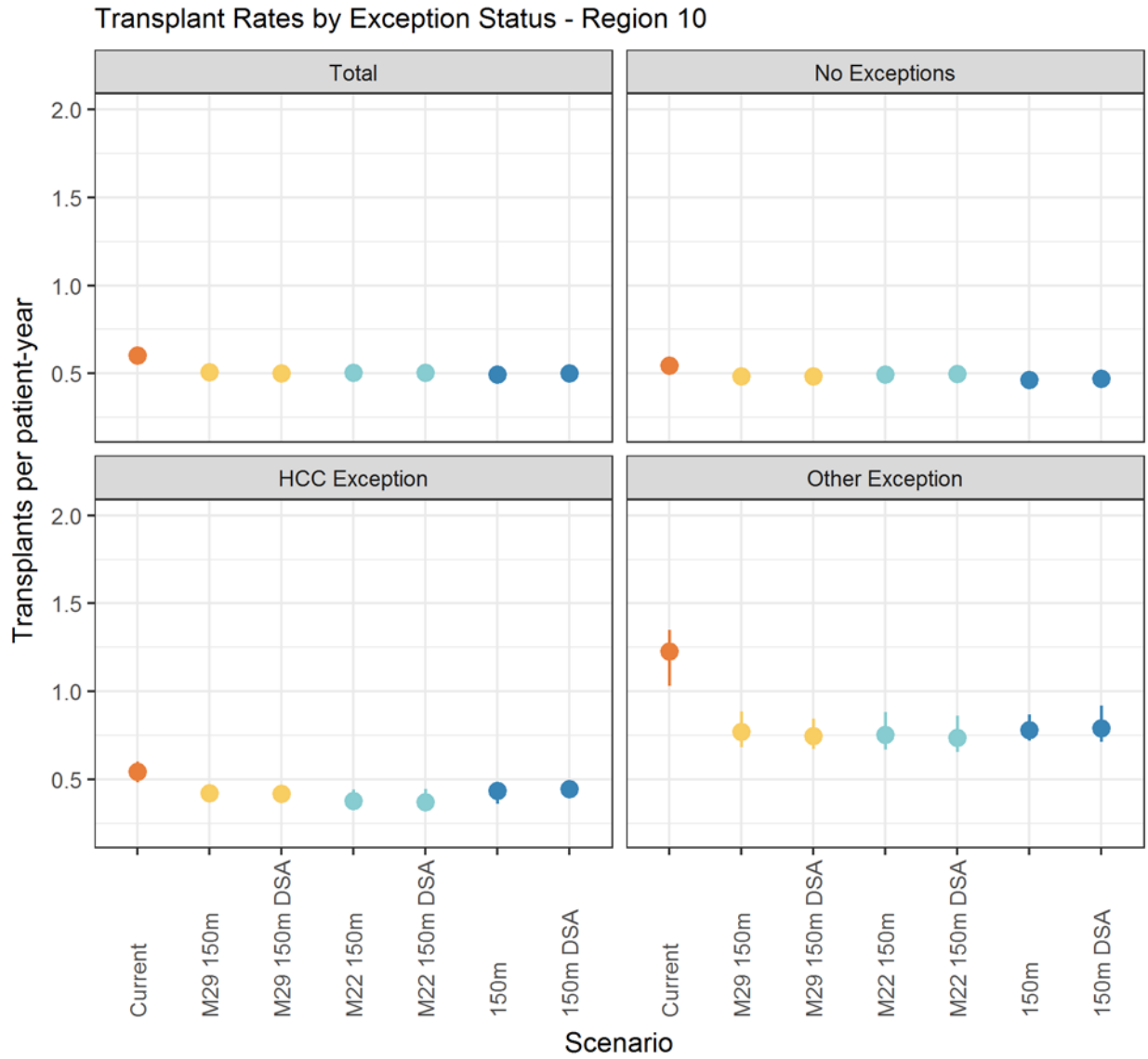


Figure 42 Transplant rates by exception status - region 10

PRELIMINARY

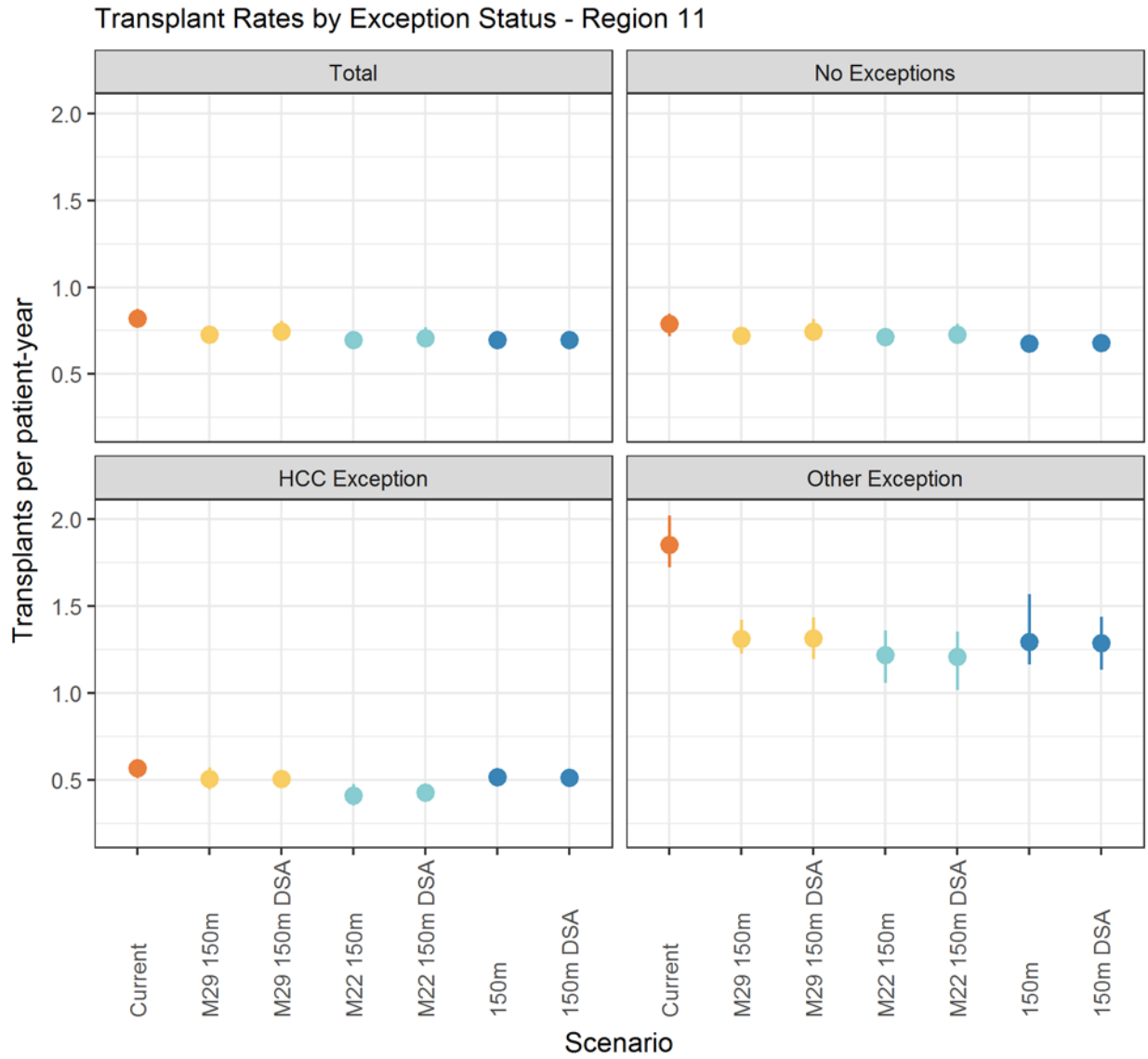


Figure 43 Transplant rates by exception status - region 11

PRELIMINARY

Transplant Counts

Transplant Counts by Exception Status - Region 1

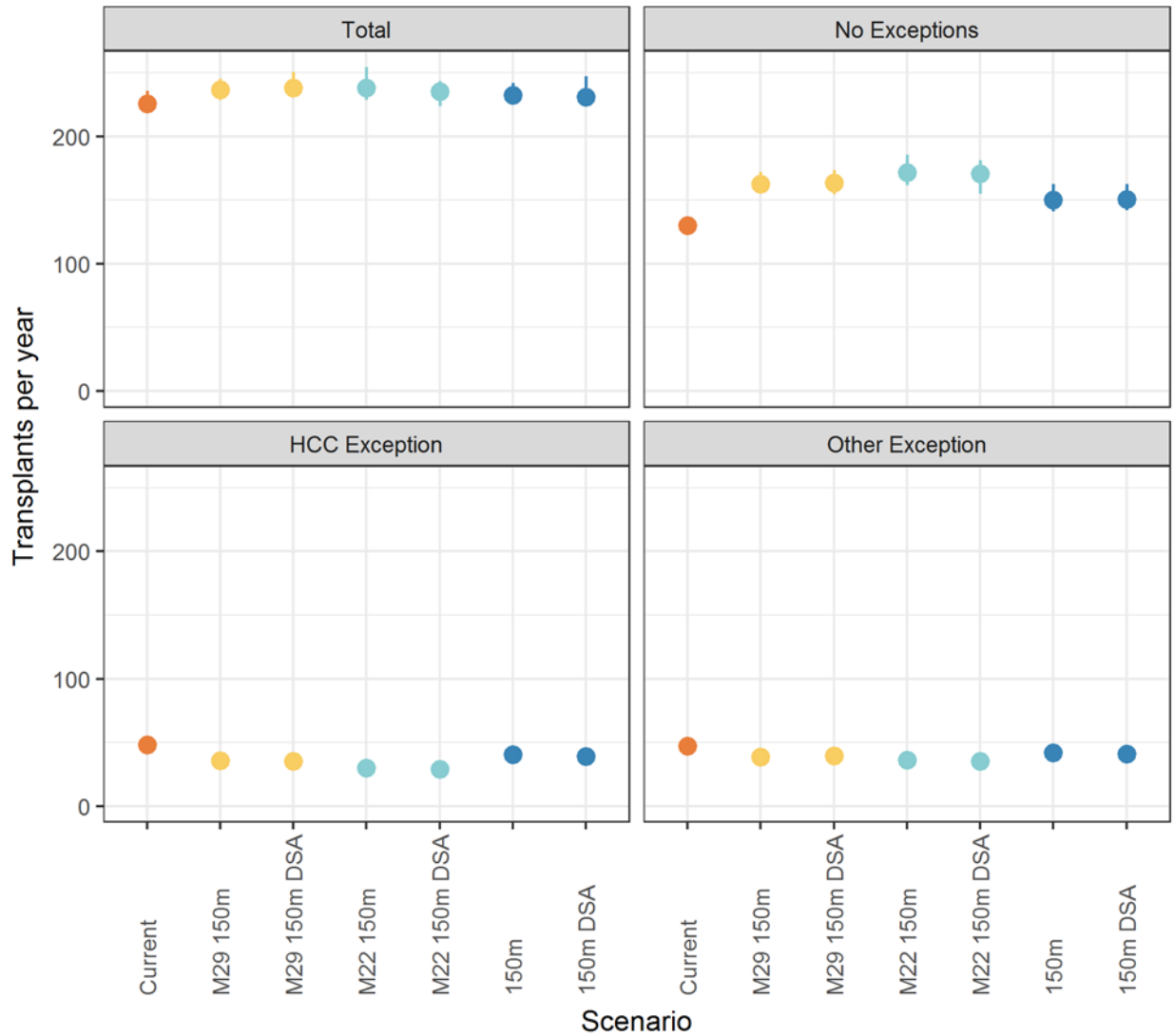


Figure 44 Transplant counts by exception status - region 1

PRV

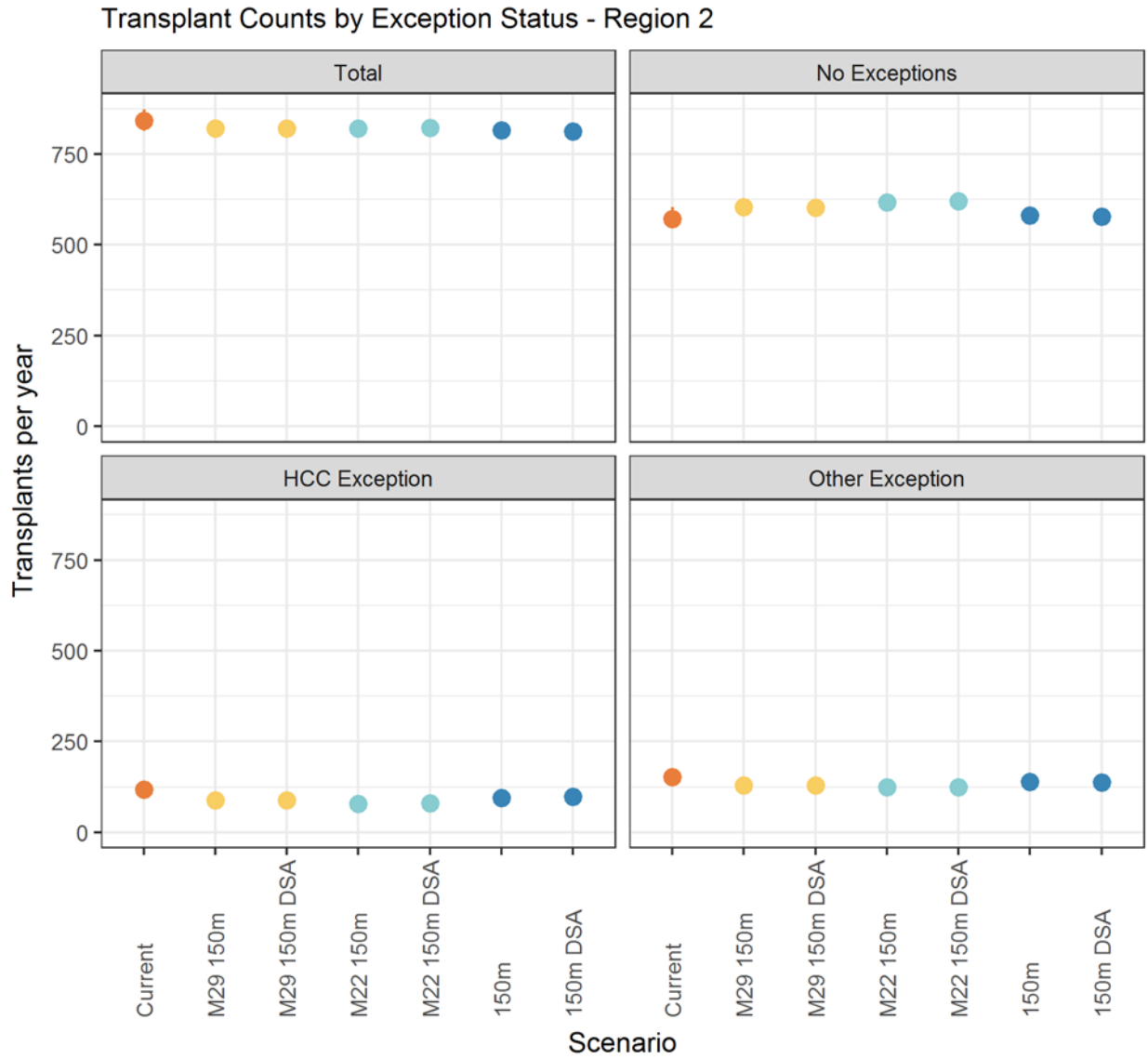


Figure 45 Transplant counts by exception status - region 2

PRELIMINARY

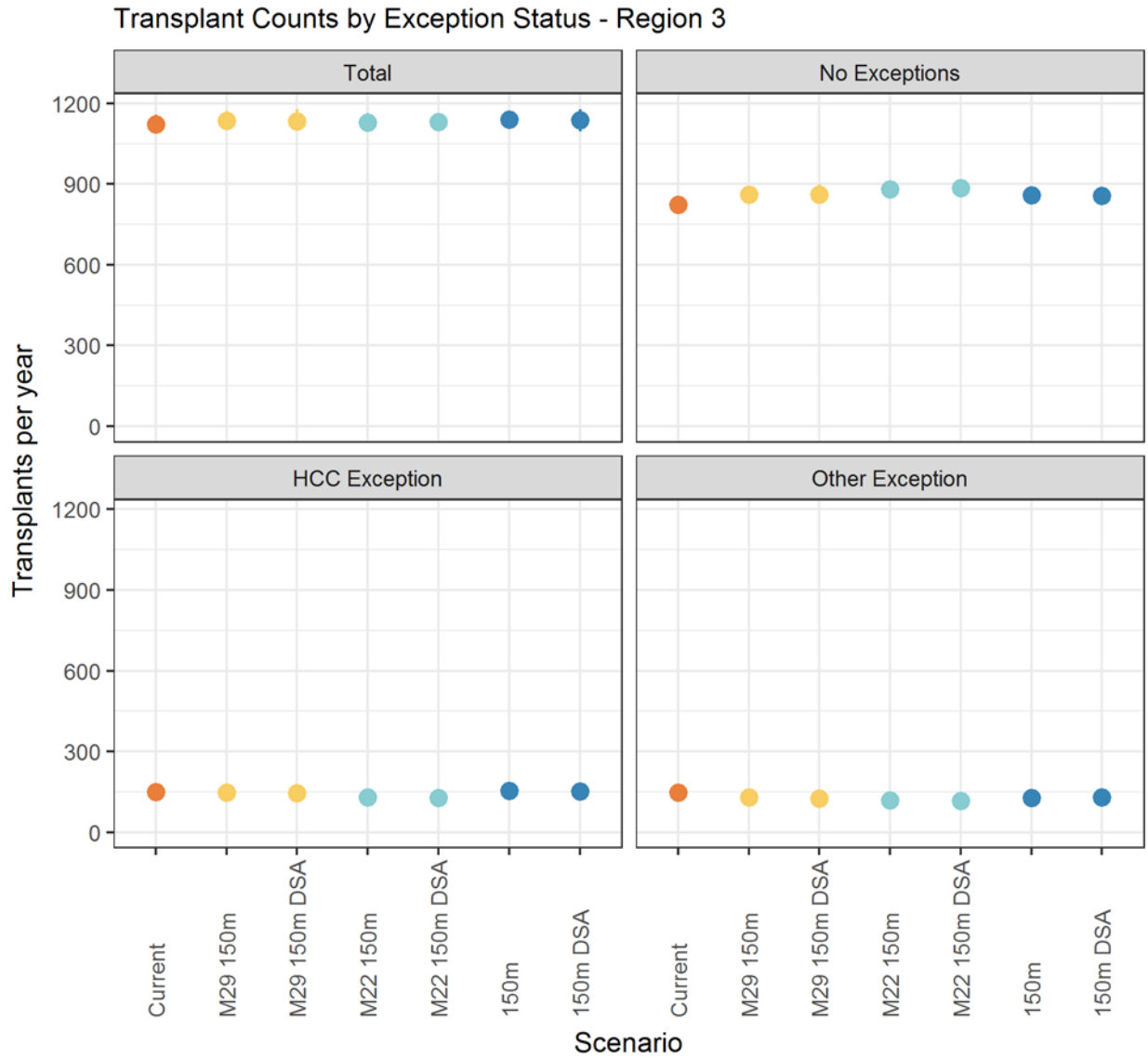


Figure 46 Transplant counts by exception status - region 3

PRELIMINARY

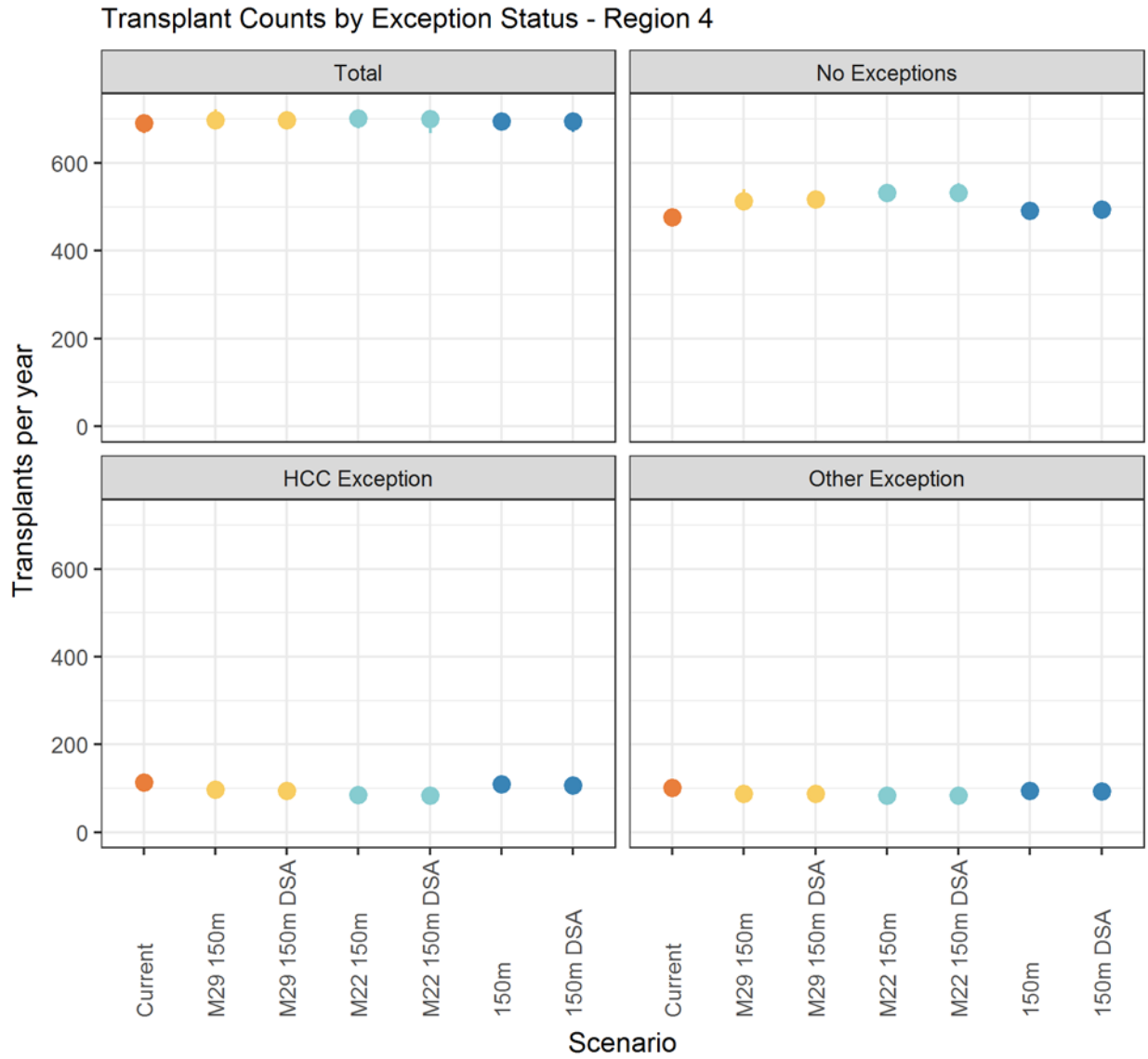


Figure 47 Transplant counts by exception status - region 4

PRELIMINARY

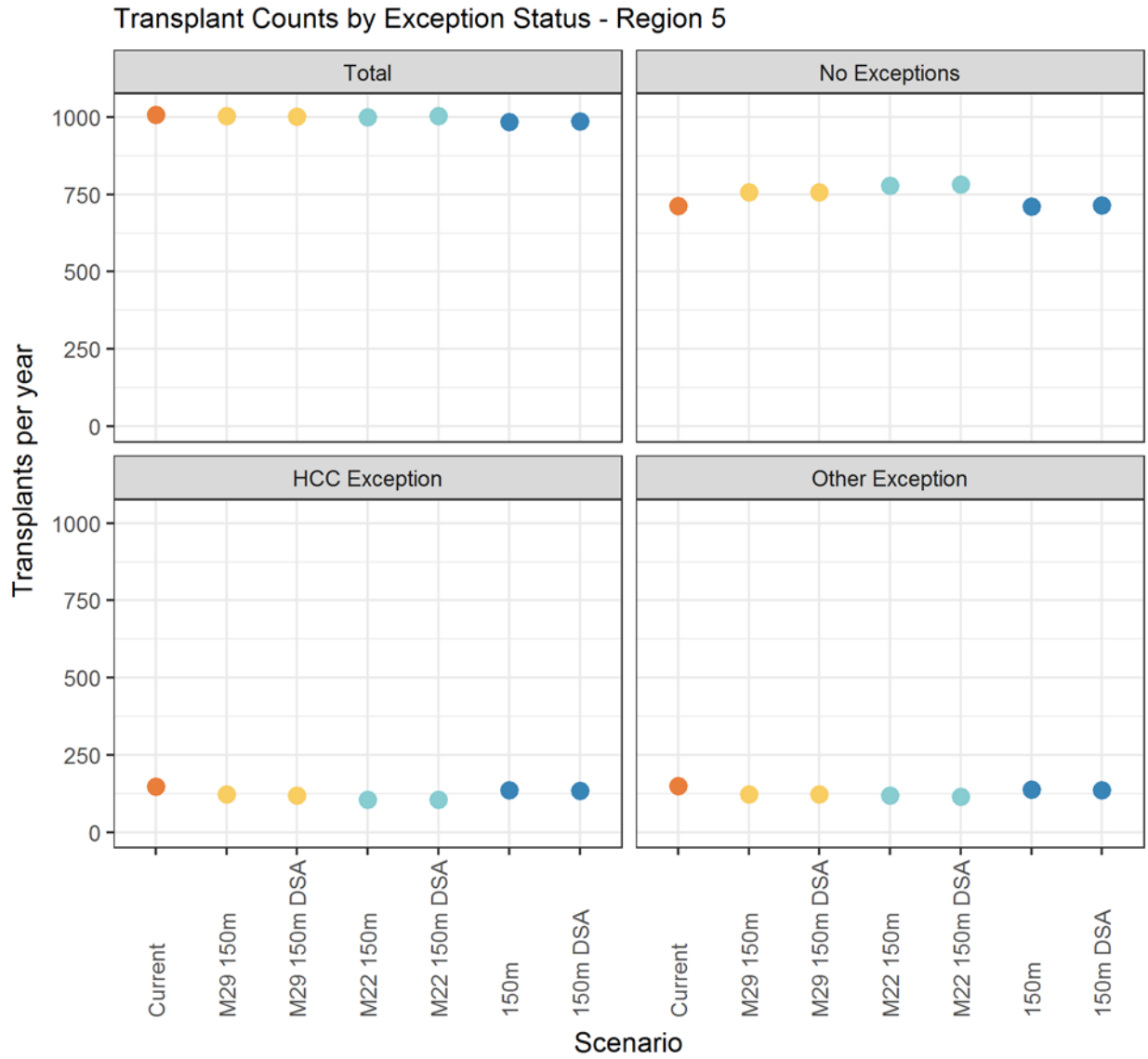


Figure 48 Transplant counts by exception status - region 5

PRELIMINARY

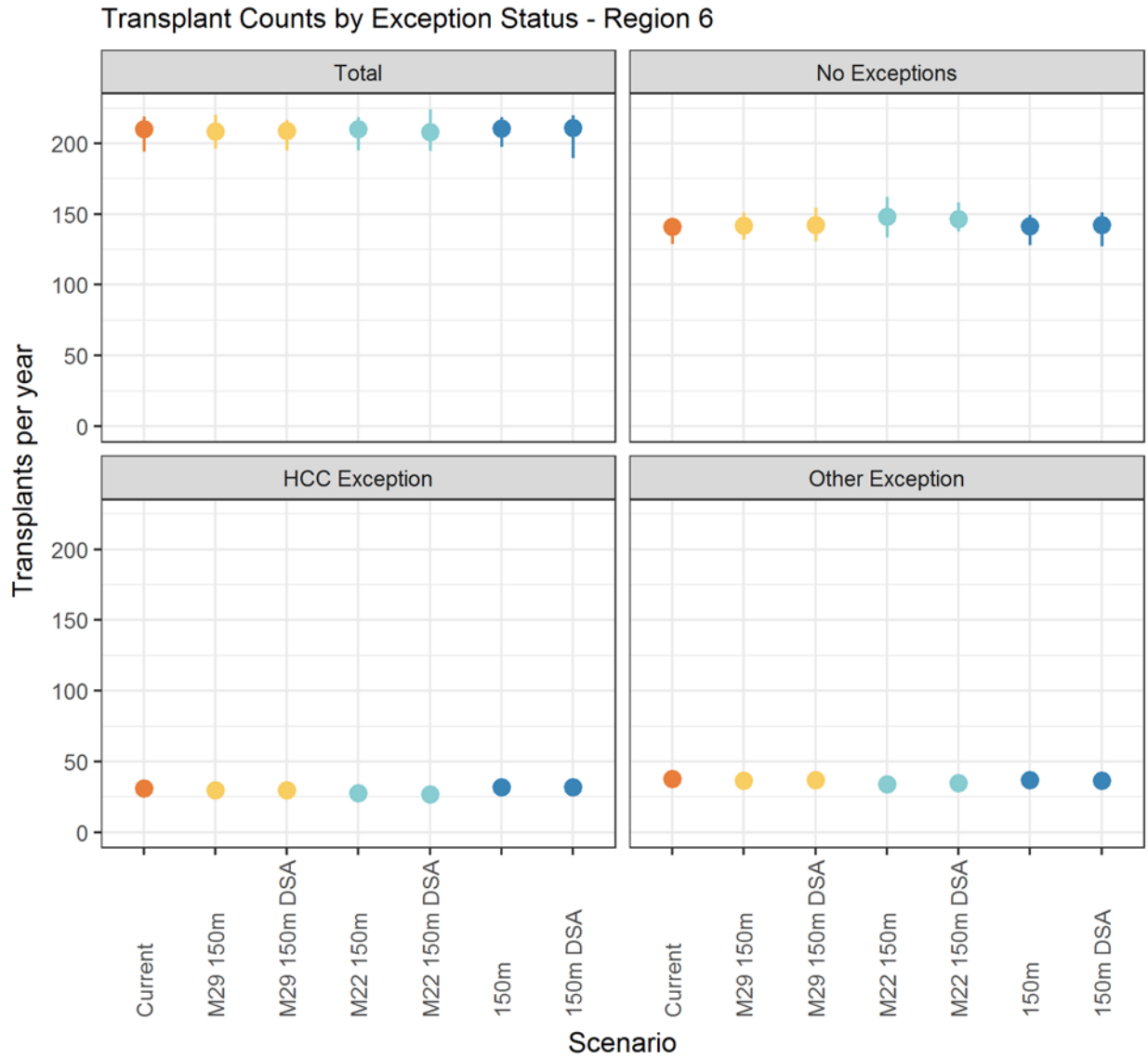


Figure 49 Transplant counts by exception status - region 6

PRELIMINARY

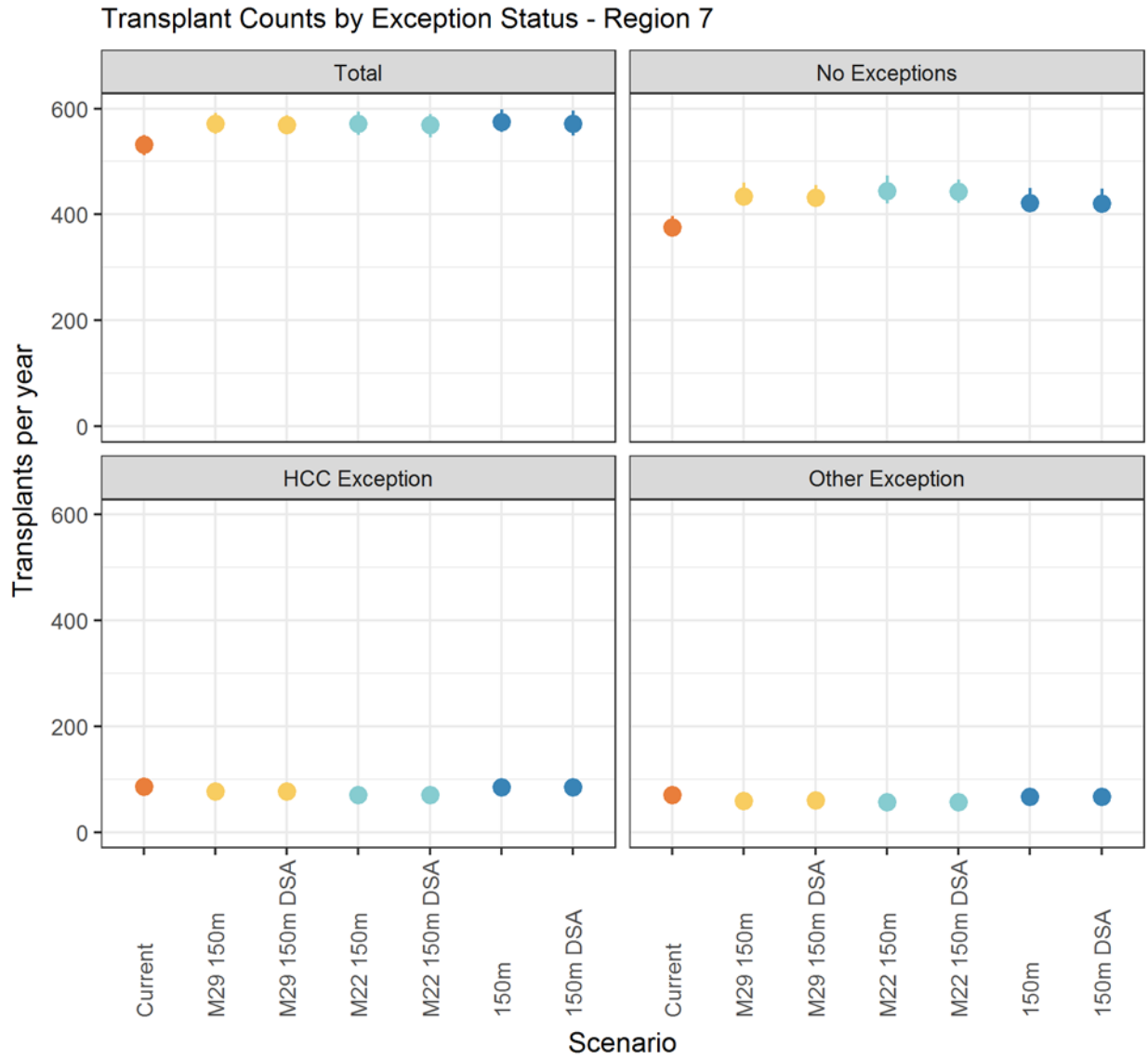


Figure 50 Transplant counts by exception status - region 7

PRELIMINARY

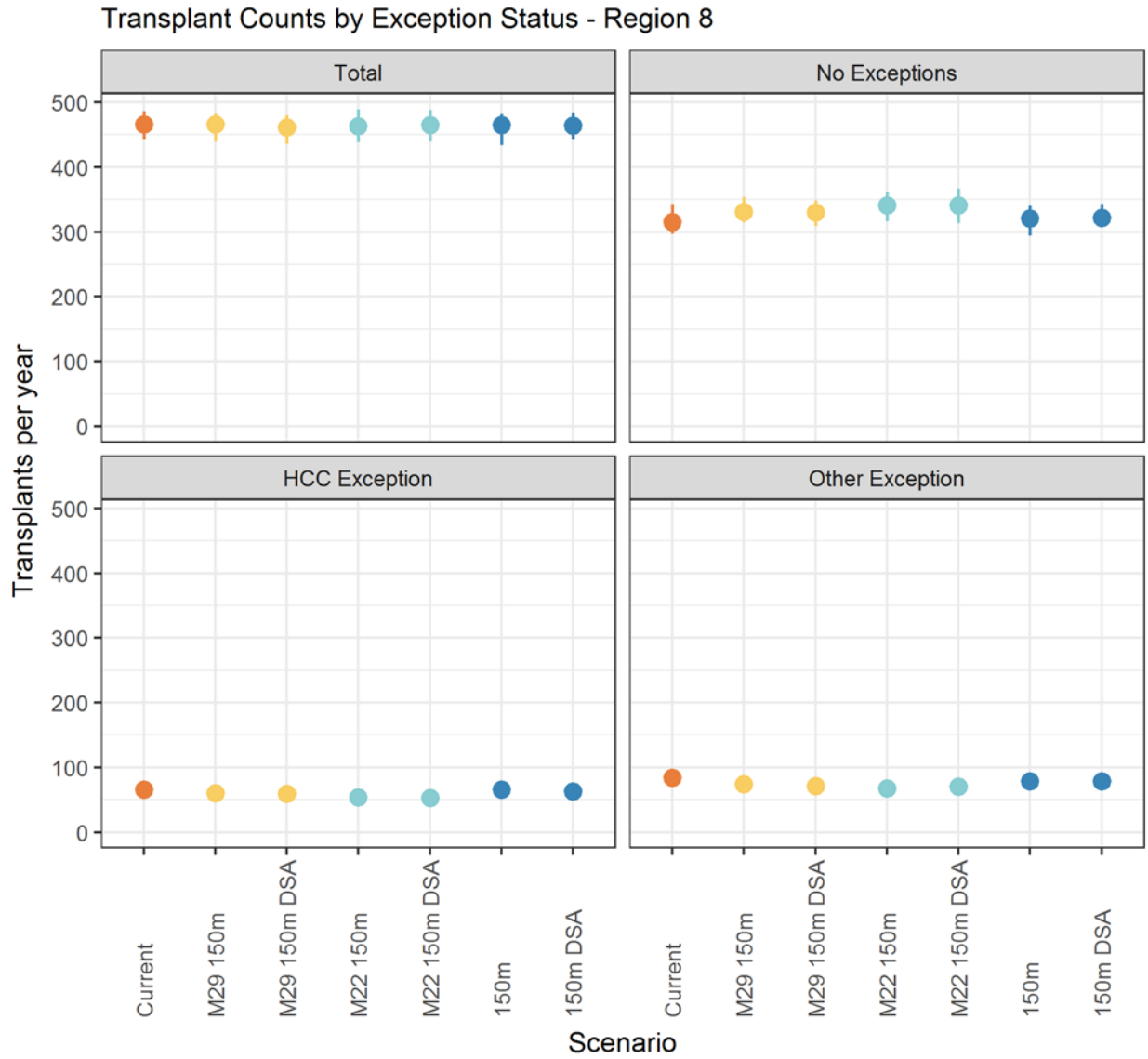


Figure 51 Transplant counts by exception status - region 8

PRELIMINARY

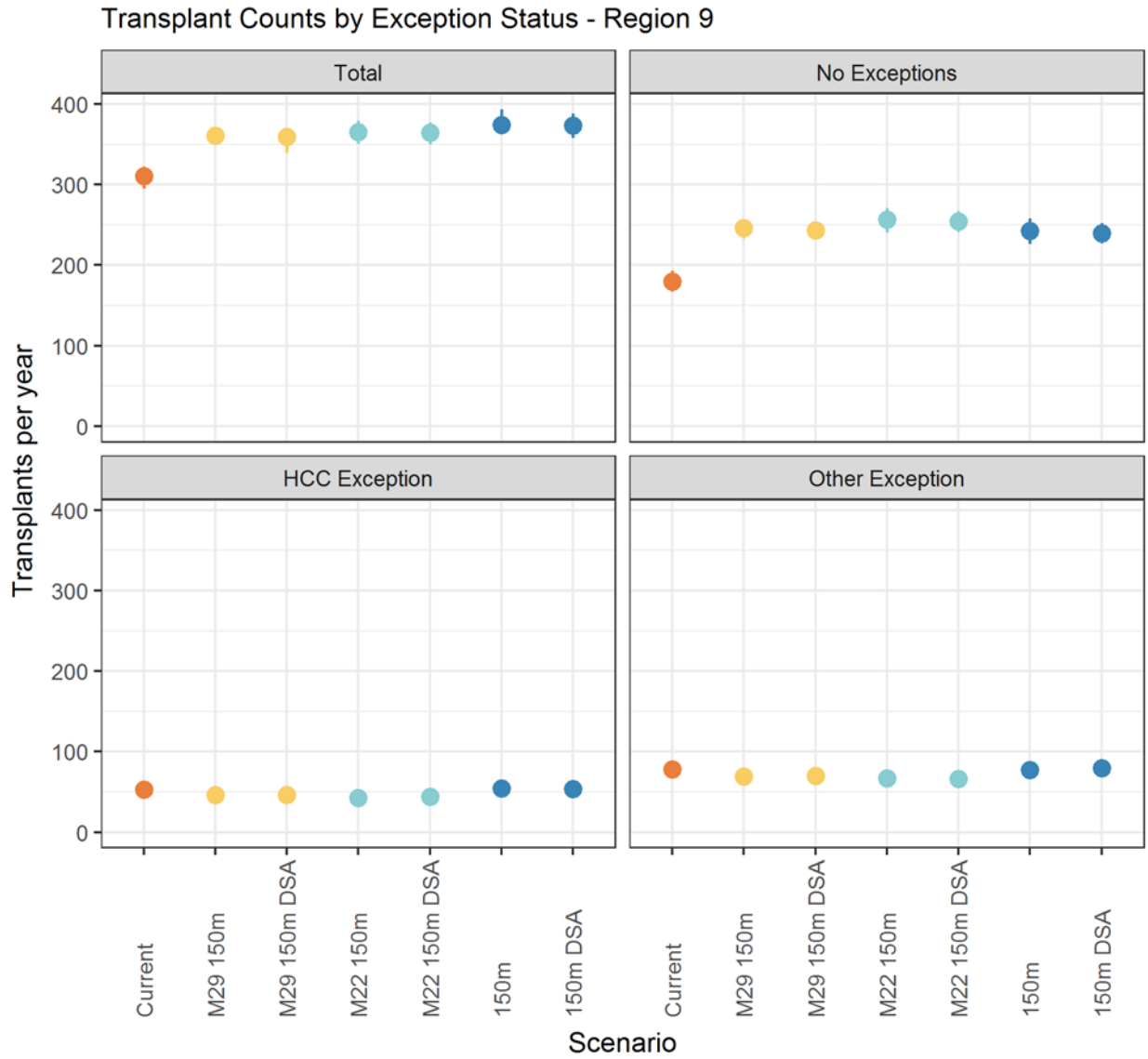


Figure 52 Transplant counts by exception status - region 9

PRELIMINARY

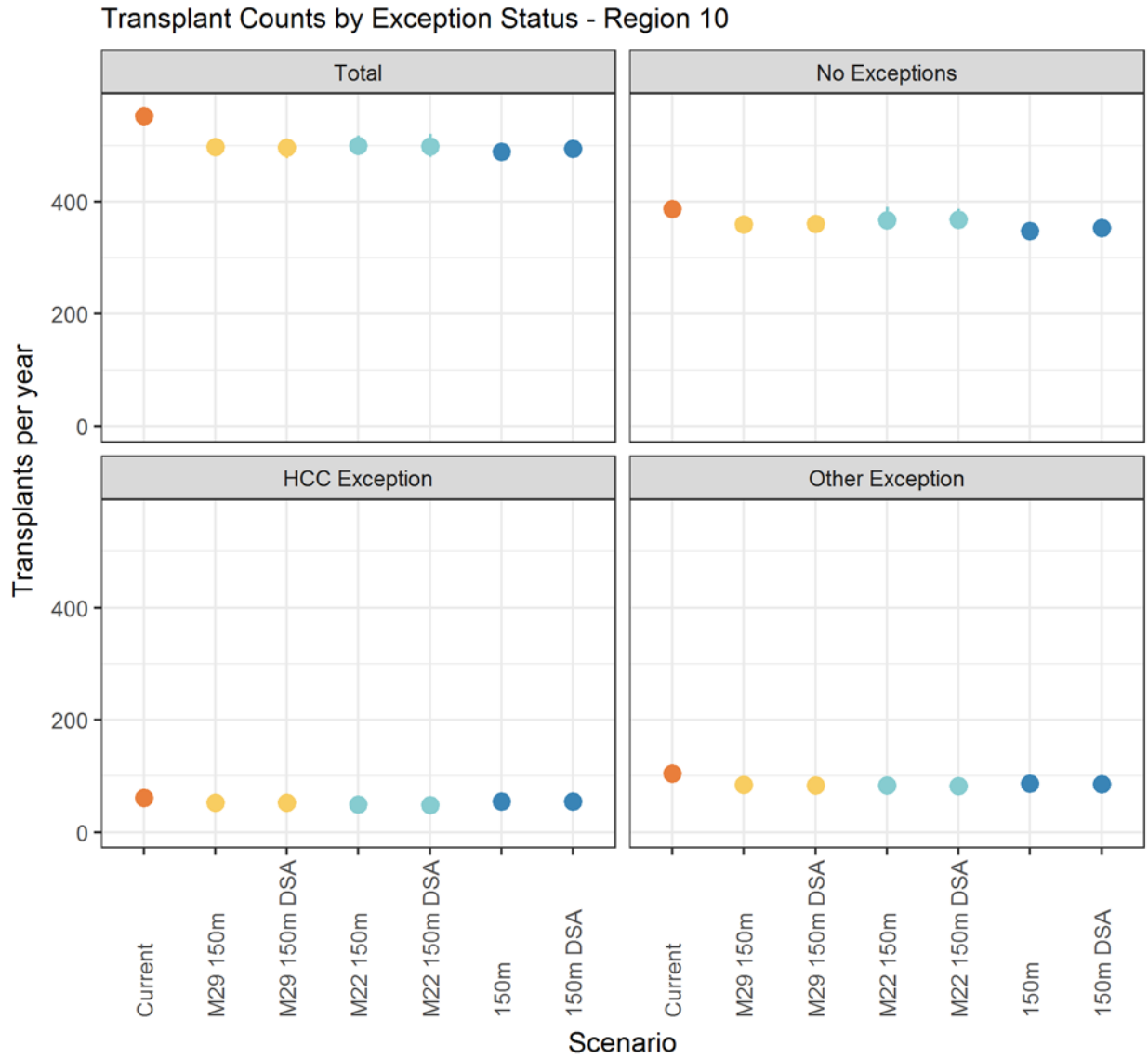


Figure 53 Transplant counts by exception status - region 10

PRR

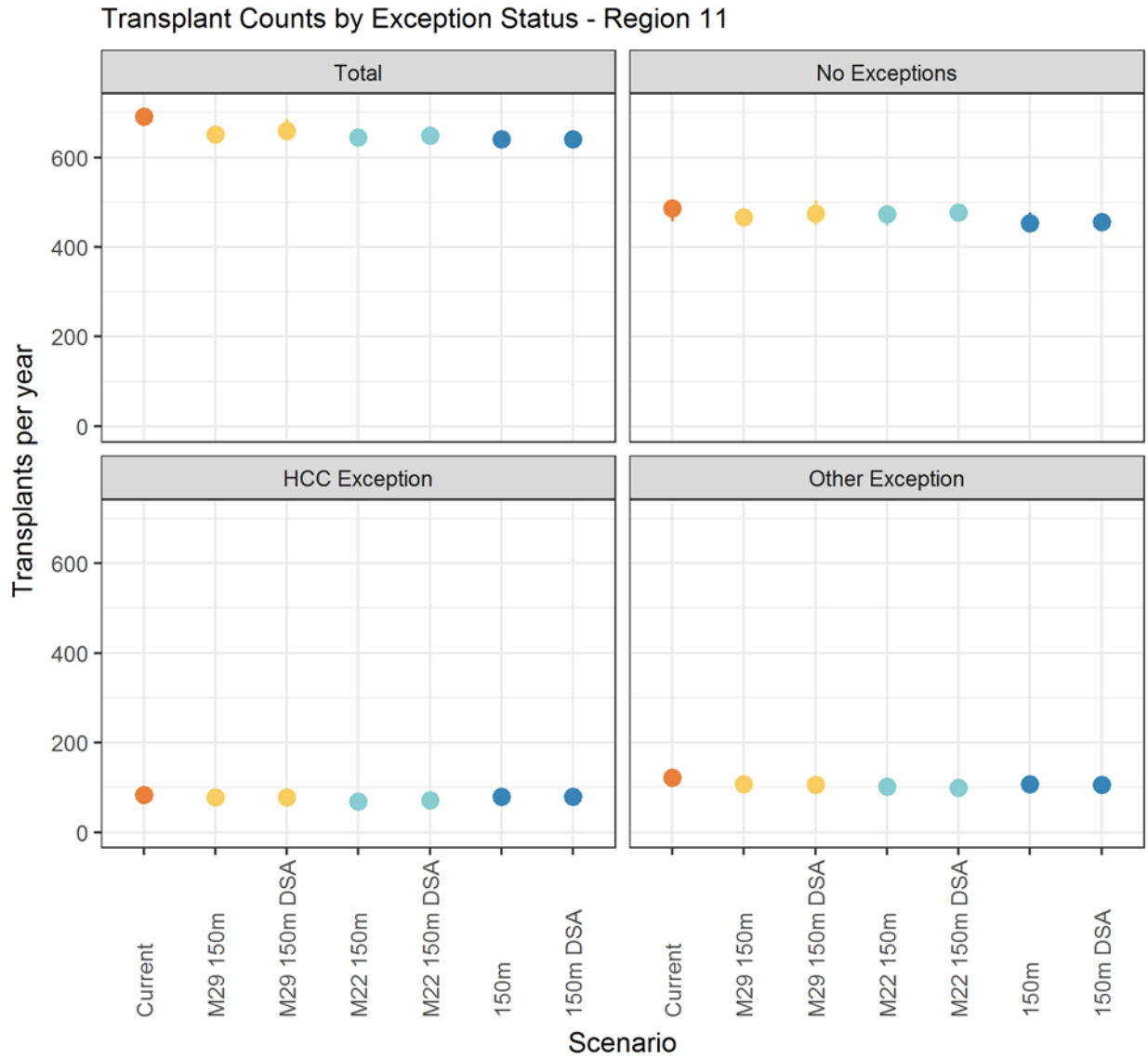


Figure 54 Transplant counts by exception status - region 11

PRELIMINARY

Waitlist Mortality

Waitlist Mortality Rates

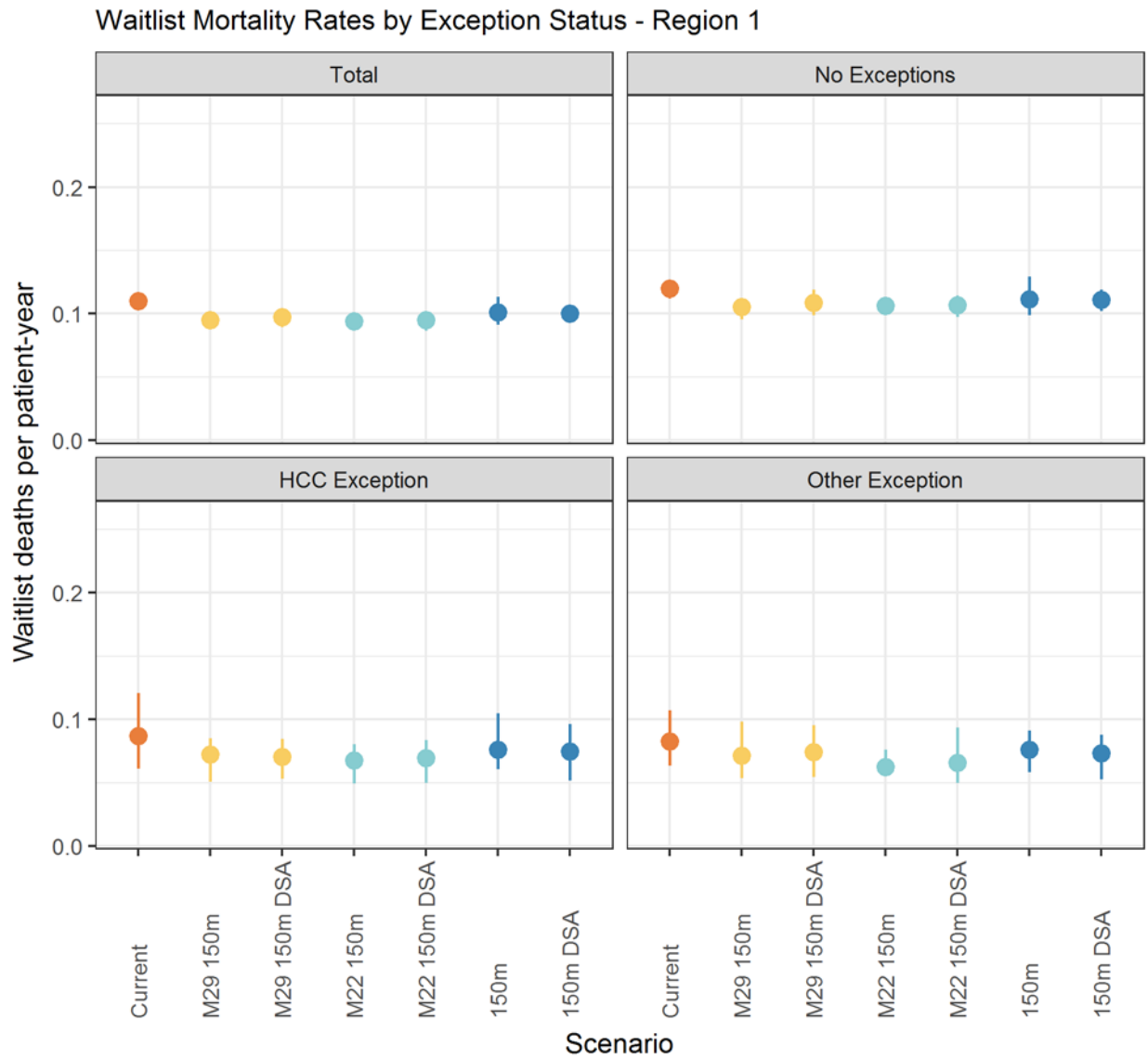


Figure 55 Waitlist mortality rates by exception status - region 1

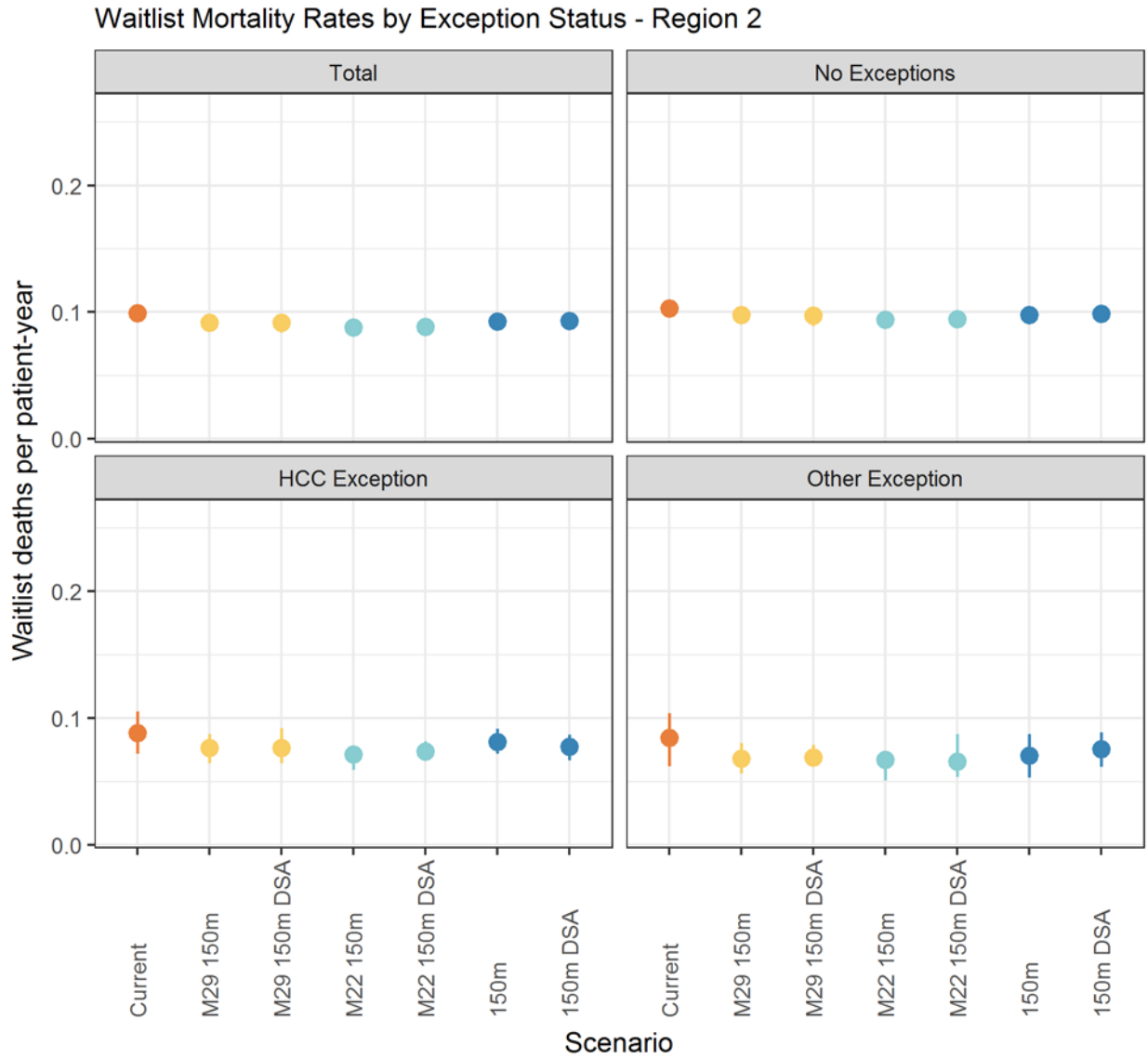


Figure 56 Waitlist mortality rates by exception status - region 2

PRELIMINARY

Waitlist Mortality Rates by Exception Status - Region 3

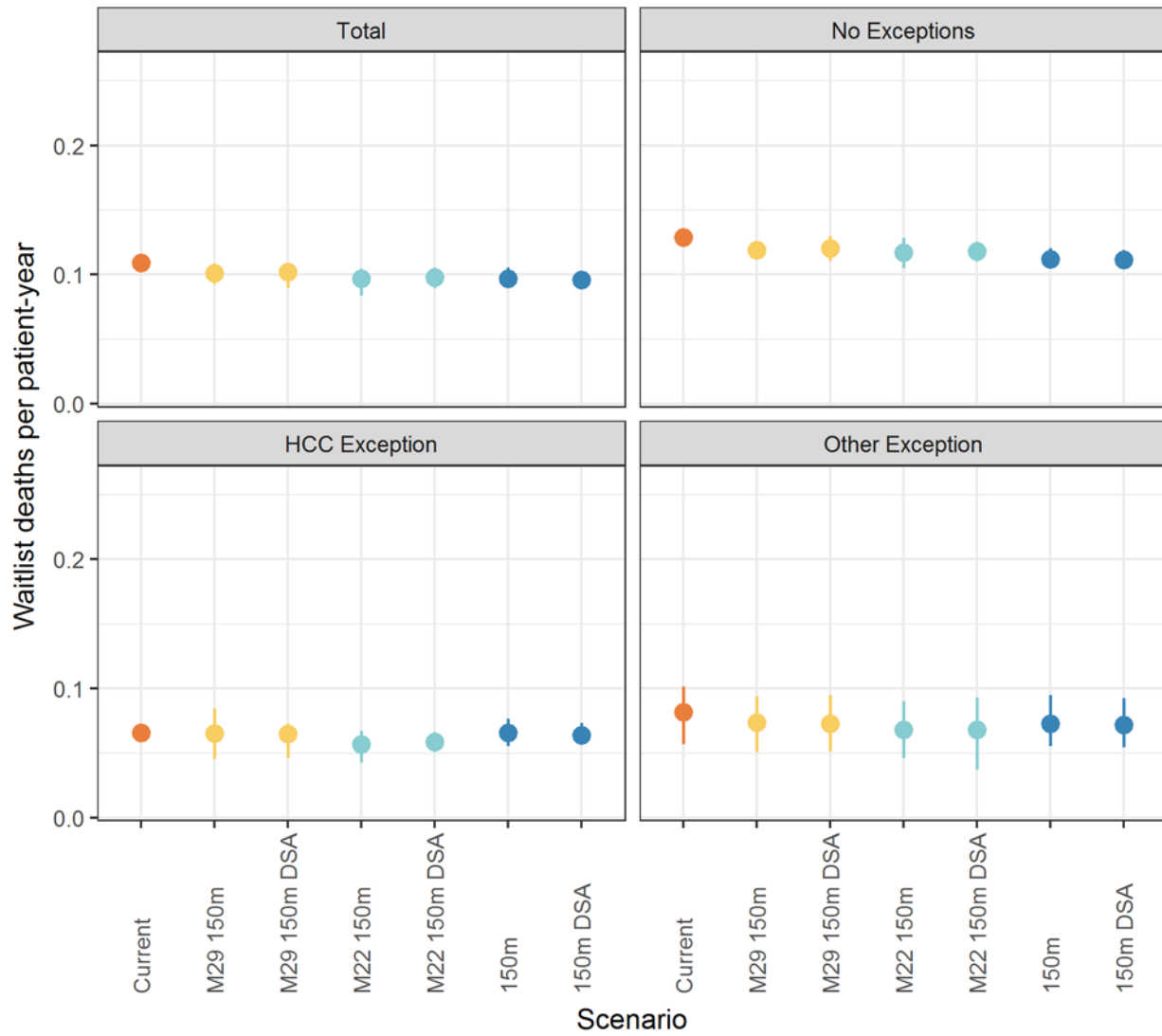


Figure 57 Waitlist mortality rates by exception status - region 3

PRELIMINARY

Waitlist Mortality Rates by Exception Status - Region 4

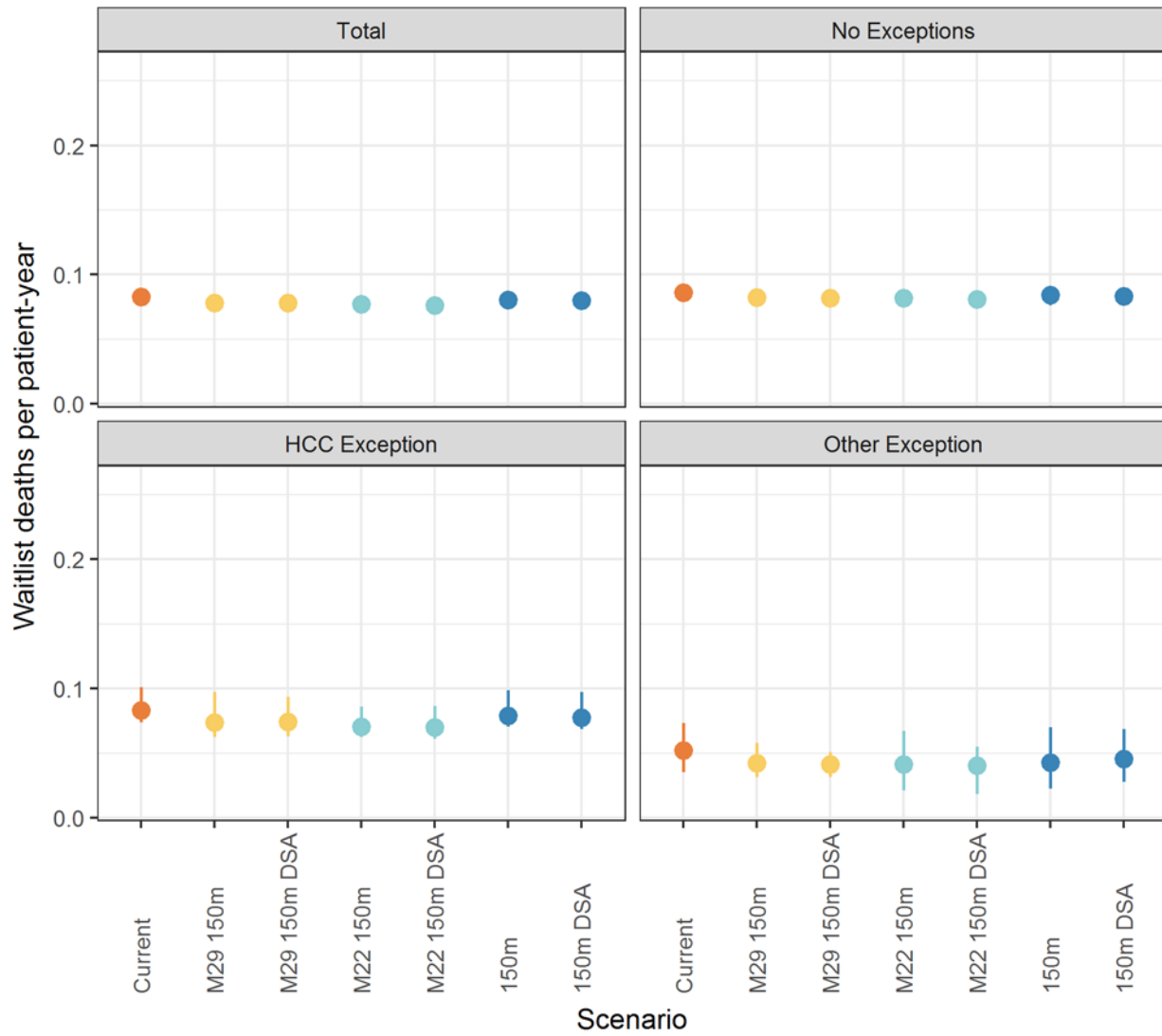


Figure 58 Waitlist mortality rates by exception status - region 4

PRELIMINARY

Waitlist Mortality Rates by Exception Status - Region 5

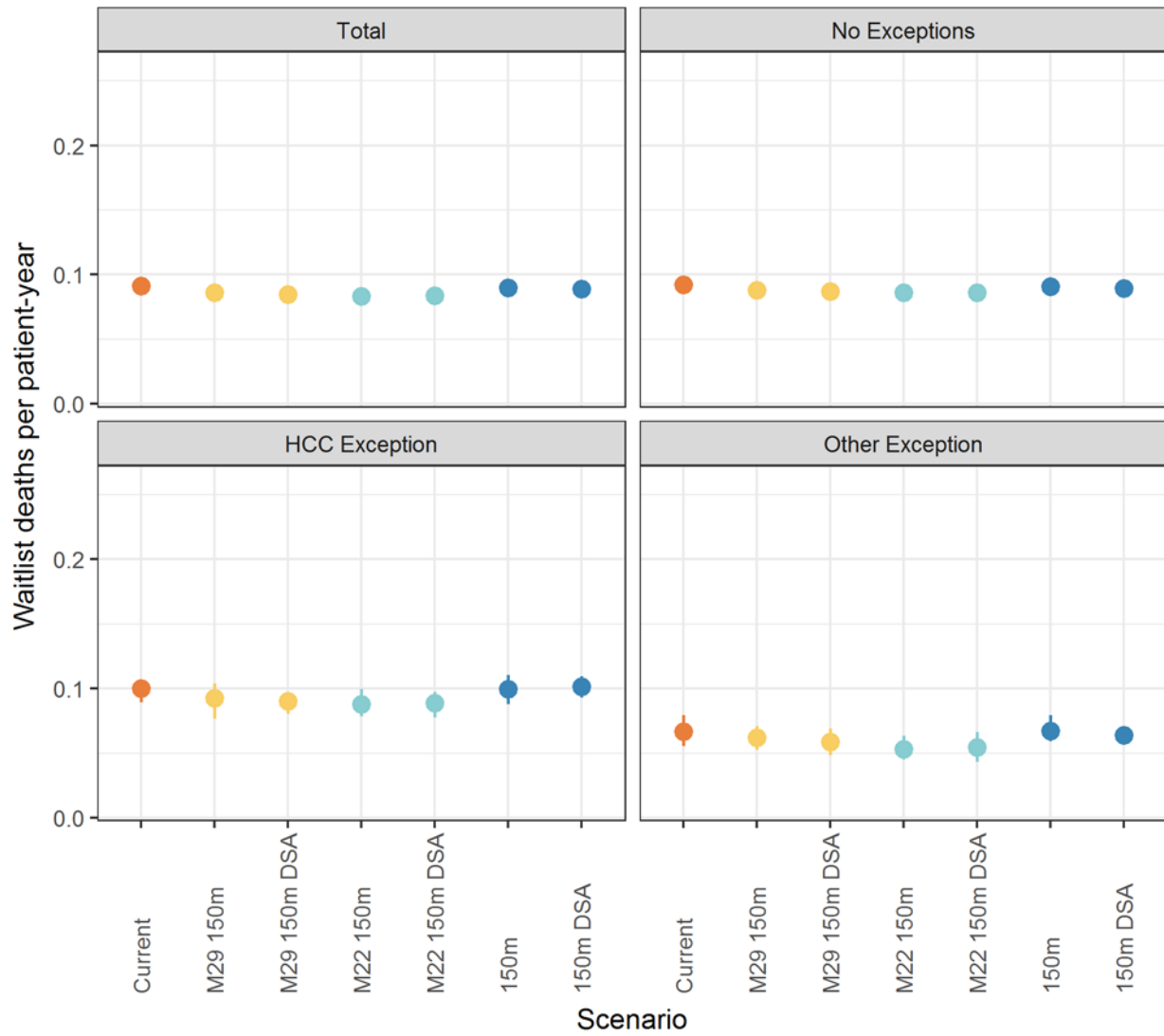


Figure 59 Waitlist mortality rates by exception status - region 5

PRELIMINARY

Waitlist Mortality Rates by Exception Status - Region 6

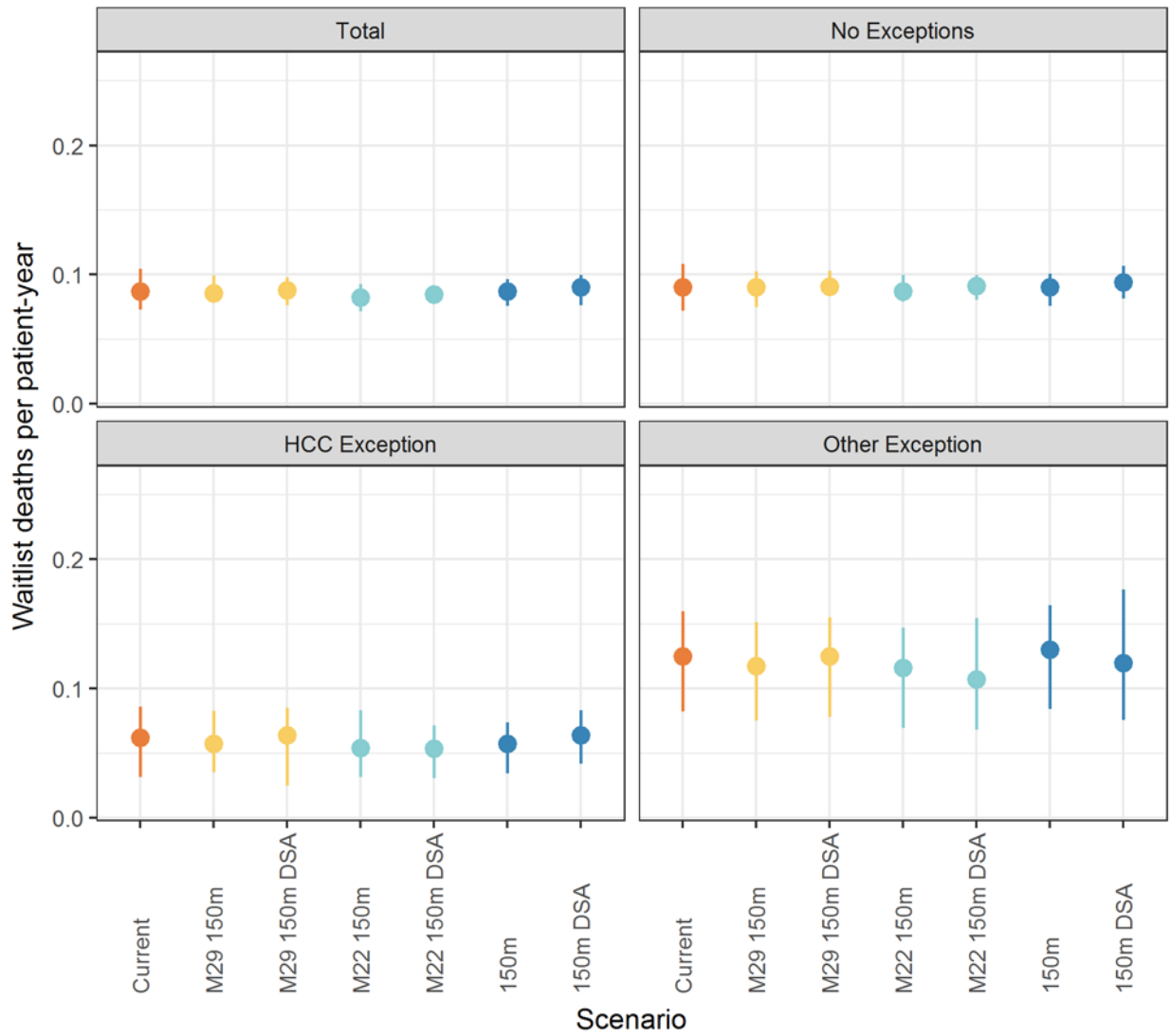


Figure 60 Waitlist mortality rates by exception status - region 6

PRELIMINARY

Waitlist Mortality Rates by Exception Status - Region 7

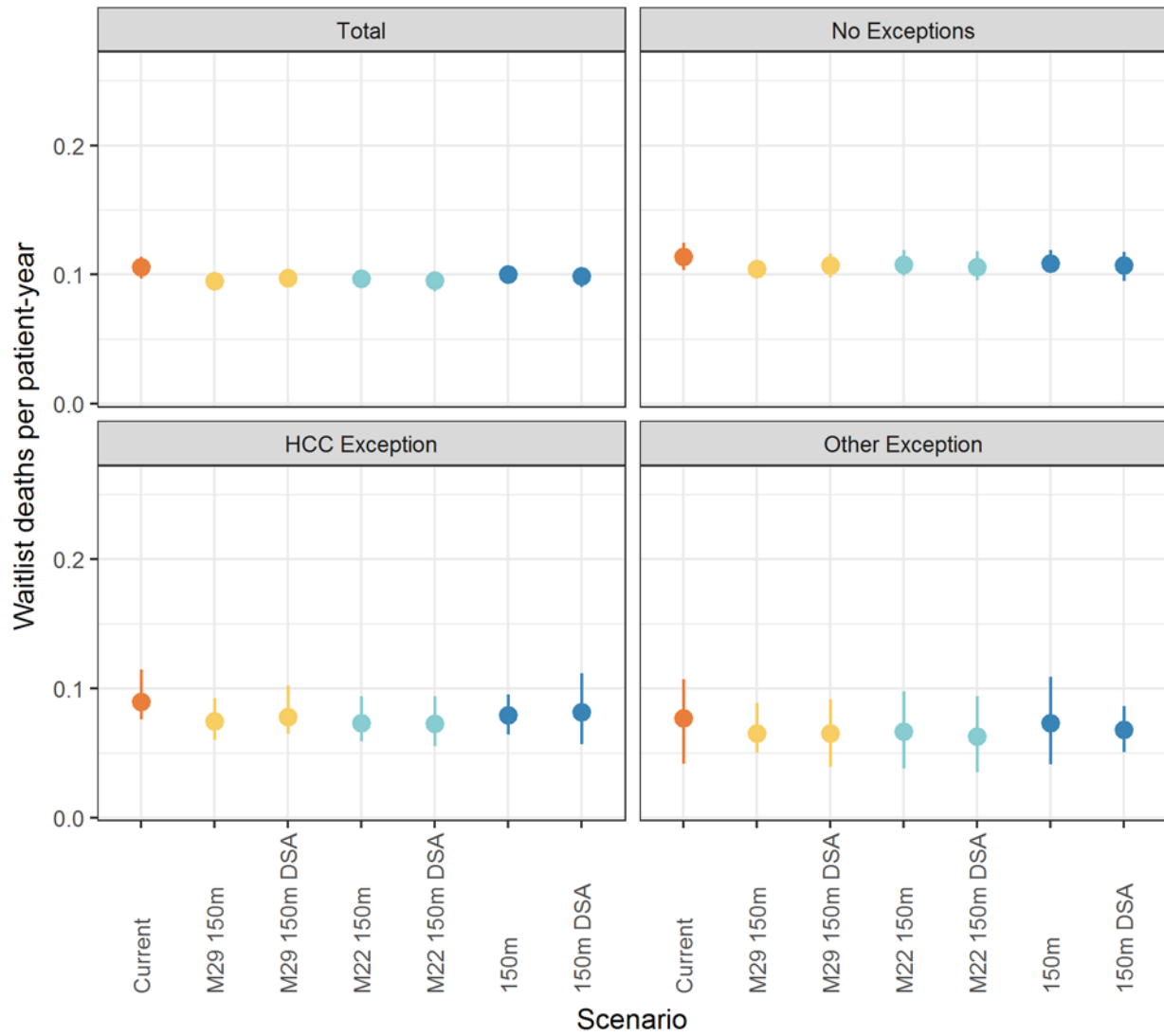


Figure 61 Waitlist mortality rates by exception status - region 7

PRELIMINARY

Waitlist Mortality Rates by Exception Status - Region 8

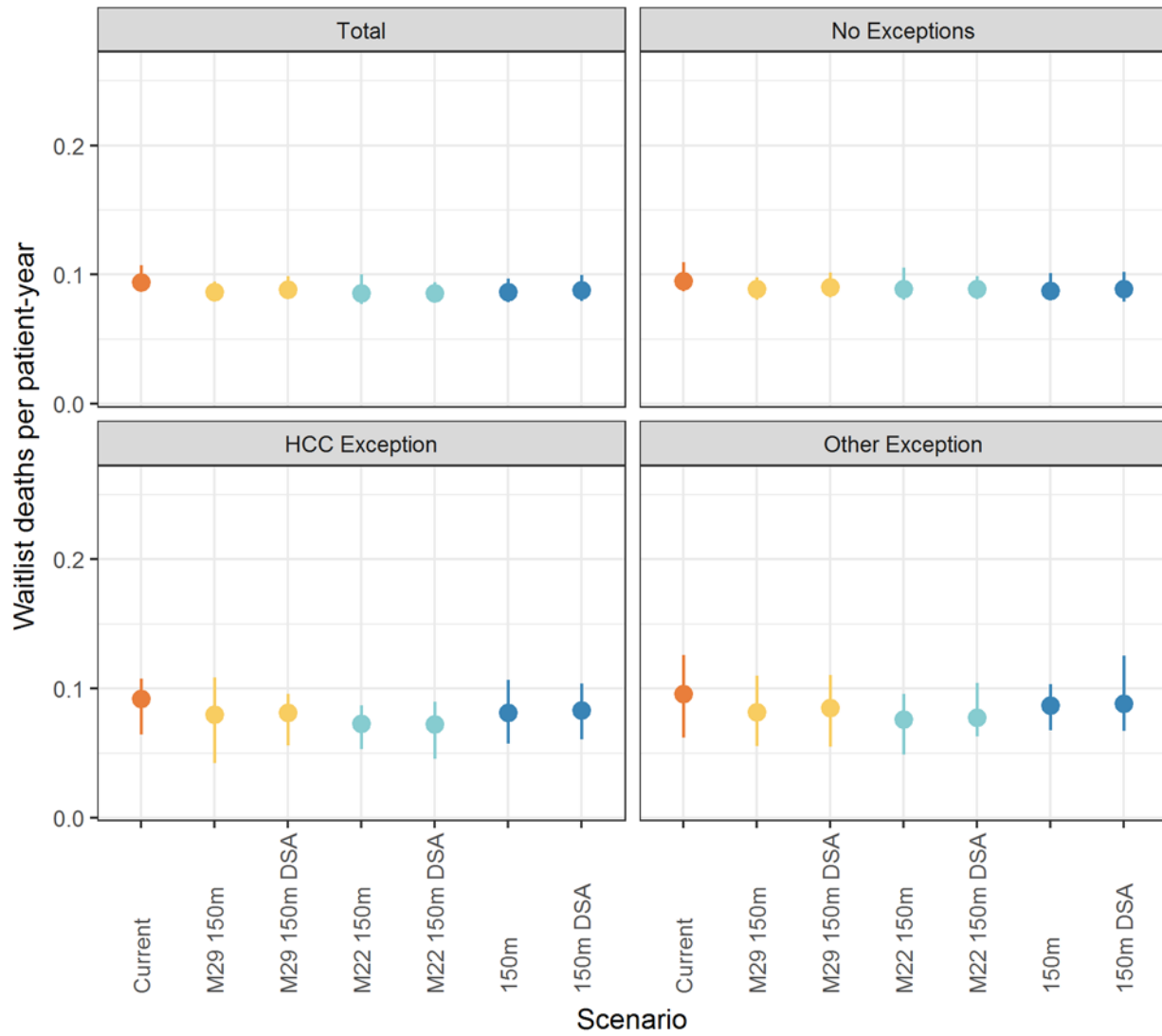


Figure 62 Waitlist mortality rates by exception status - region 8

PRELIMINARY

Waitlist Mortality Rates by Exception Status - Region 9

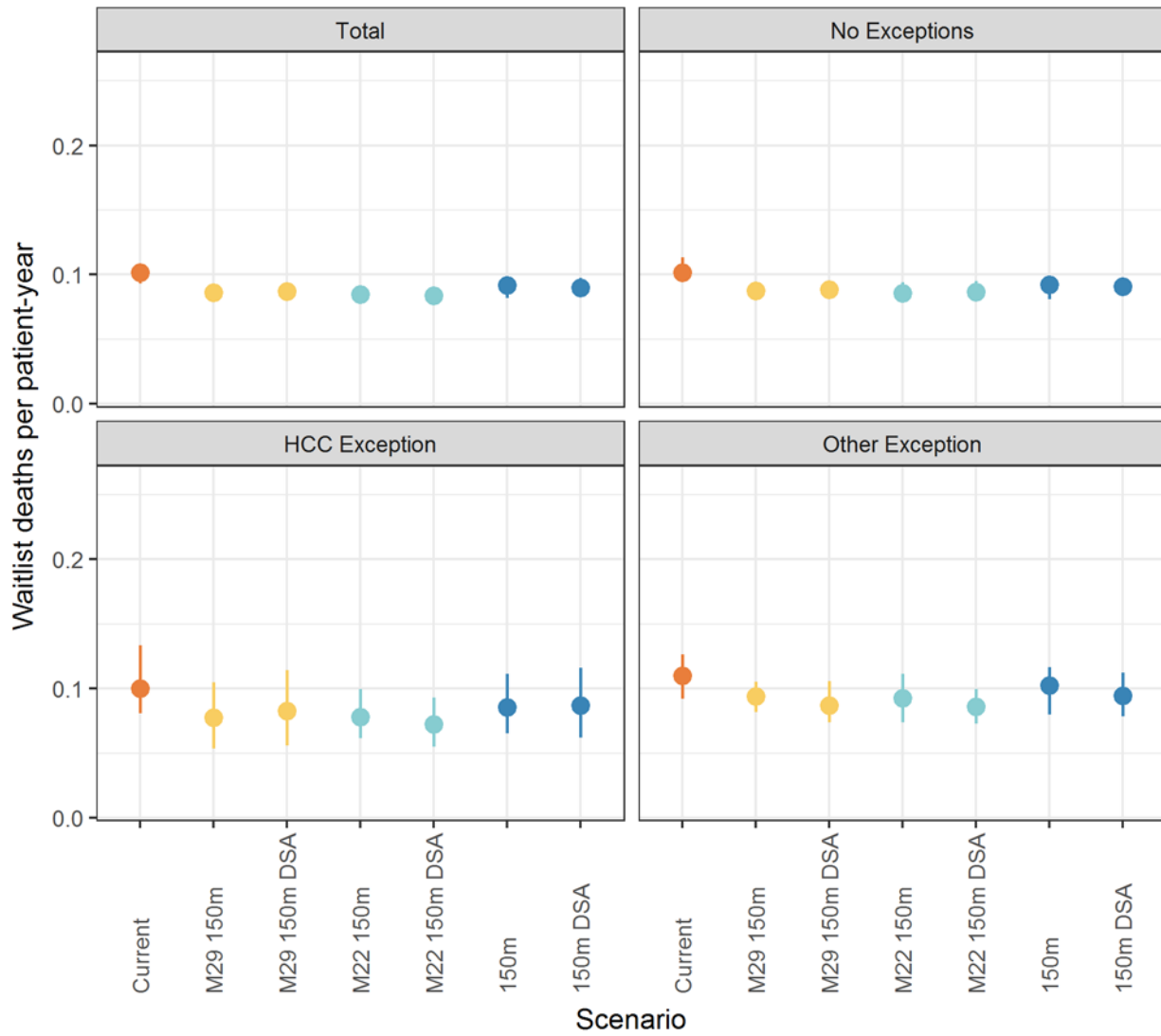


Figure 63 Waitlist mortality rates by exception status - region 9

PRELIMINARY

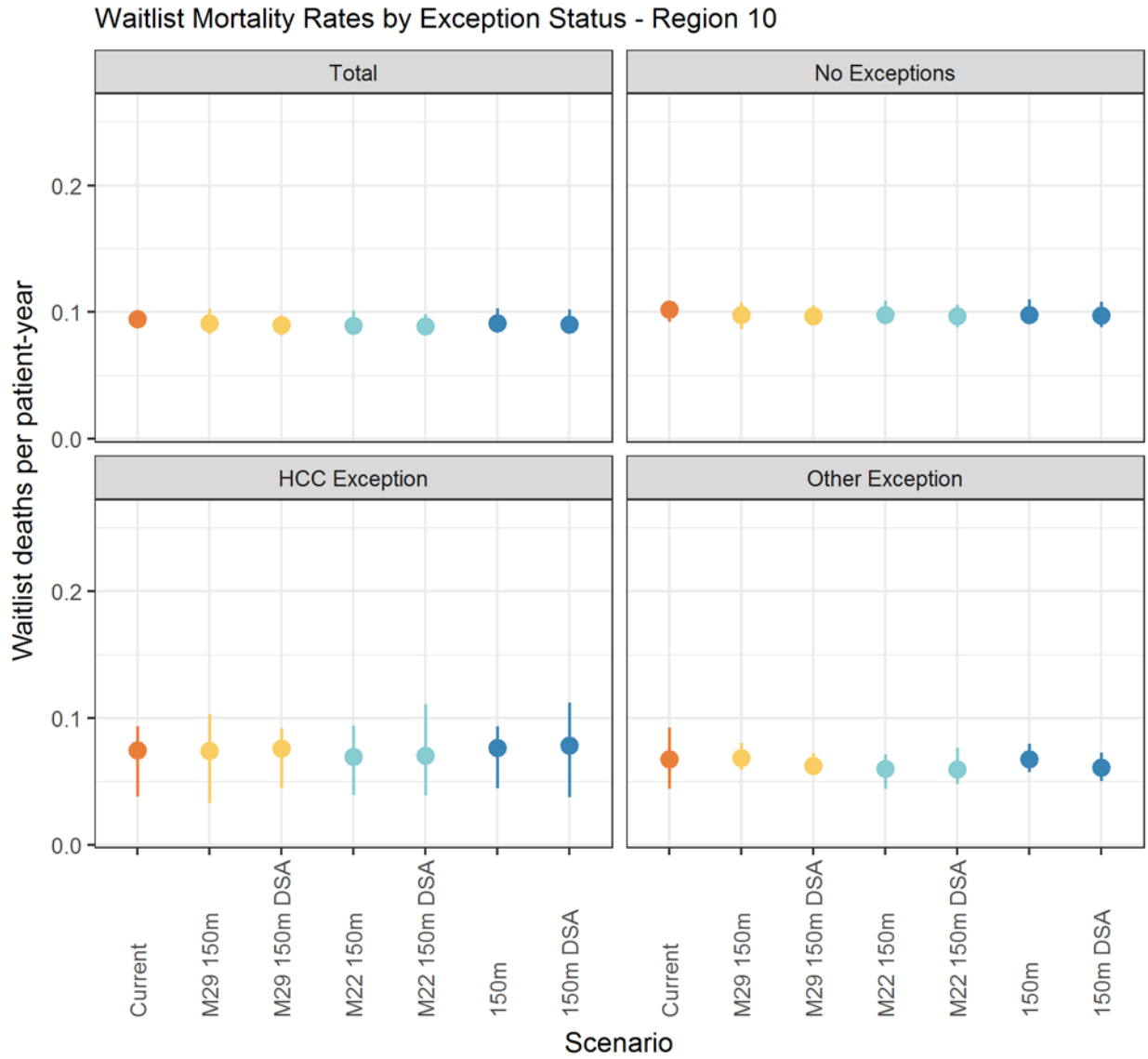


Figure 64 Waitlist mortality rates by exception status - region 10

PRELIMINARY

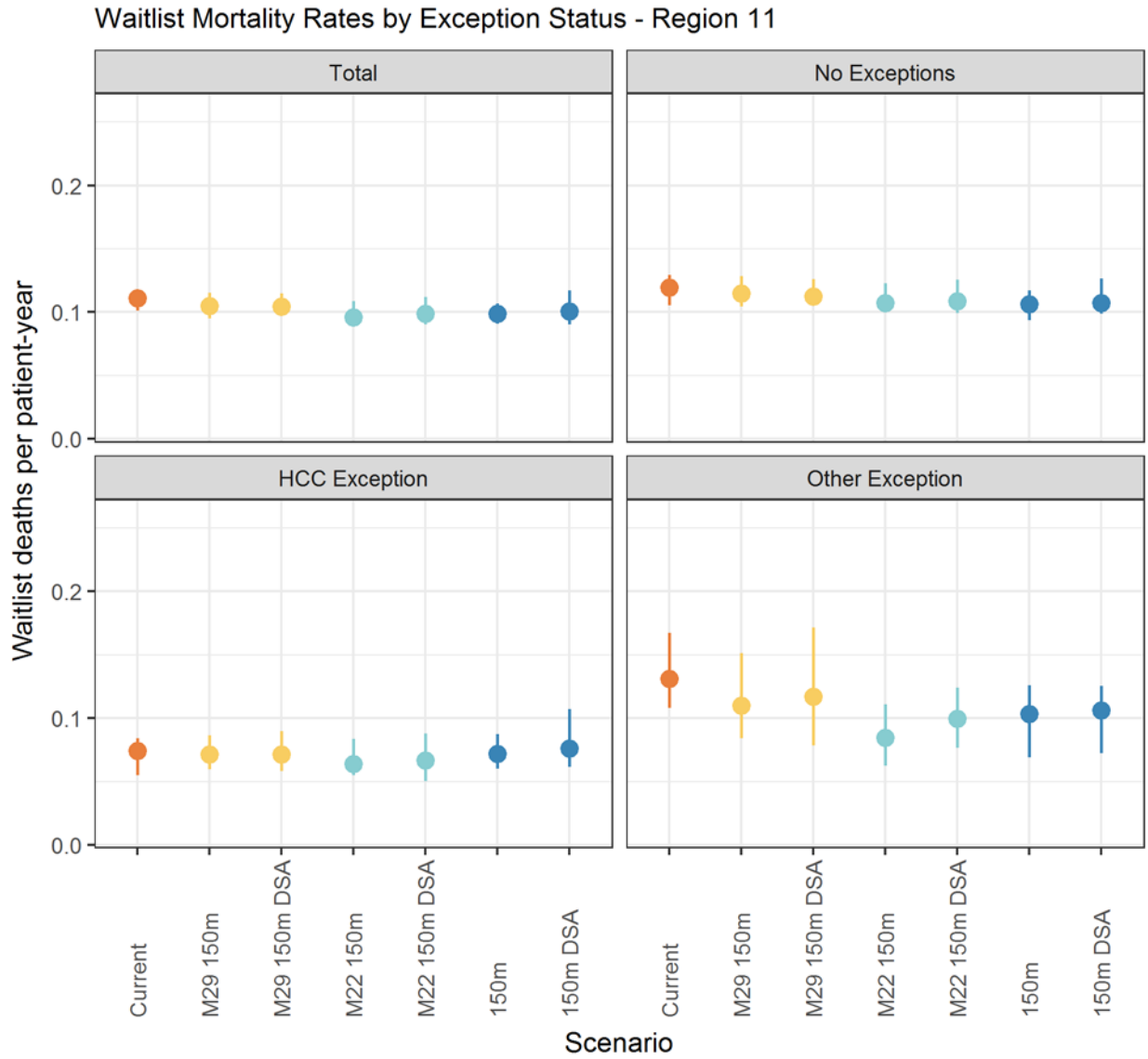


Figure 65 Waitlist mortality rates by exception status - region 11

PRELIMINARY

Waitlist Mortality Counts

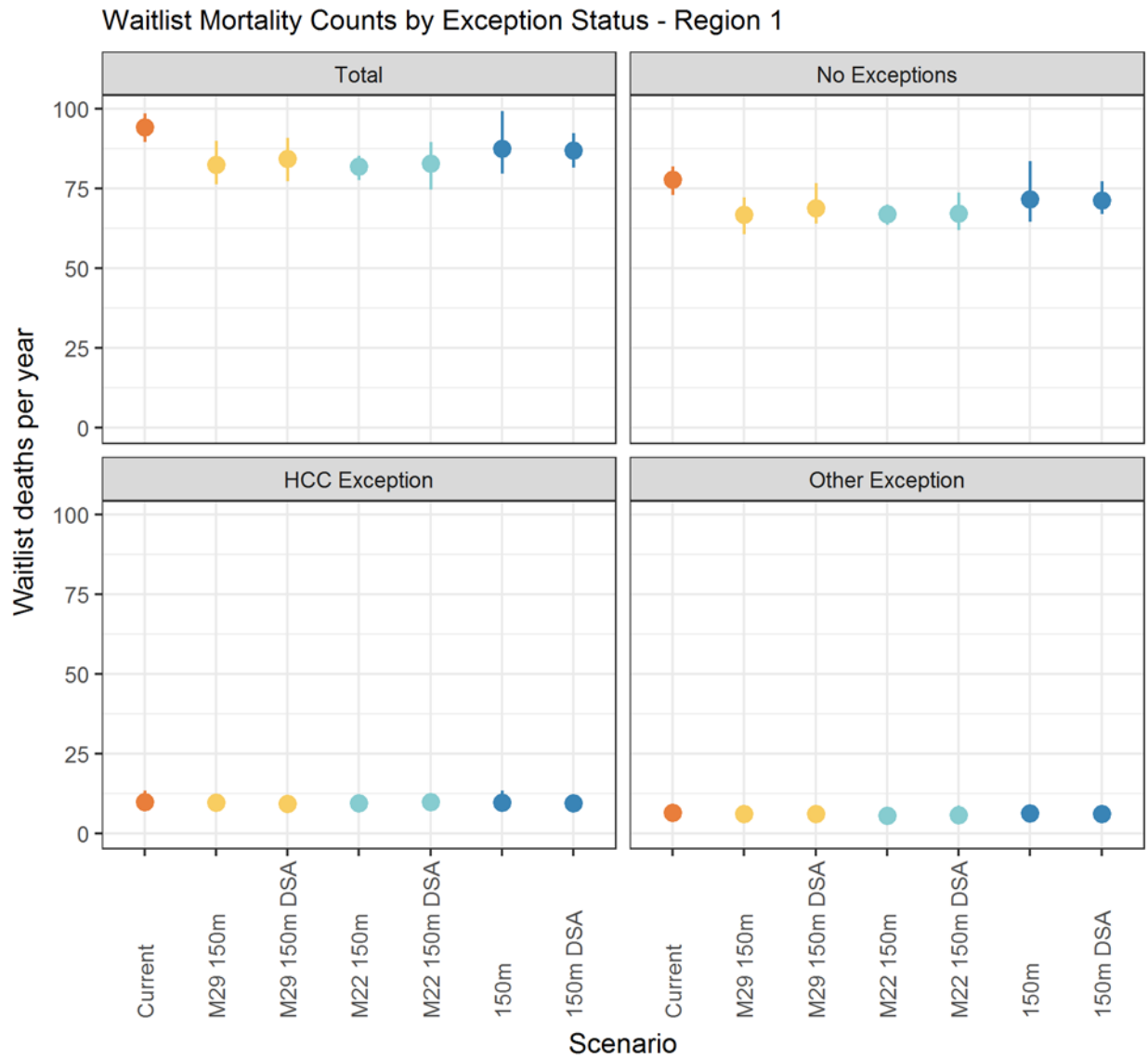


Figure 66 Waitlist mortality counts by exception status - region 1

PRIVACY

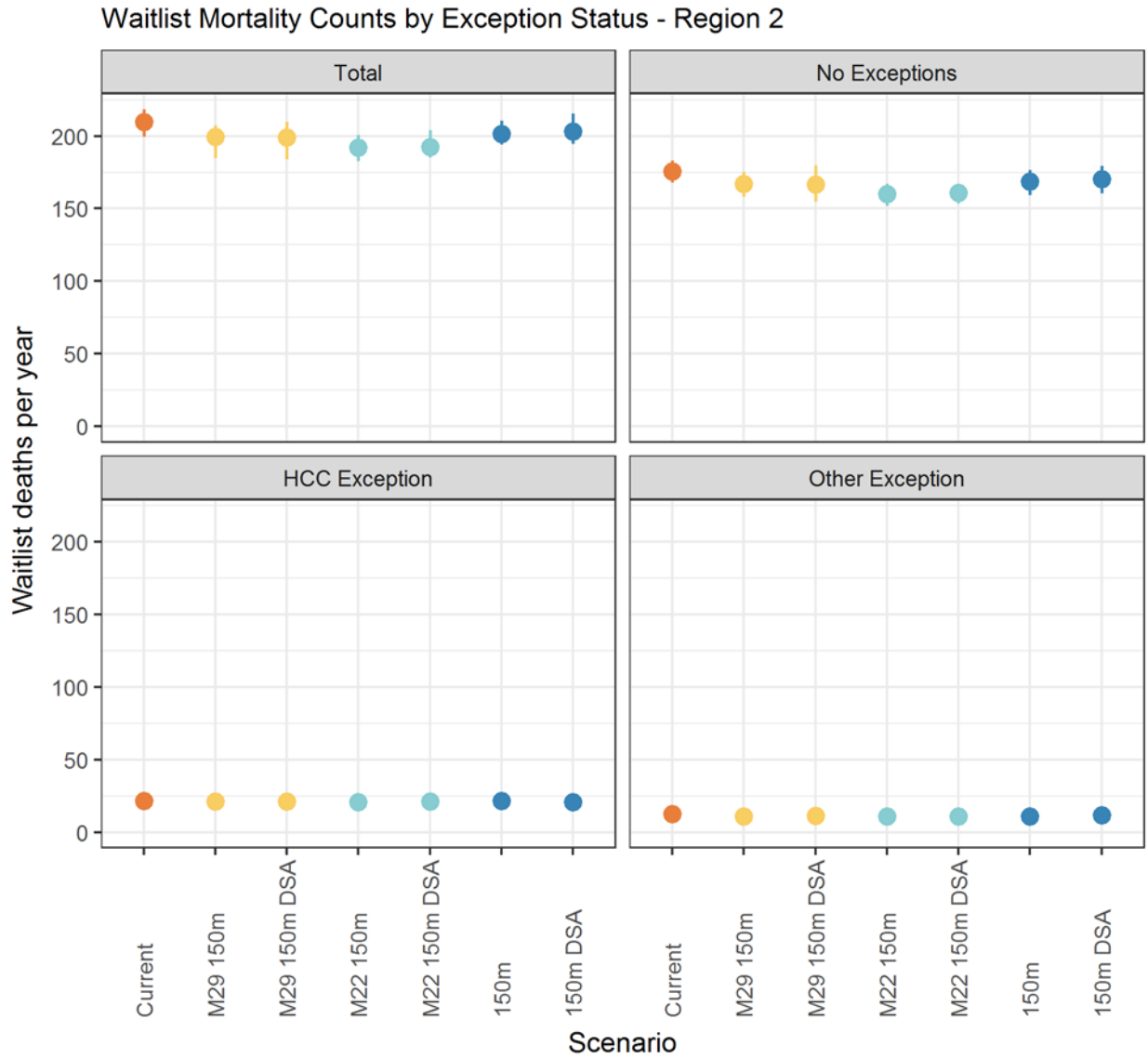


Figure 67 Waitlist mortality counts by exception status - region 2

PRELIMINARY

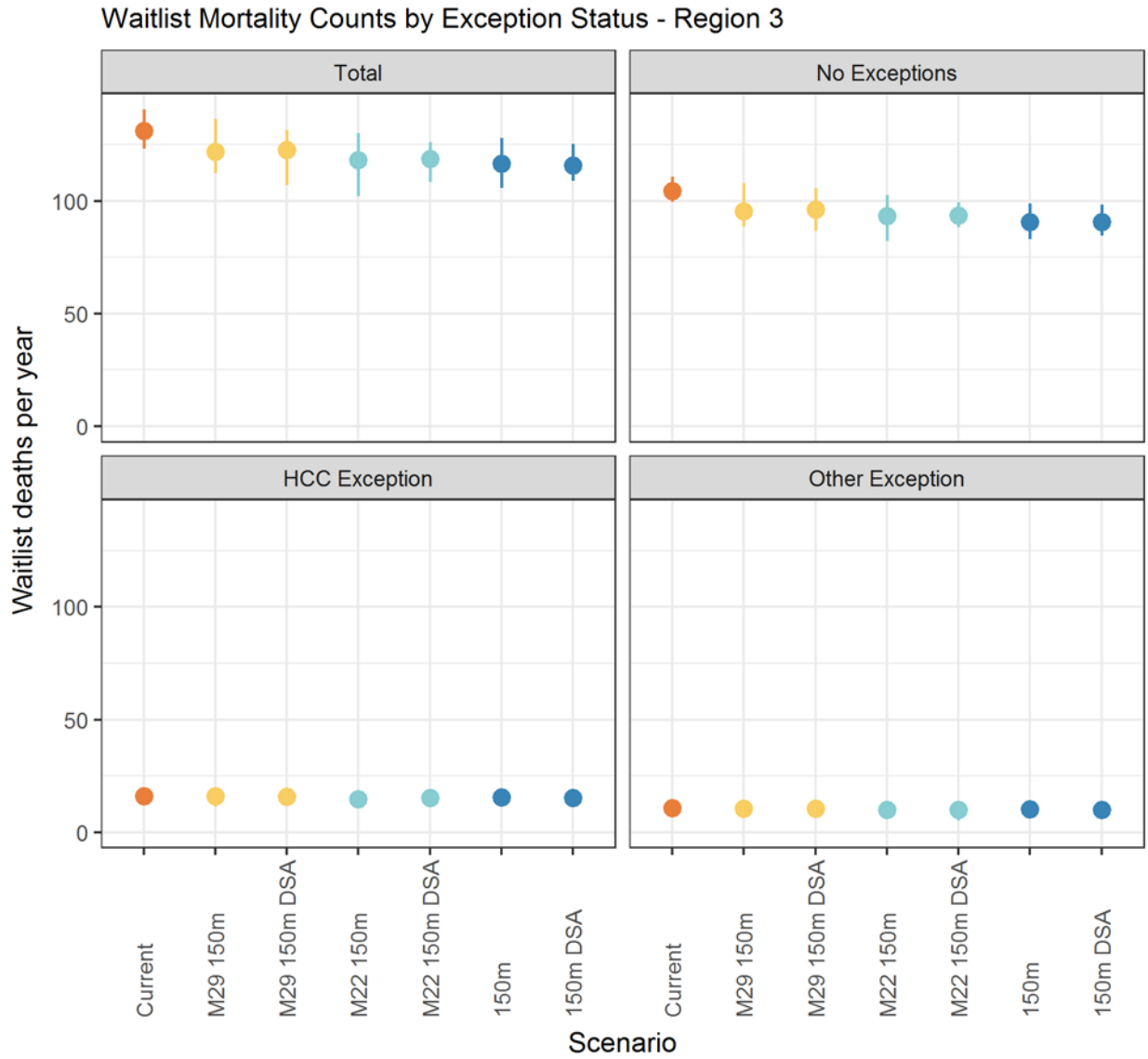


Figure 68 Waitlist mortality counts by exception status - region 3

PRELIMINARY

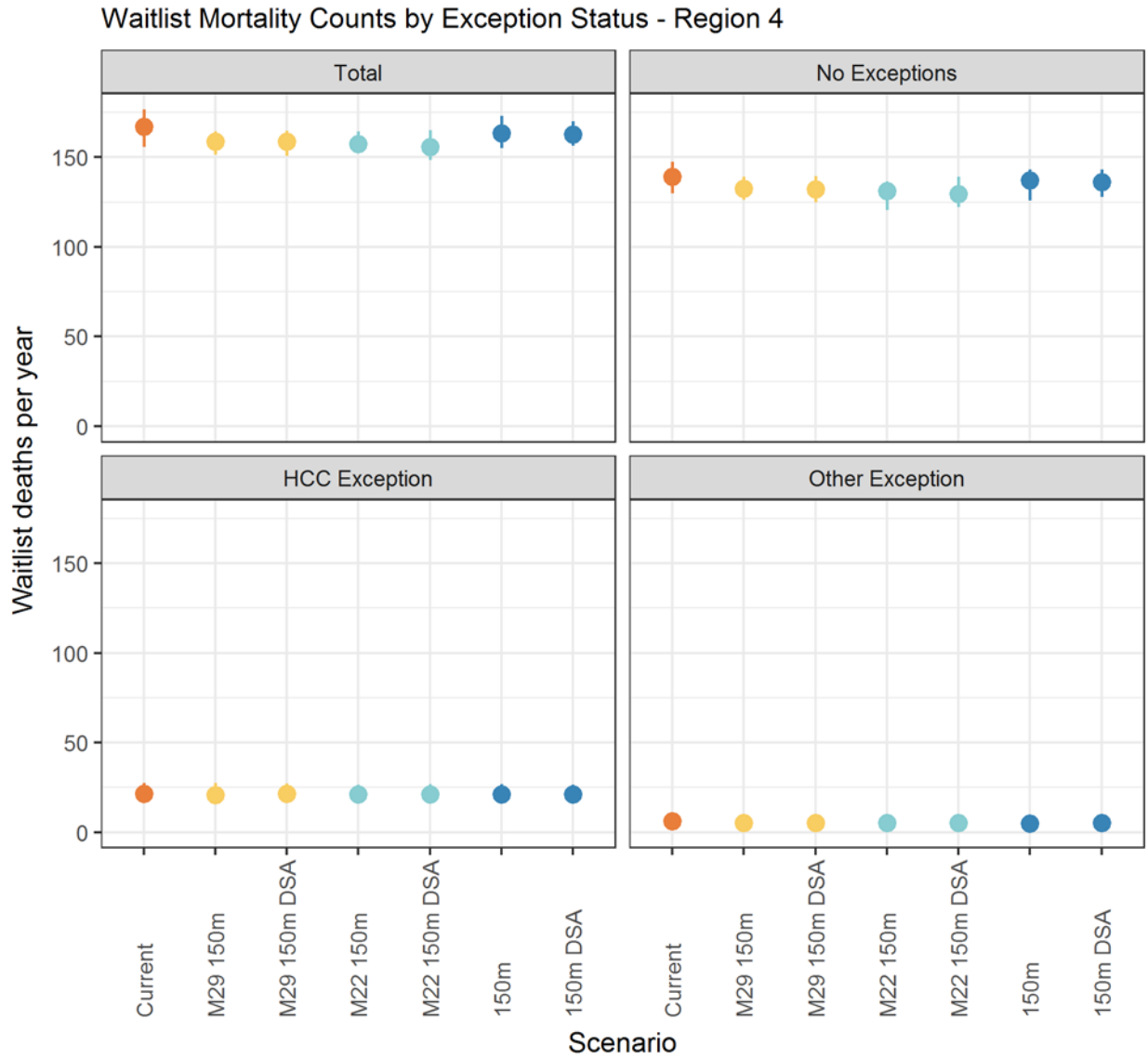


Figure 69 Waitlist mortality counts by exception status - region 4

PRELIMINARY

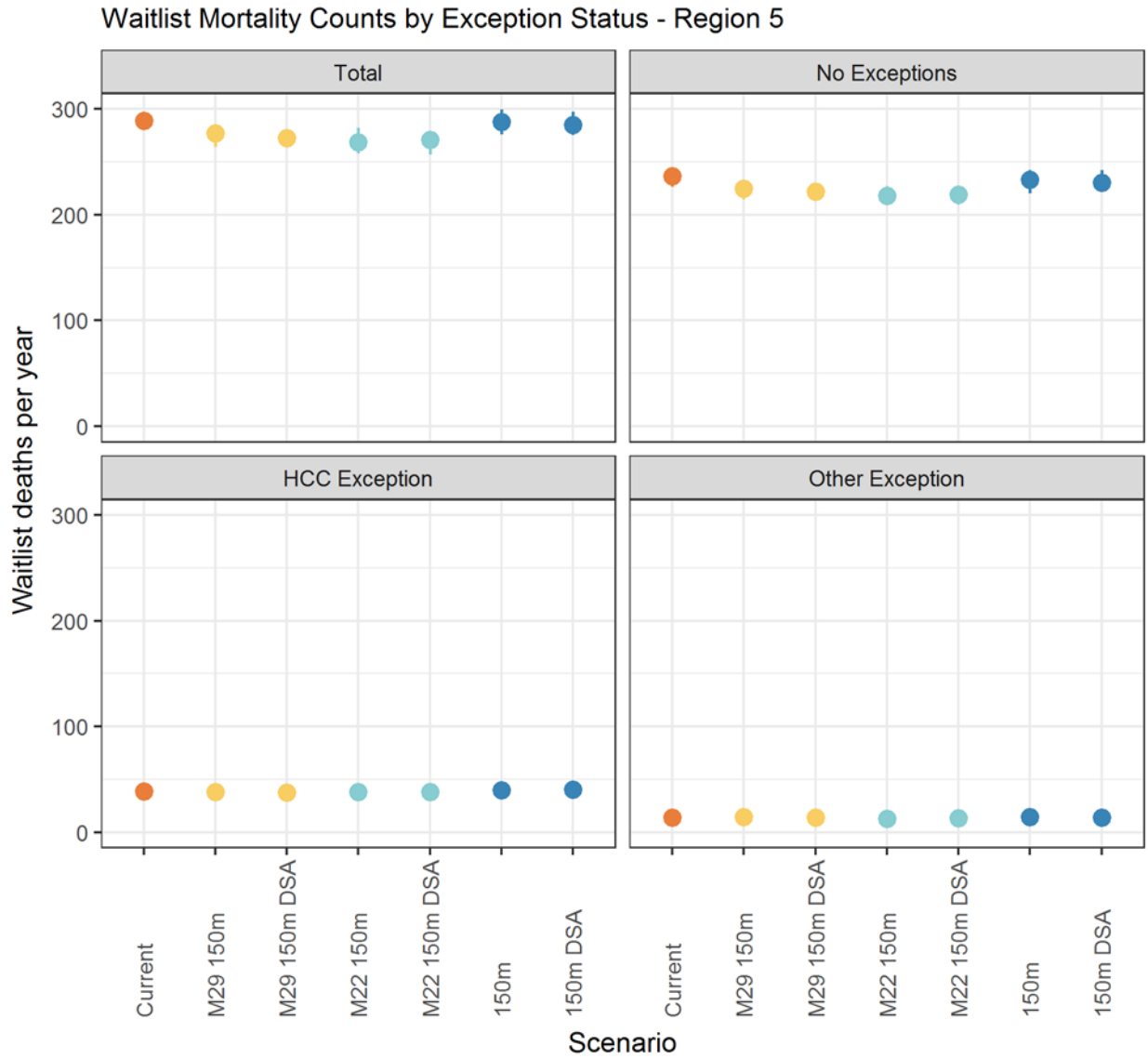


Figure 70 Waitlist mortality counts by exception status - region 5

PRELIMINARY

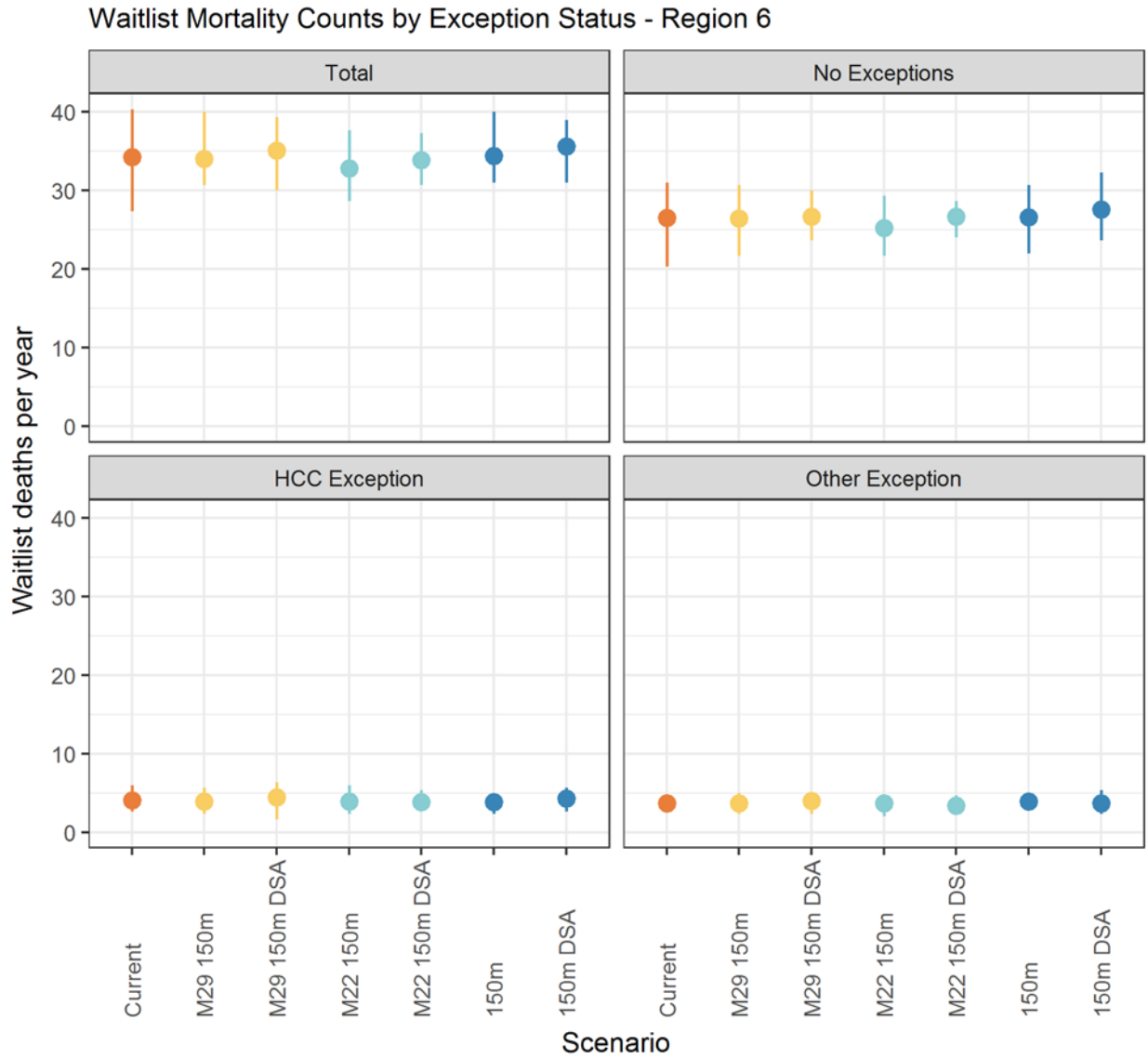


Figure 71 Waitlist mortality counts by exception status - region 6

PRELIMINARY

Waitlist Mortality Counts by Exception Status - Region 7

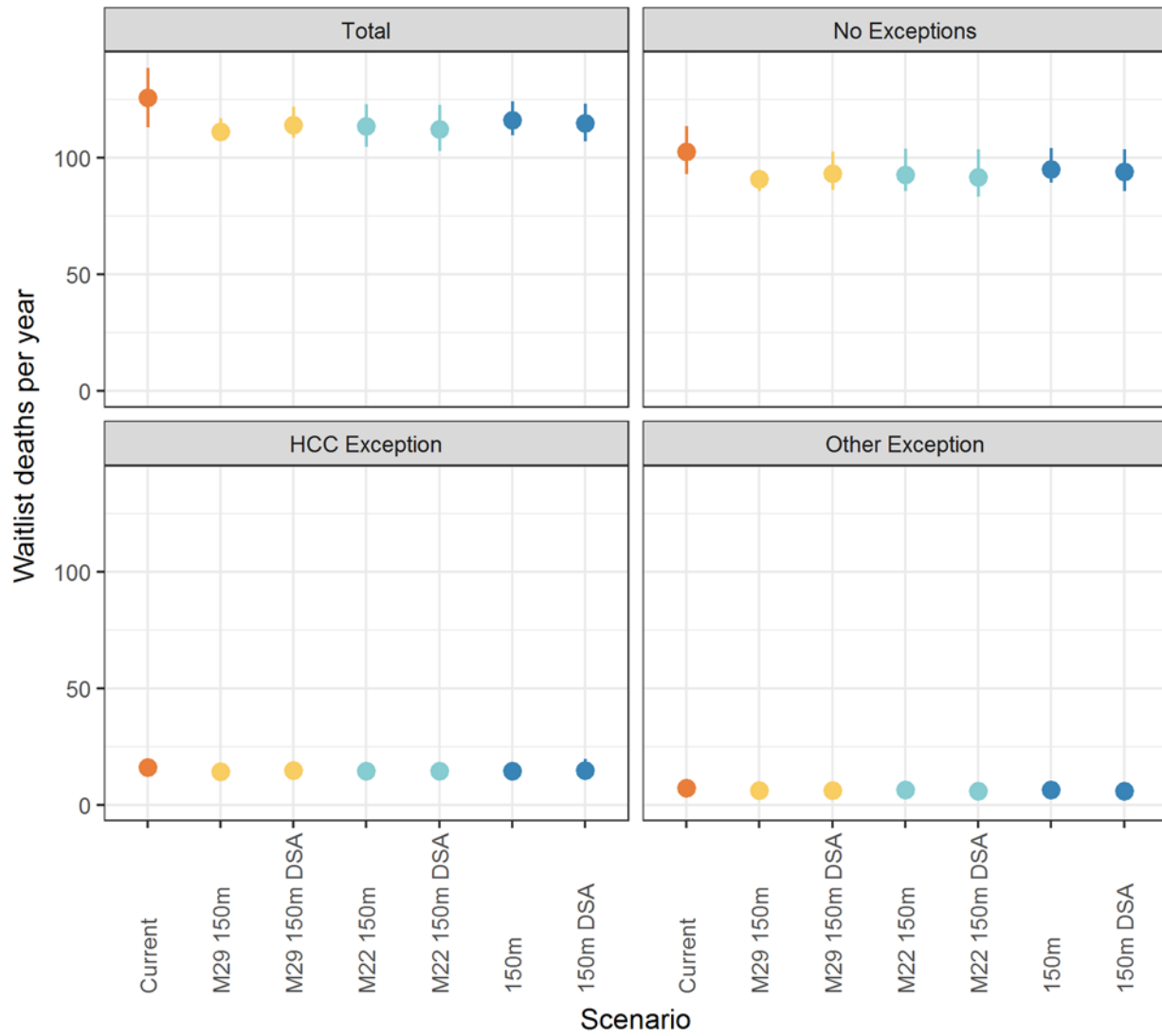


Figure 72 Waitlist mortality counts by exception status - region 7

PRELIMINARY

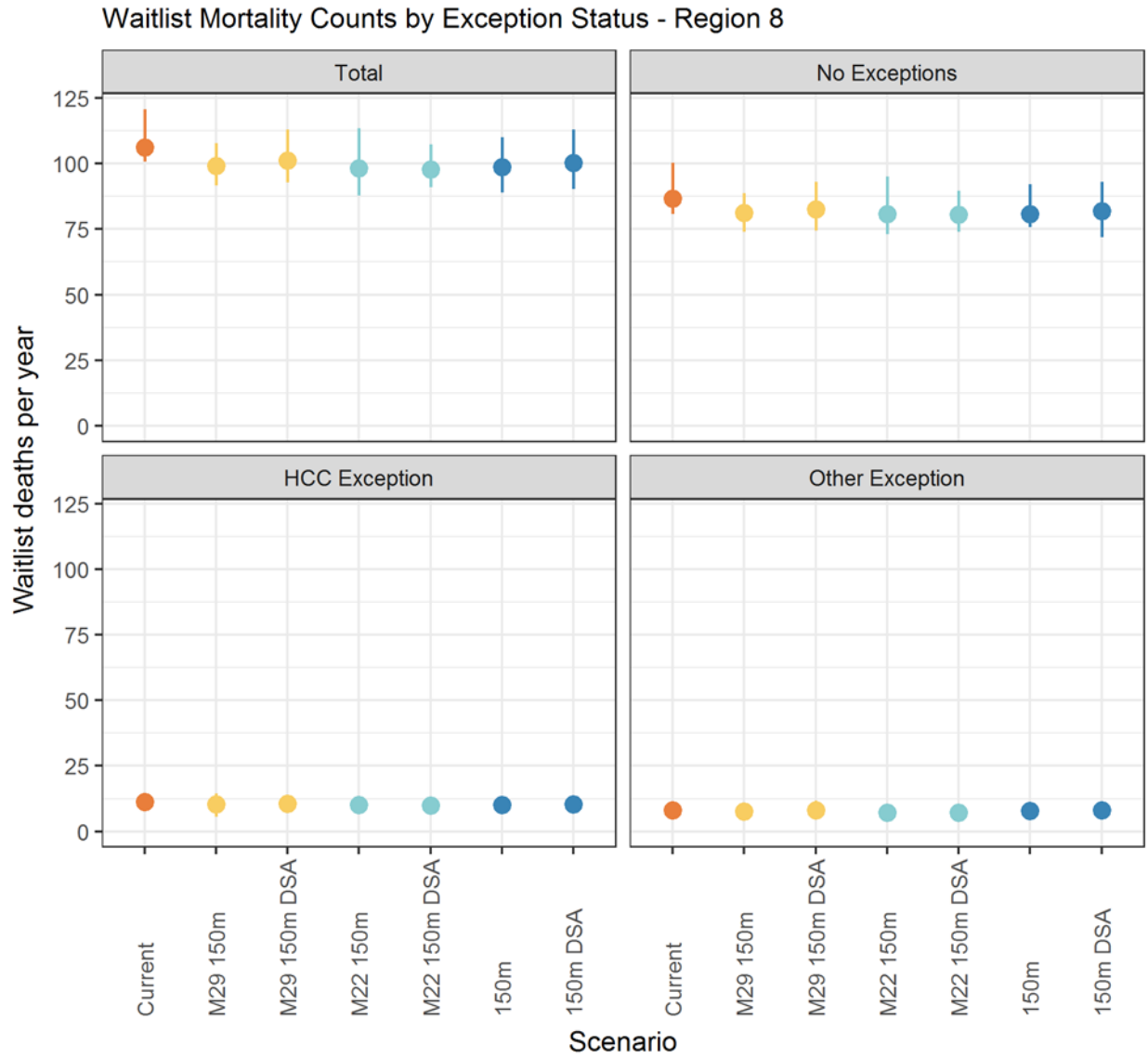


Figure 73 Waitlist mortality counts by exception status - region 8

PRELIMINARY

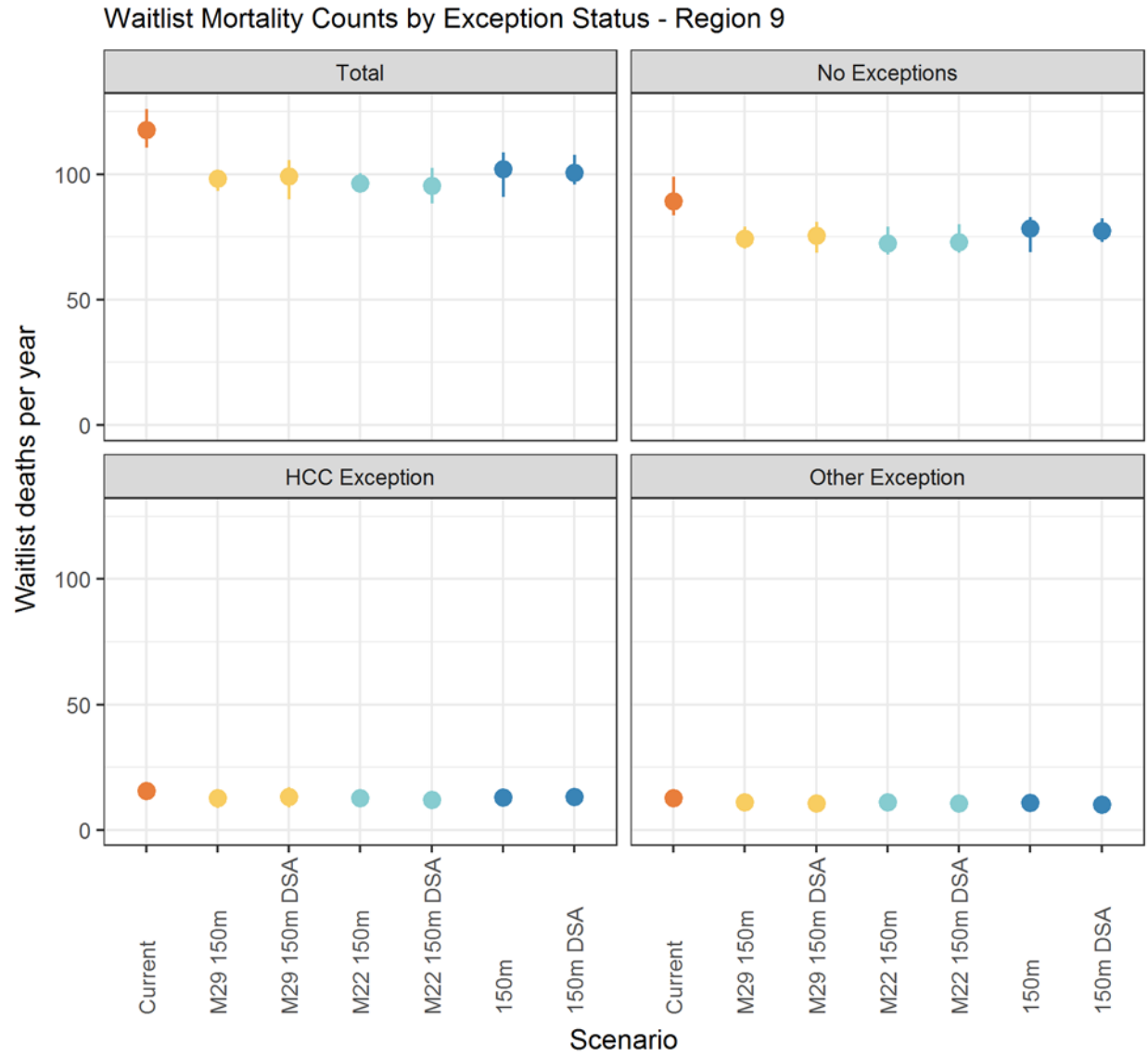


Figure 74 Waitlist mortality counts by exception status - region 9

PRELIMINARY

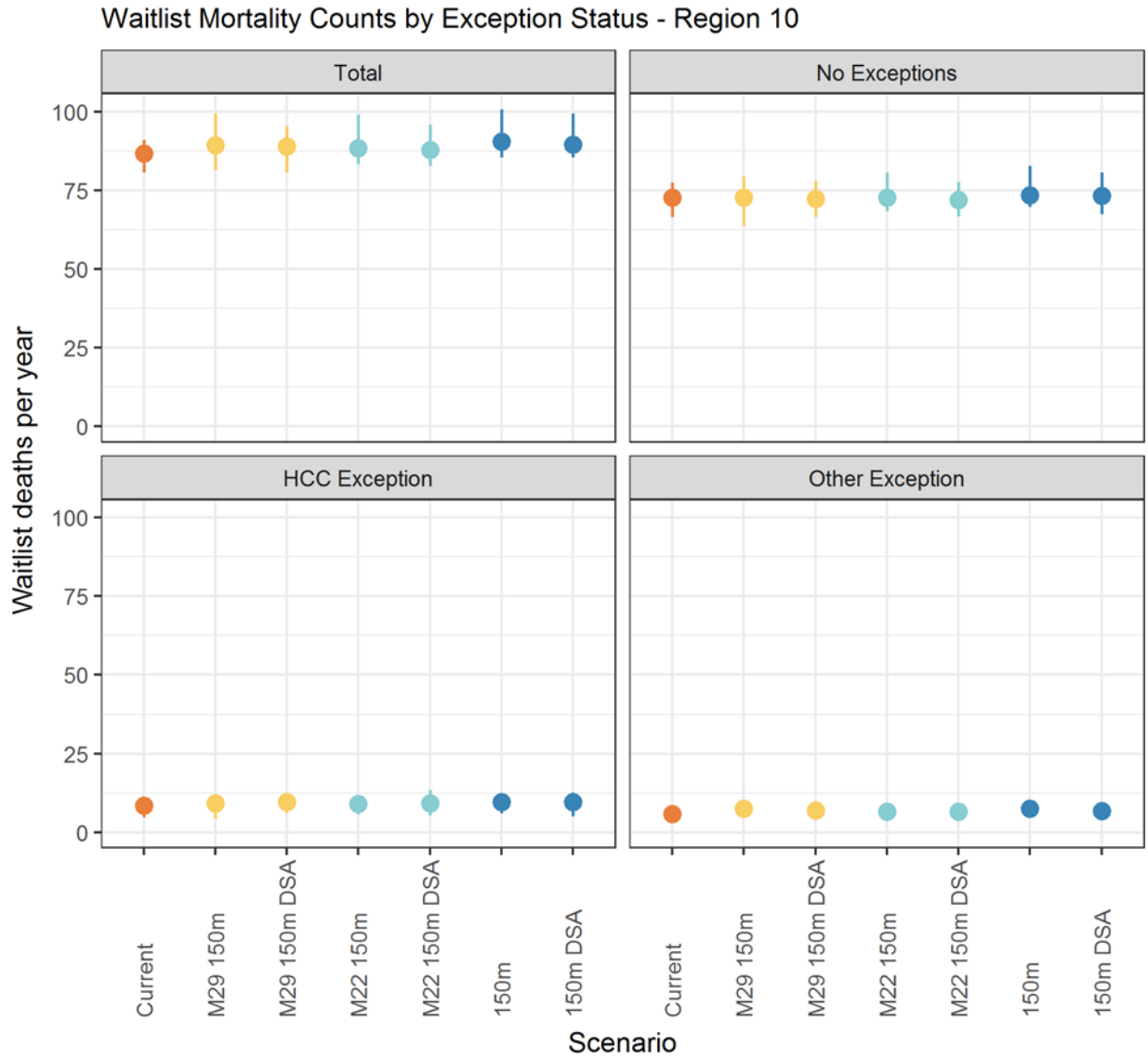


Figure 75 Waitlist mortality counts by exception status - region 10

PRELIMINARY

Waitlist Mortality Counts by Exception Status - Region 11

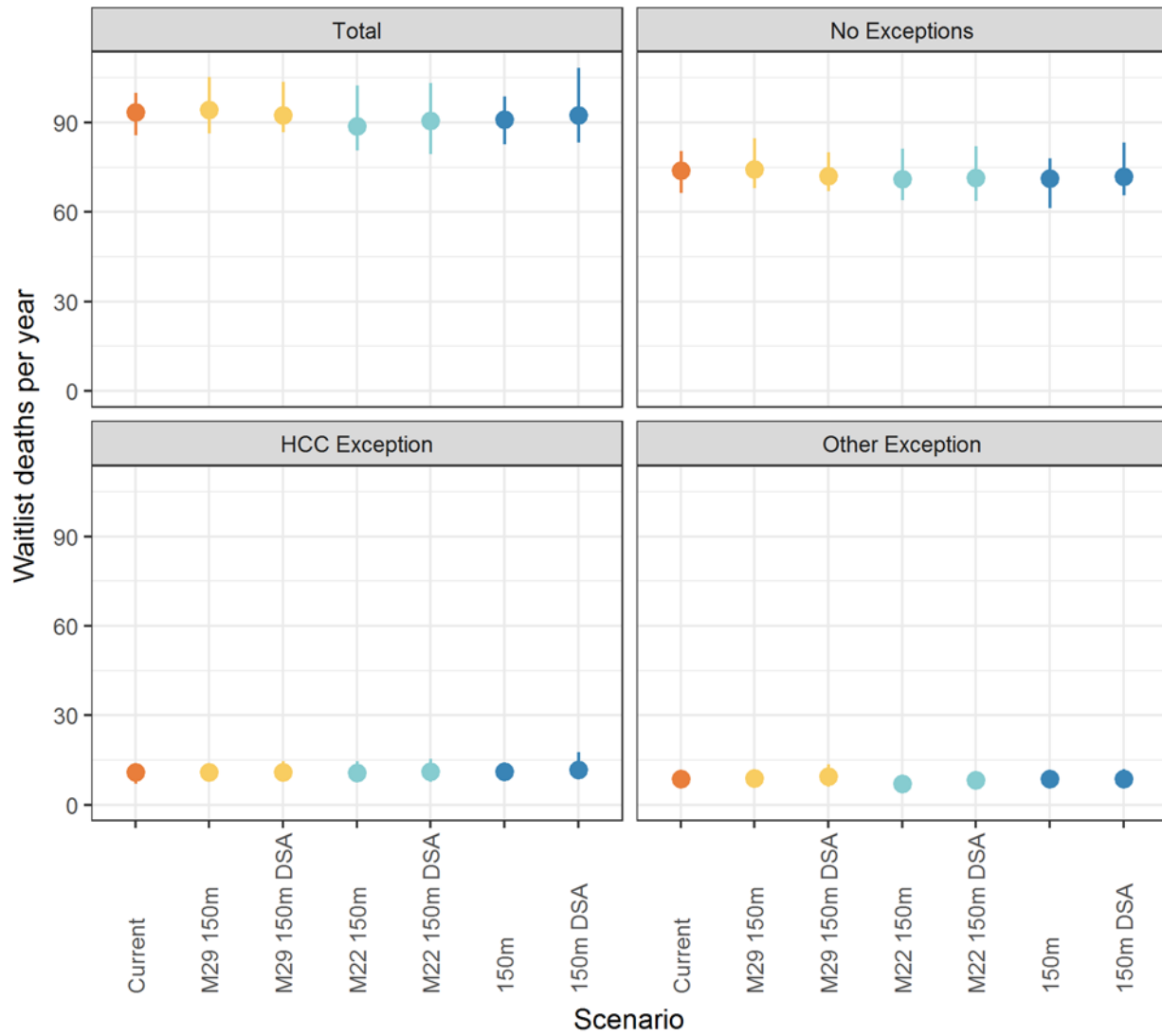


Figure 76 Waitlist mortality counts by exception status - region 11

PRELIMINARY

Posttransplant Mortality

Posttransplant Mortality Rates

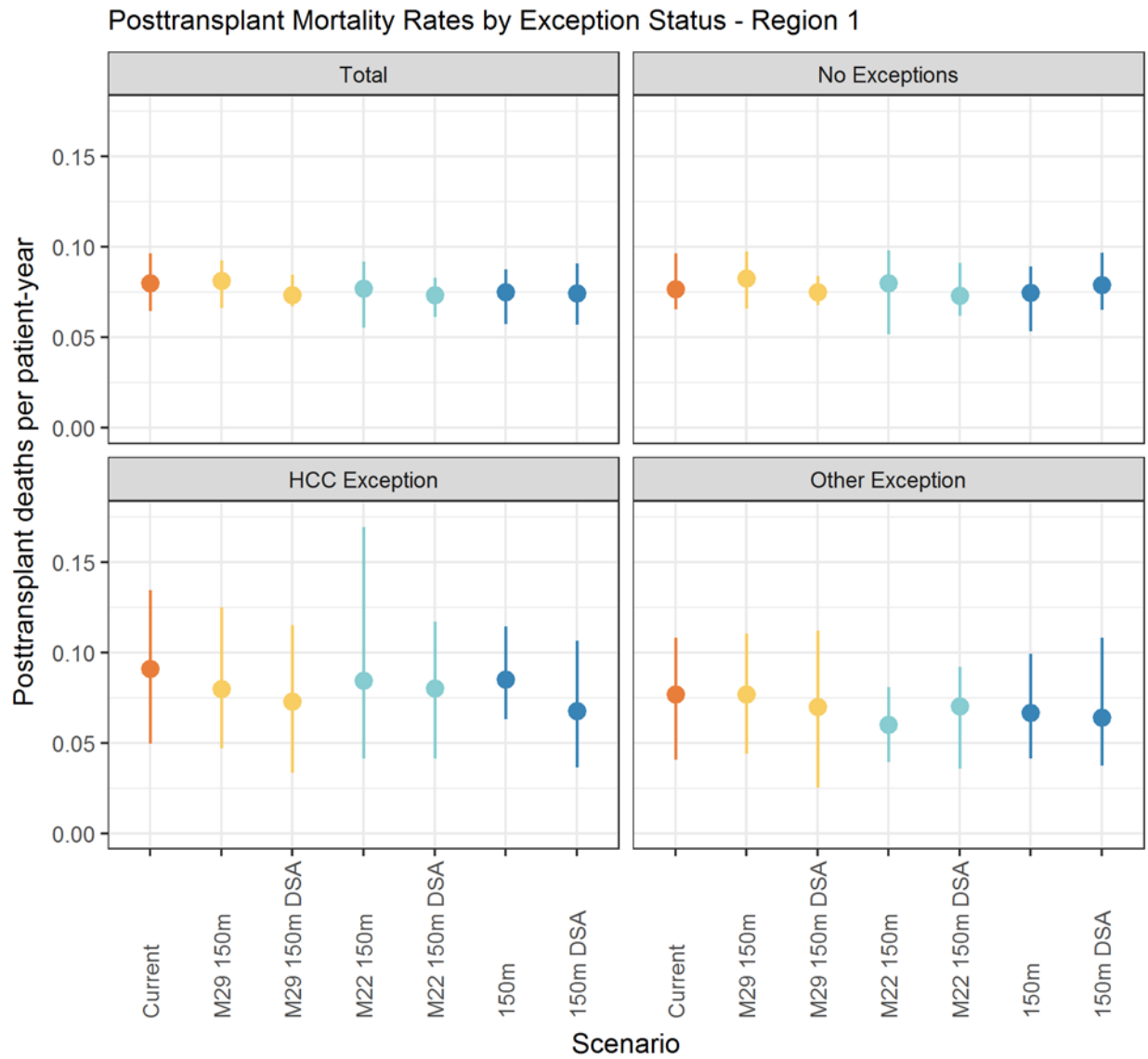


Figure 77 Posttransplant mortality rates by exception status - region 1

Posttransplant Mortality Rates by Exception Status - Region 2

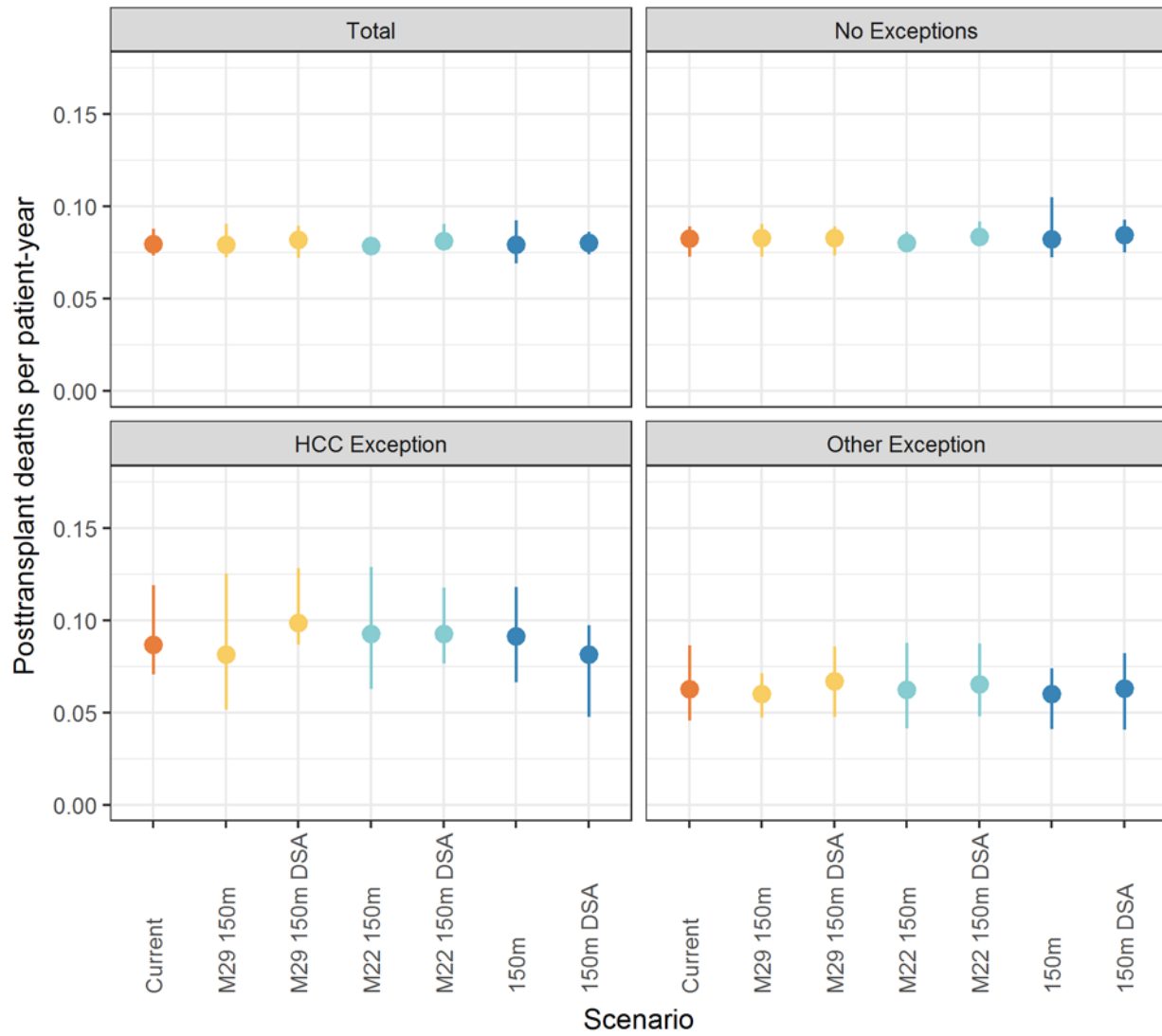


Figure 78 Posttransplant mortality rates by exception status - region 2

PRELIMINARY

Posttransplant Mortality Rates by Exception Status - Region 3

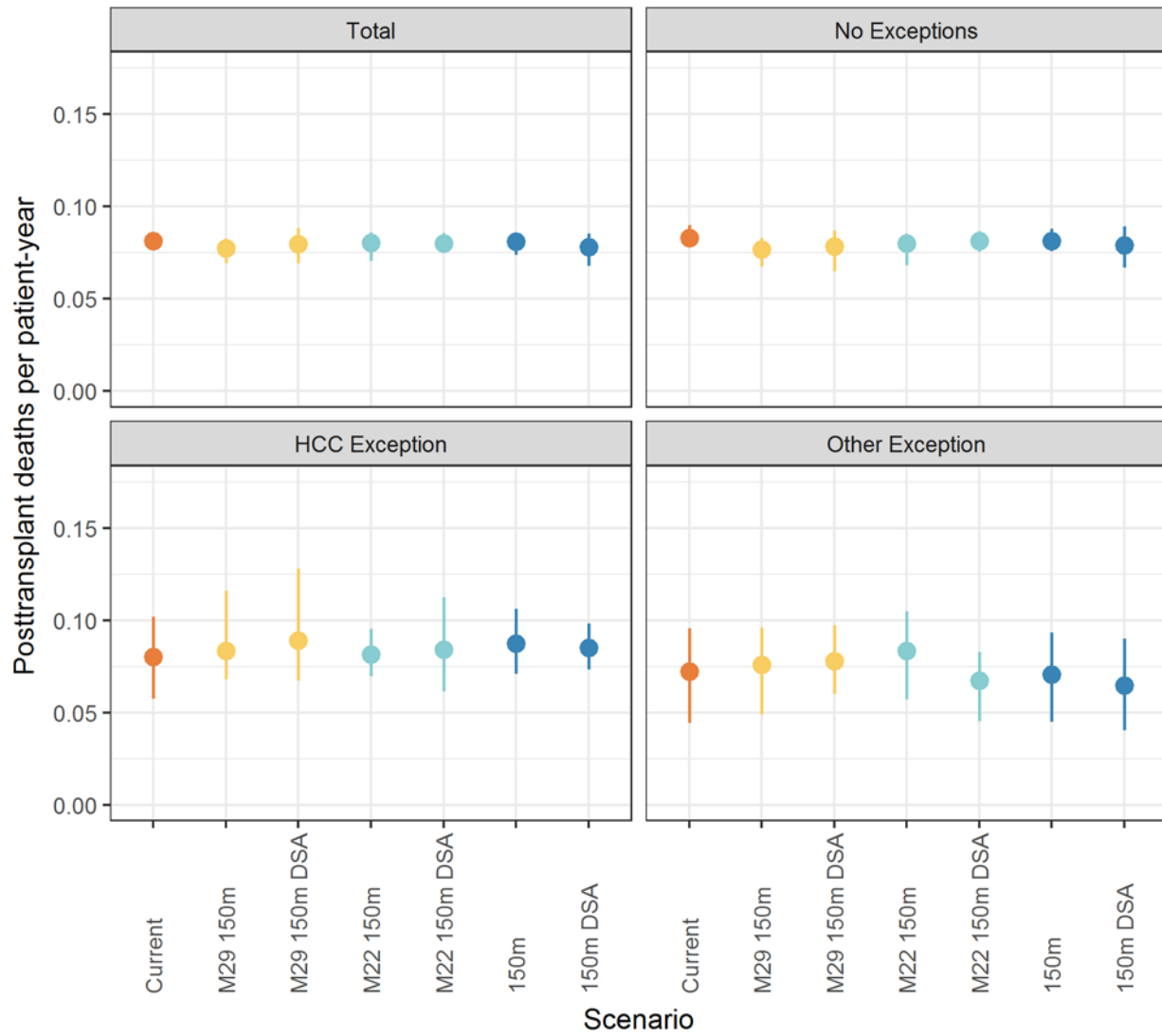


Figure 79 Posttransplant mortality rates by exception status - region 3

PRELIMINARY

Posttransplant Mortality Rates by Exception Status - Region 4

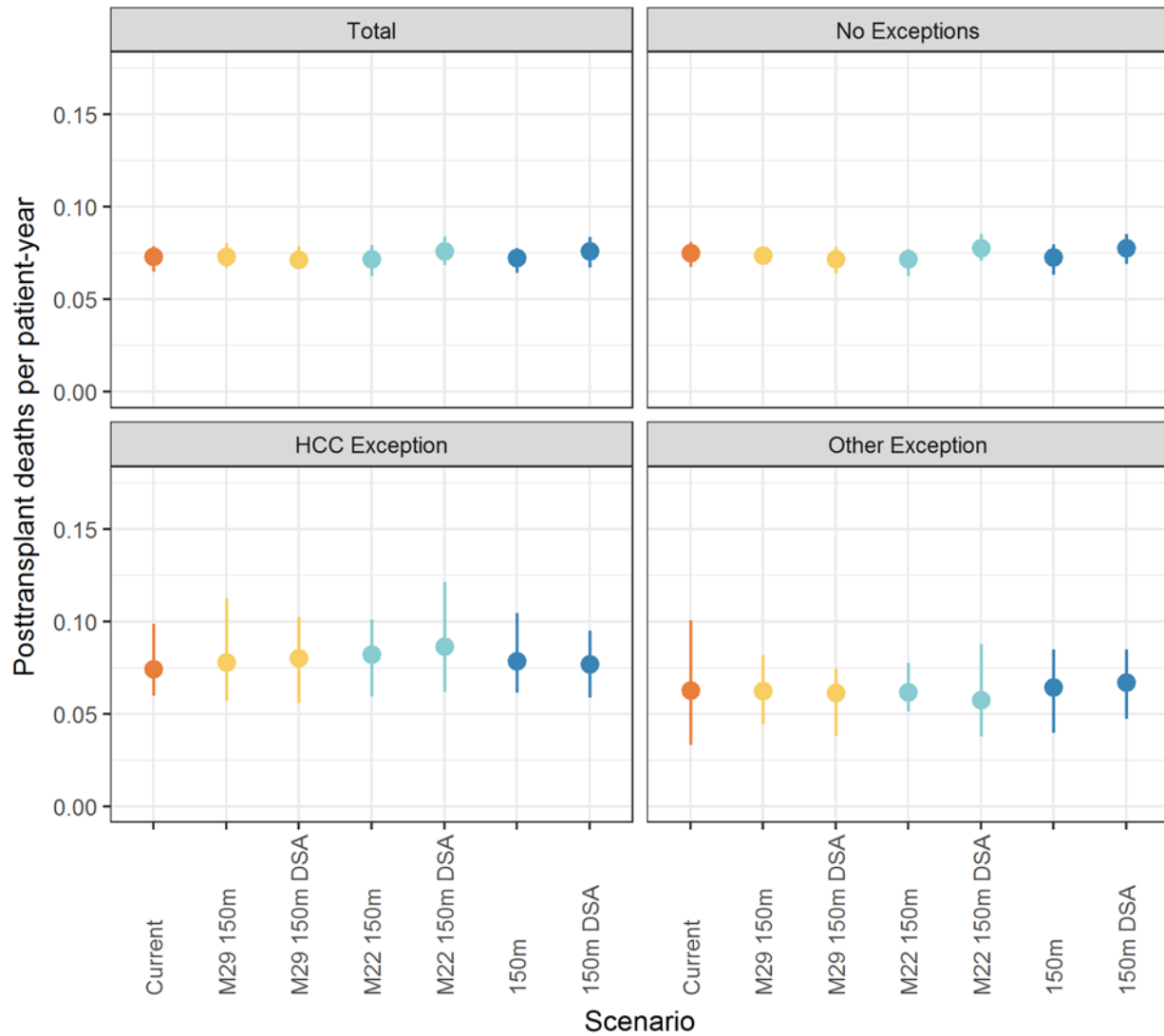


Figure 80 Posttransplant mortality rates by exception status - region 4

PRELIMINARY

Posttransplant Mortality Rates by Exception Status - Region 5

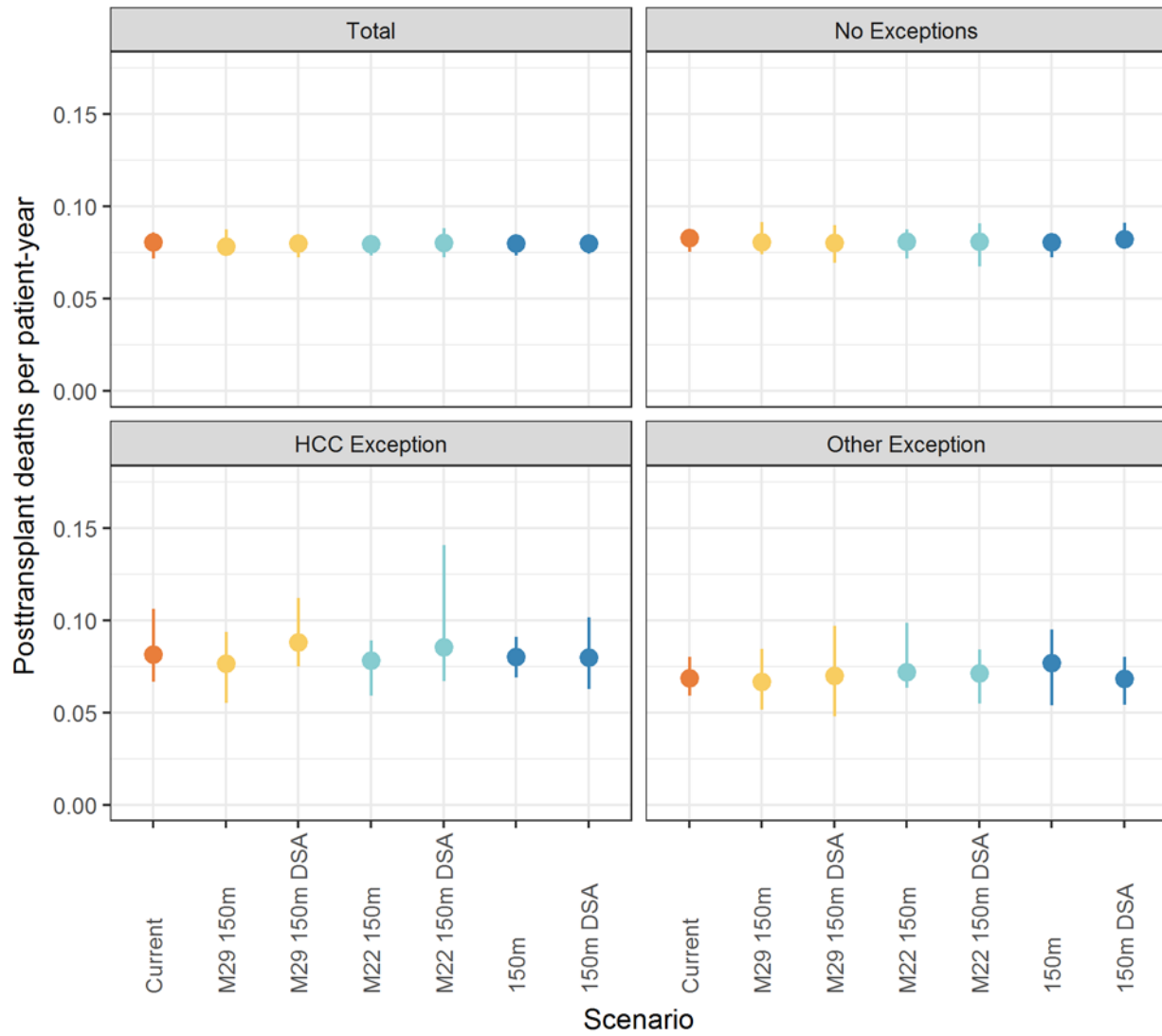


Figure 81 Posttransplant mortality rates by exception status - region 5

PRELIMINARY

Posttransplant Mortality Rates by Exception Status - Region 6

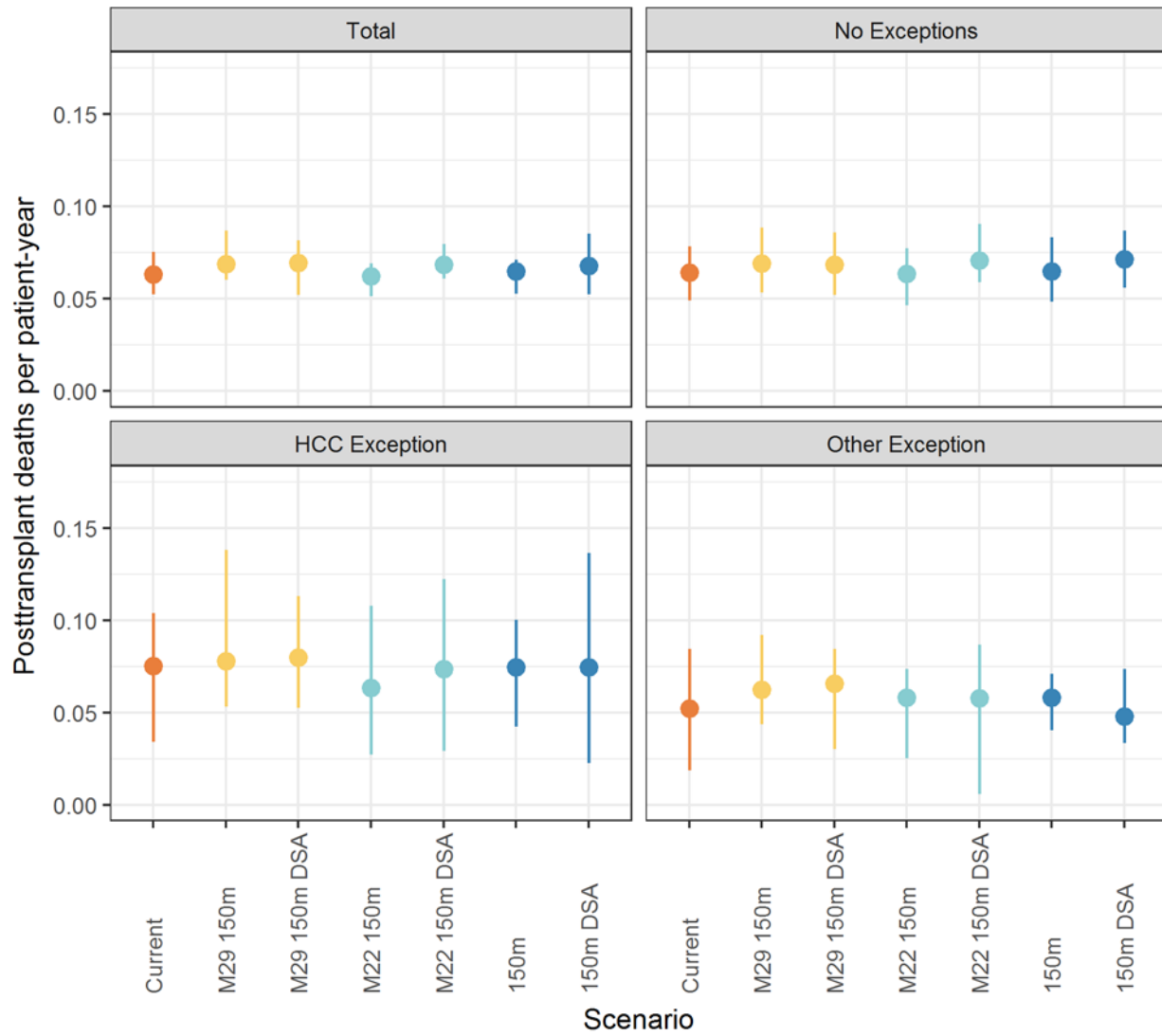


Figure 82 Posttransplant mortality rates by exception status - region 6

PRELIMINARY

Posttransplant Mortality Rates by Exception Status - Region 7

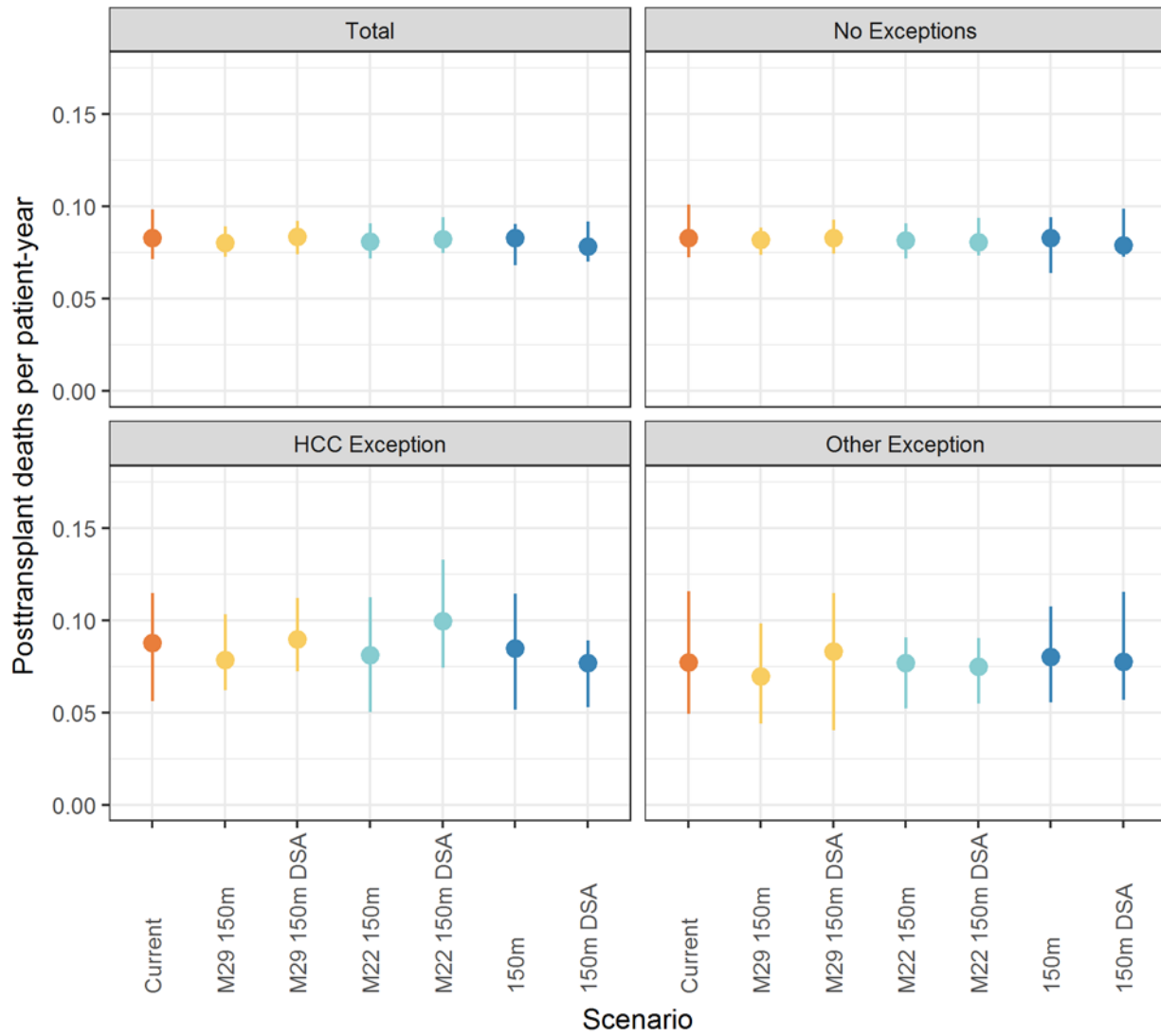


Figure 83 Posttransplant mortality rates by exception status - region 7

PRELIMINARY

Posttransplant Mortality Rates by Exception Status - Region 8

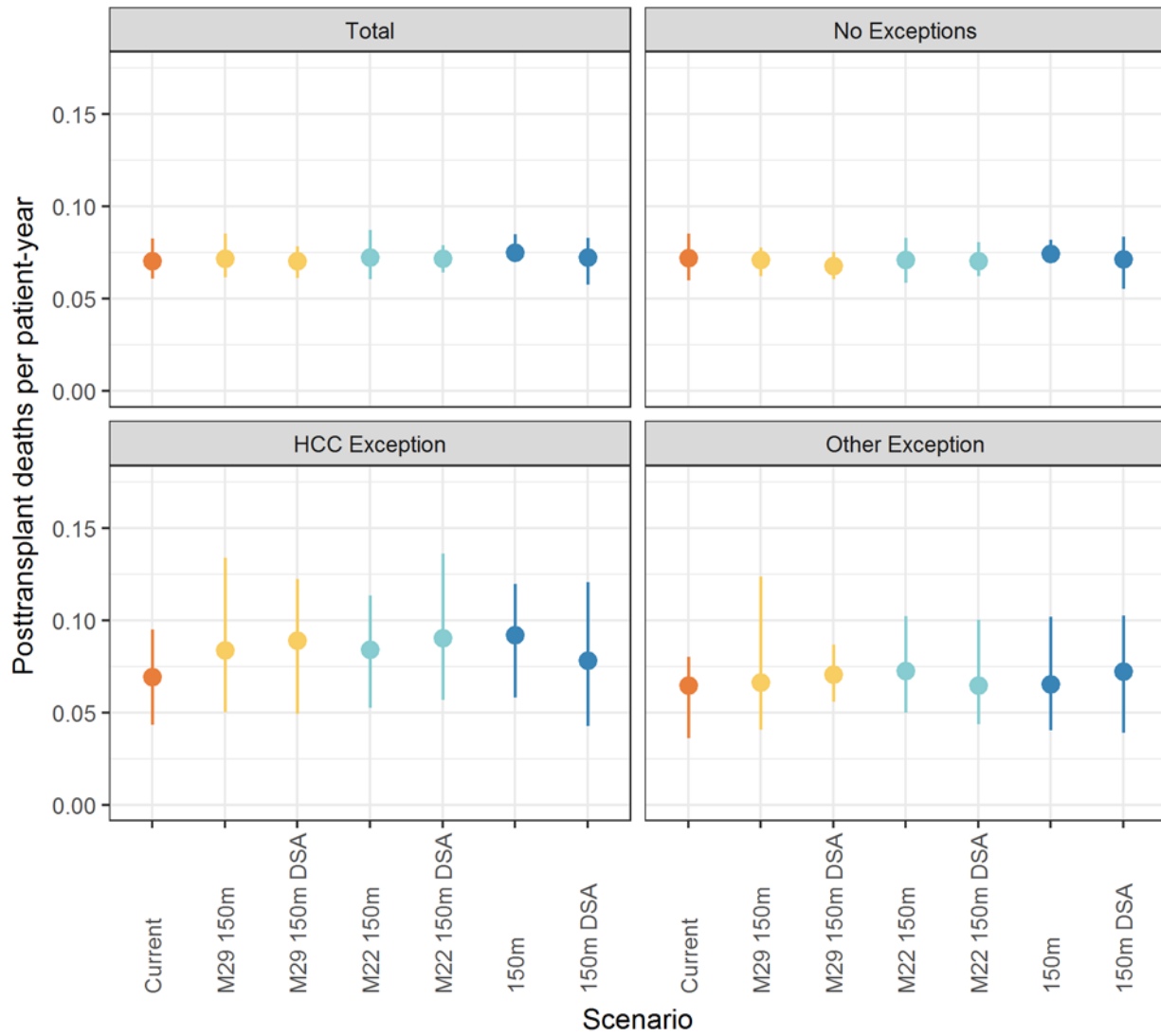


Figure 84 Posttransplant mortality rates by exception status - region 8

PRELIMINARY

Posttransplant Mortality Rates by Exception Status - Region 9

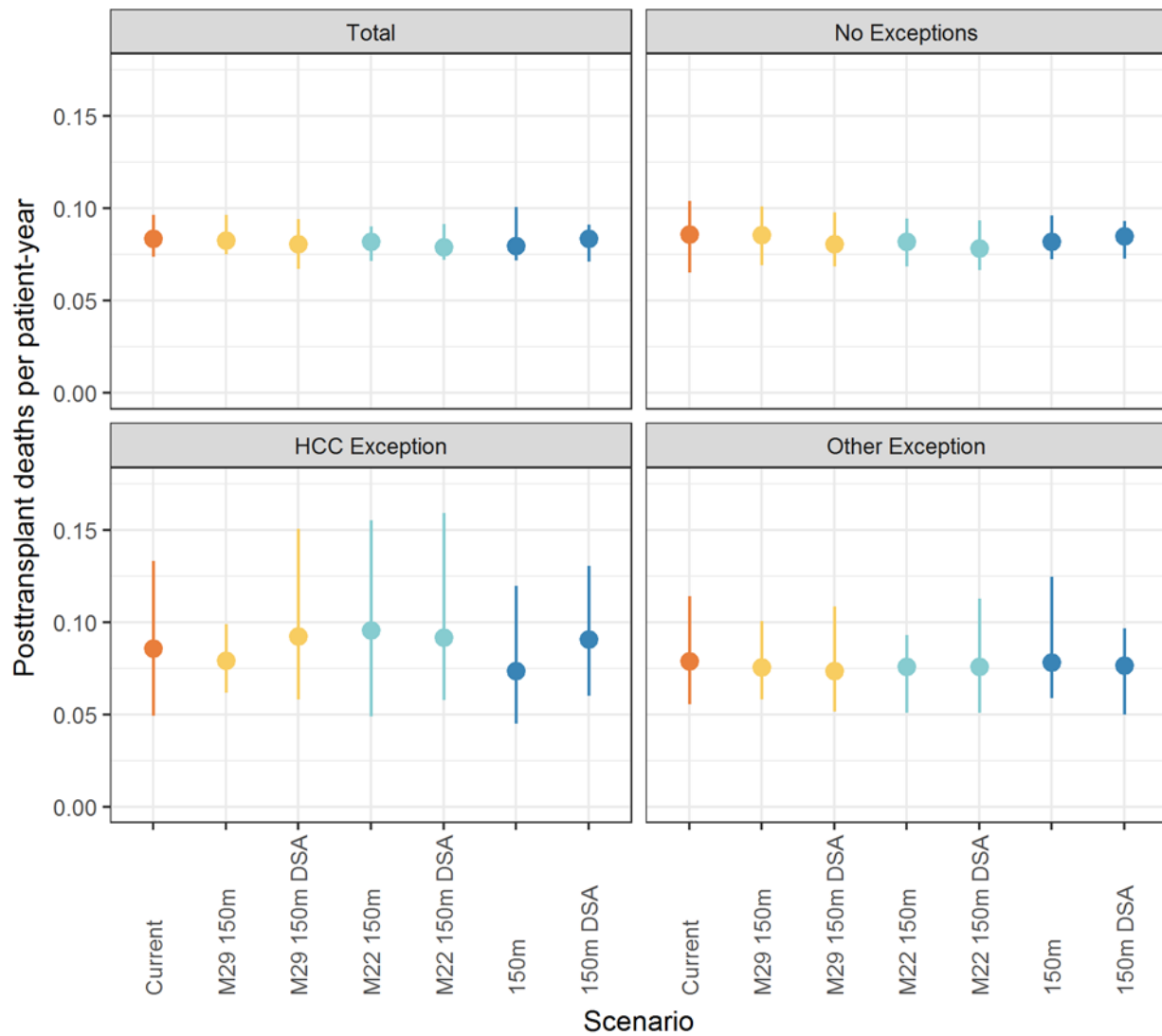


Figure 85 Posttransplant mortality rates by exception status - region 9

PRELIMINARY

Posttransplant Mortality Rates by Exception Status - Region 10

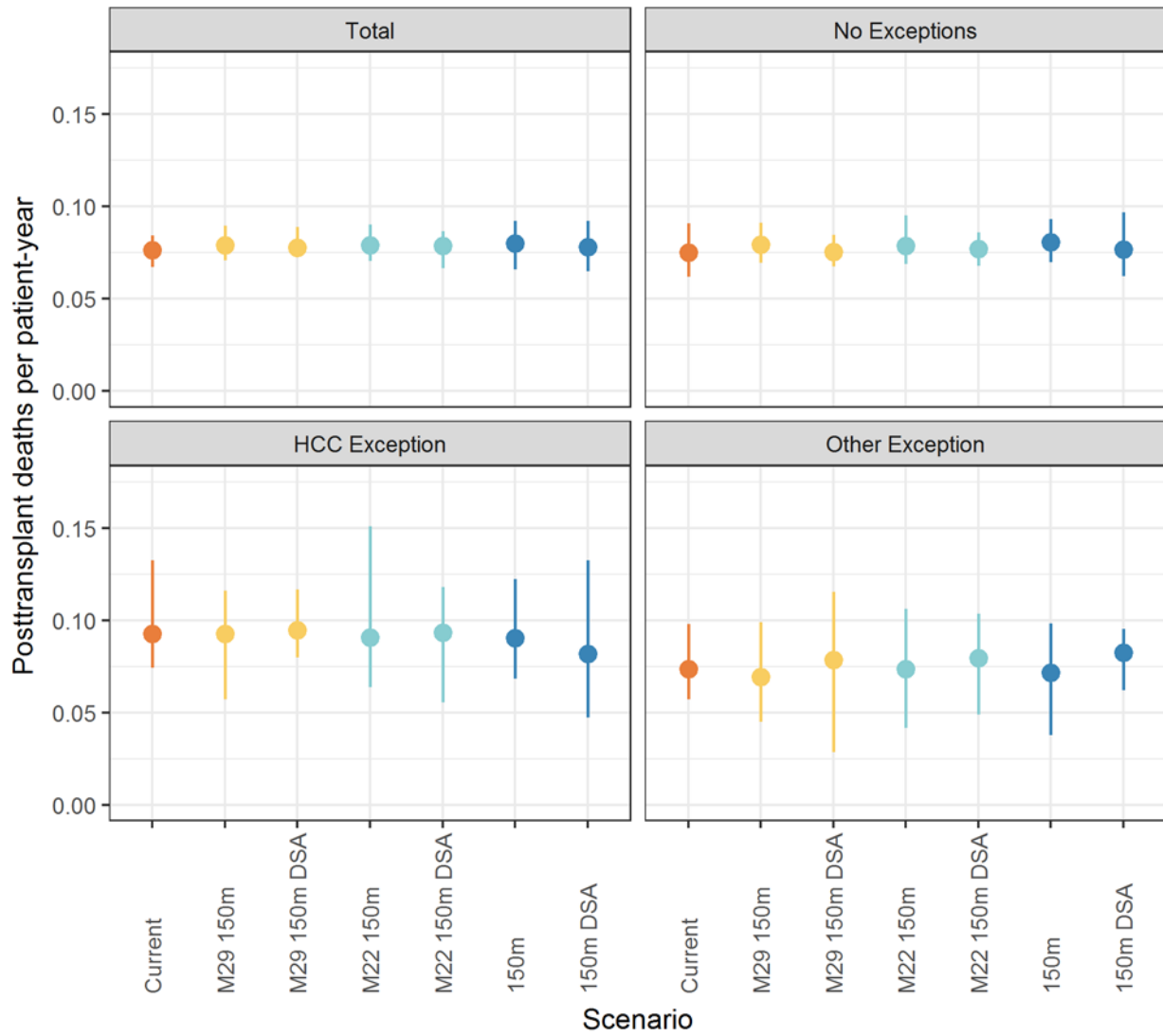


Figure 86 Posttransplant mortality rates by exception status - region 10

PRELIMINARY

Posttransplant Mortality Rates by Exception Status - Region 11

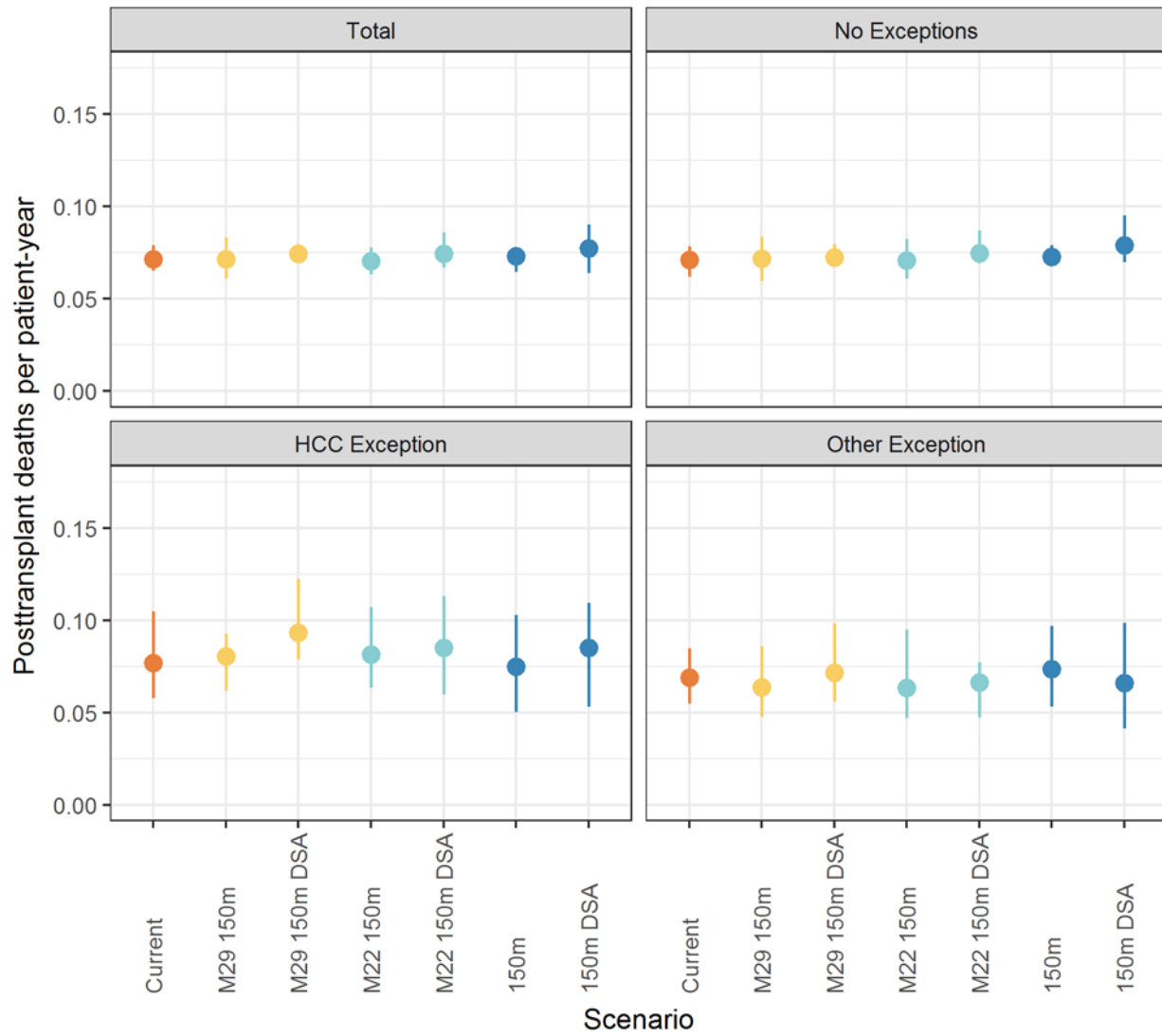


Figure 87 Posttransplant mortality rates by exception status - region 11

PRELIMINARY

Posttransplant Mortality Counts

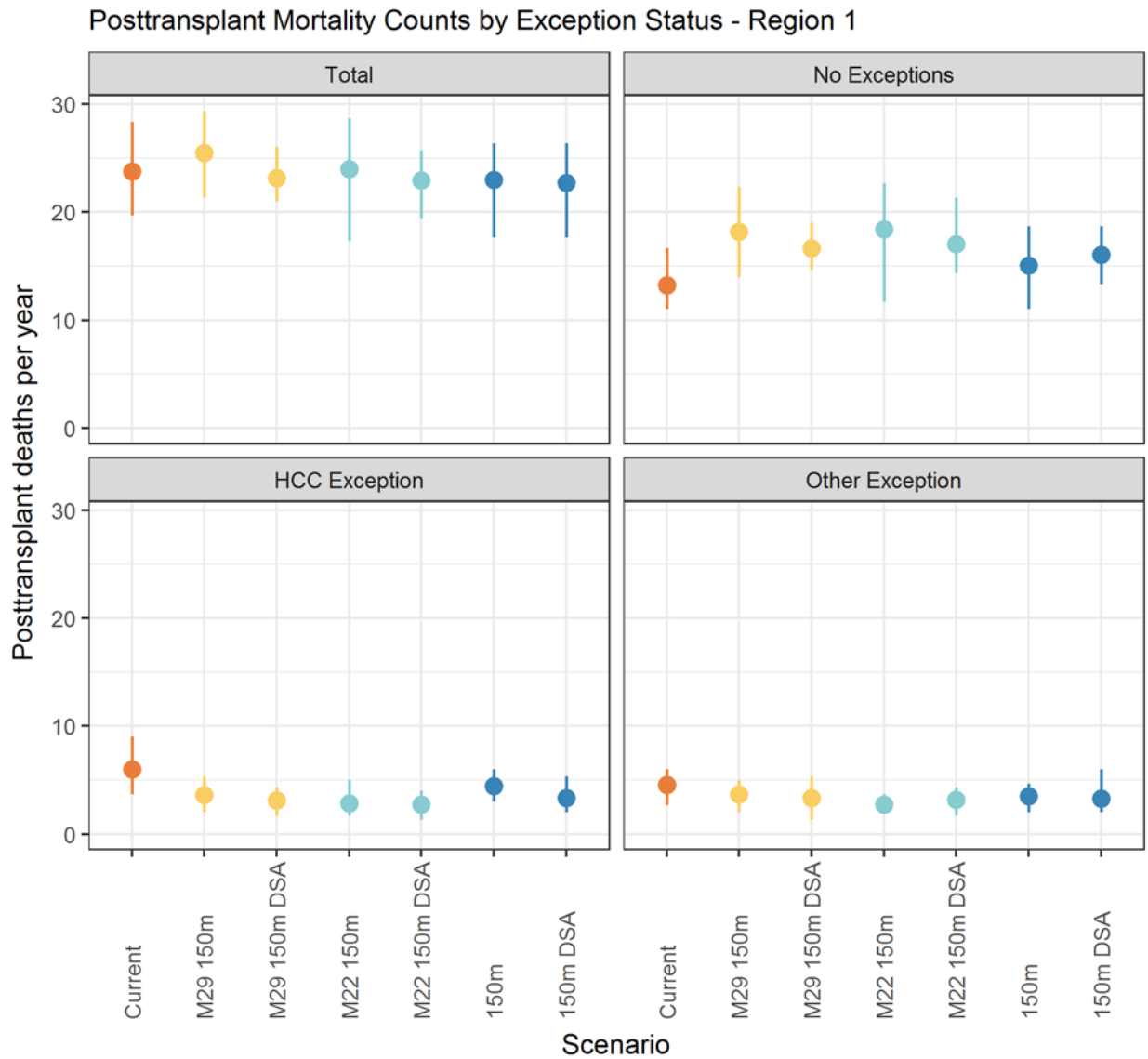


Figure 88 Posttransplant mortality counts by exception status - region 1

PRV

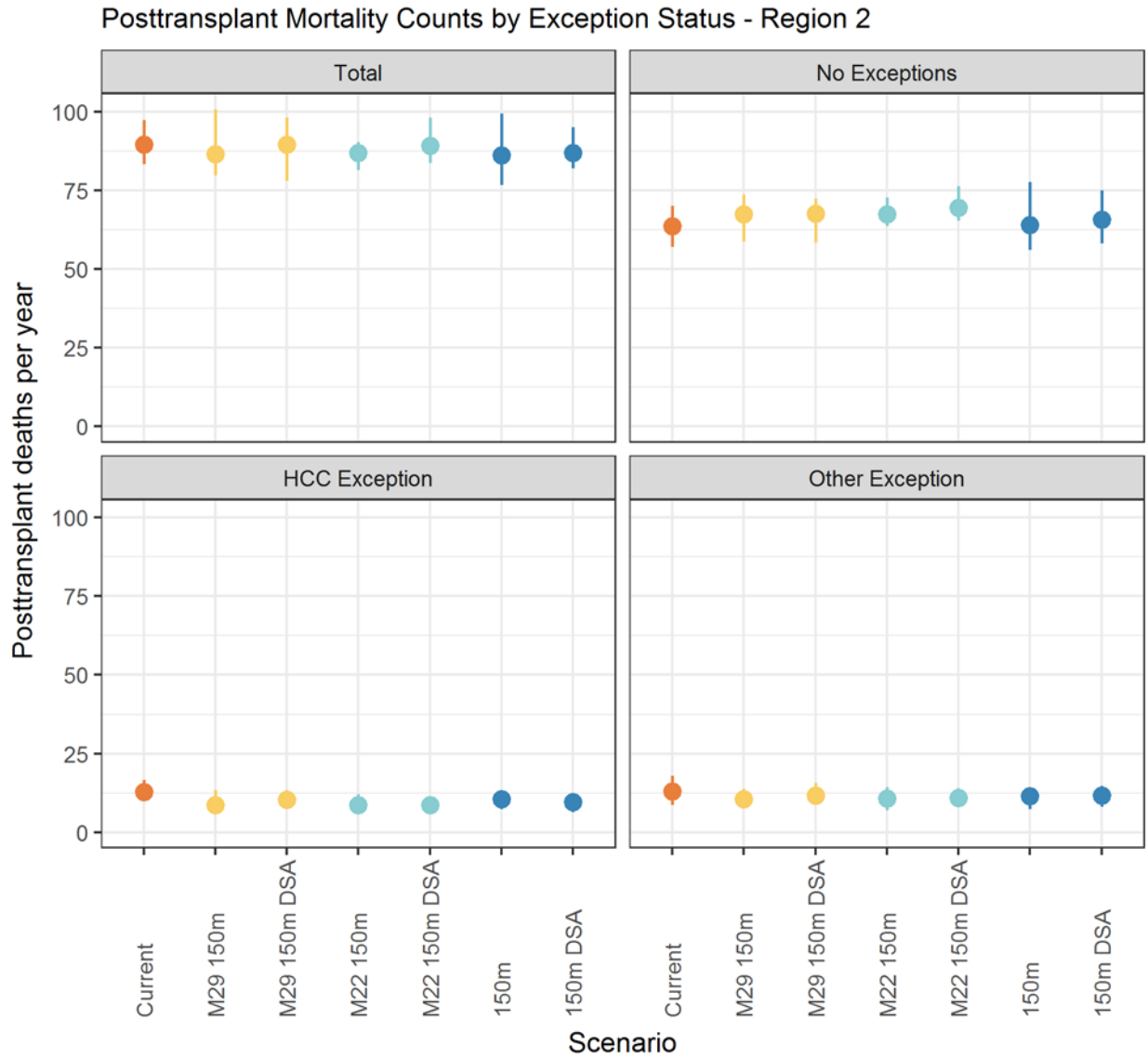


Figure 89 Posttransplant mortality counts by exception status - region 2

PRELIMINARY

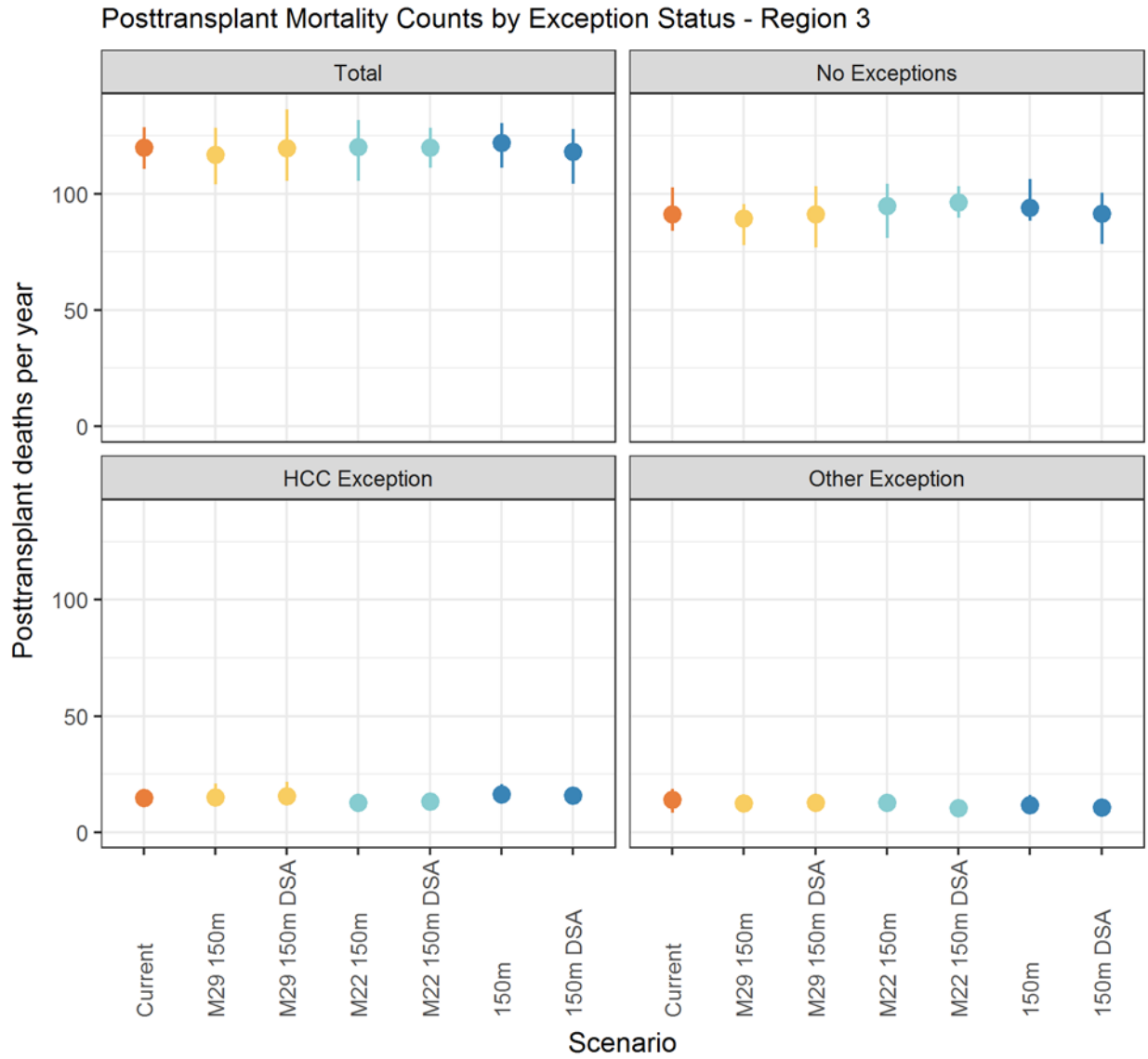


Figure 90 Posttransplant mortality counts by exception status - region 3

PRELIMINARY

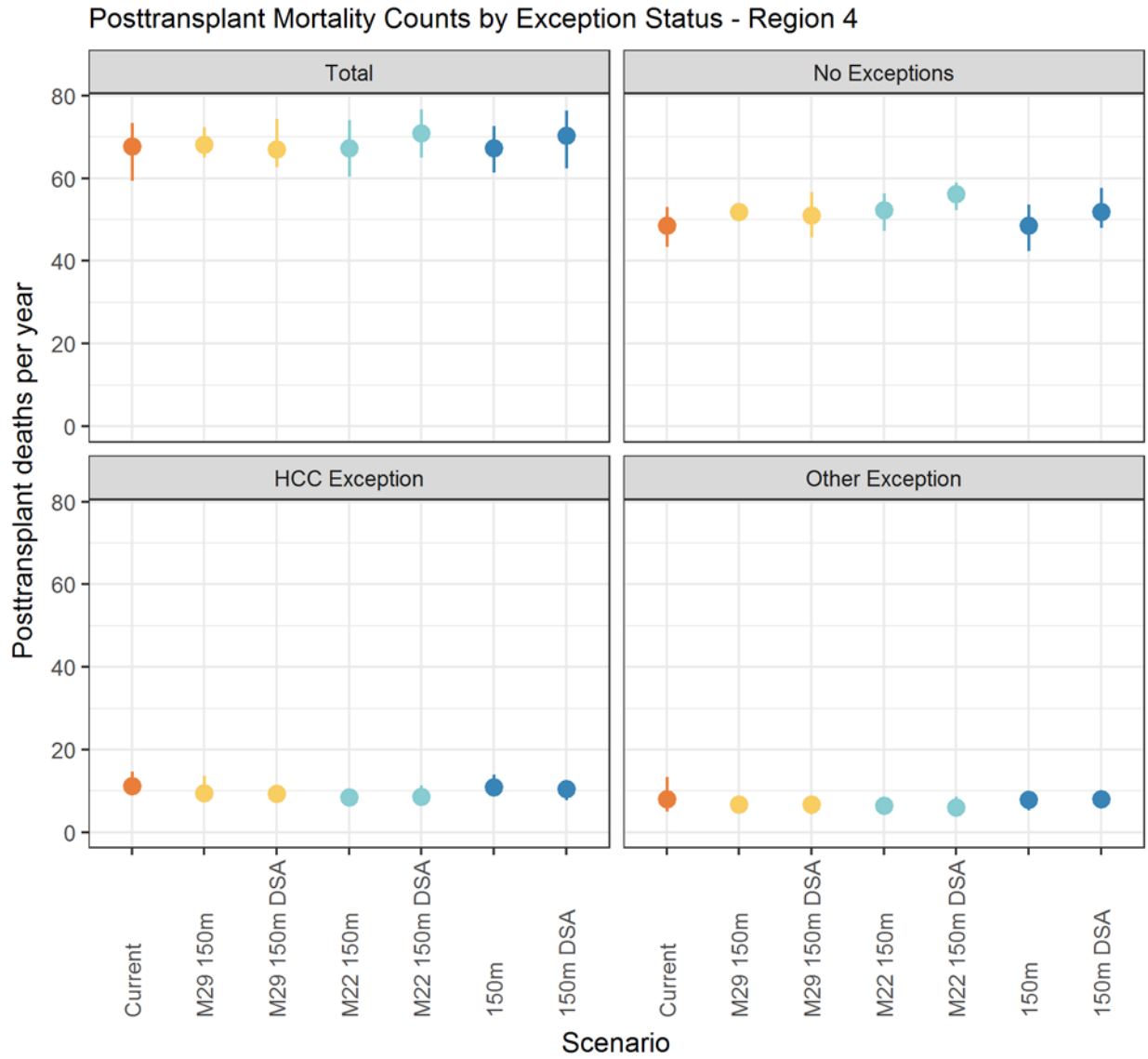


Figure 91 Posttransplant mortality counts by exception status - region 4

PRELIMINARY

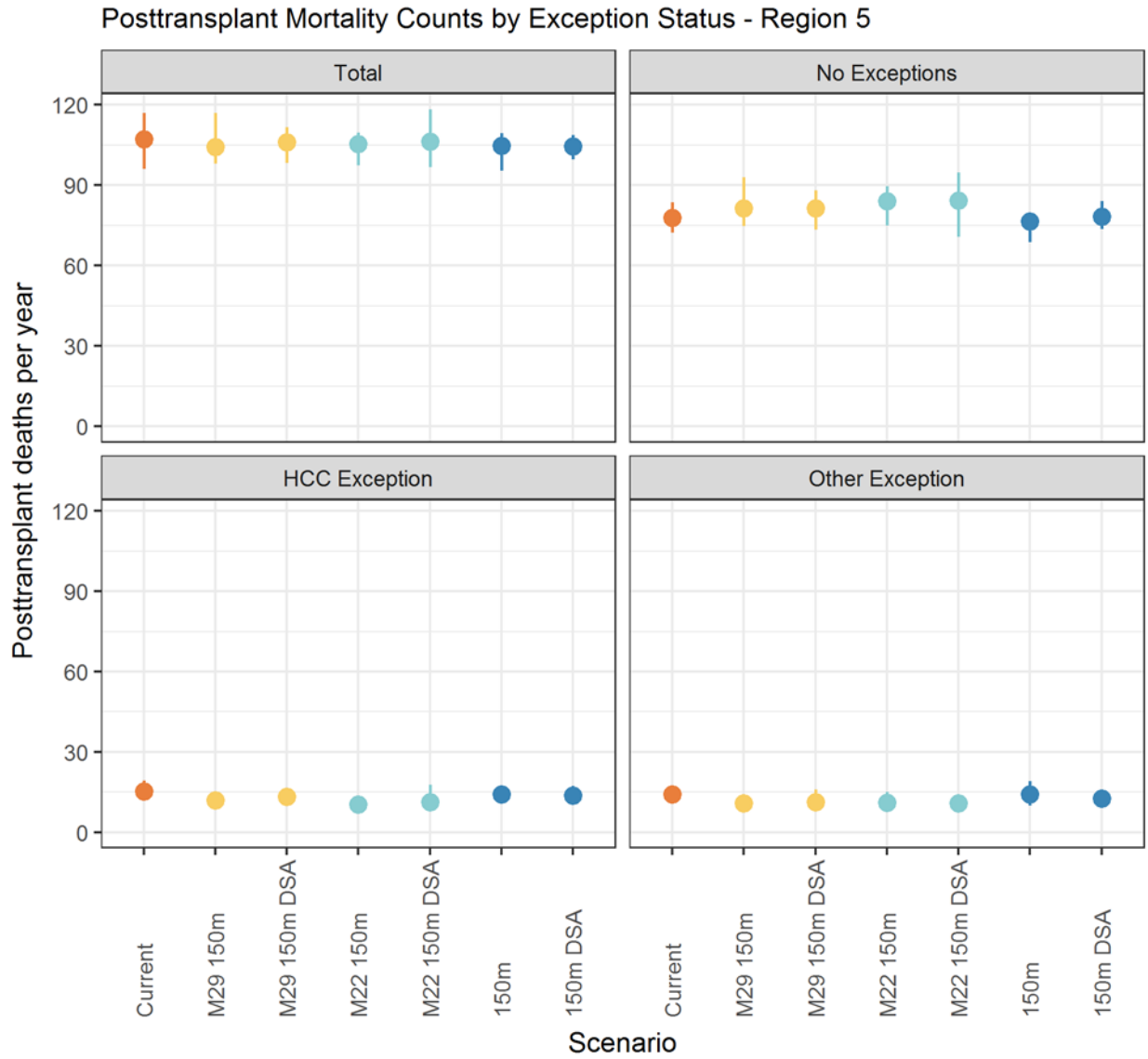


Figure 92 Posttransplant mortality counts by exception status - region 5

PRELIMINARY

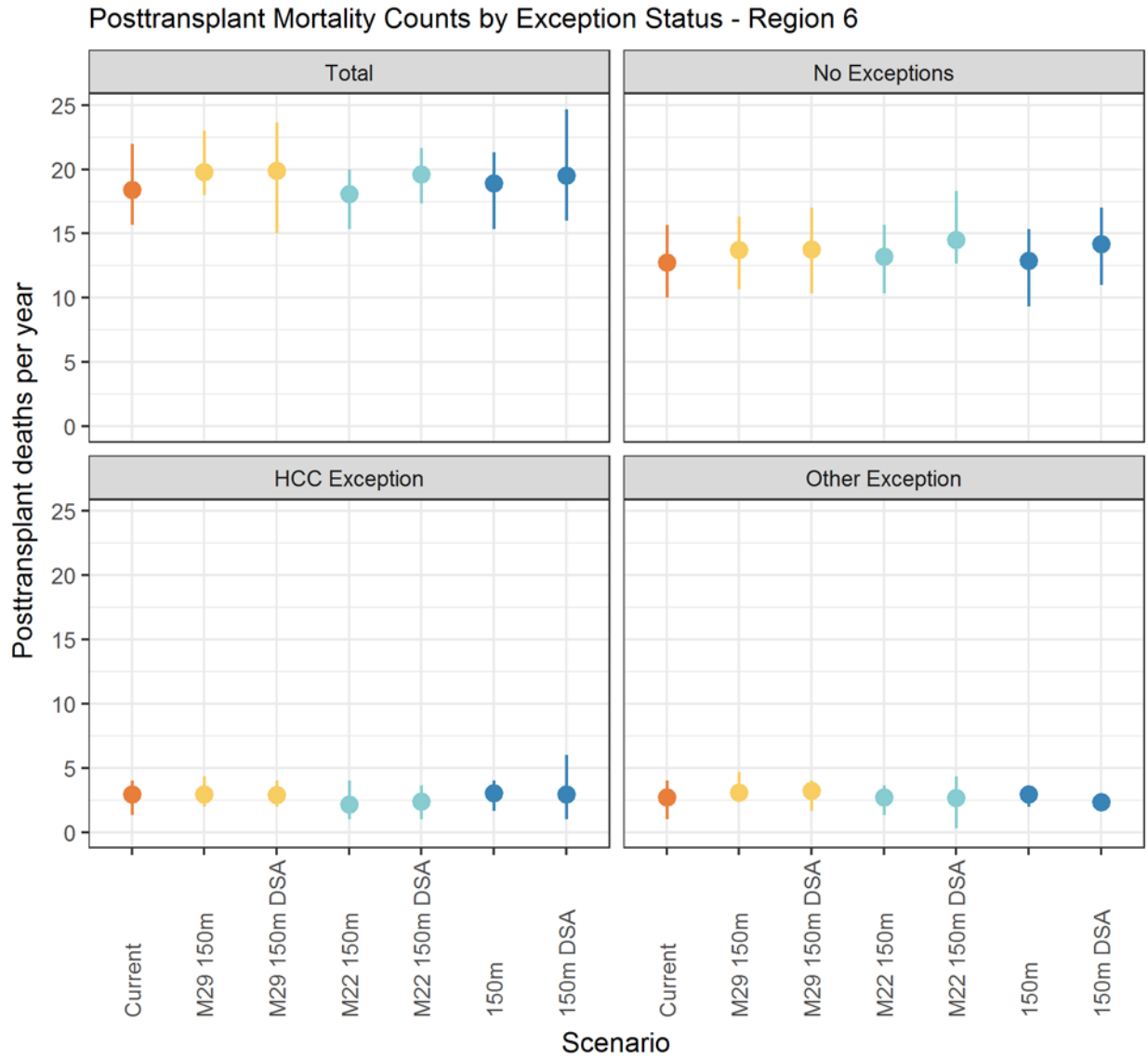


Figure 93 Posttransplant mortality counts by exception status - region 6

PRELIMINARY

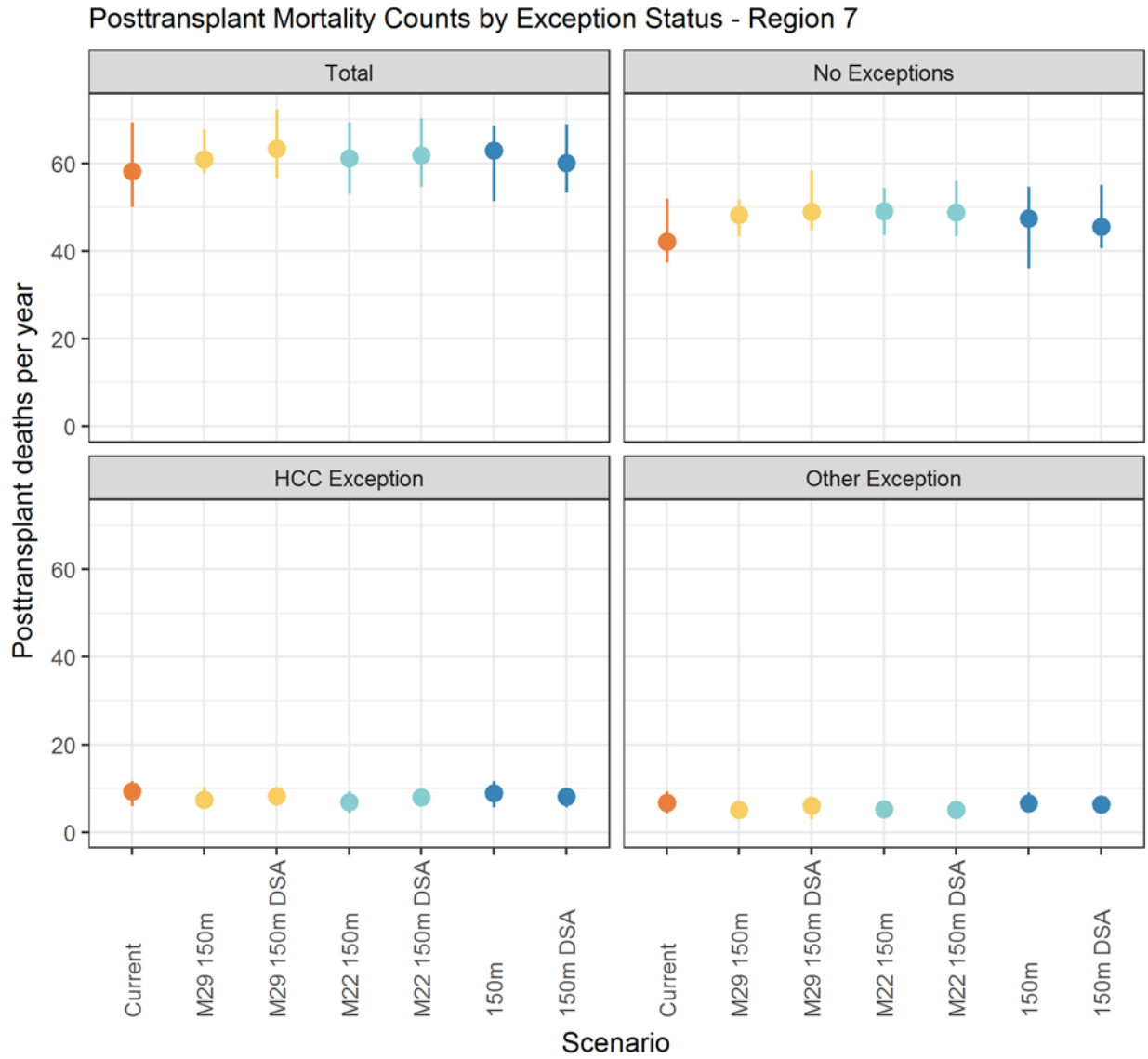


Figure 94 Posttransplant mortality counts by exception status - region 7

PRELIMINARY

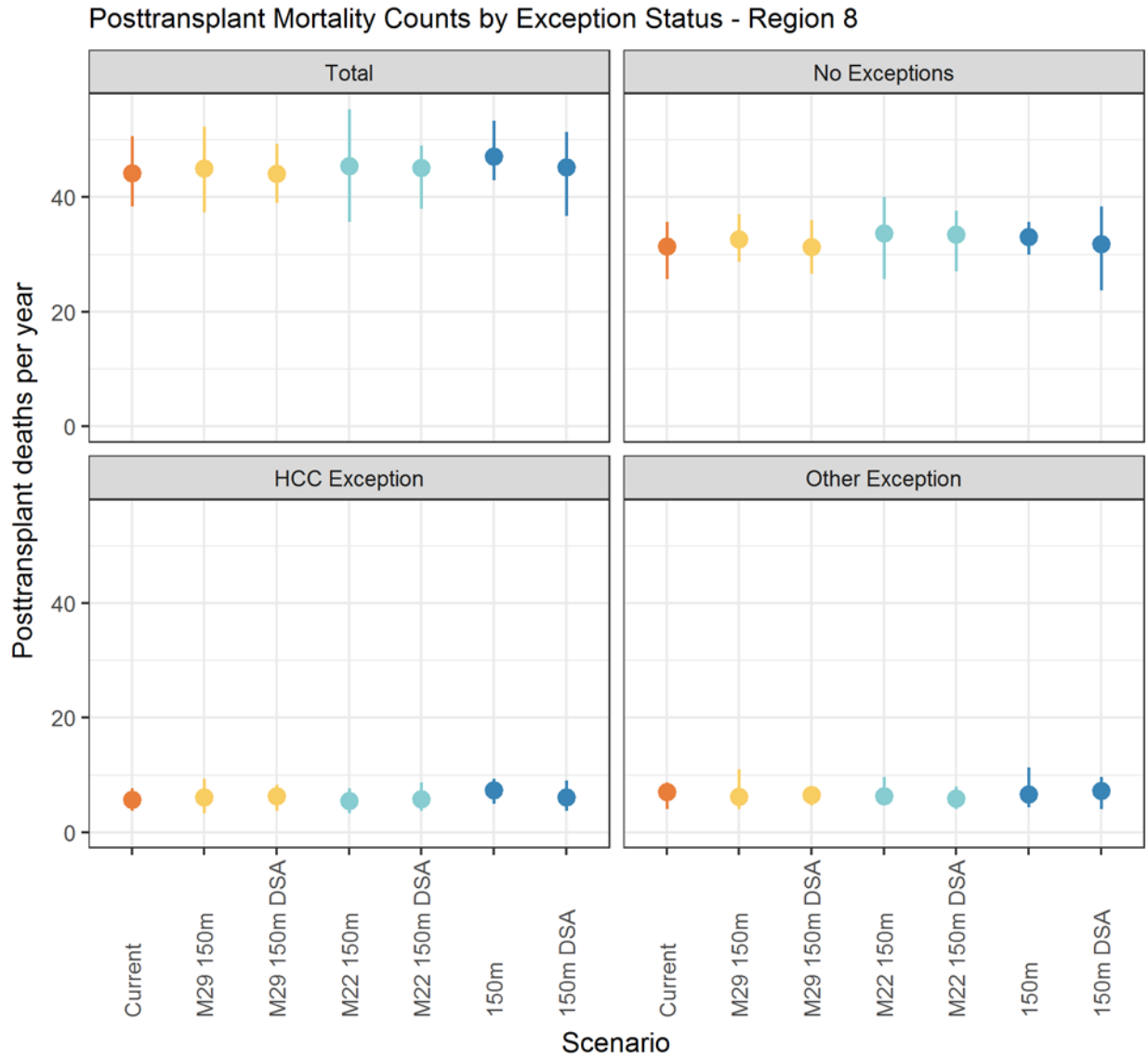


Figure 95 Posttransplant mortality counts by exception status - region 8

PRELIMINARY

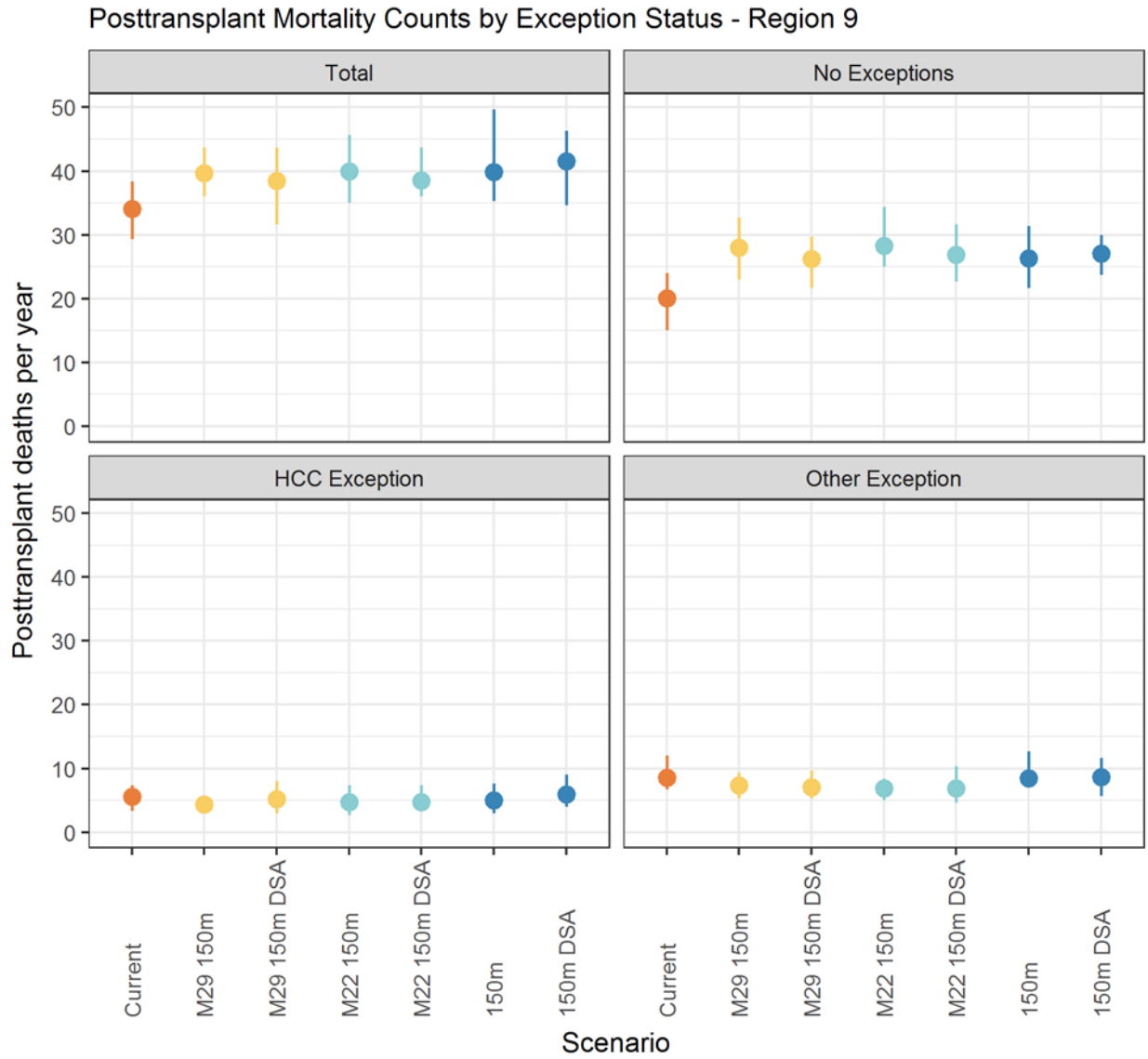


Figure 96 Posttransplant mortality counts by exception status - region 9

PRELIMINARY

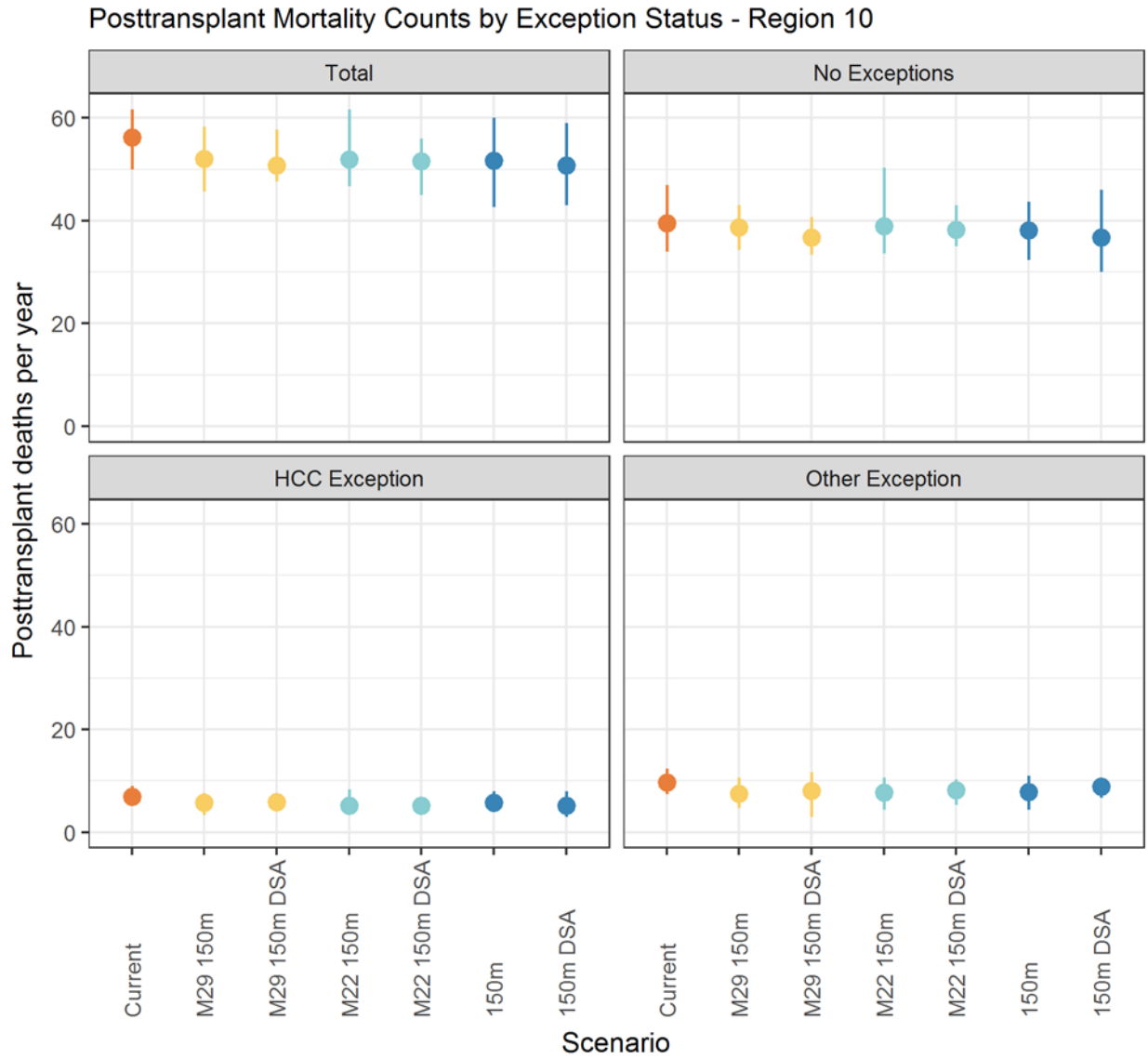


Figure 97 Posttransplant mortality counts by exception status - region 10

PRELIMINARY

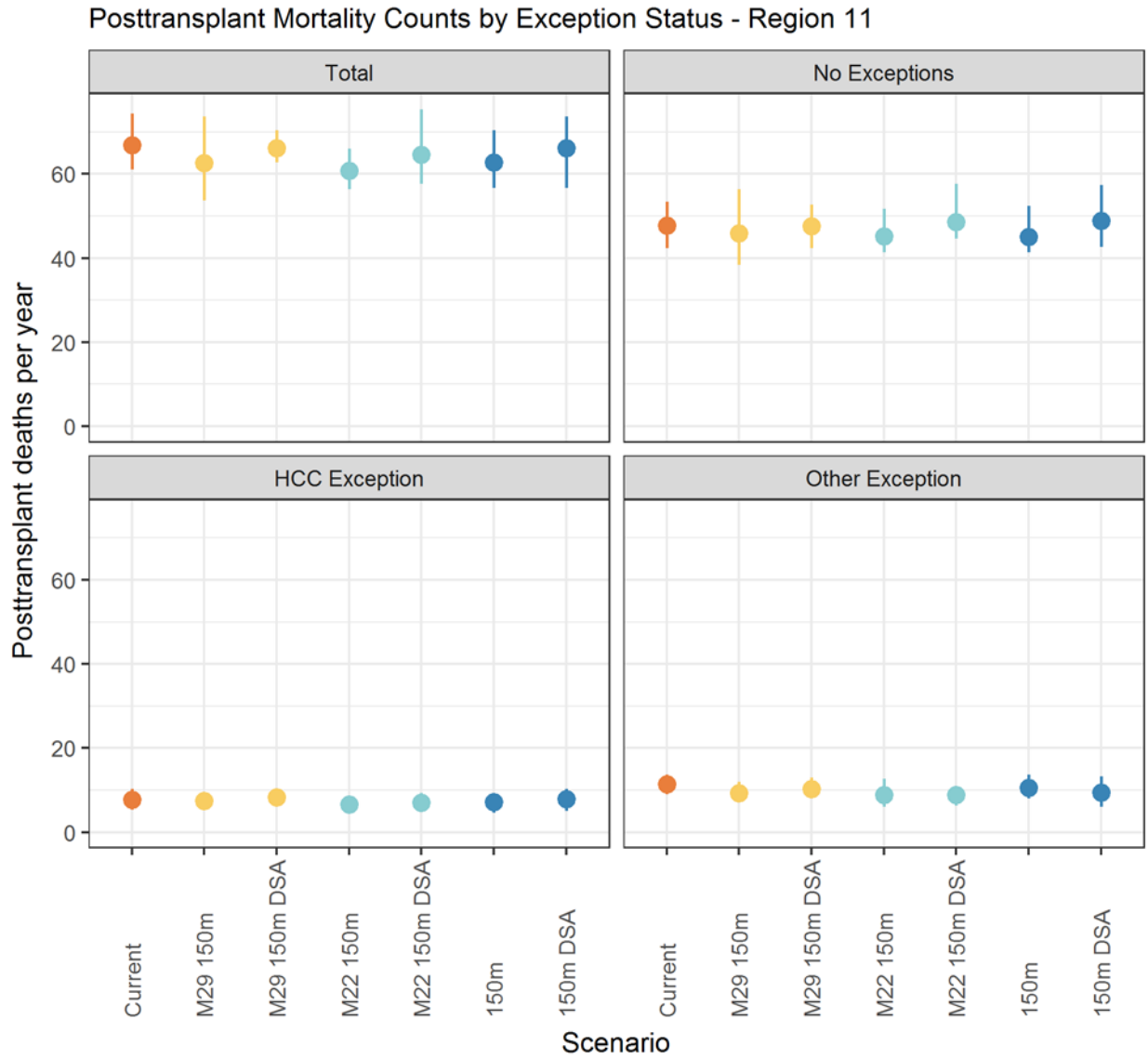


Figure 98 Posttransplant mortality counts by exception status - region 11

PRELIMINARY

Transport

Median Transport Time

Median Transport Time by Exception Status - Region 1

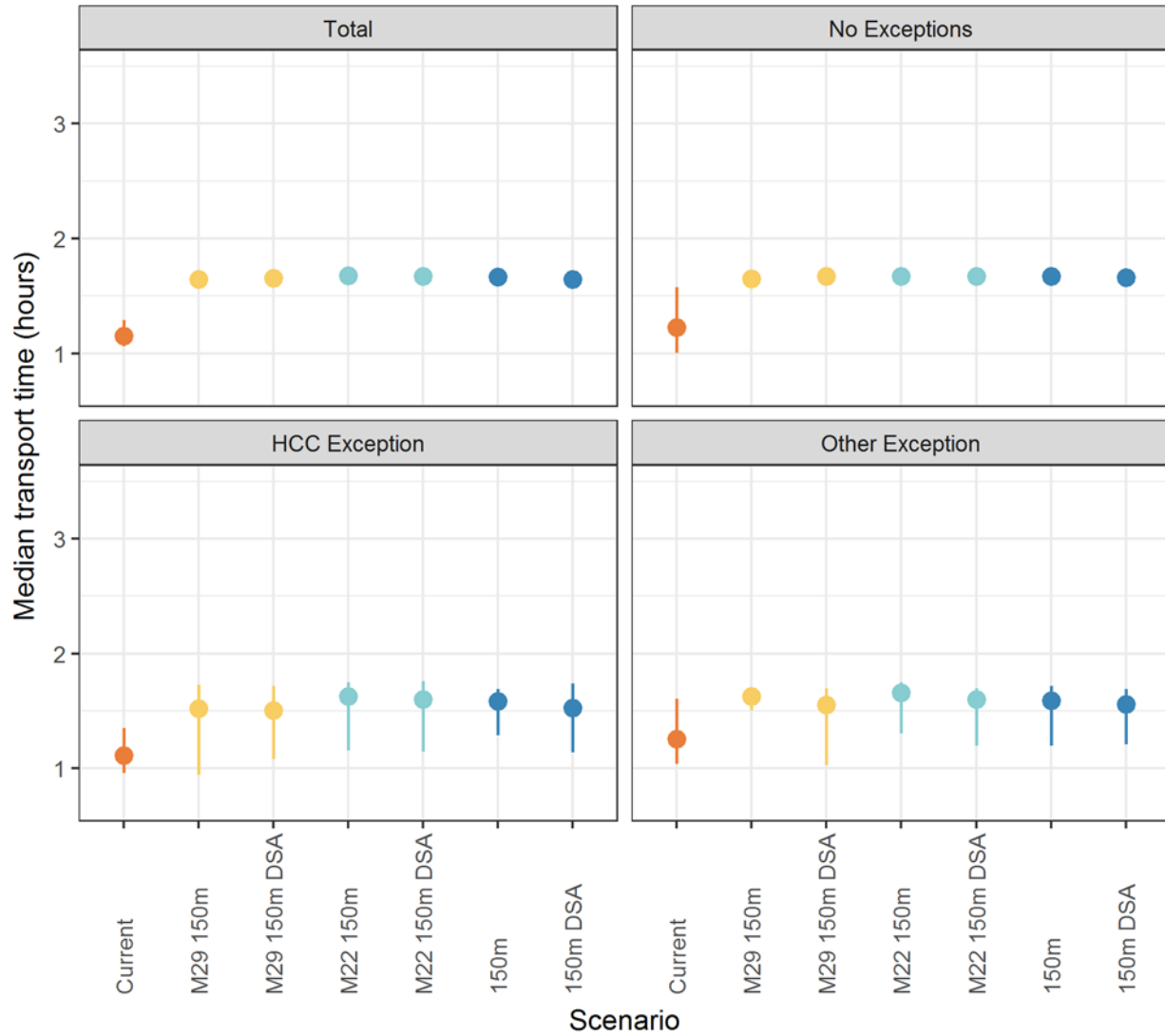


Figure 99 Median Transport Time by exception status - region 1

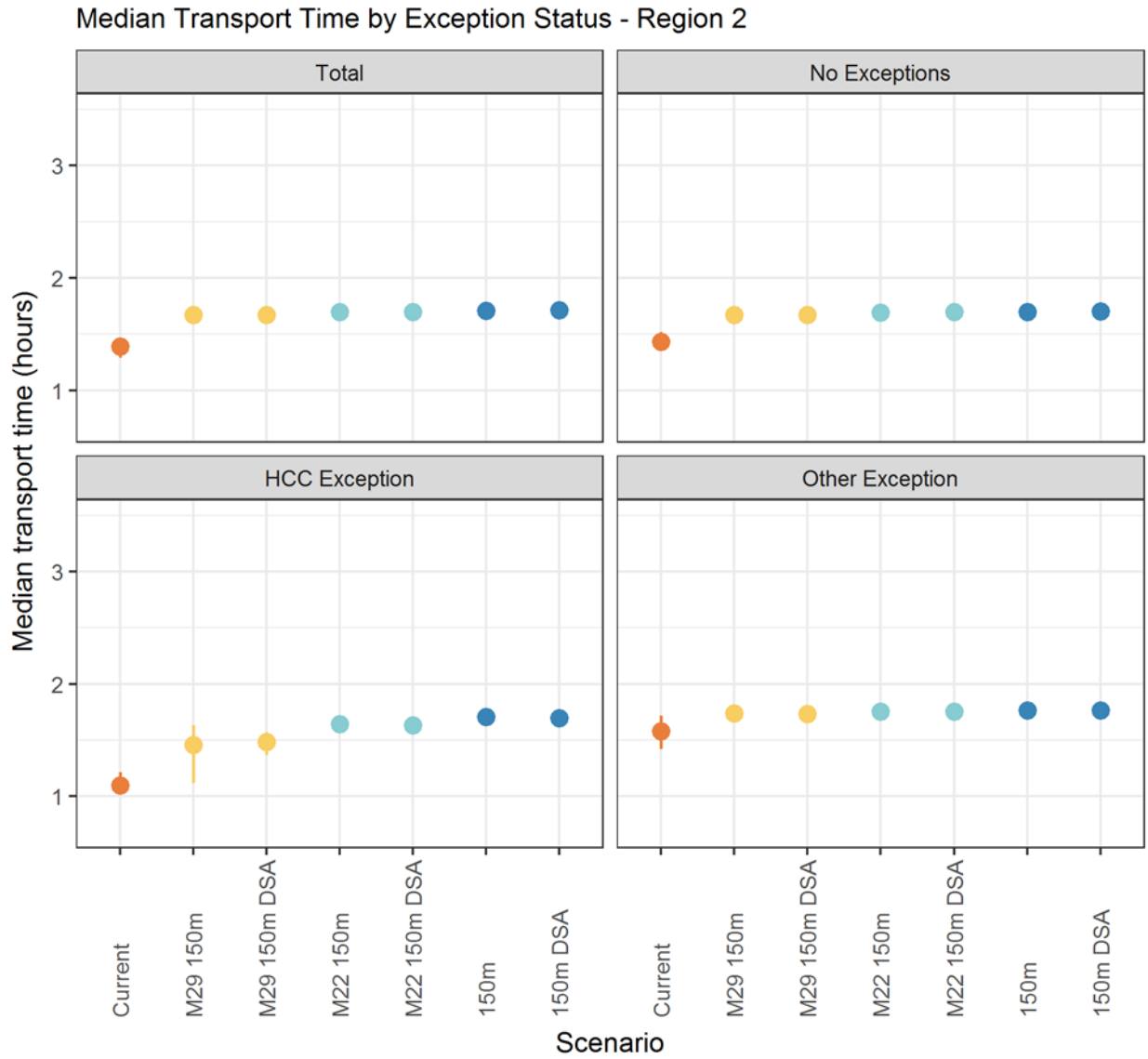


Figure 100 Median Transport Time by exception status - region 2

PRELIMINARY

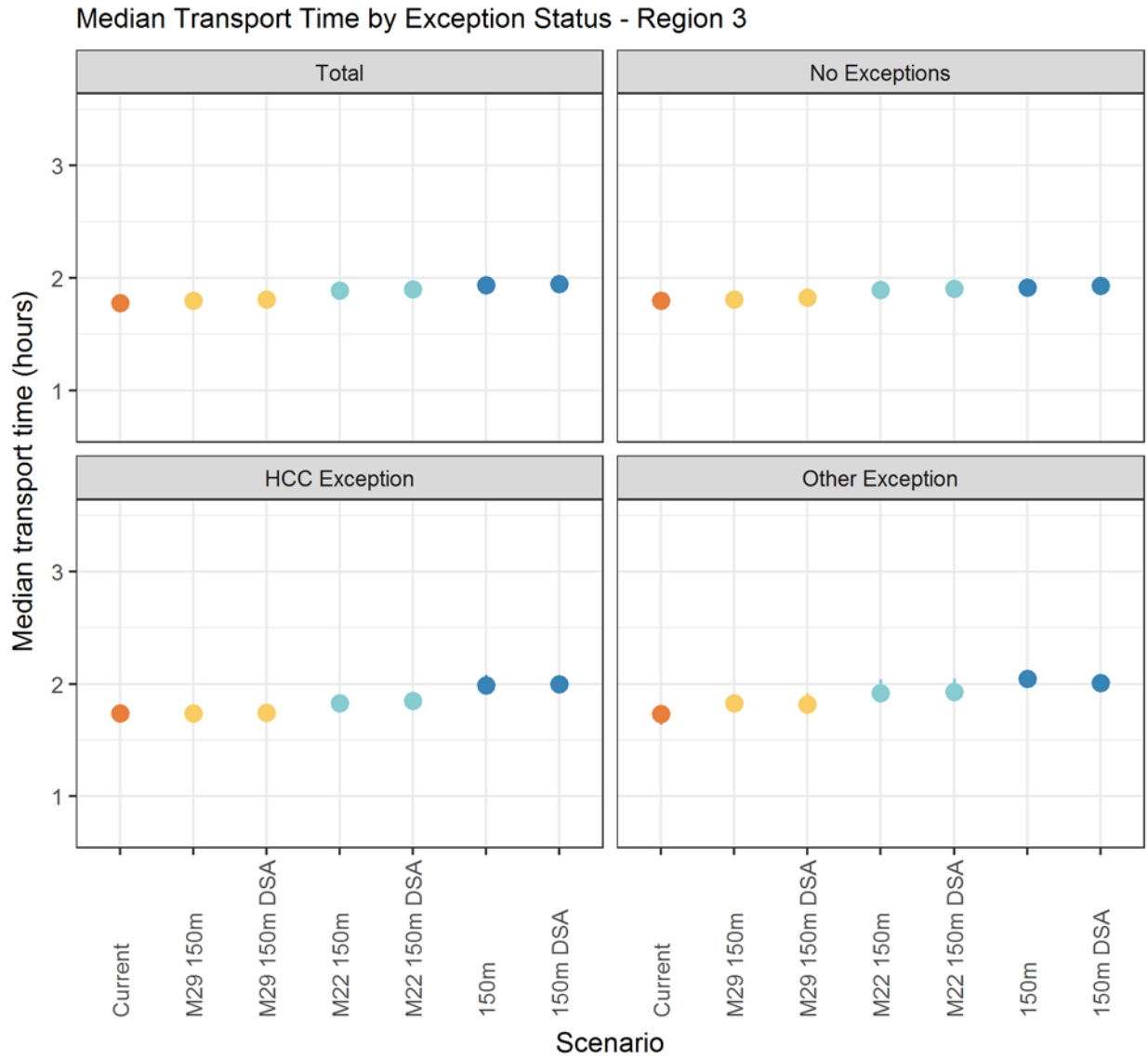


Figure 101 Median Transport Time by exception status - region 3

PRELIMINARY

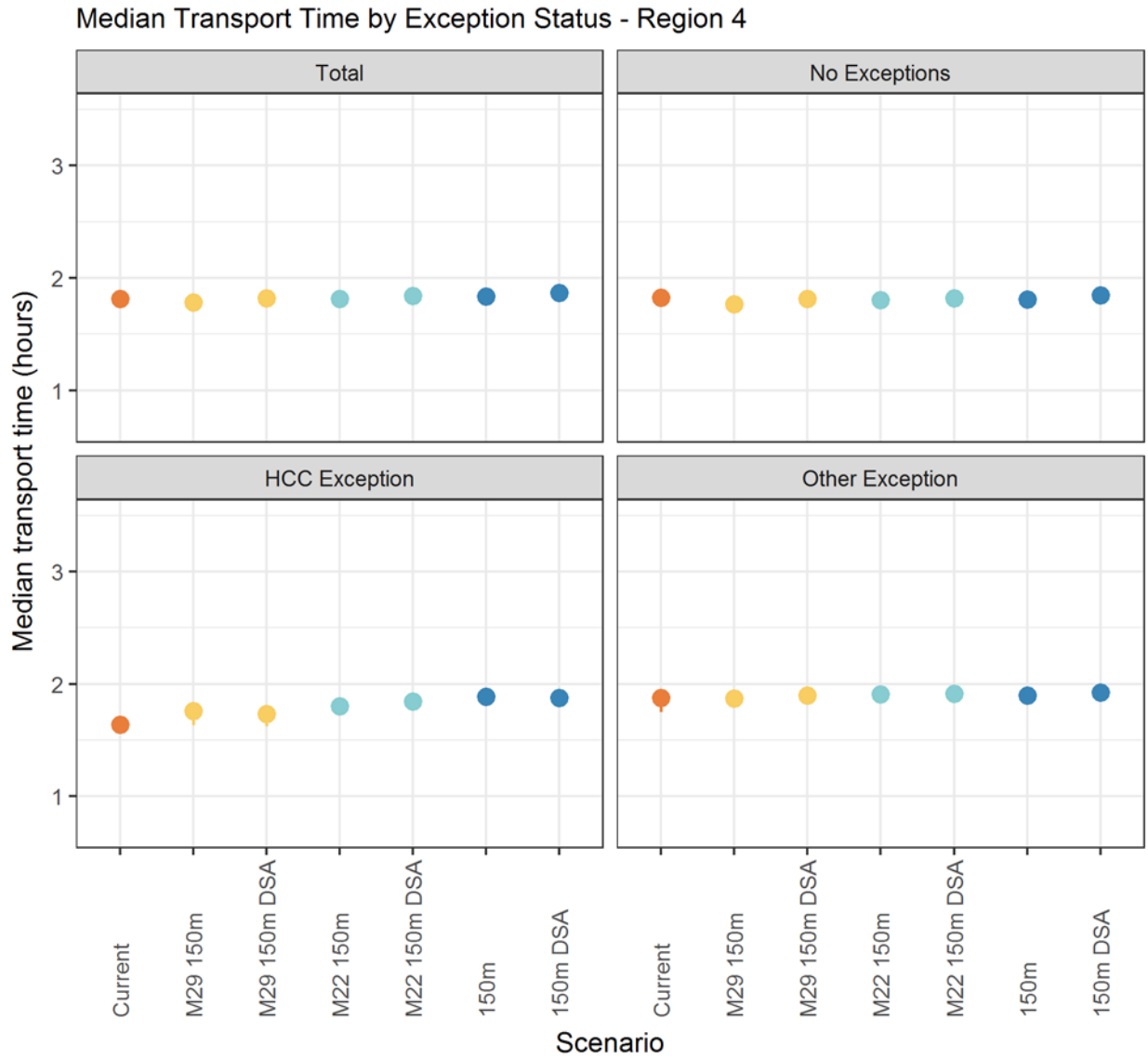


Figure 102 Median Transport Time by exception status - region 4

PRELIMINARY

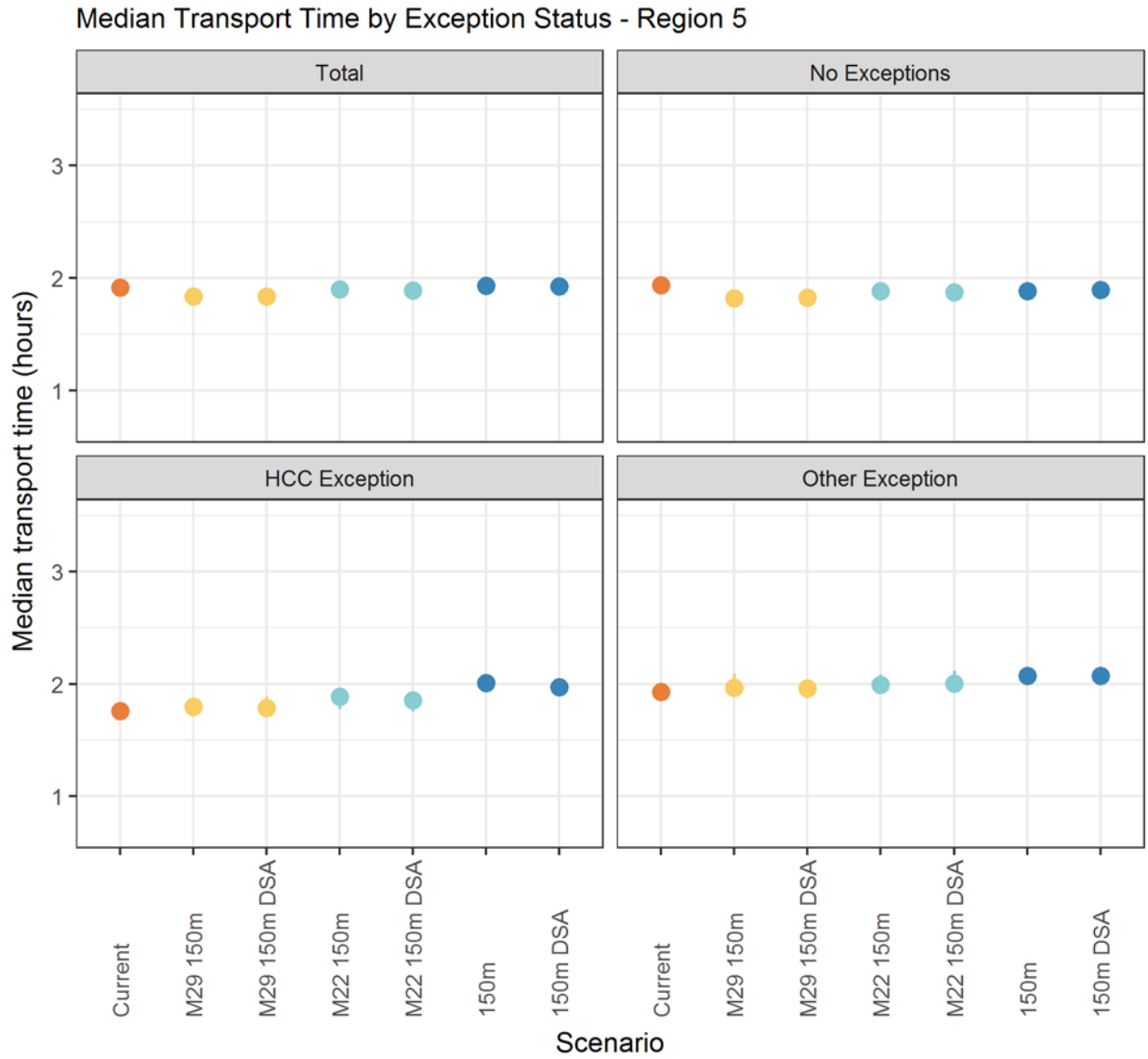


Figure 103 Median Transport Time by exception status - region 5

PRELIMINARY

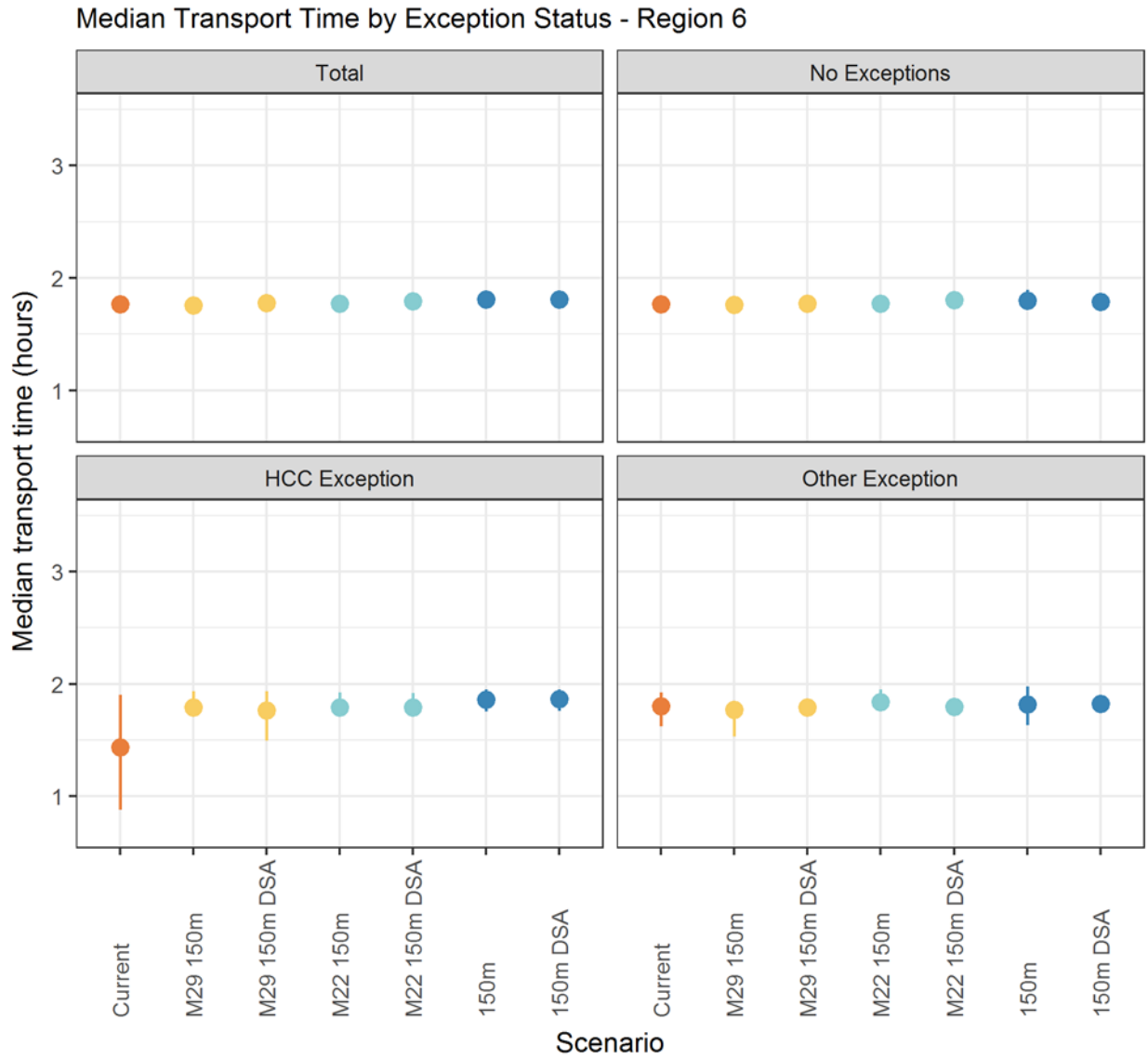


Figure 104 Median Transport Time by exception status - region 6

PRELIMINARY

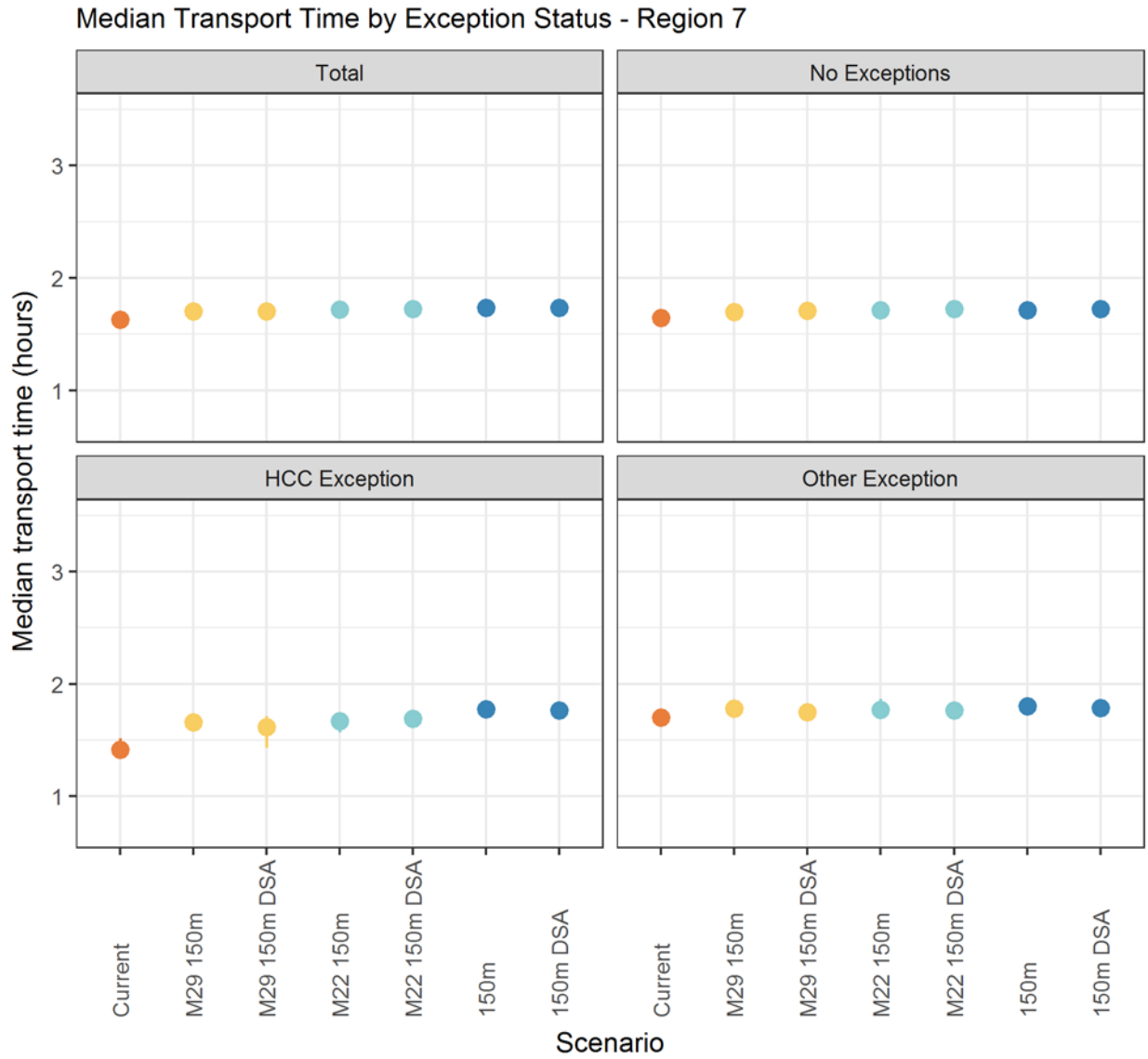


Figure 105 Median Transport Time by exception status - region 7

PRELIMINARY

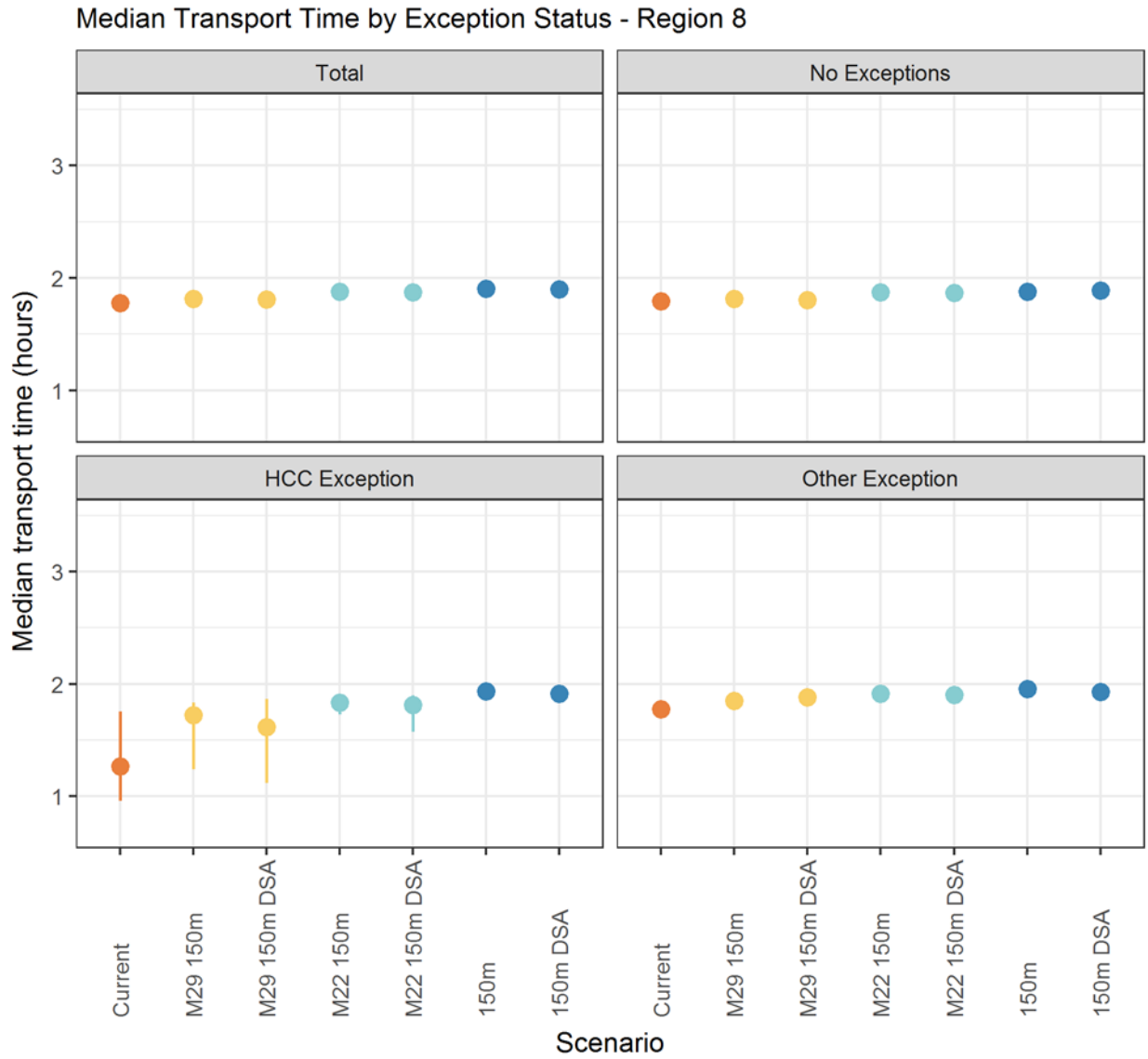


Figure 106 Median Transport Time by exception status - region 8

PRELIMINARY

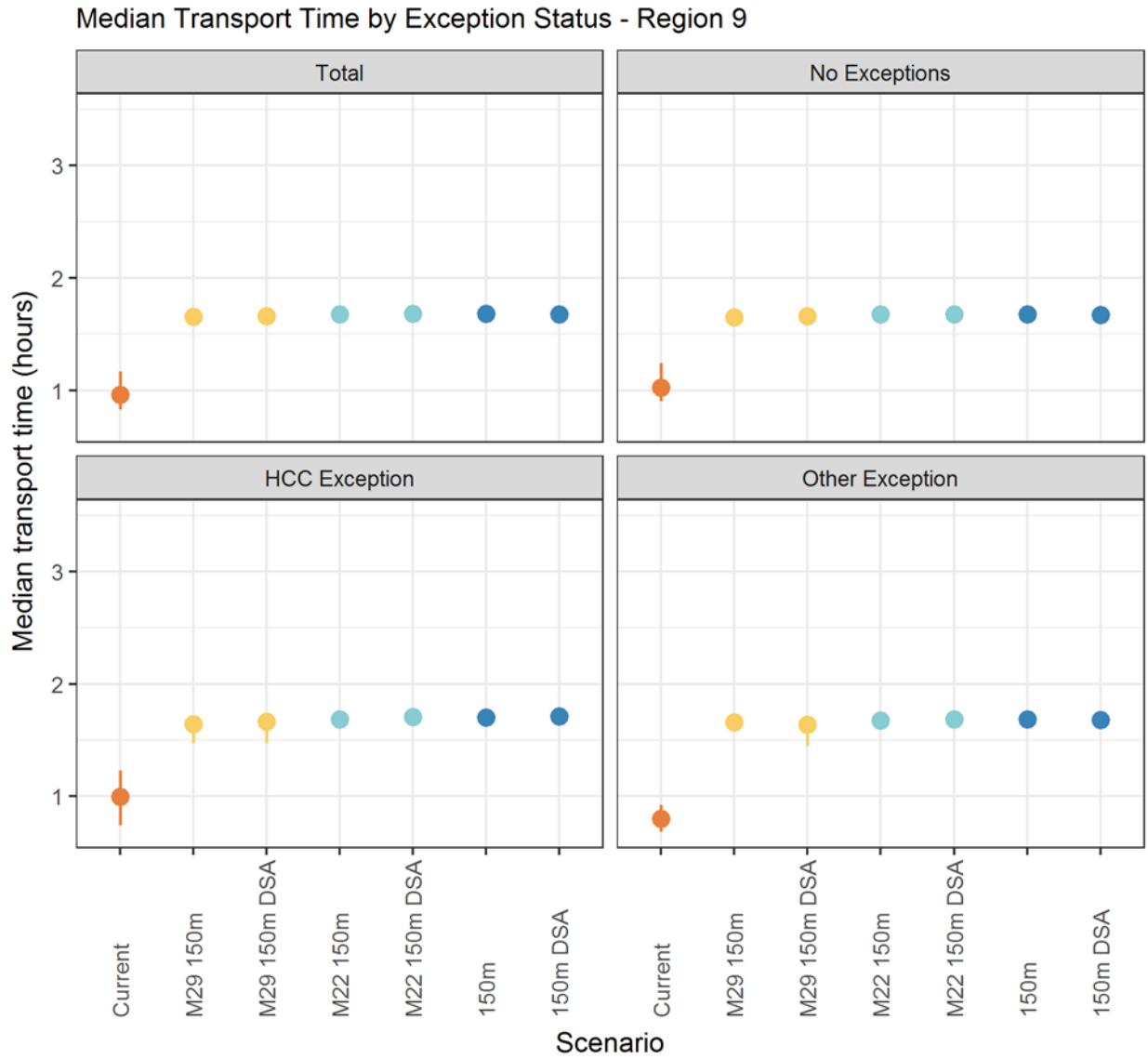


Figure 107 Median Transport Time by exception status - region 9

PRELIMINARY

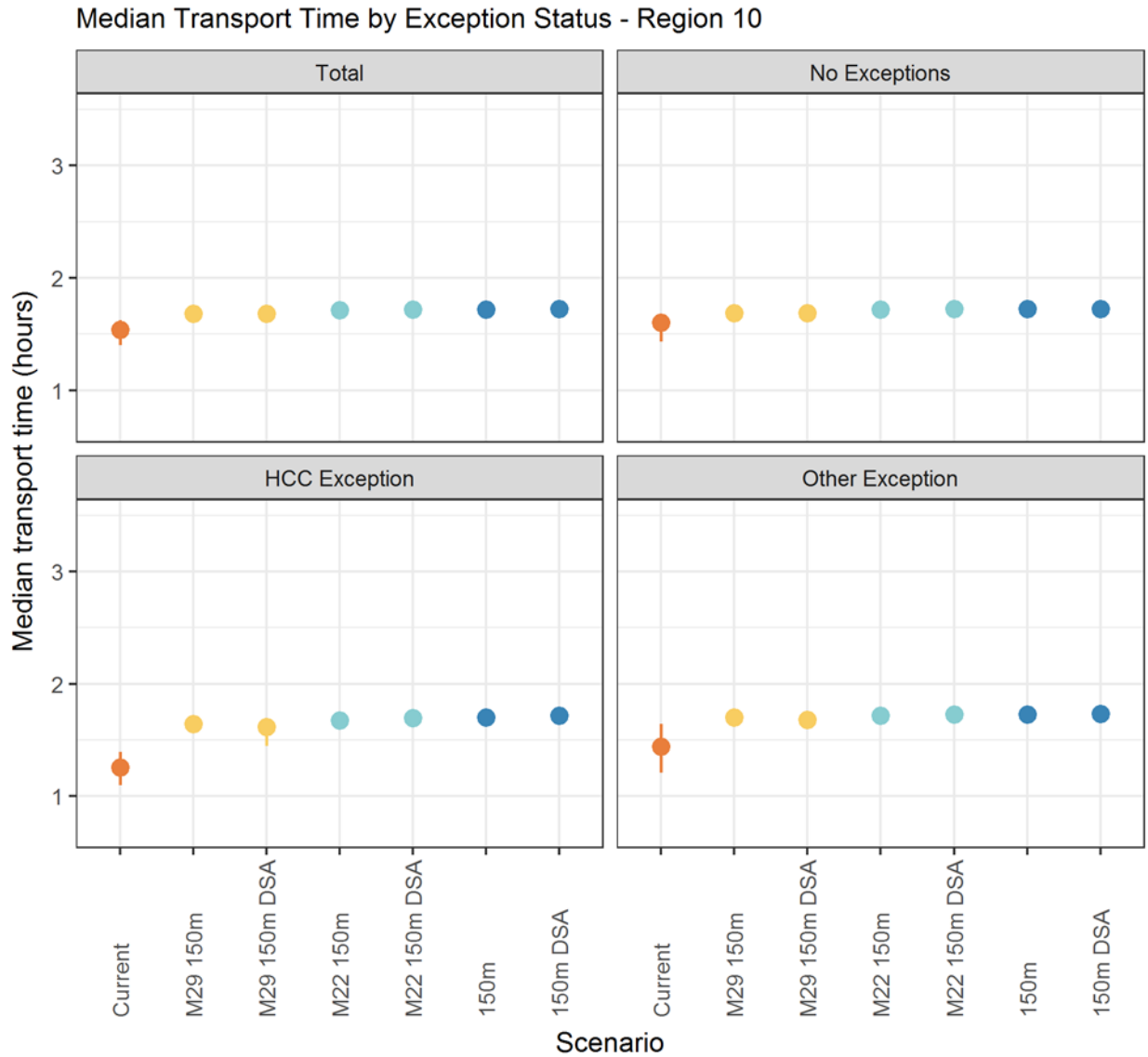


Figure 108 Median Transport Time by exception status - region 10

PRELIMINARY

Median Transport Time by Exception Status - Region 11

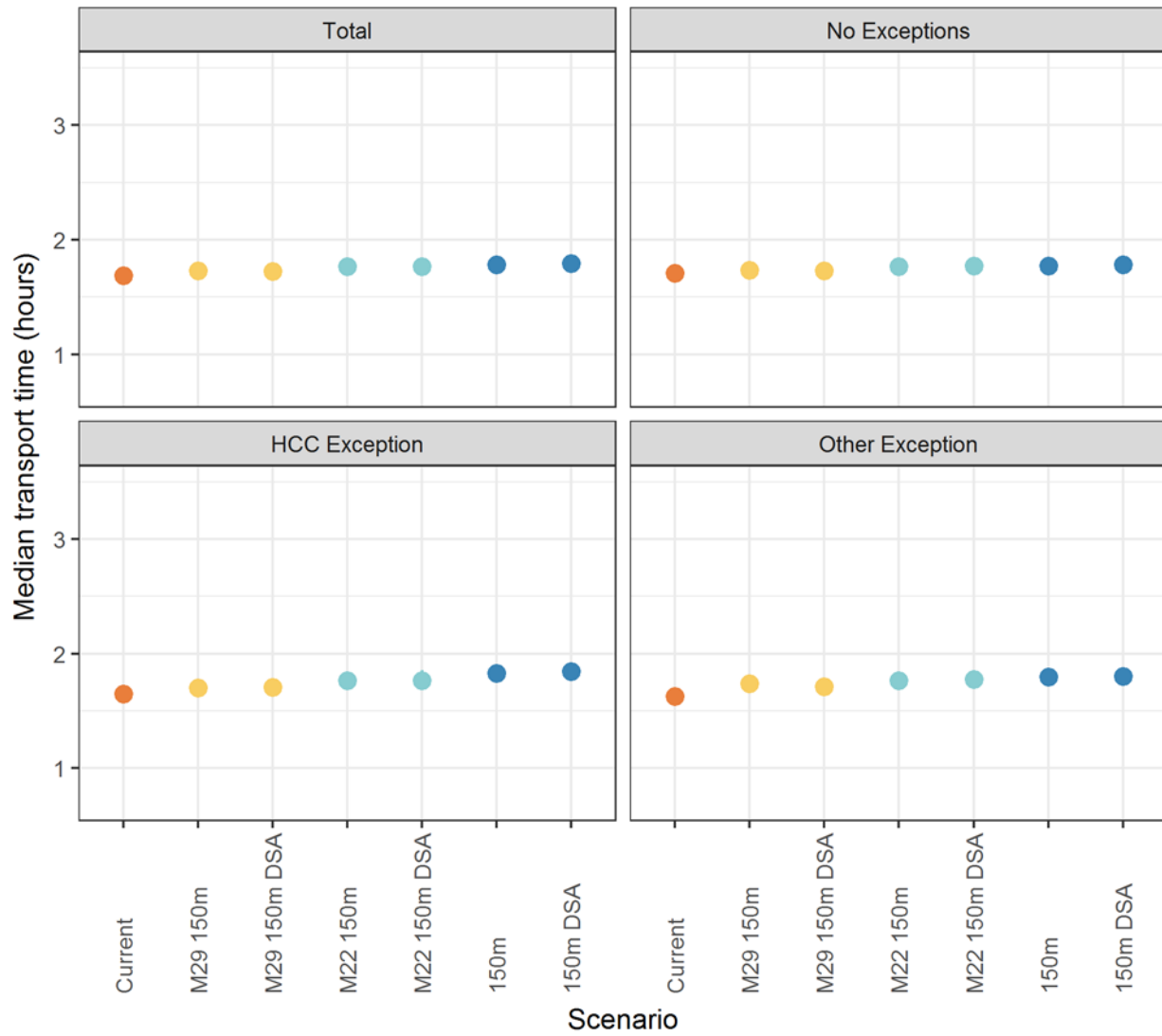


Figure 109 Median Transport Time by exception status - region 11

PRELIMINARY

Median Transport Distance

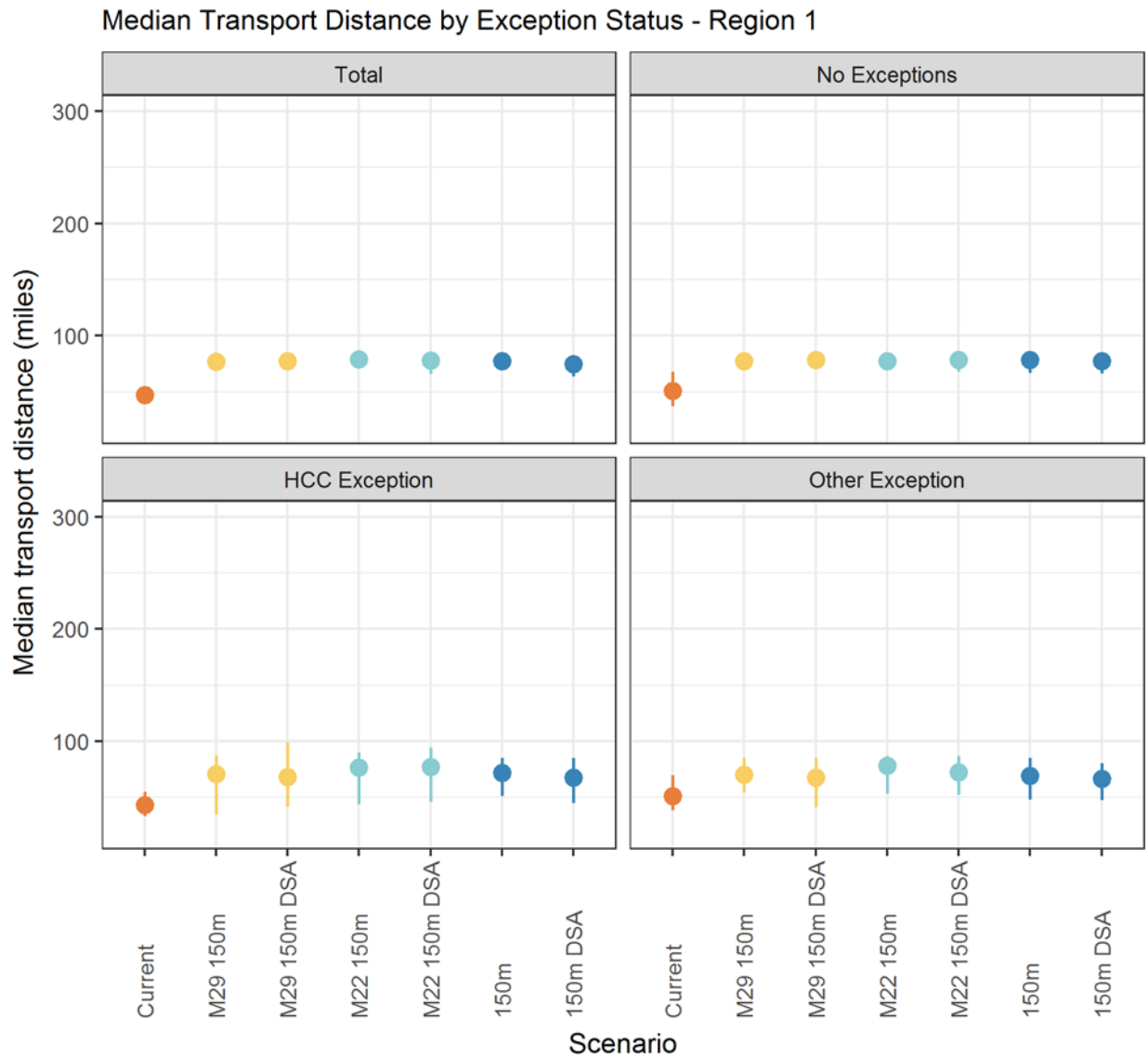


Figure 110 Median Transport Distance by exception status - region 1

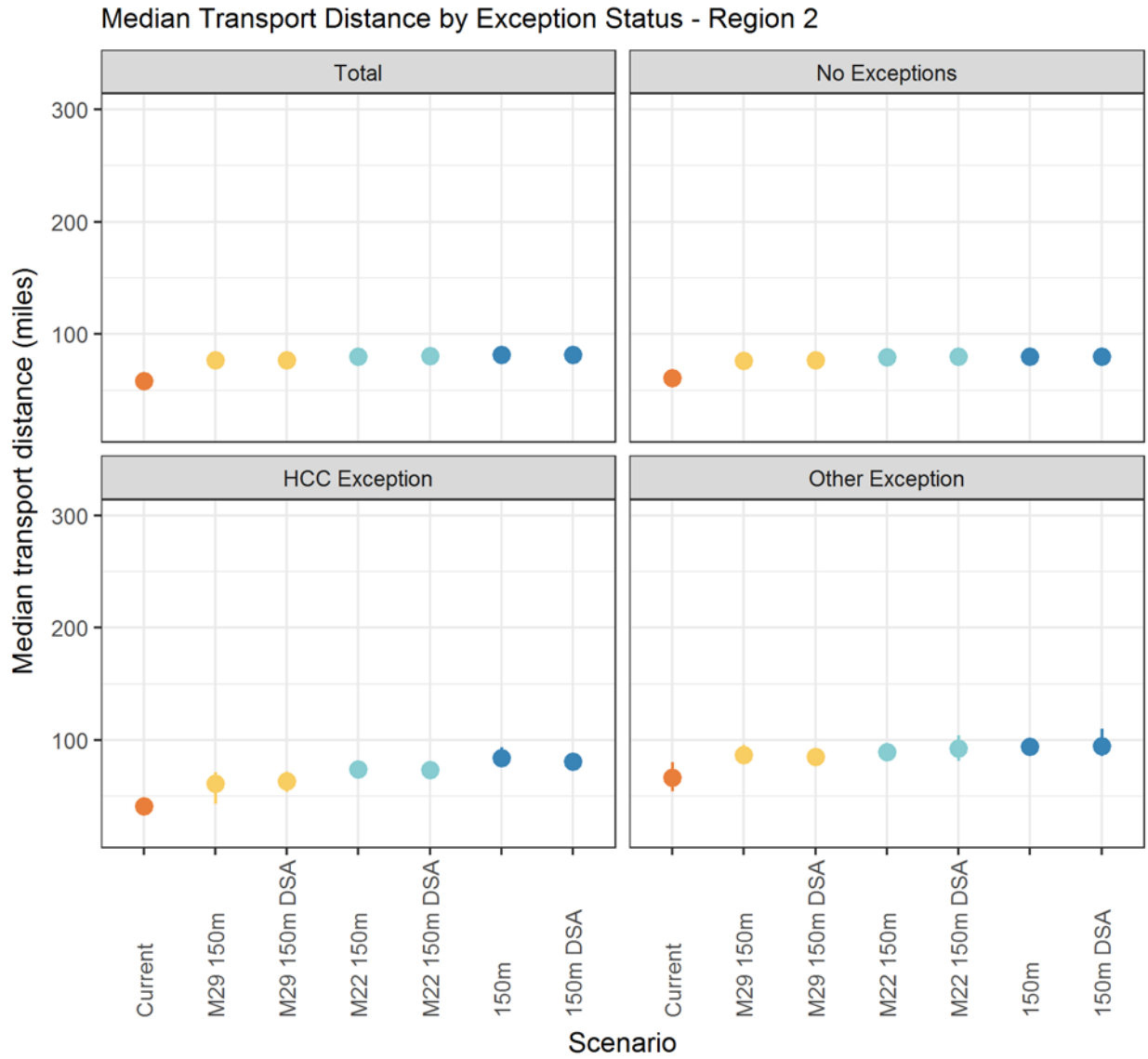


Figure 111 Median Transport Distance by exception status - region 2

PRELIMINARY

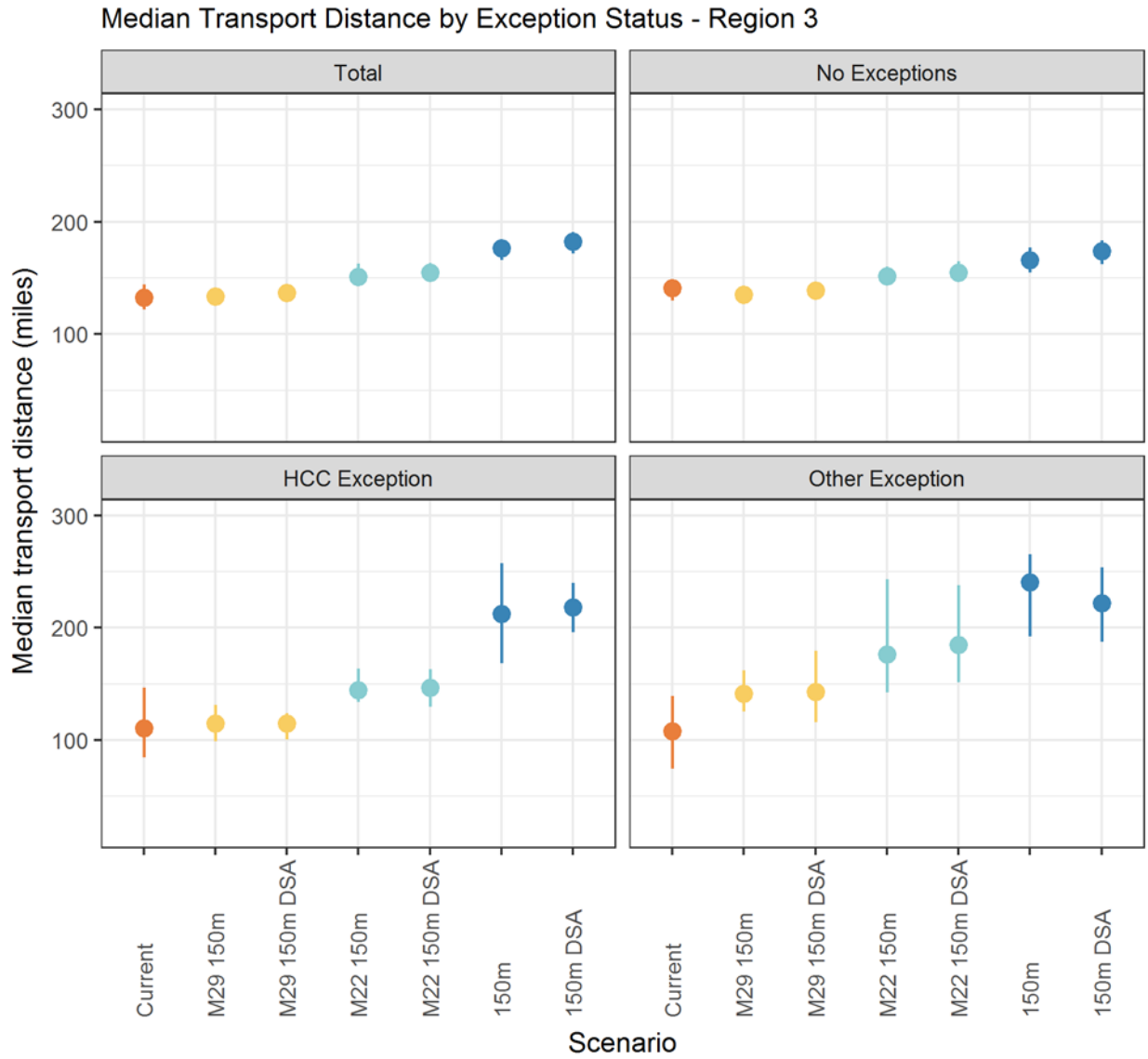


Figure 112 Median Transport Distance by exception status - region 3

PRELIMINARY

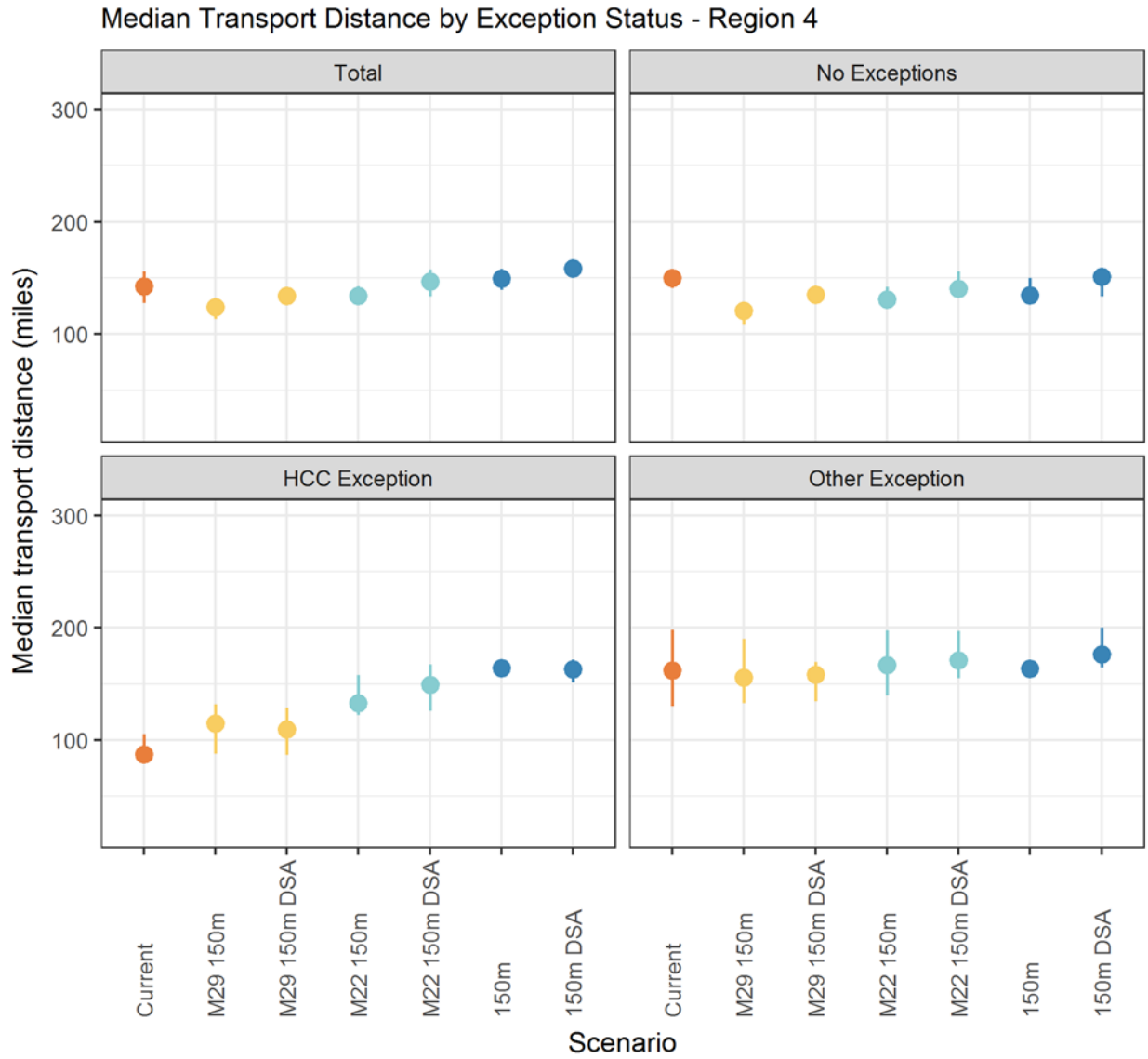


Figure 113 Median Transport Distance by exception status - region 4

PRELIMINARY

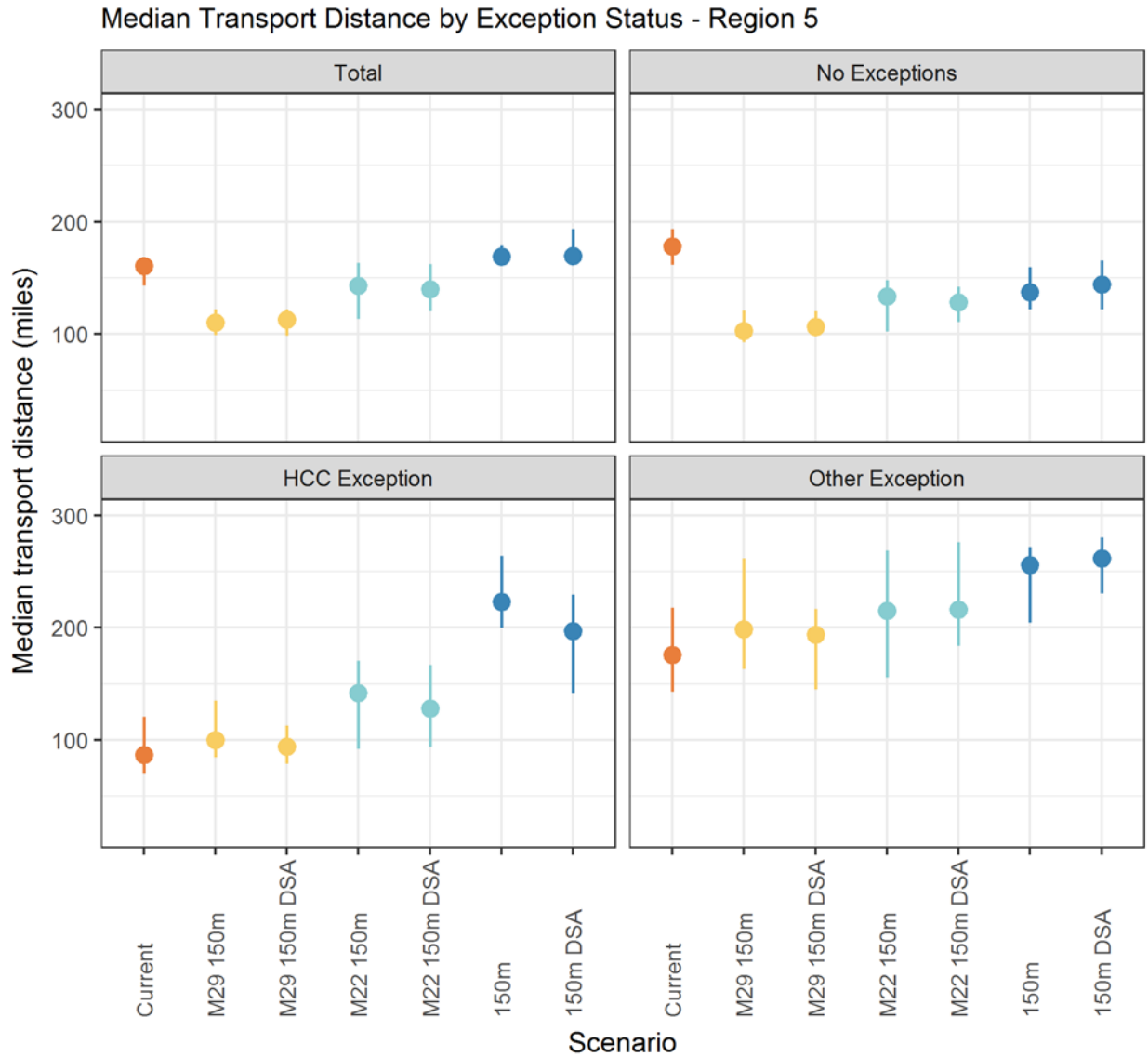


Figure 114 Median Transport Distance by exception status - region 5

PRELIMINARY

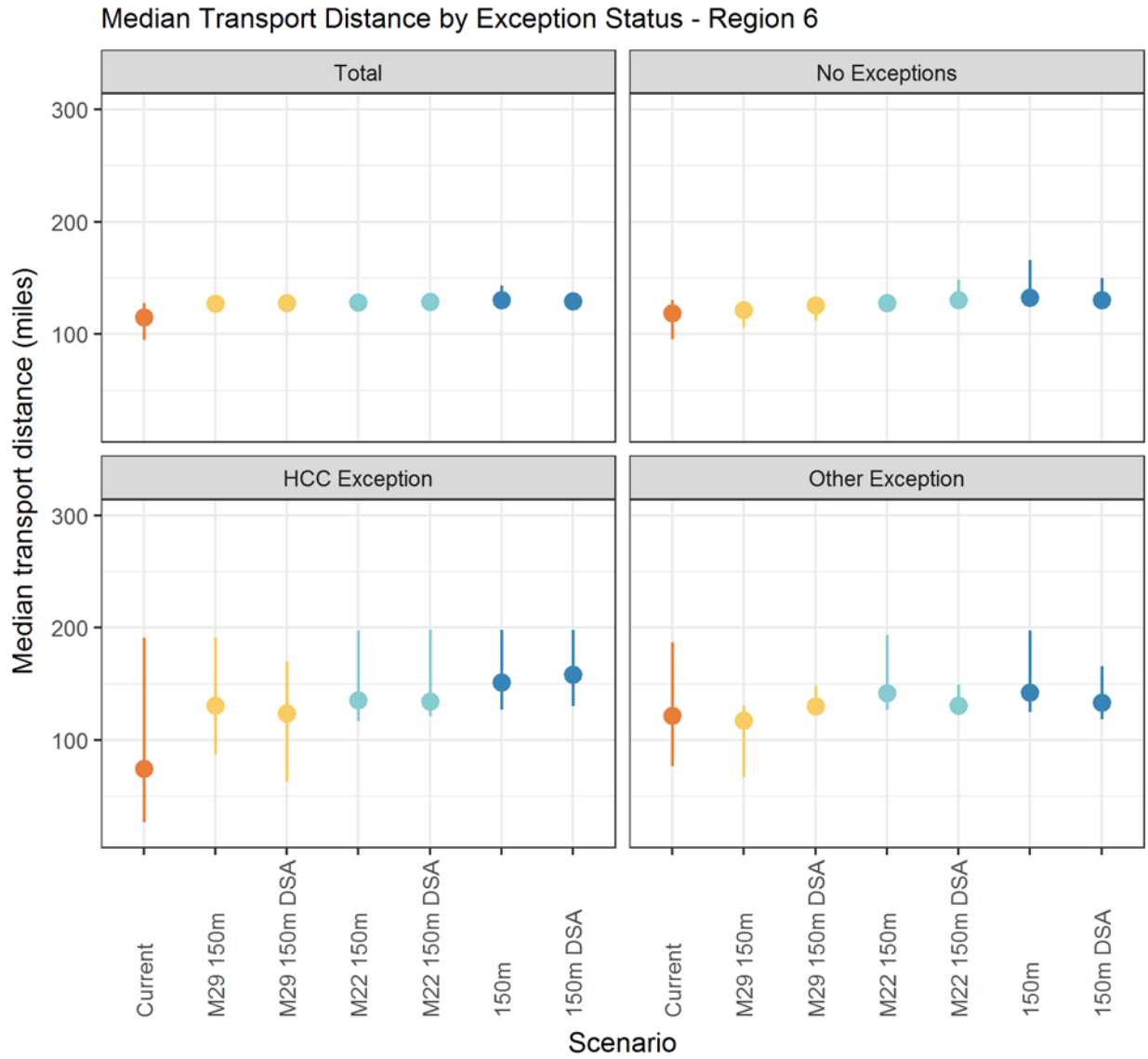


Figure 115 Median Transport Distance by exception status - region 6

PRELIMINARY

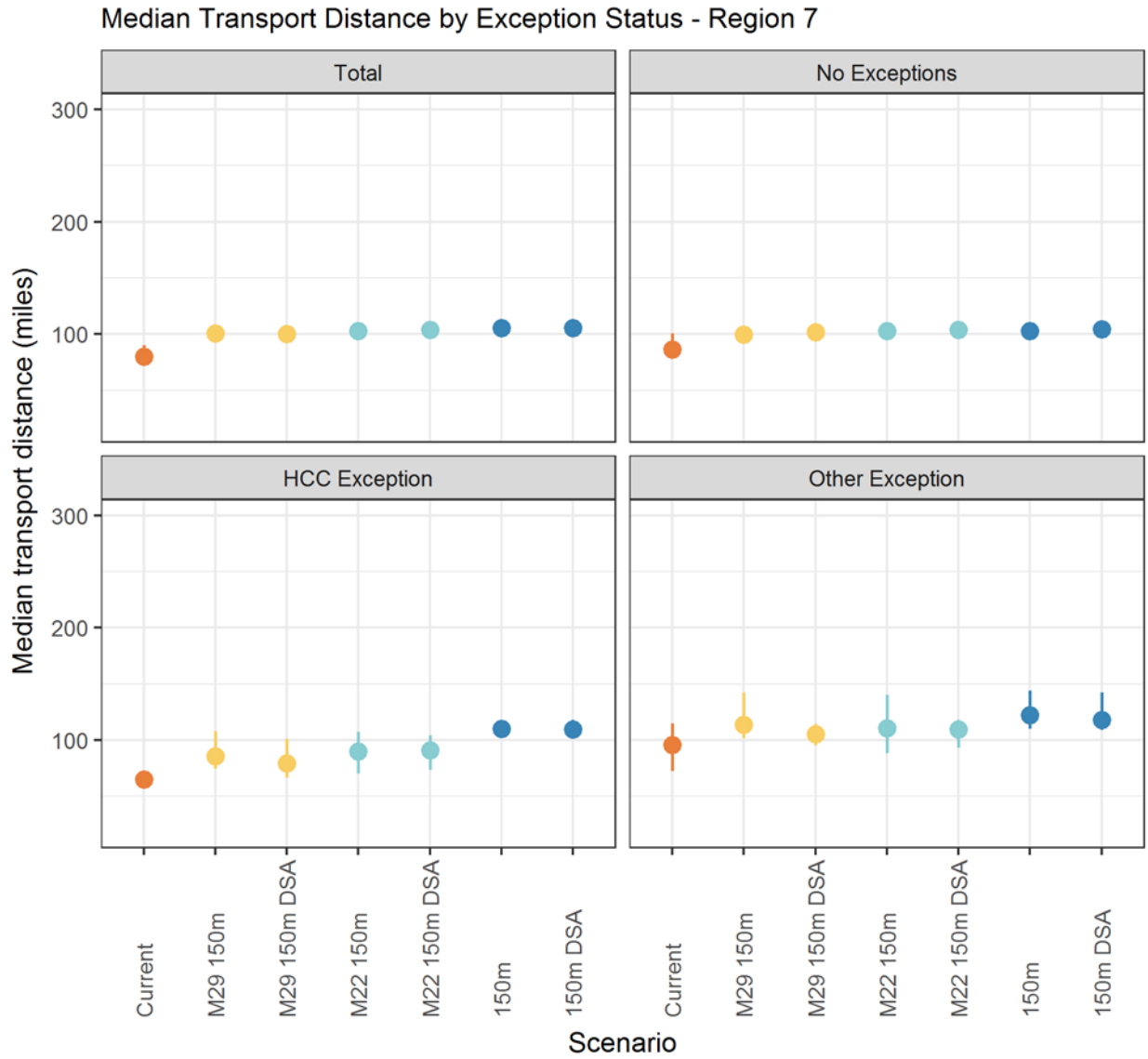


Figure 116 Median Transport Distance by exception status - region 7

PRELIMINARY

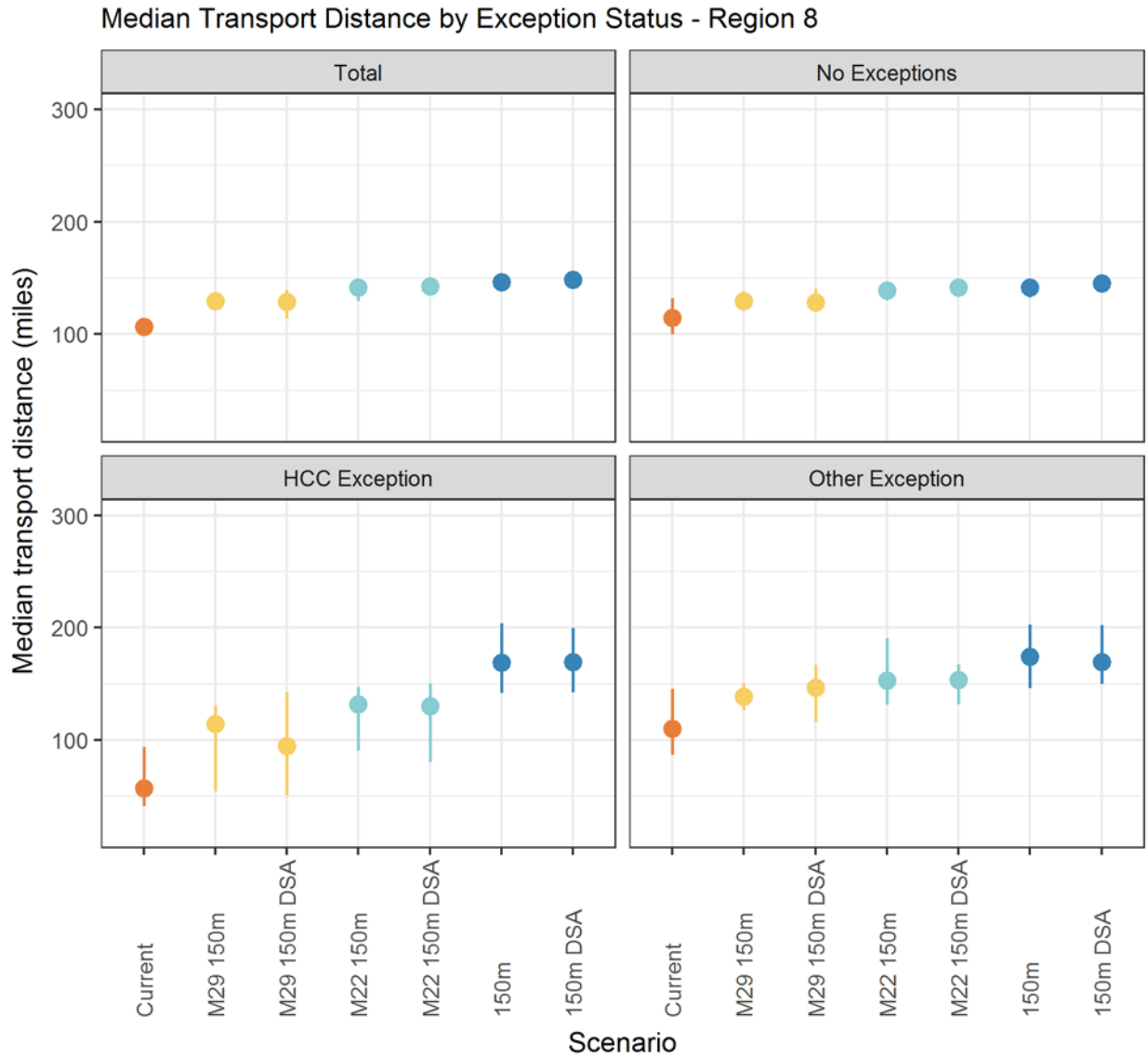


Figure 117 Median Transport Distance by exception status - region 8

PRELIMINARY

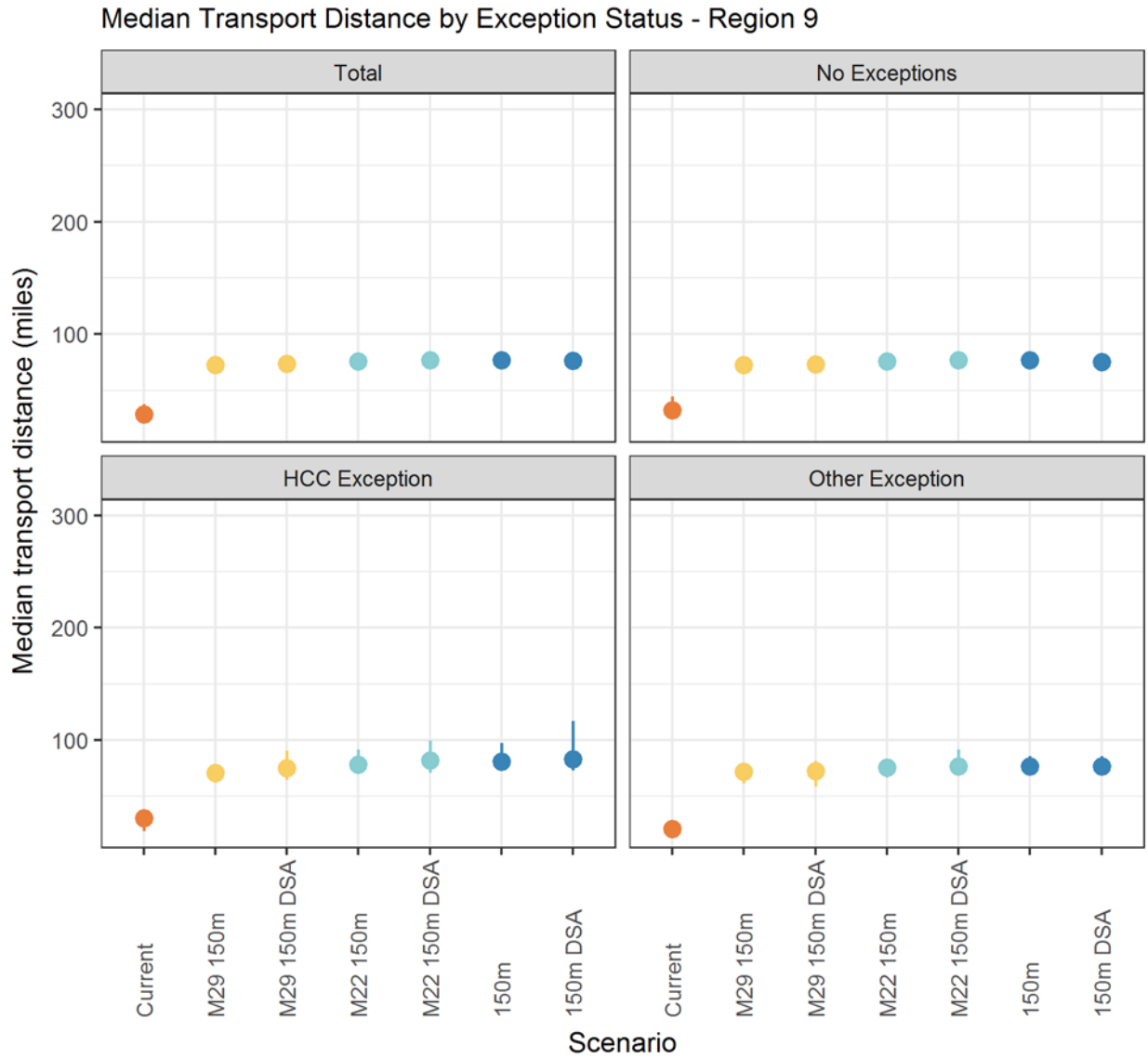


Figure 118 Median Transport Distance by exception status - region 9

PRELIMINARY

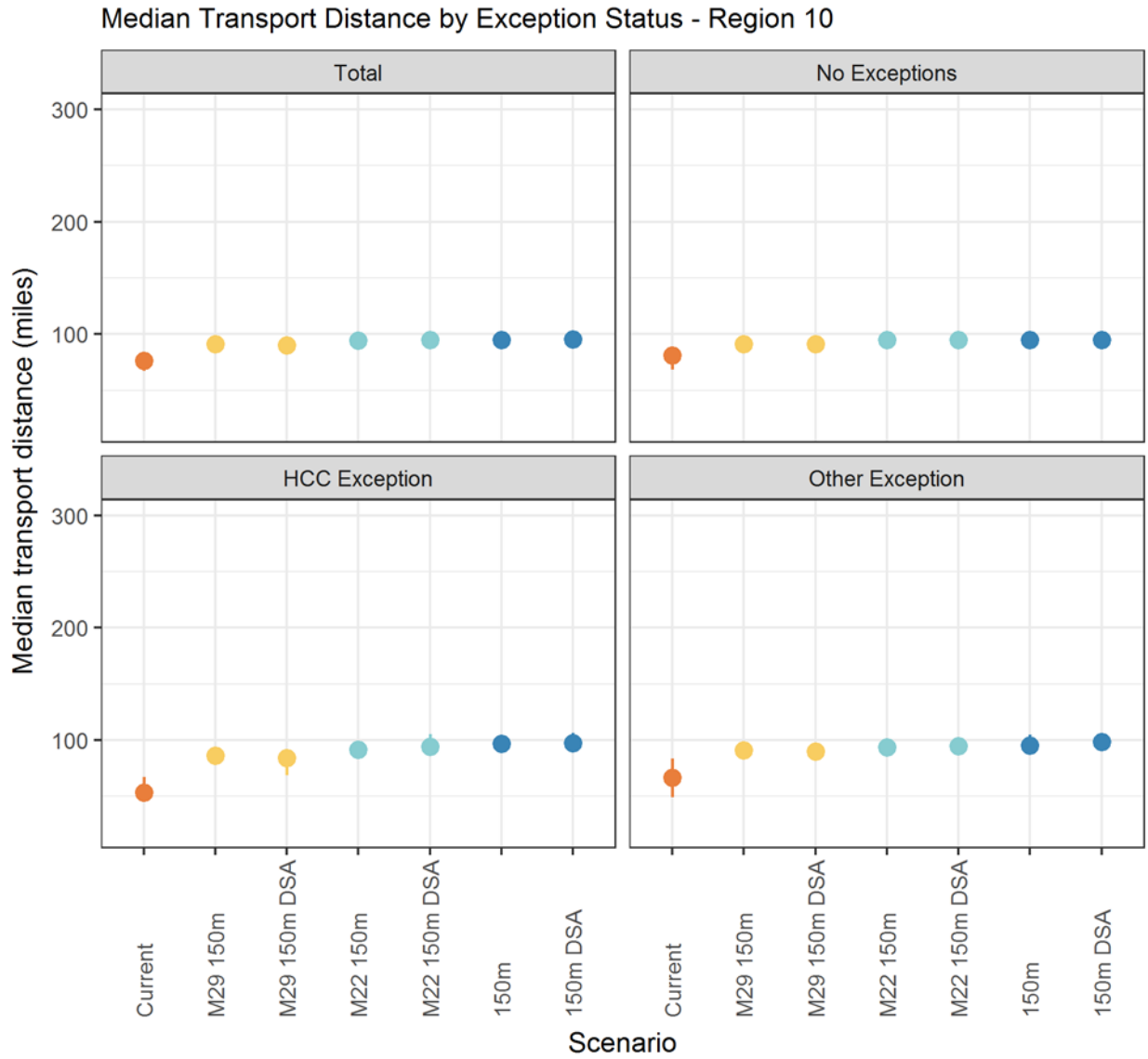


Figure 119 Median Transport Distance by exception status - region 10

PRELIMINARY

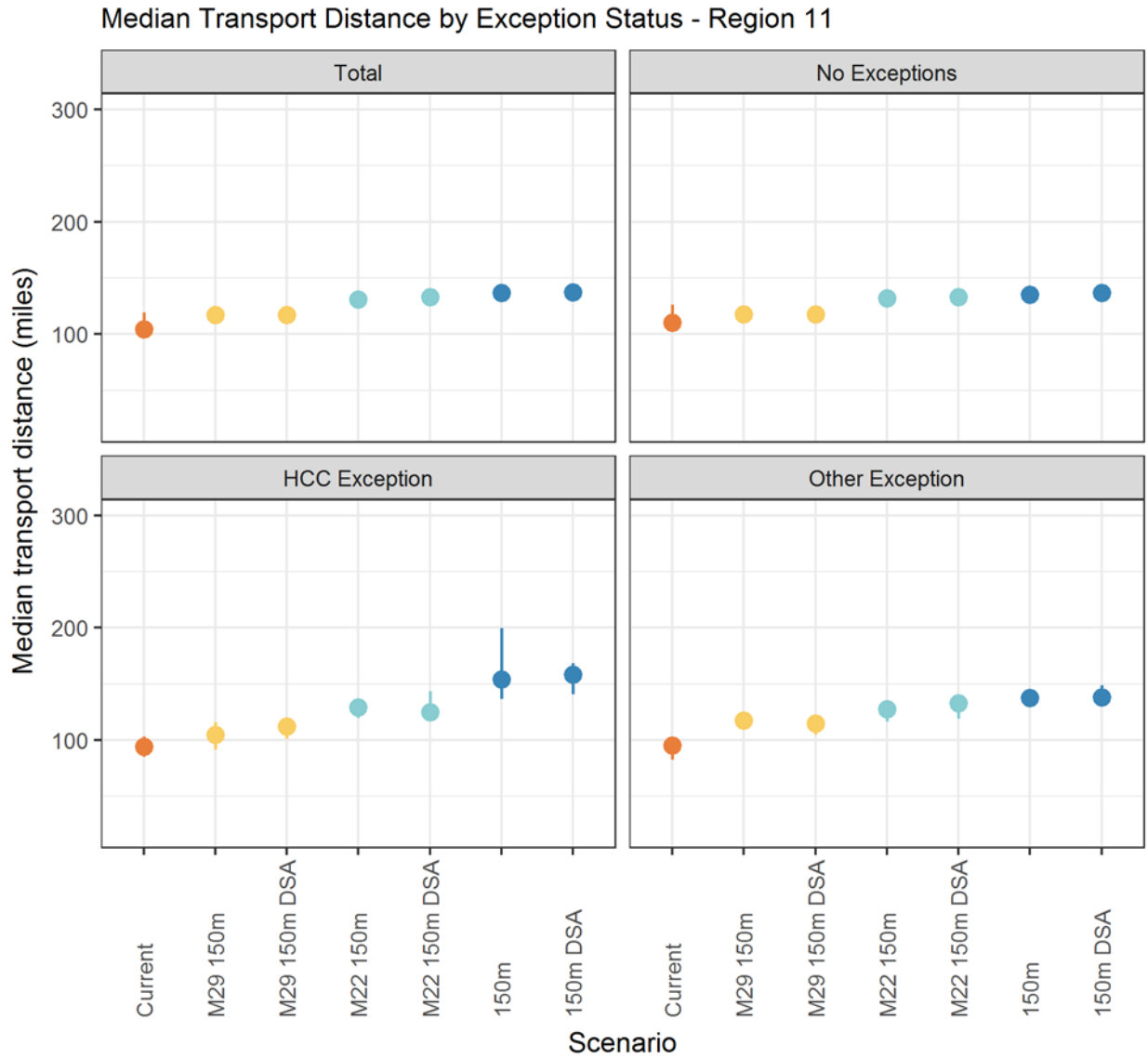


Figure 120 Median Transport Distance by exception status - region 11

PRELIMINARY

Percent of Organs Flown

Percent of Organs Flown by Exception Status - Region 1

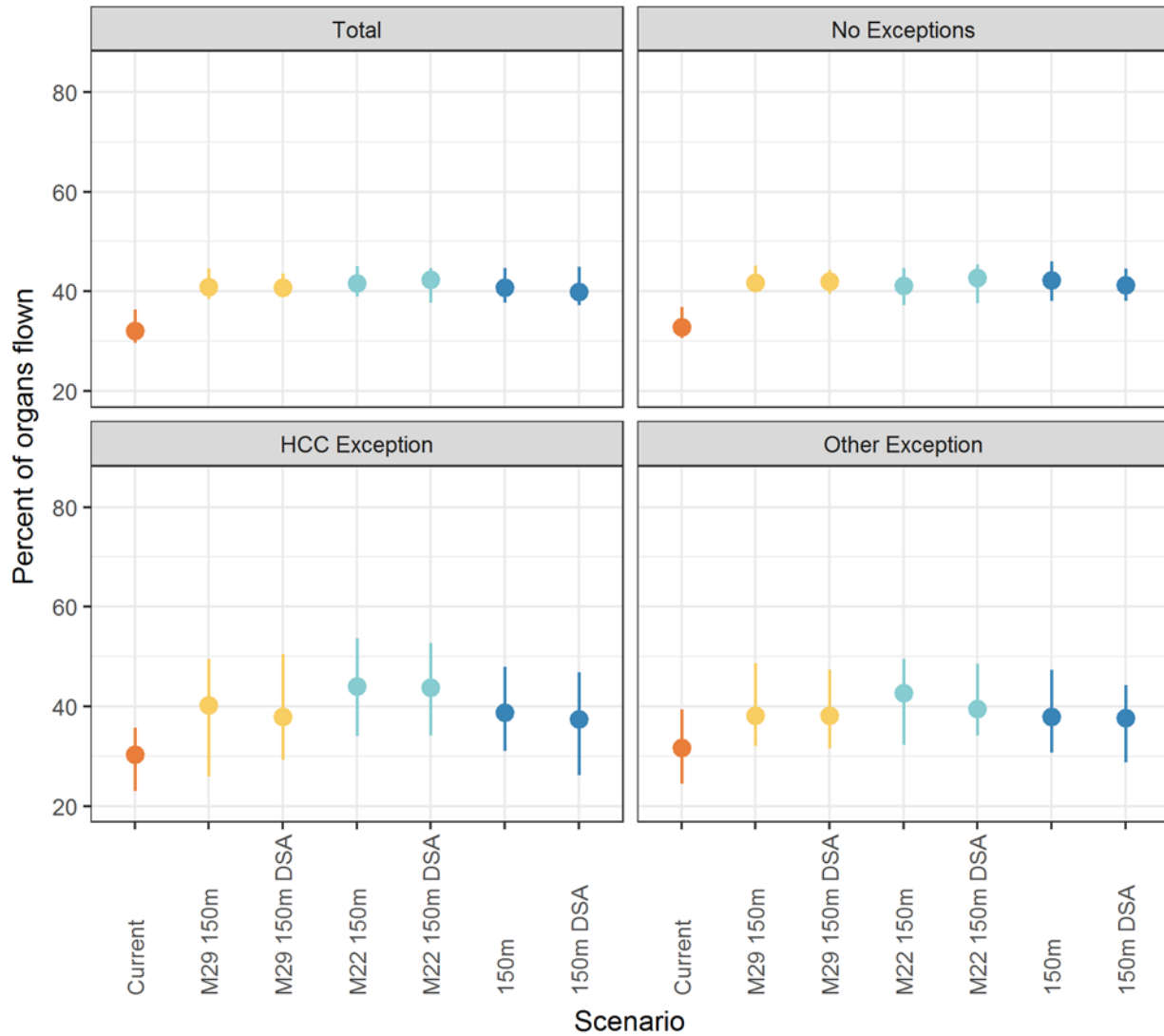


Figure 121 Percent of Organs Flown by exception status - region 1

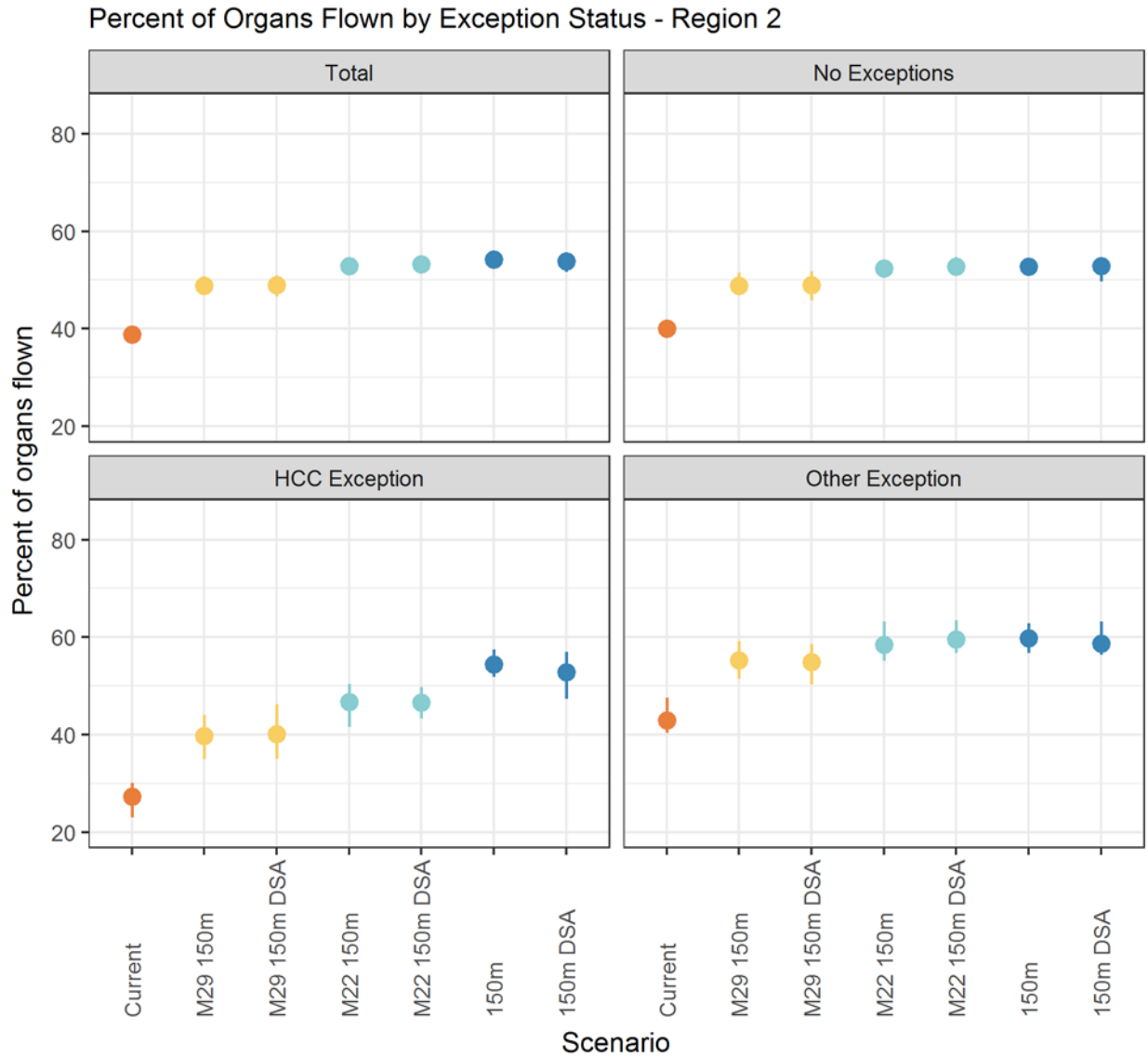


Figure 122 Percent of Organs Flown by exception status - region 2

PRELIMINARY

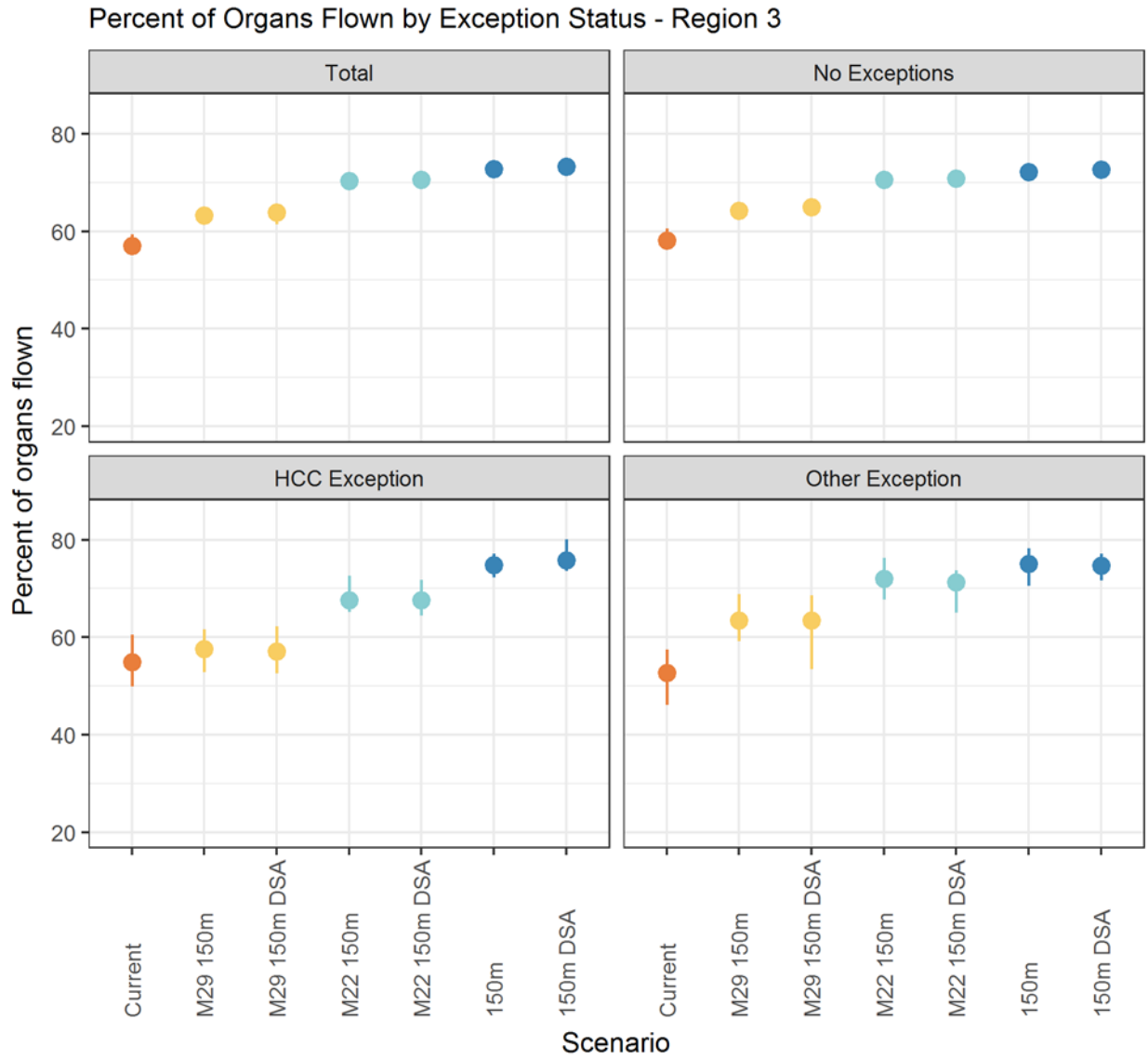


Figure 123 Percent of Organs Flown by exception status - region 3

PRELIMINARY

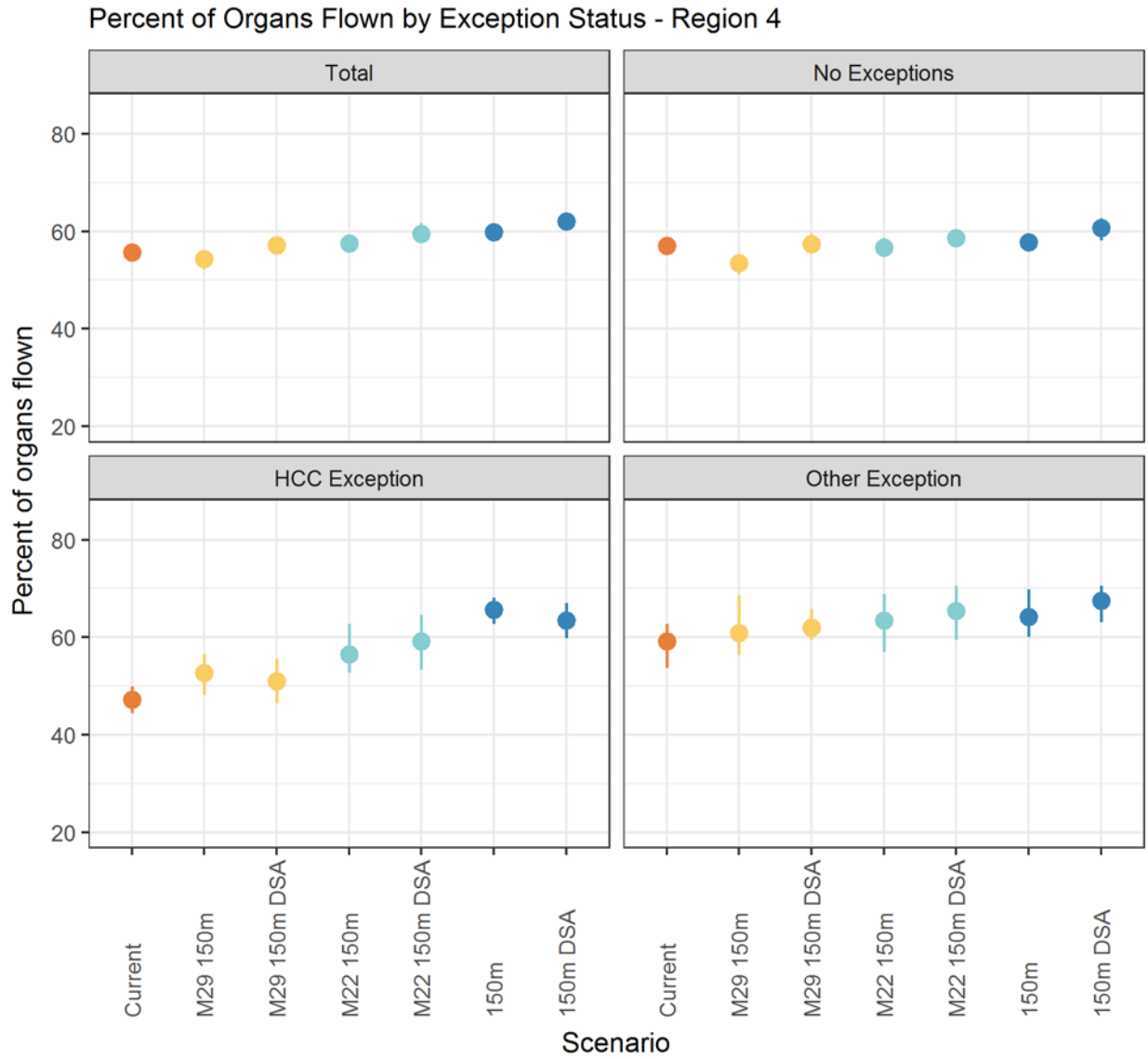


Figure 124 Percent of Organs Flown by exception status - region 4

PRELIMINARY

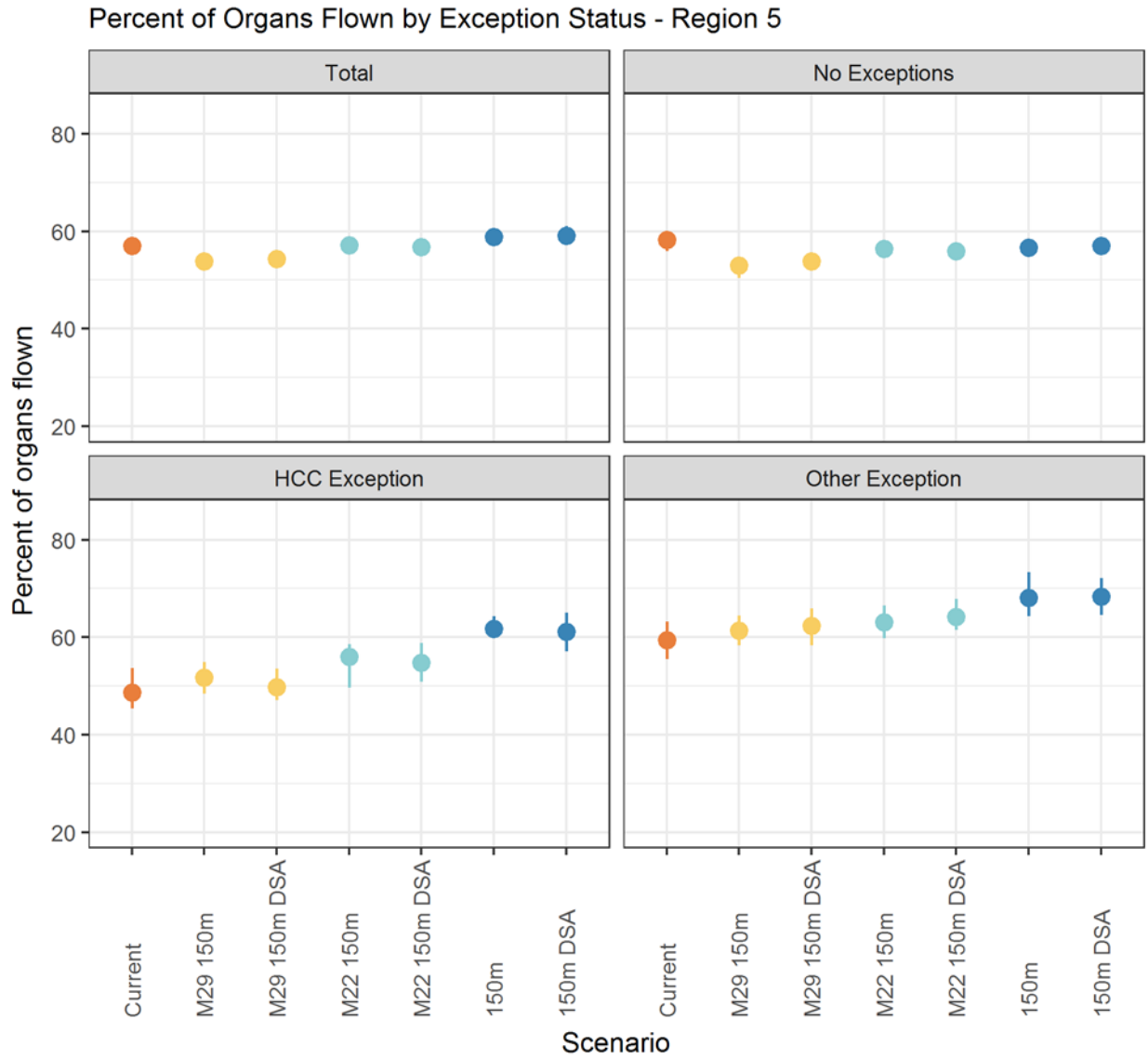


Figure 125 Percent of Organs Flown by exception status - region 5

PRELIMINARY

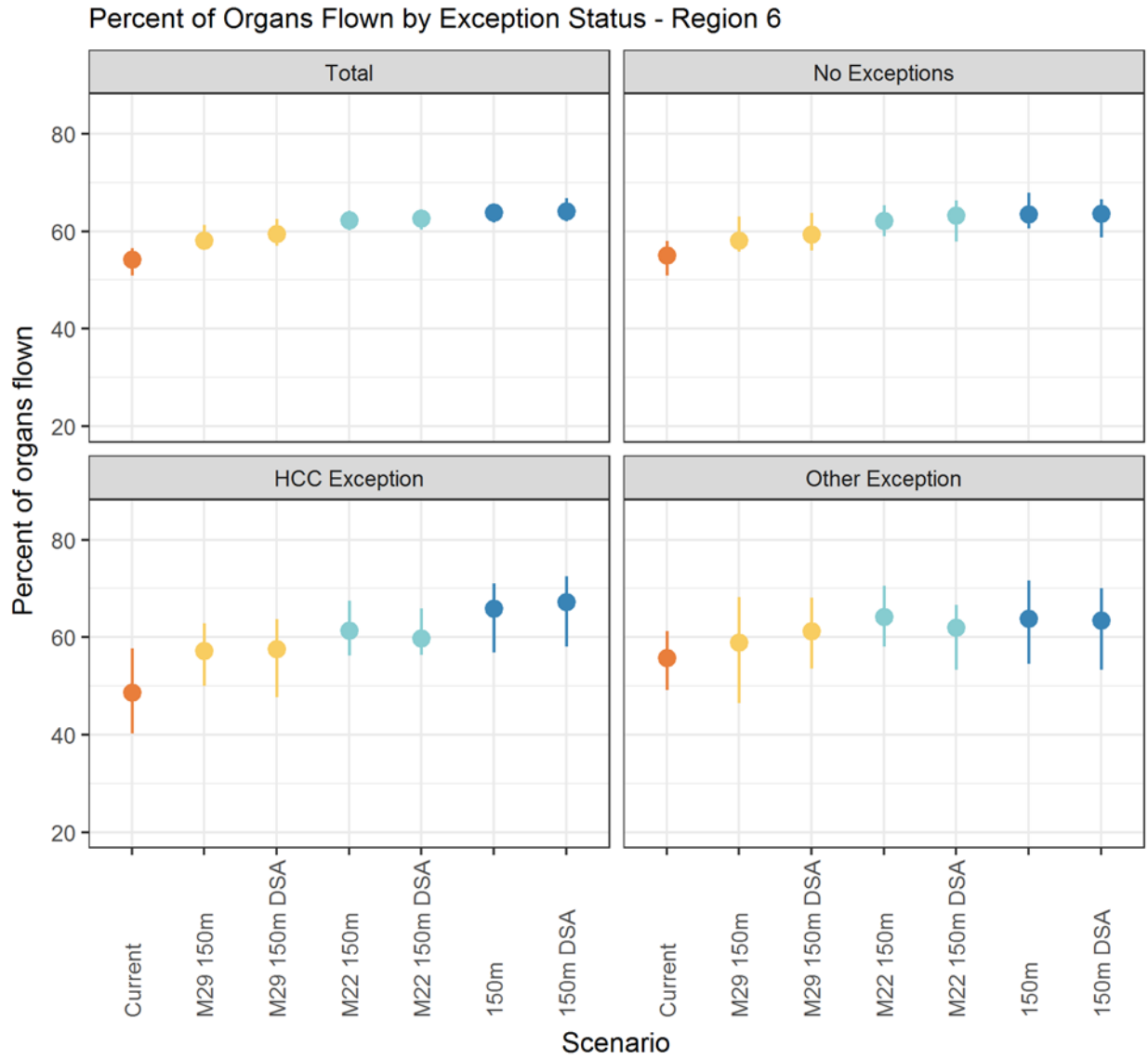


Figure 126 Percent of Organs Flown by exception status - region 6

PRELIMINARY

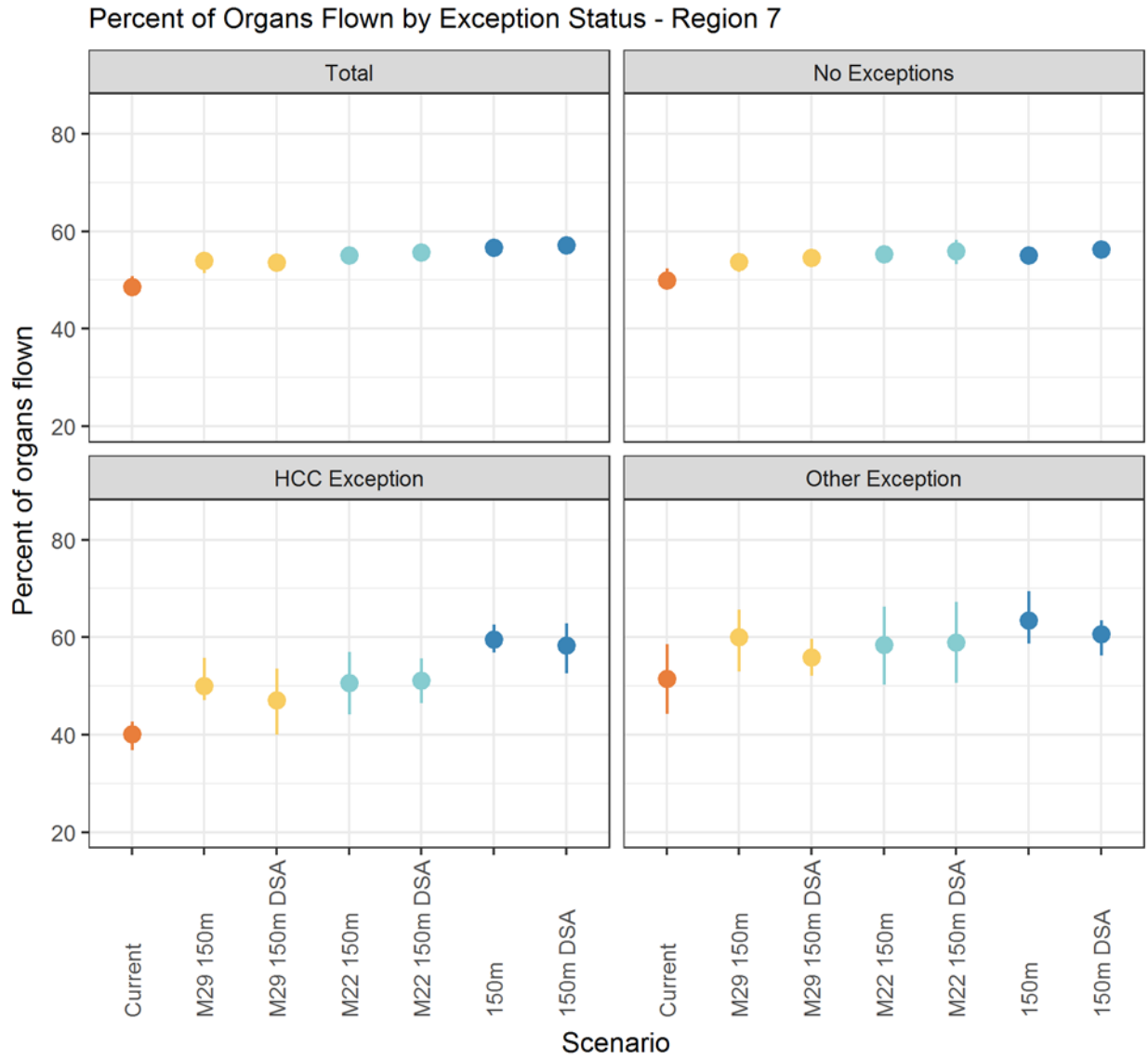


Figure 127 Percent of Organs Flown by exception status - region 7

PRELIMINARY

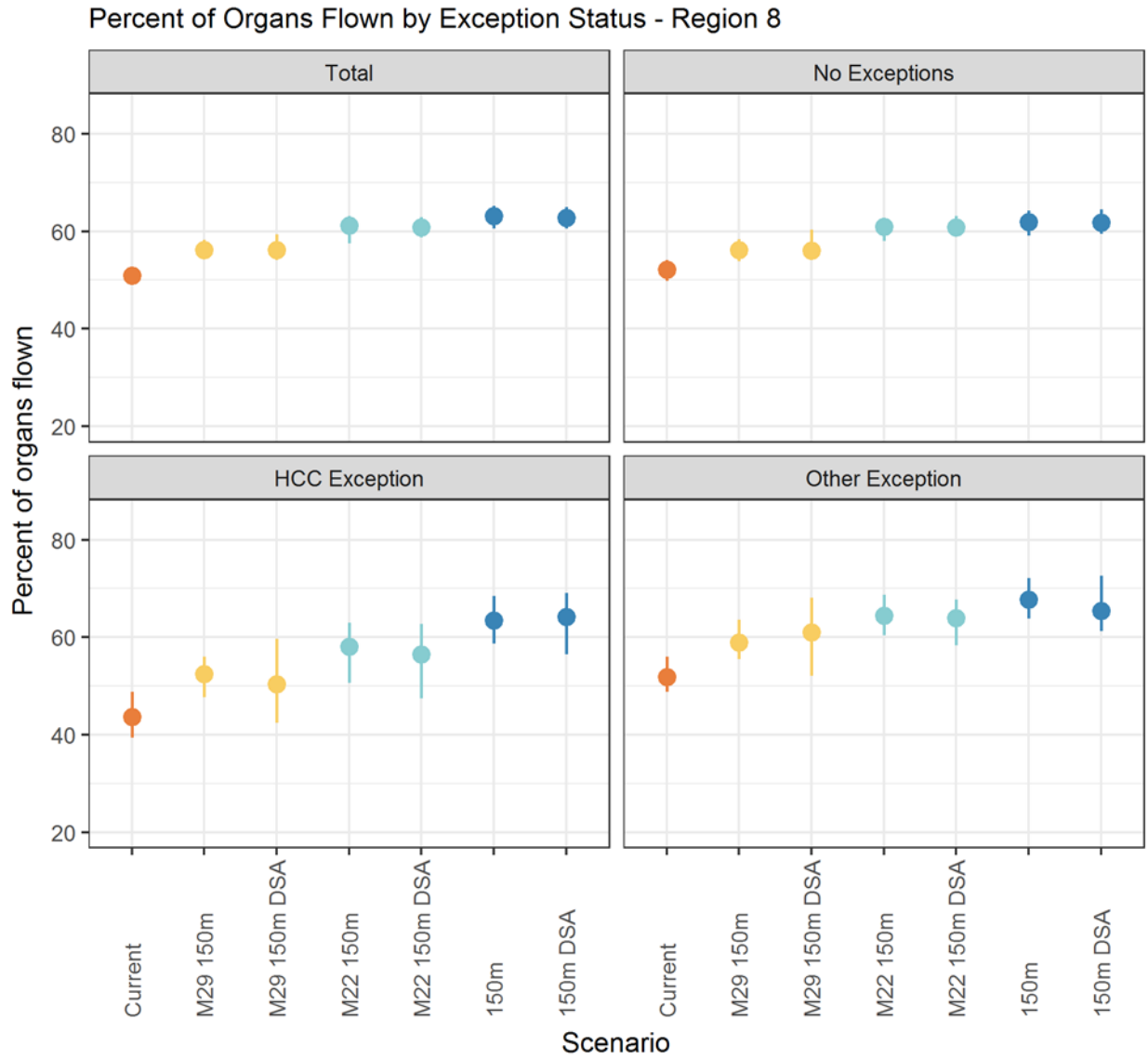


Figure 128 Percent of Organs Flown by exception status - region 8

PRELIMINARY

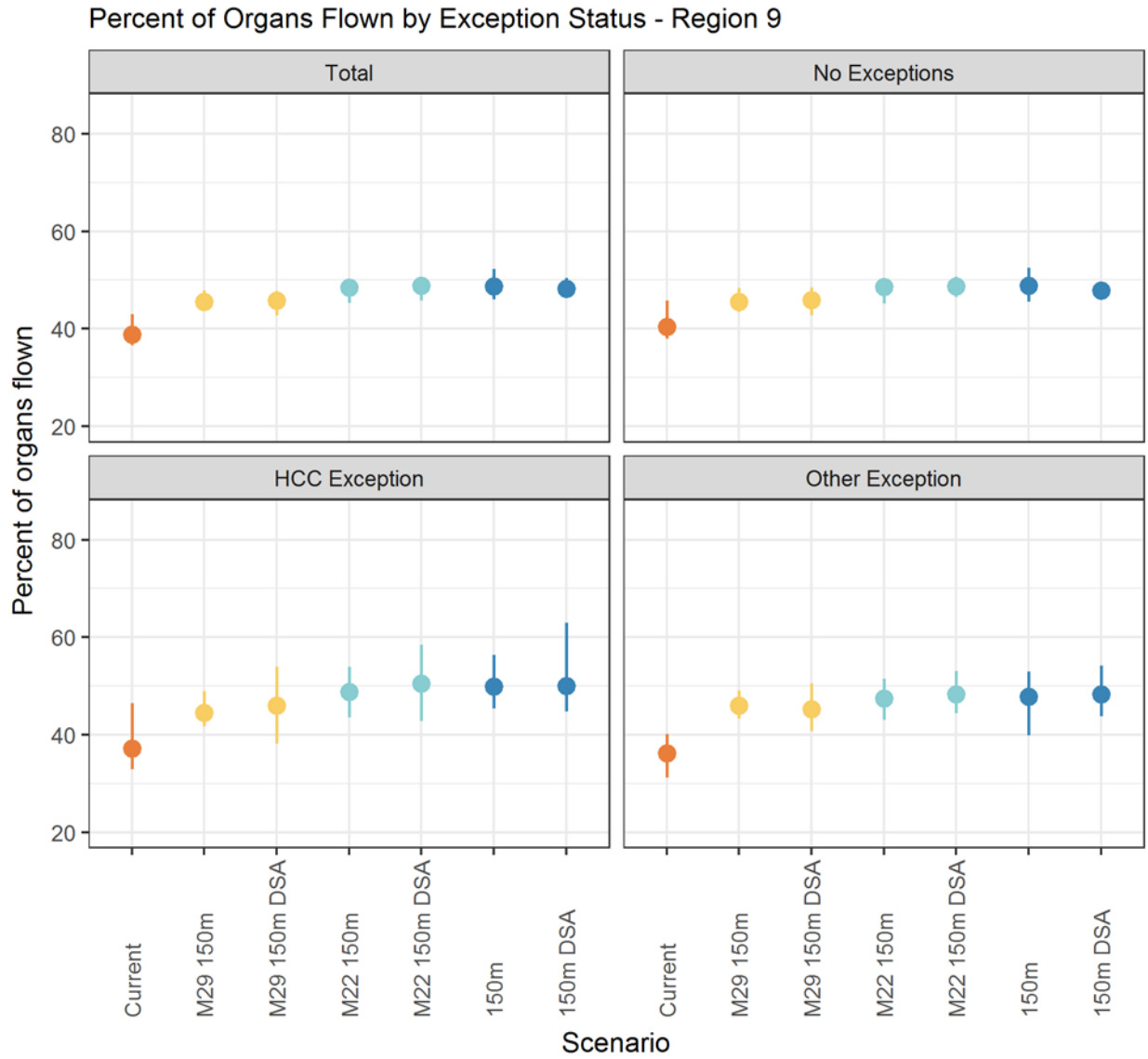


Figure 129 Percent of Organs Flown by exception status - region 9

PRELIMINARY

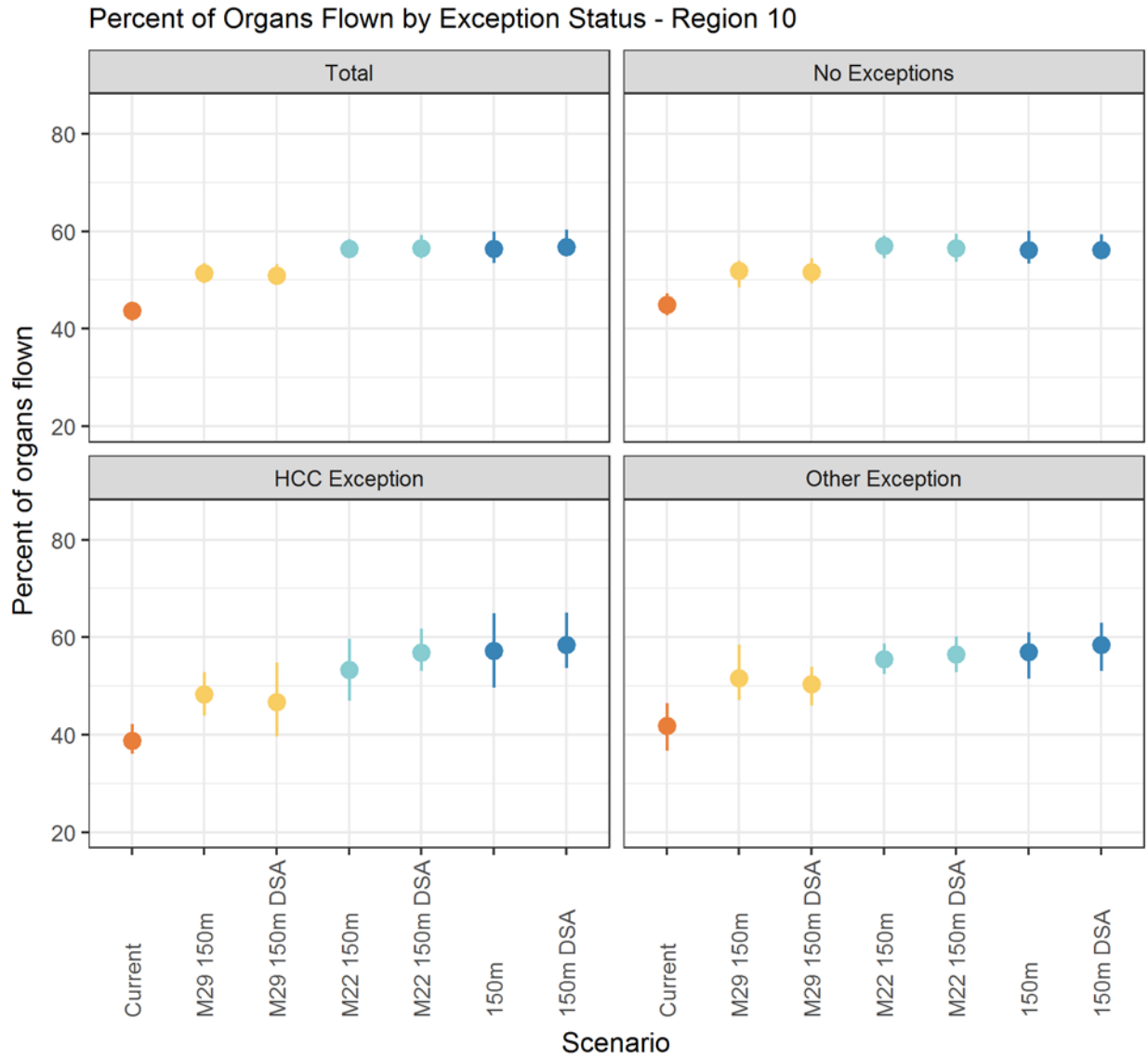


Figure 130 Percent of Organs Flown by exception status - region 10

PRELIMINARY

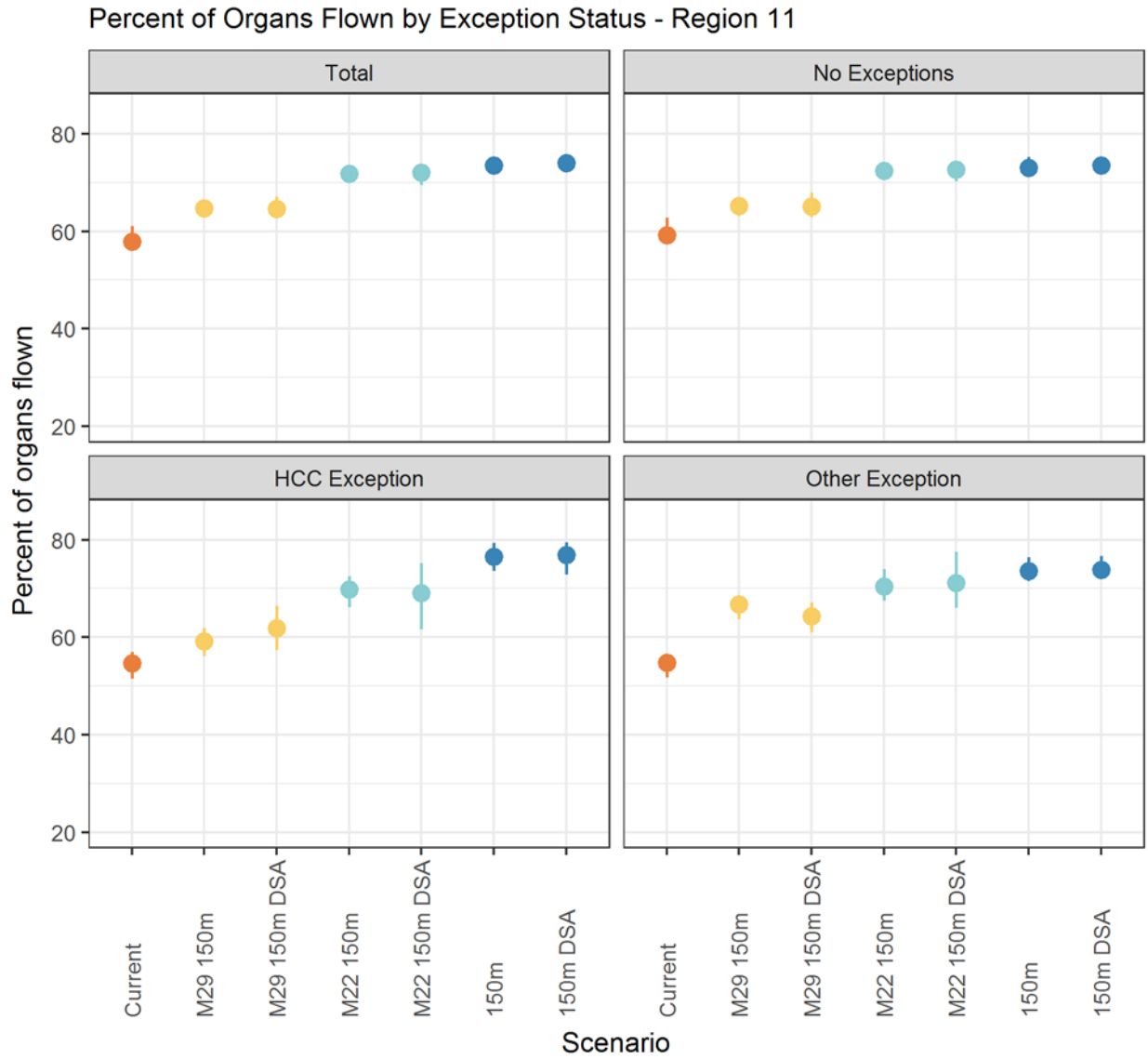


Figure 131 Percent of Organs Flown by exception status - region 11

PRELIMINARY

Percent of Within DSA Transplants

Percent of Transplants Performed Locally by Exception Status - Region 1

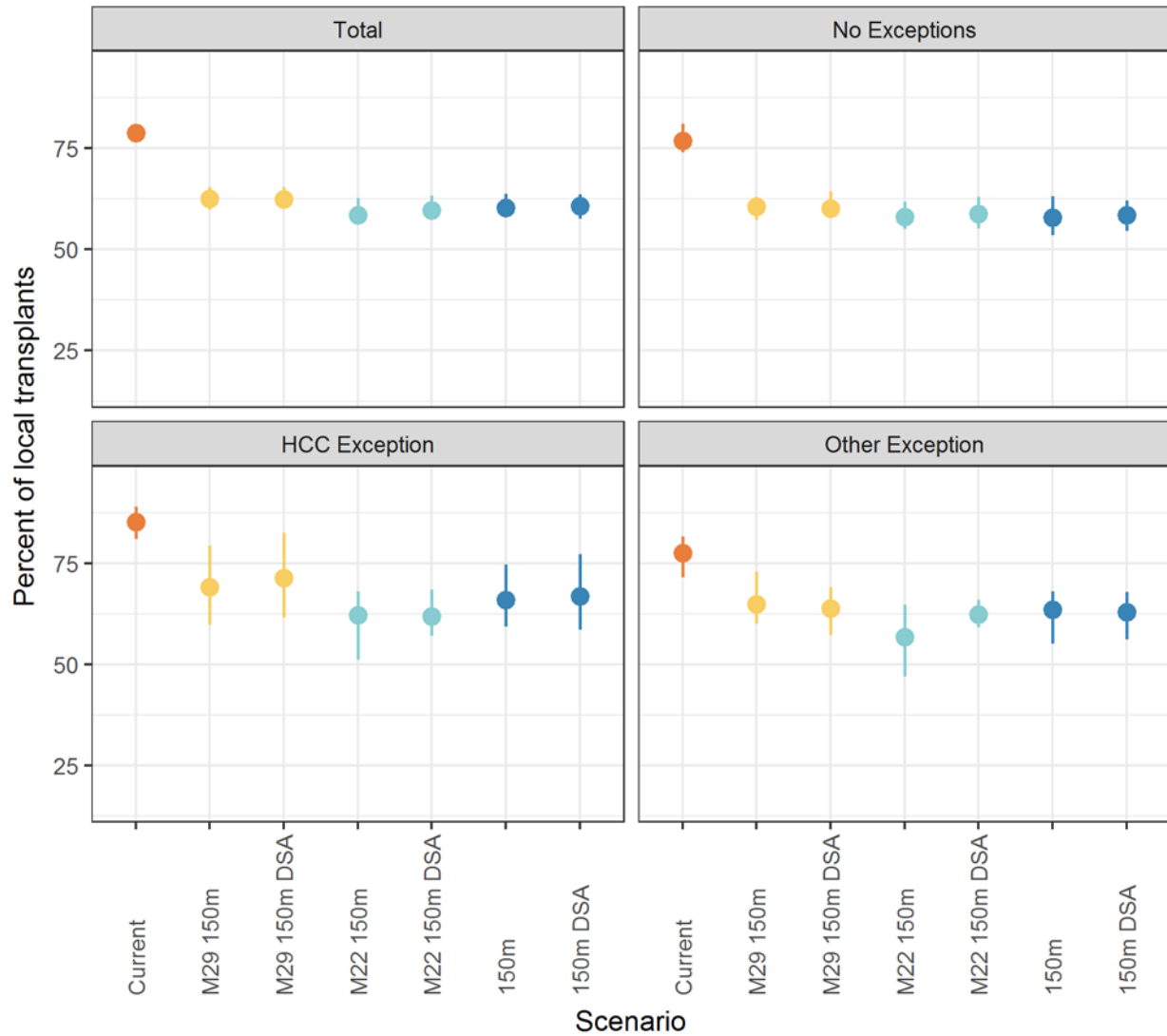
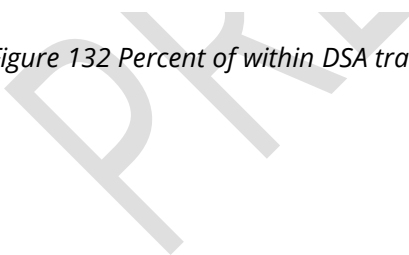


Figure 132 Percent of within DSA transplants by exception status - region 1



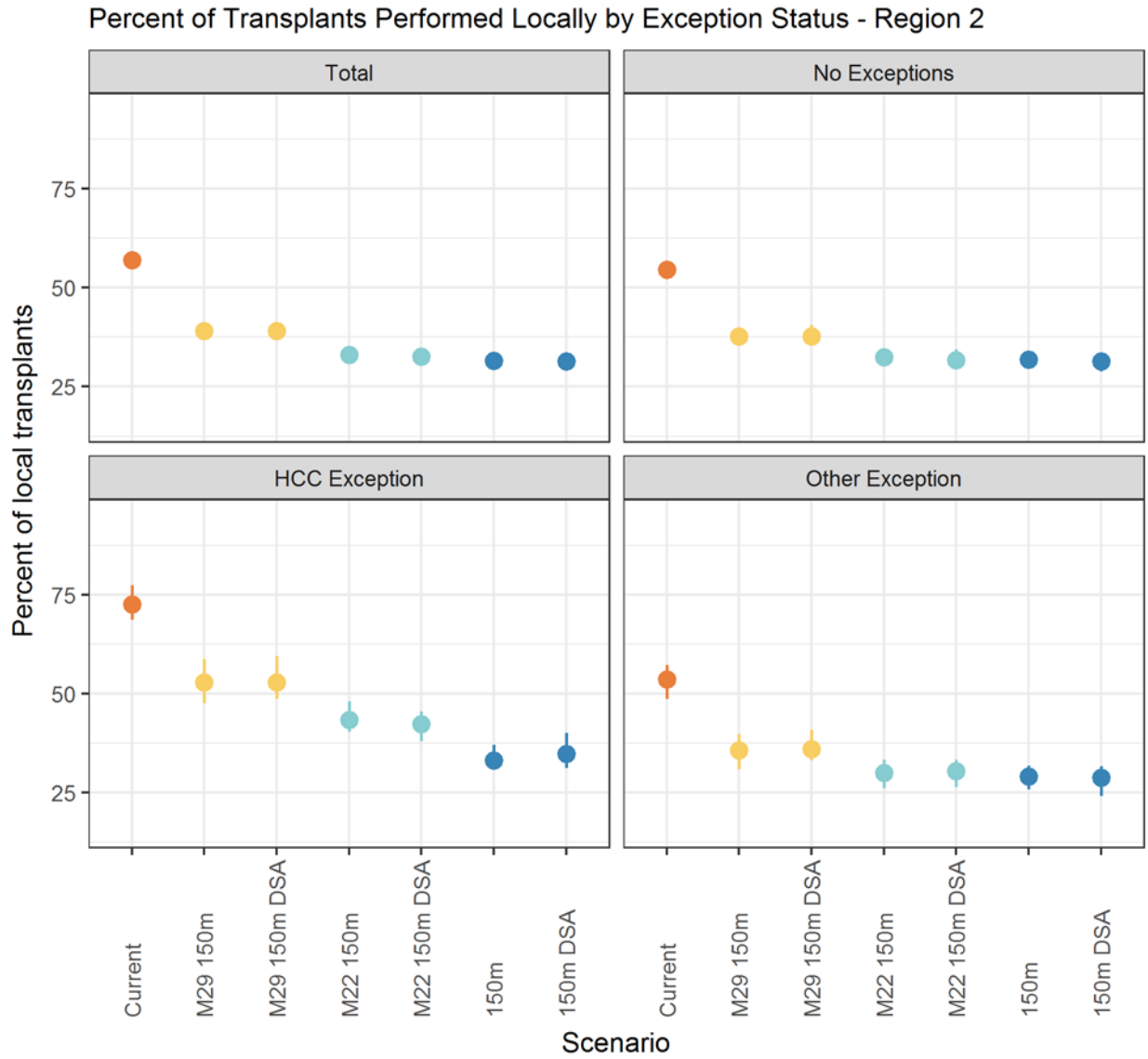


Figure 133 Percent of within DSA transplants by exception status - region 2

PRELIMINARY

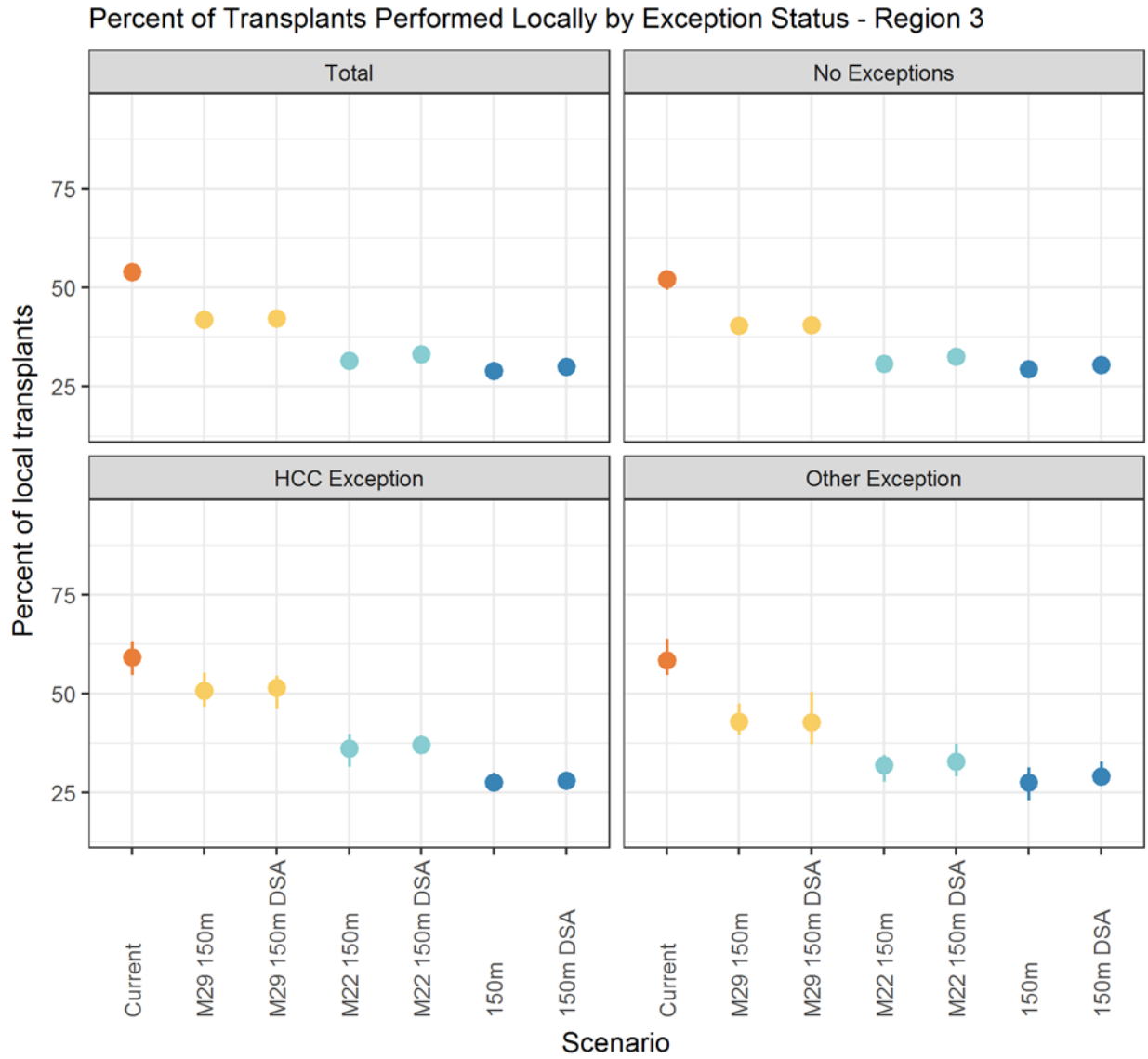


Figure 134 Percent of within DSA transplants by exception status - region 3

PRELIMINARY

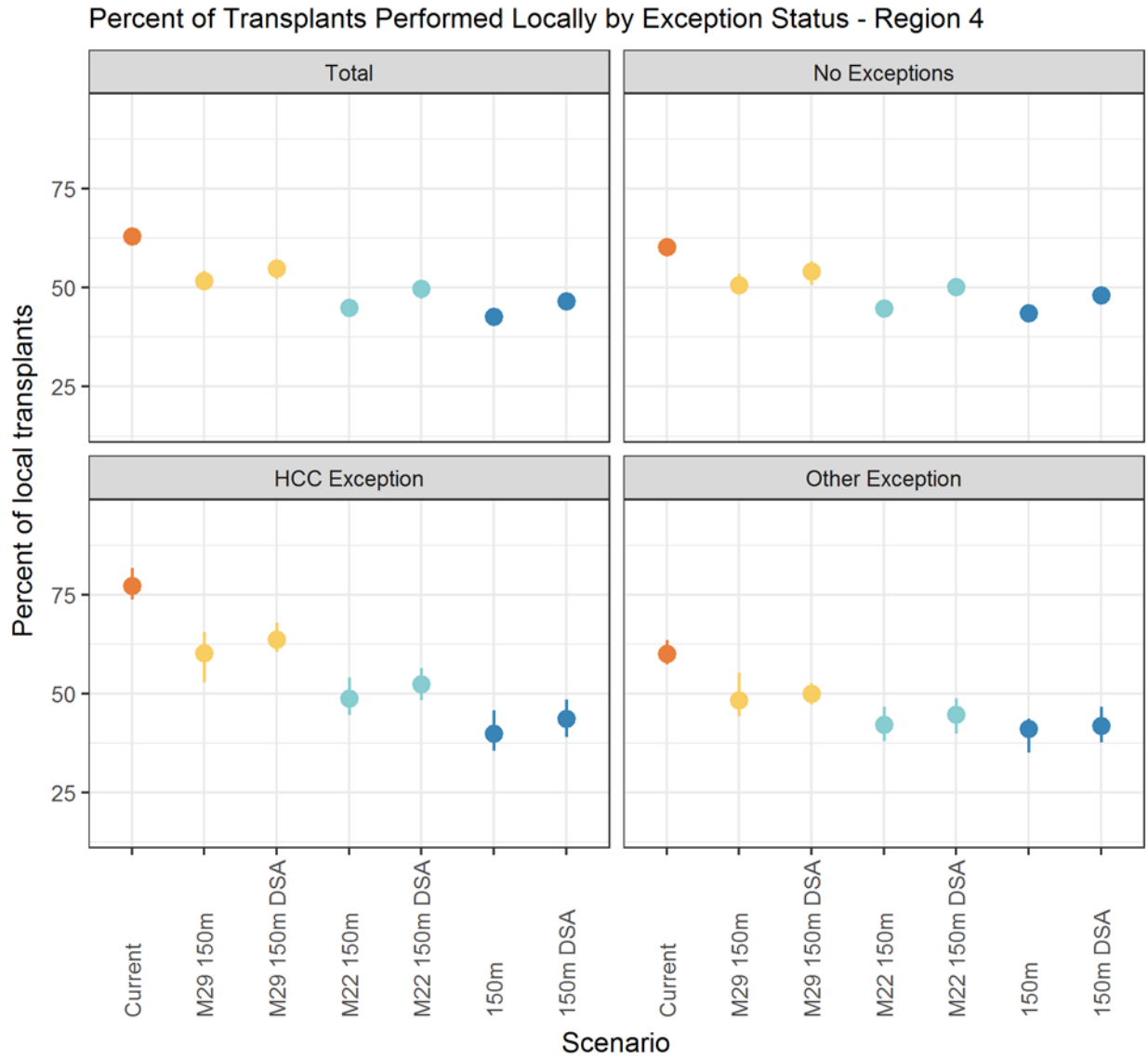


Figure 135 Percent of within DSA transplants by exception status - region 4

PRELIMINARY

Percent of Transplants Performed Locally by Exception Status - Region 5

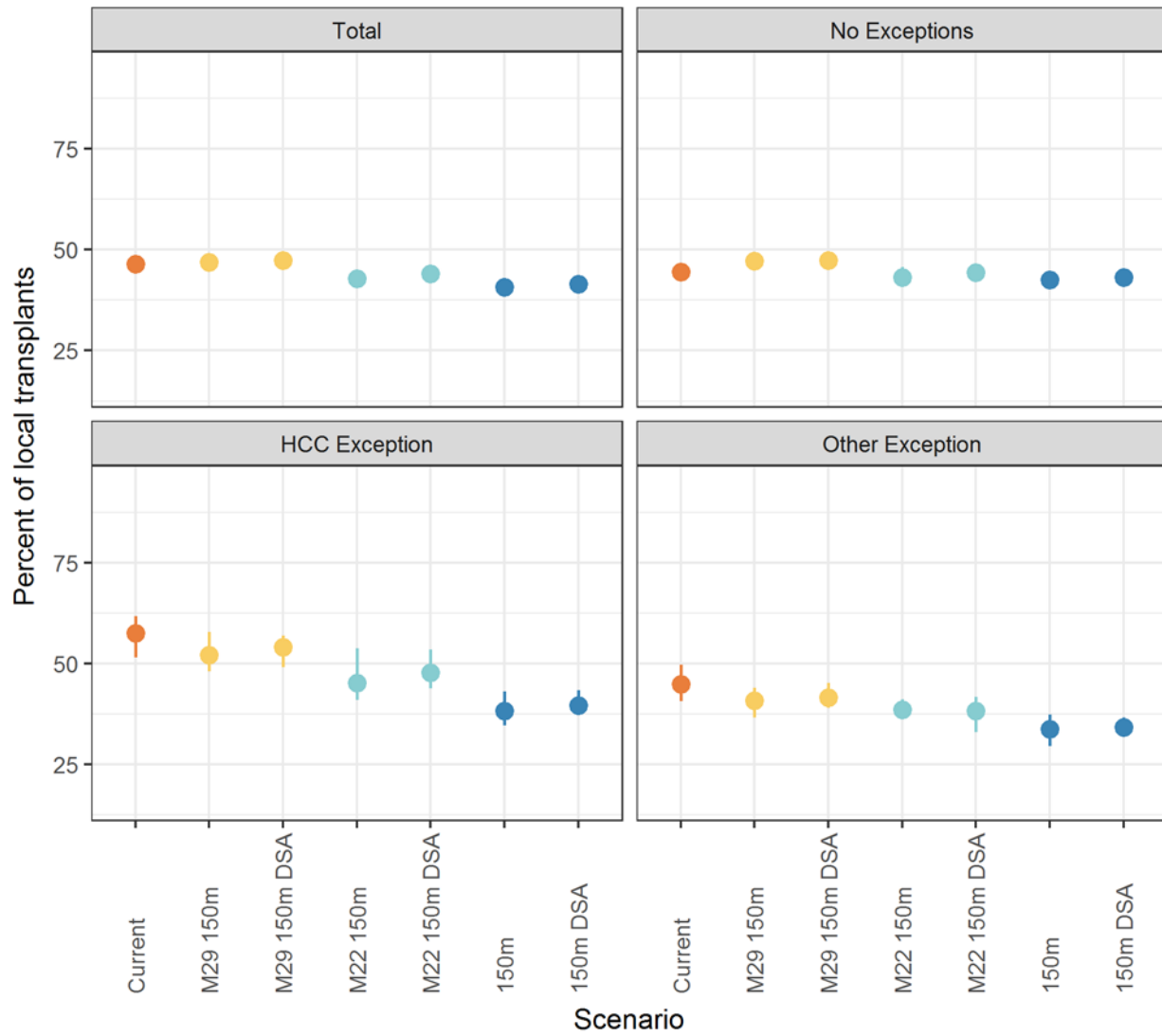


Figure 136 Percent of within DSA transplants by exception status - region 5

PRELIMINARY

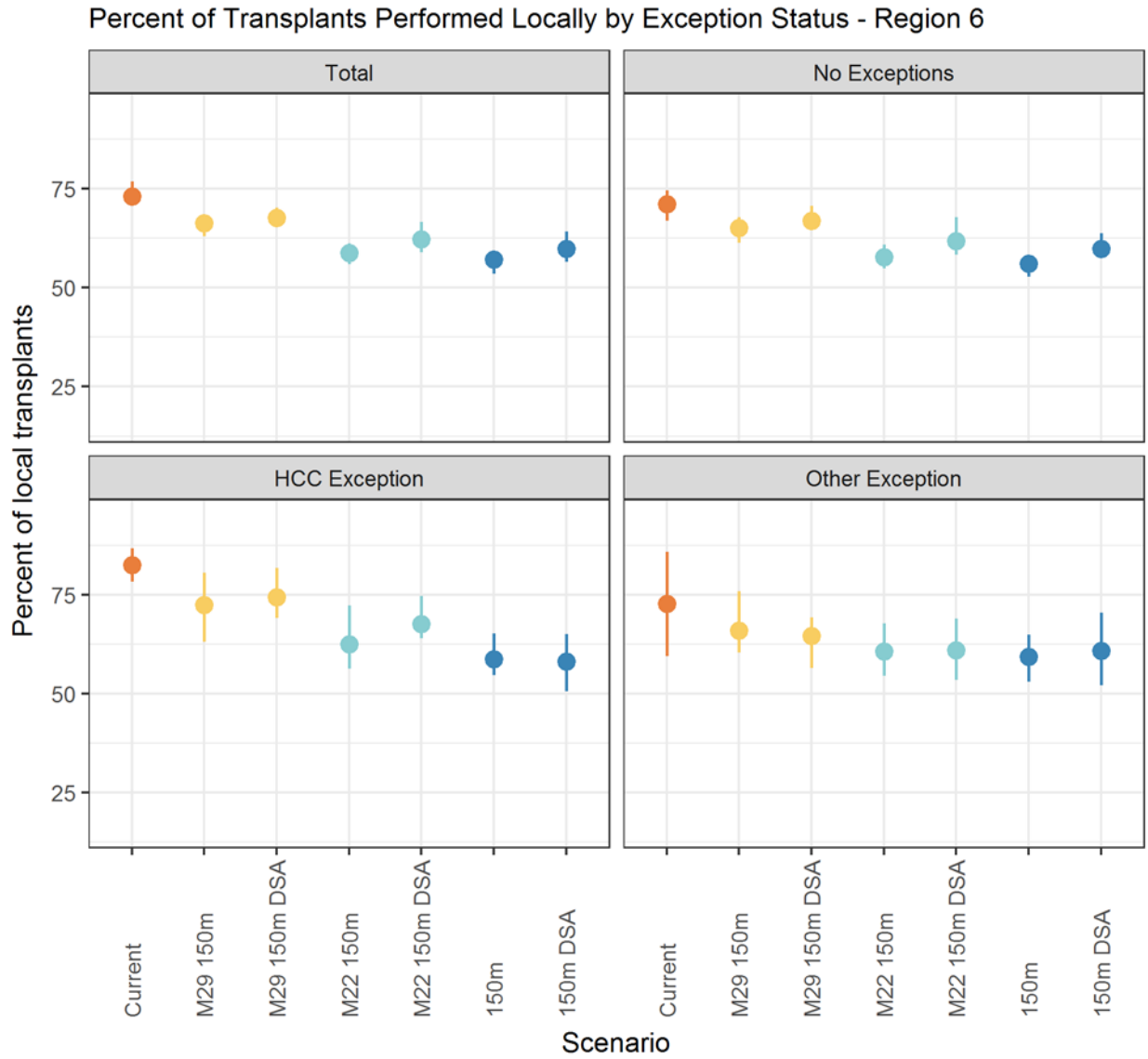


Figure 137 Percent of within DSA transplants by exception status - region 6

PRELIMINARY

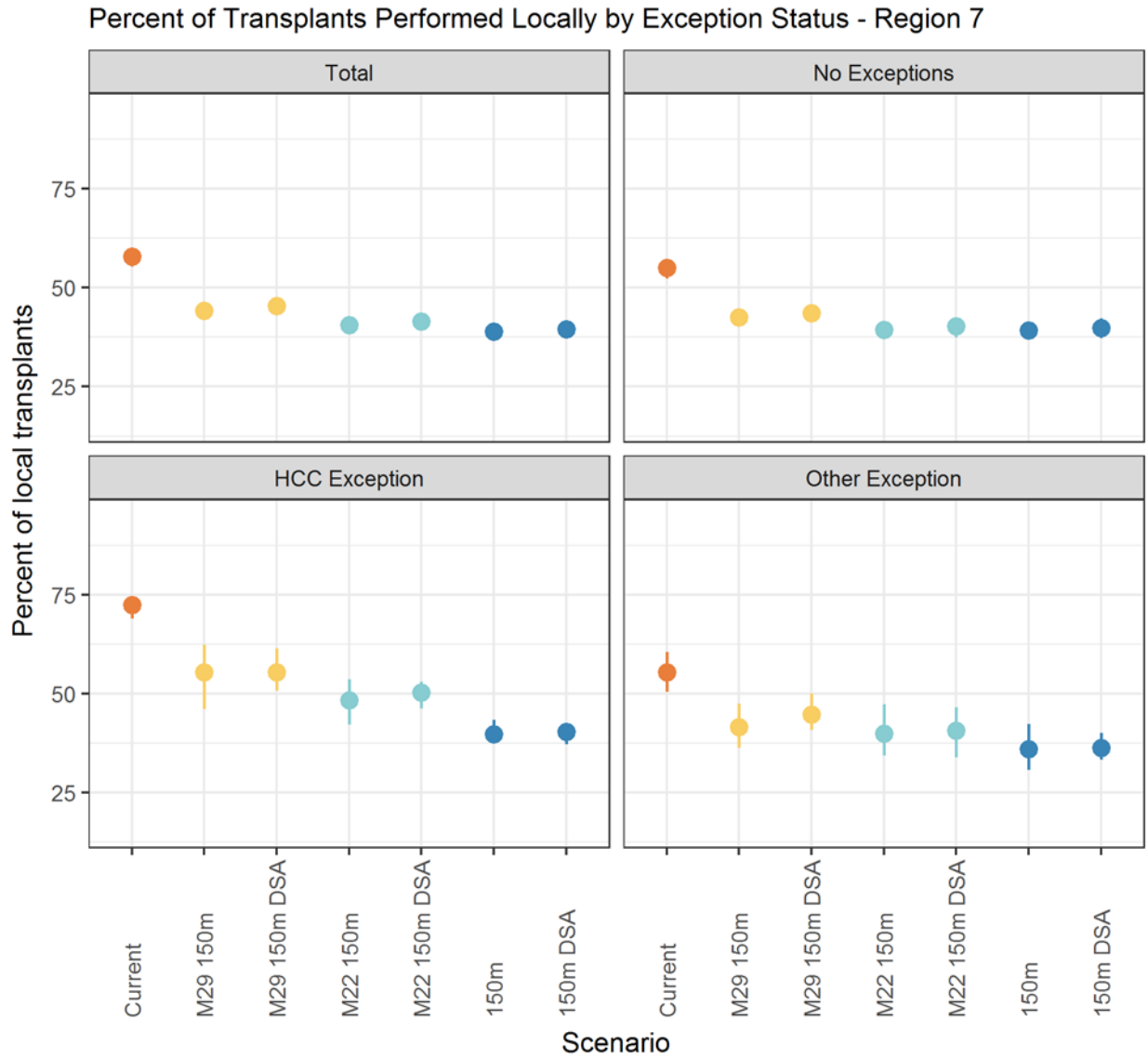


Figure 138 Percent of within DSA transplants by exception status - region 7

PRELIMINARY

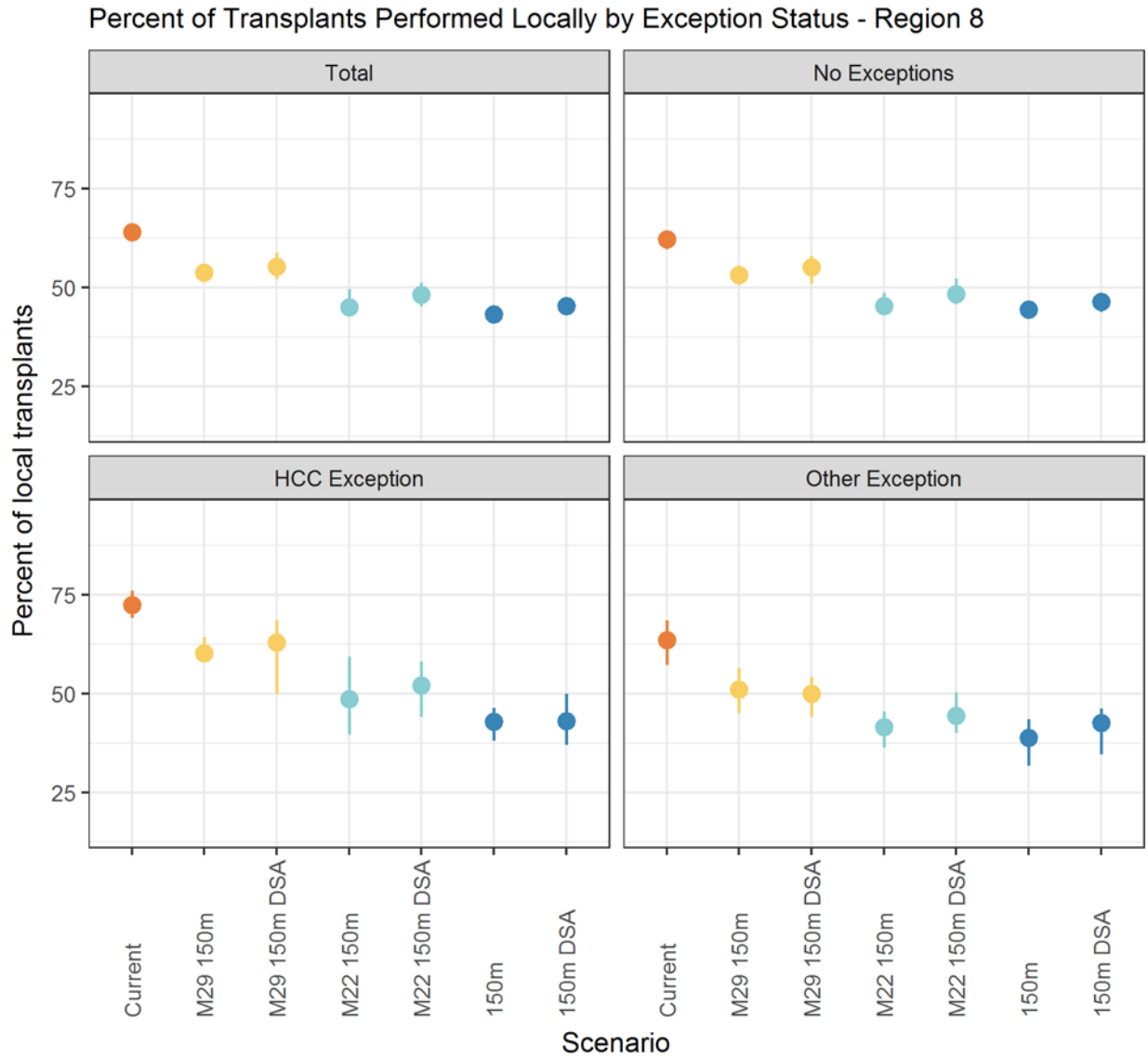


Figure 139 Percent of within DSA transplants by exception status - region 8

PRELIMINARY

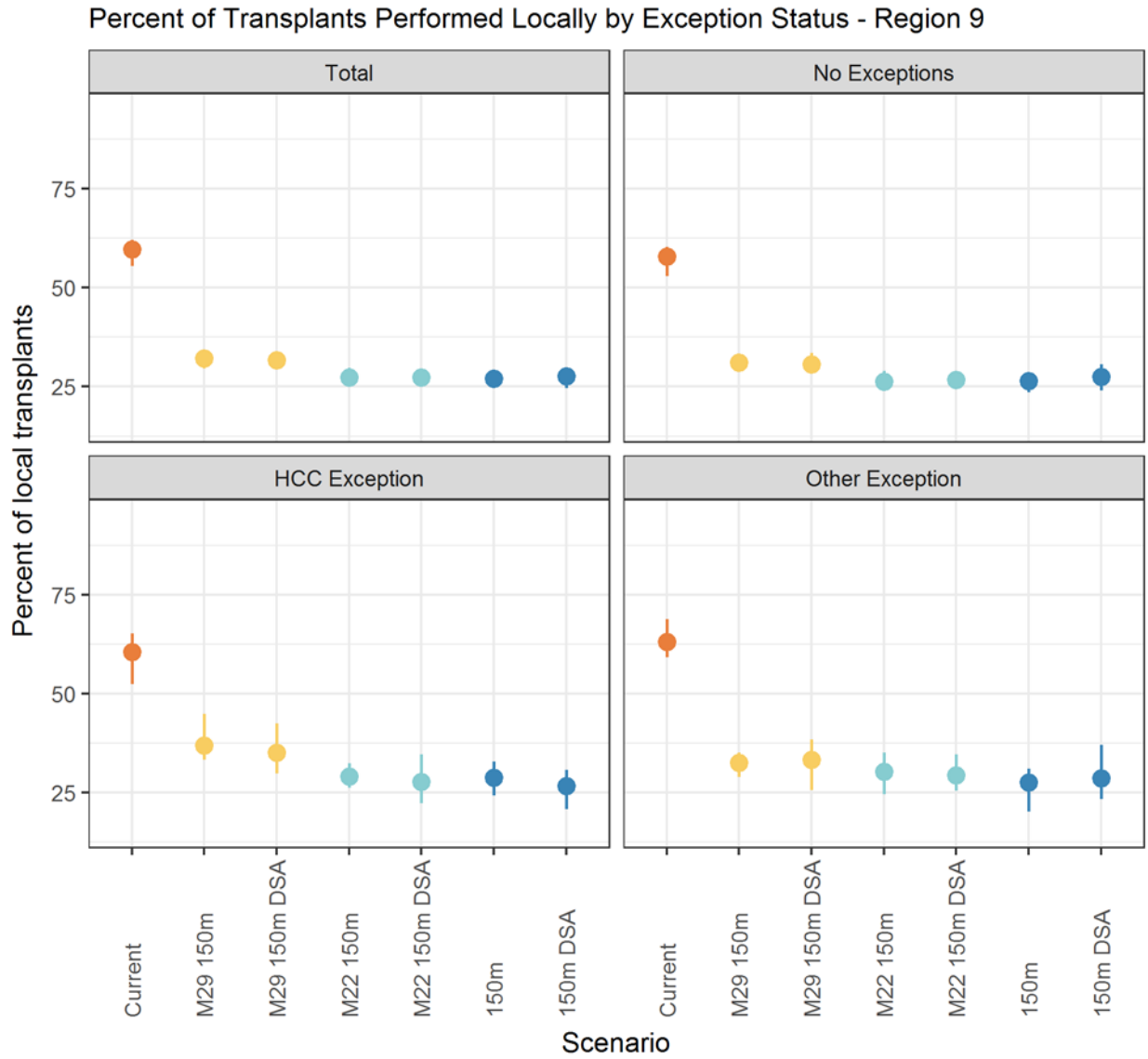


Figure 140 Percent of within DSA transplants by exception status - region 9

PRELIMINARY

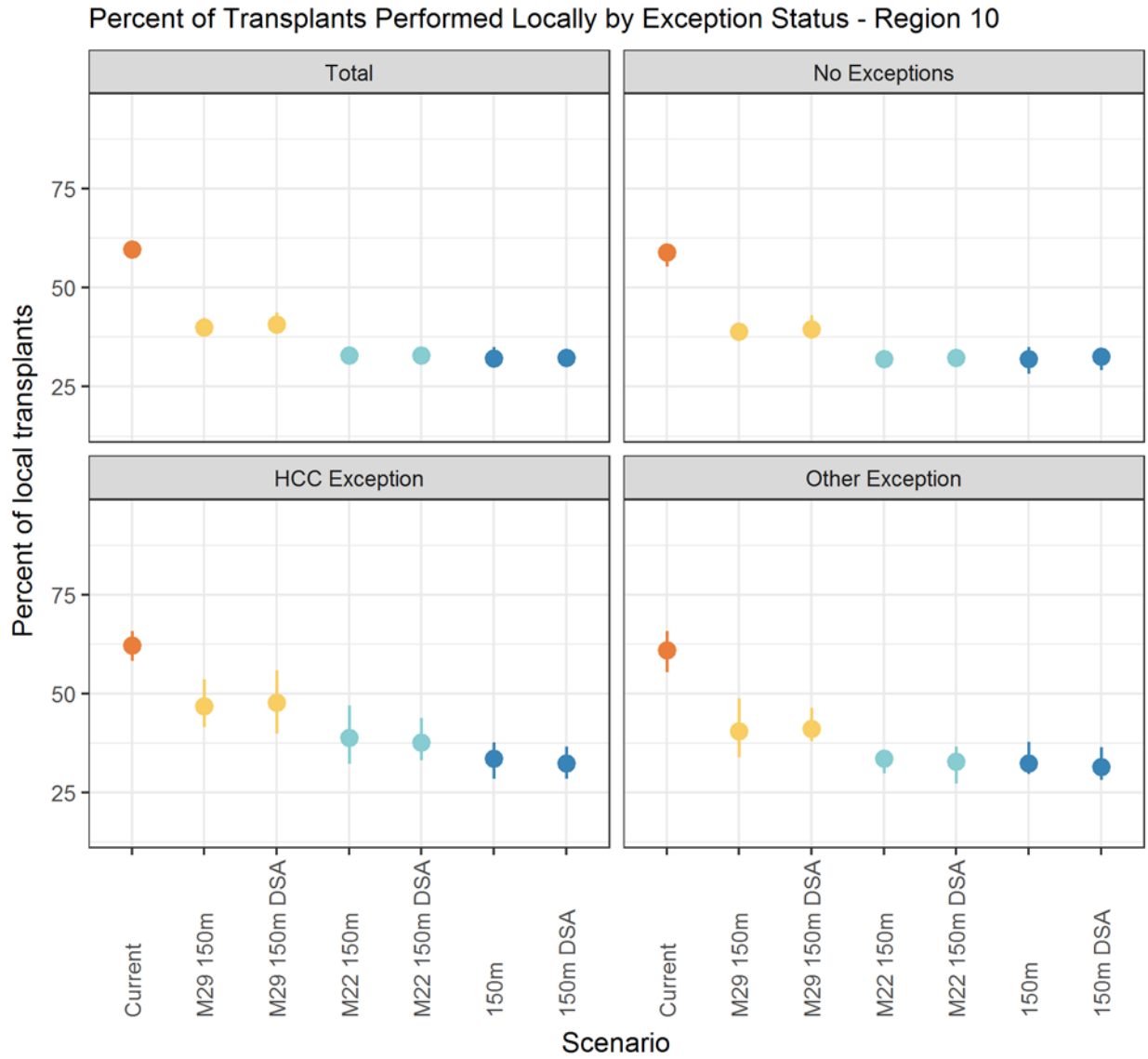


Figure 141 Percent of within DSA transplants by exception status - region 10

PRELIMINARY

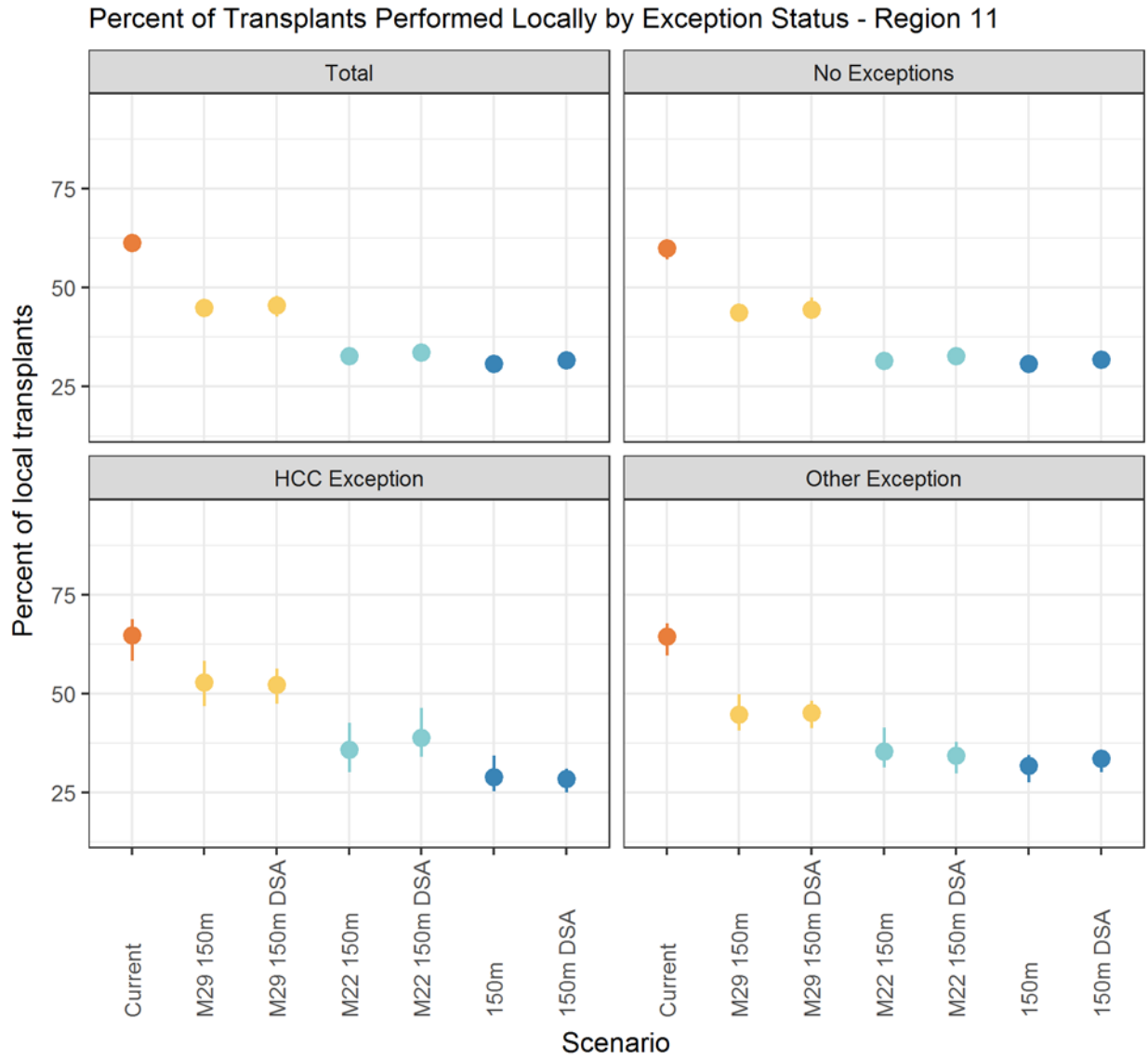


Figure 142 Percent of within DSA transplants by exception status - region 11

PRELIMINARY

Appendix B: Results by age, sex, and race/ethnicity

Allocation MELD/PELD at Transplant

Variance in Median Allocation MELD/PELD at Transplant by DSA



Figure 143 Variance in median allocation M/P at transplant by DSA by age - all regions

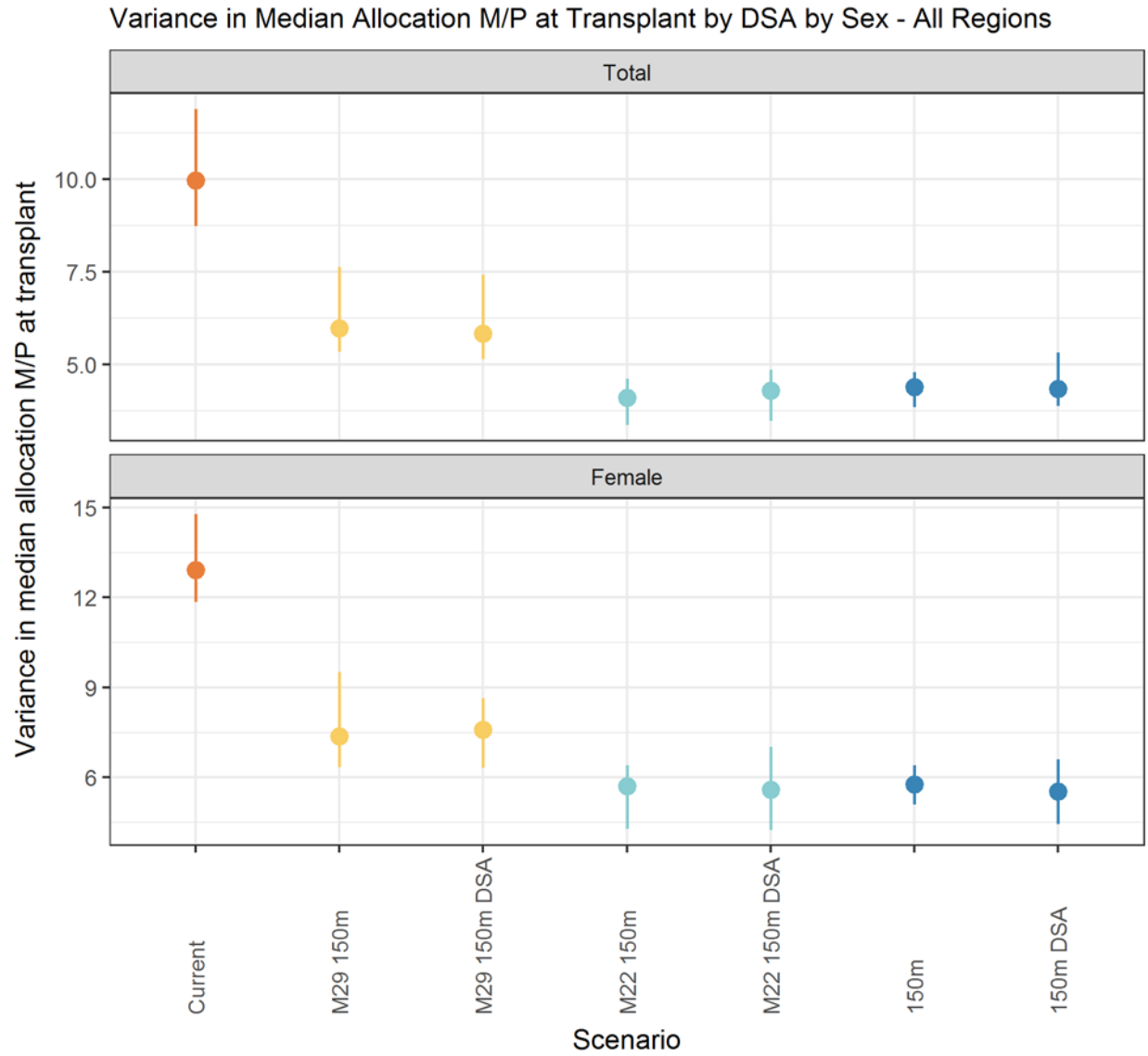


Figure 144 Variance in median allocation M/P at transplant by DSA by sex - all regions

PRELIMINARY

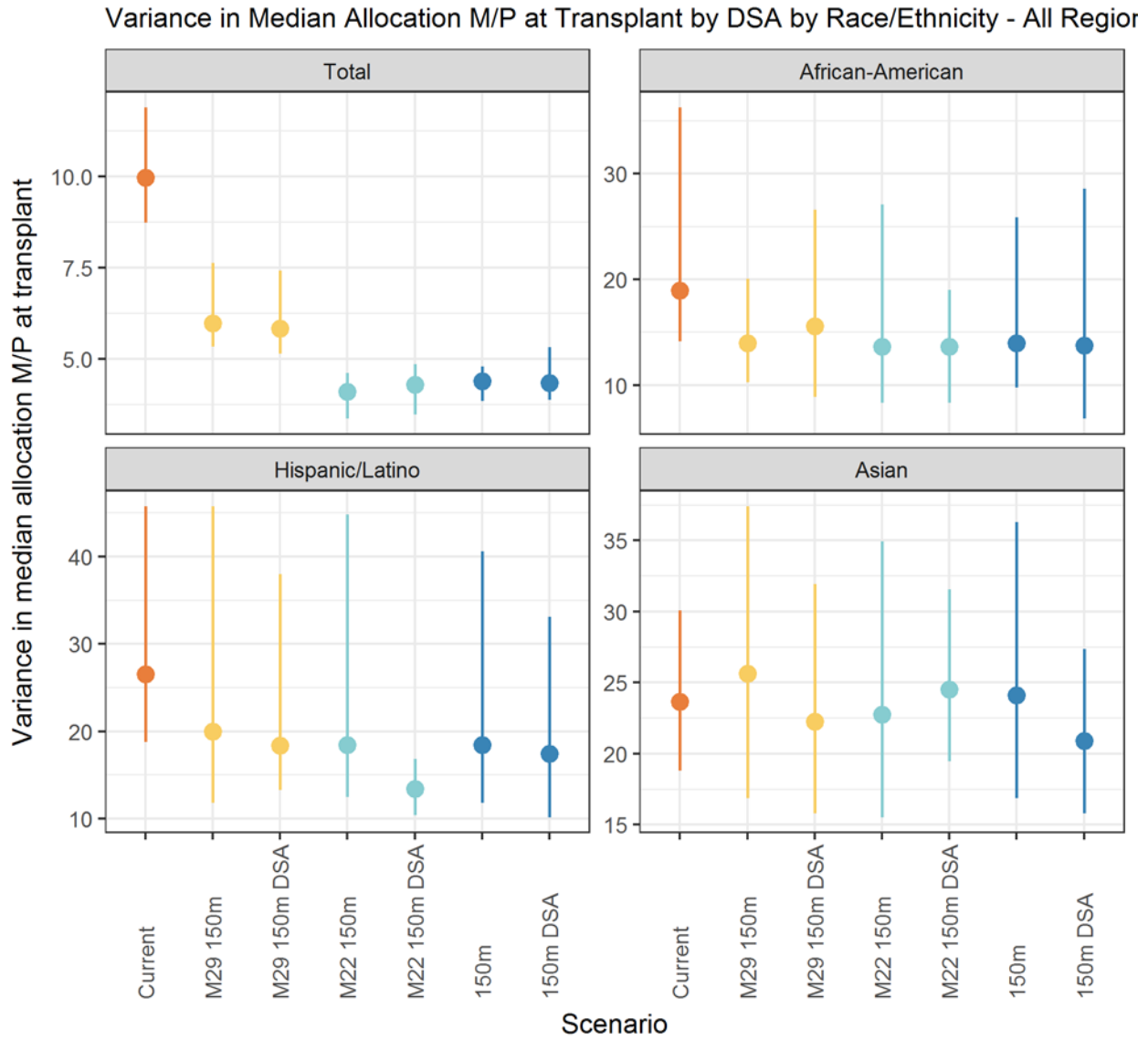


Figure 145 Variance in median allocation M/P at transplant by DSA by race/ethnicity - all regions

PRELIMINARY

Median Allocation MELD/PELD at Transplant



Figure 146 Median allocation MELD/PELD at transplant by age - all regions

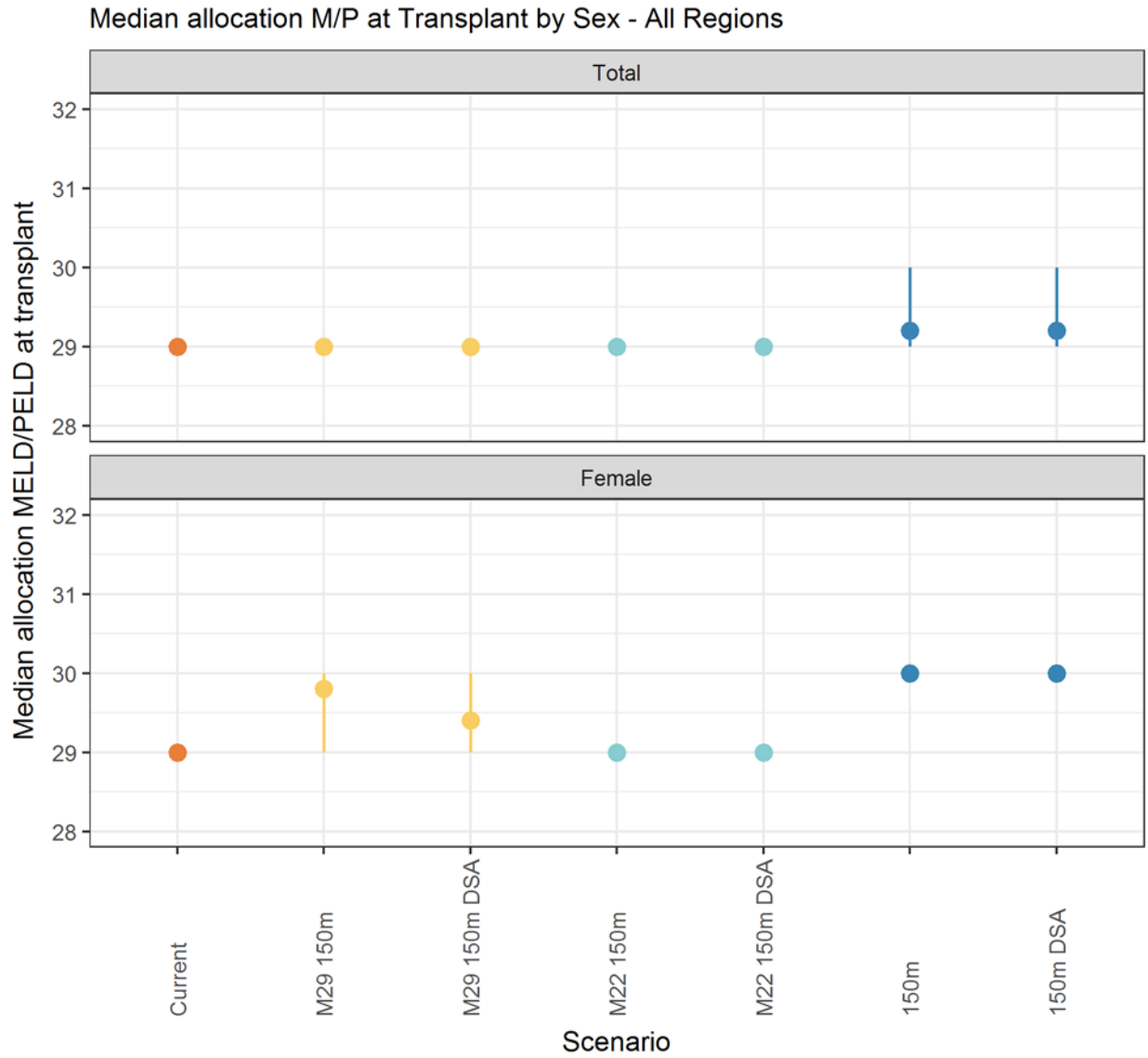


Figure 147 Median allocation MELD/PELD at transplant by sex - all regions

PRELIMINARY

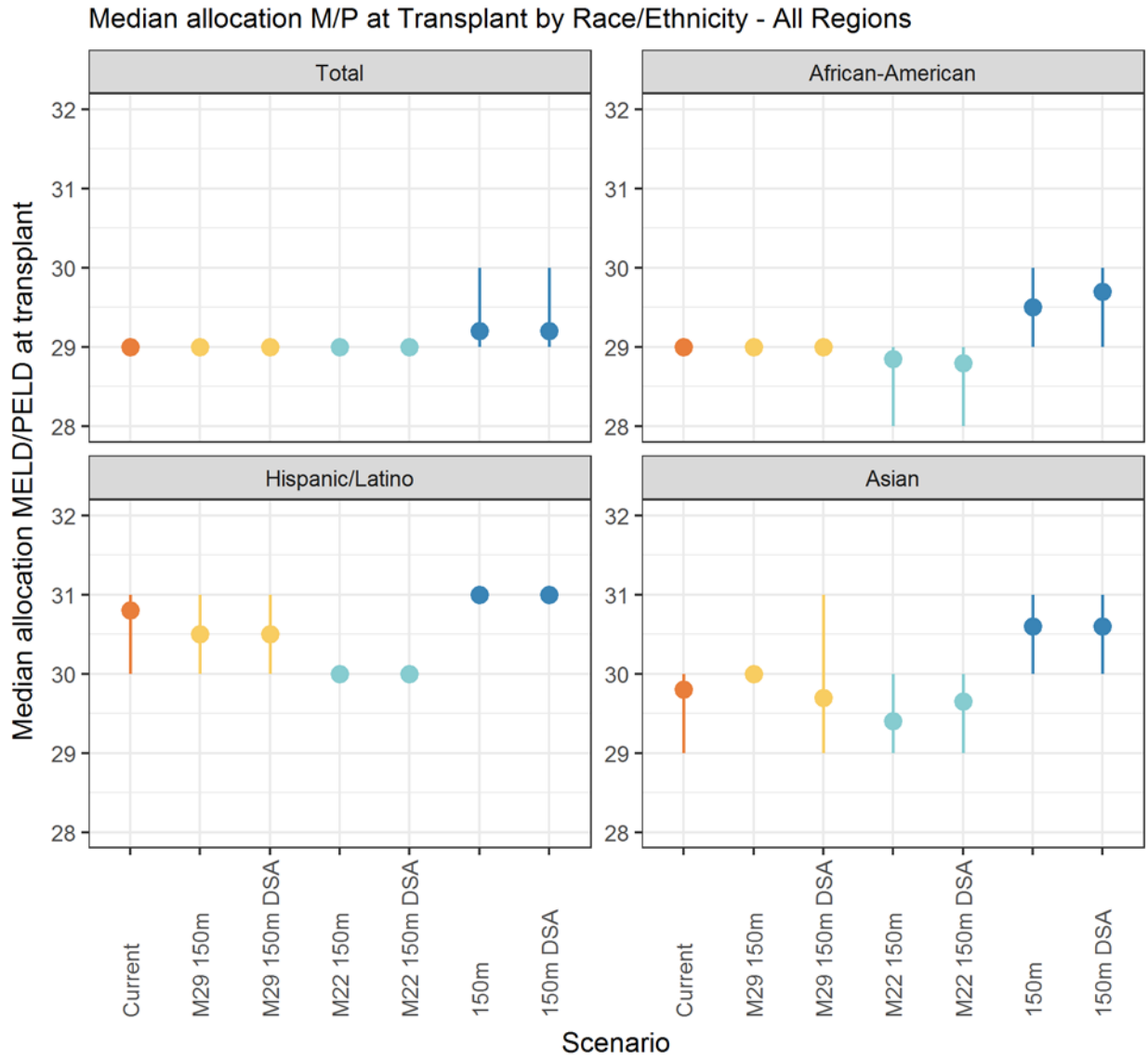


Figure 148 Median allocation MELD/PELD at transplant by race/ethnicity - all regions

PRELIMINARY

Transplant

Transplant Rates

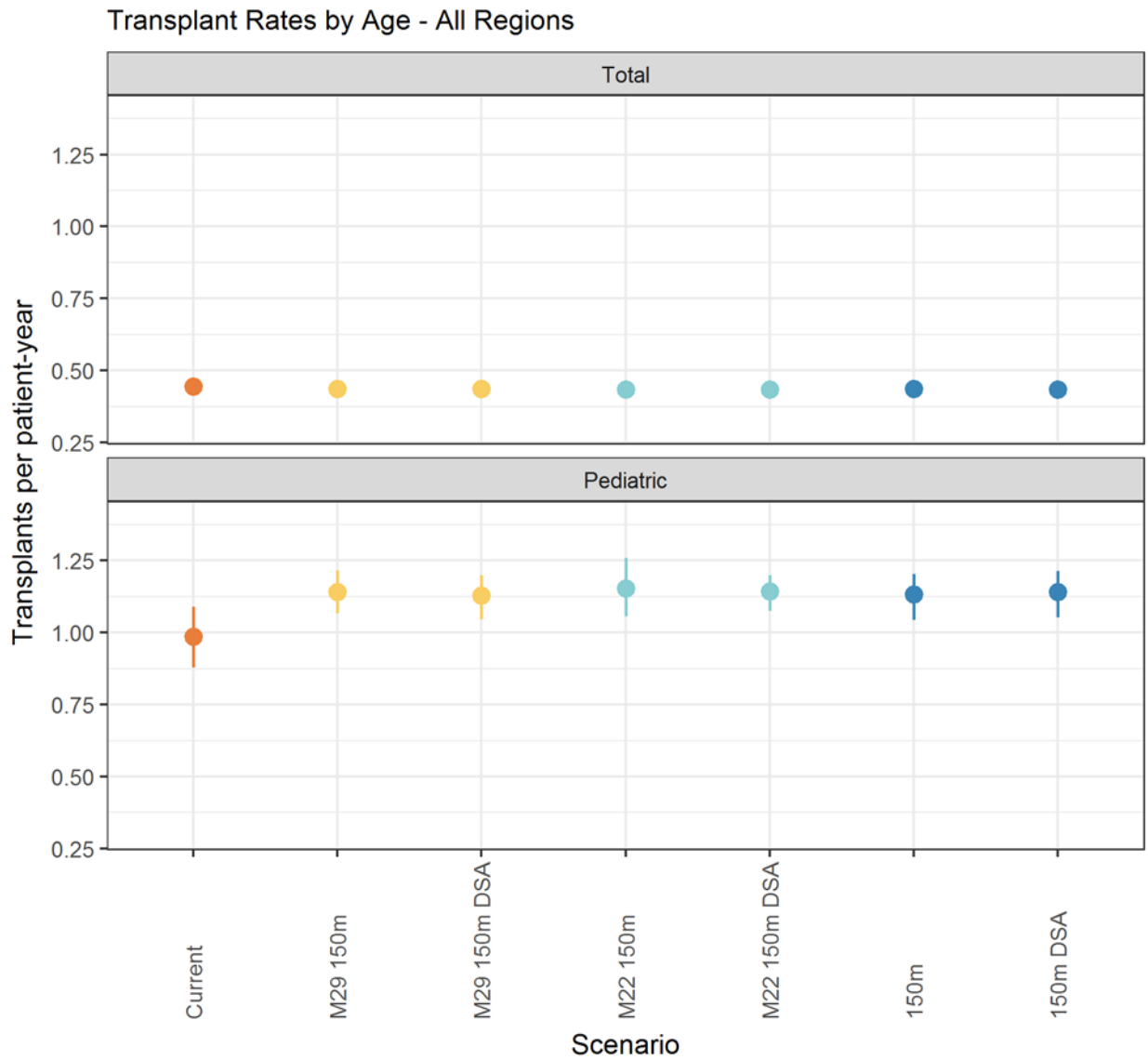


Figure 149 Transplant rates by age - all regions

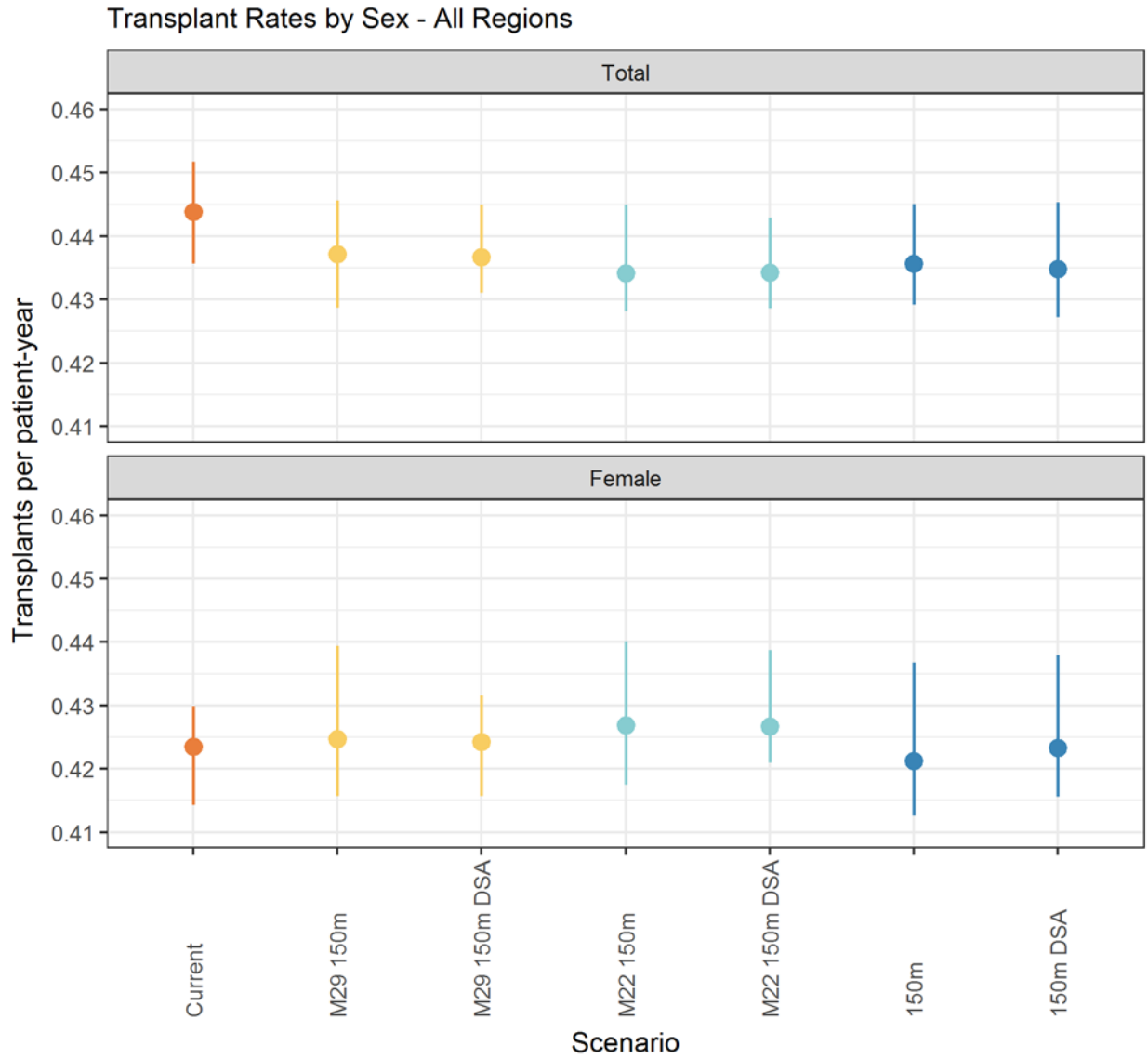


Figure 150 Transplant rates by sex - all regions

PRELIMINARY

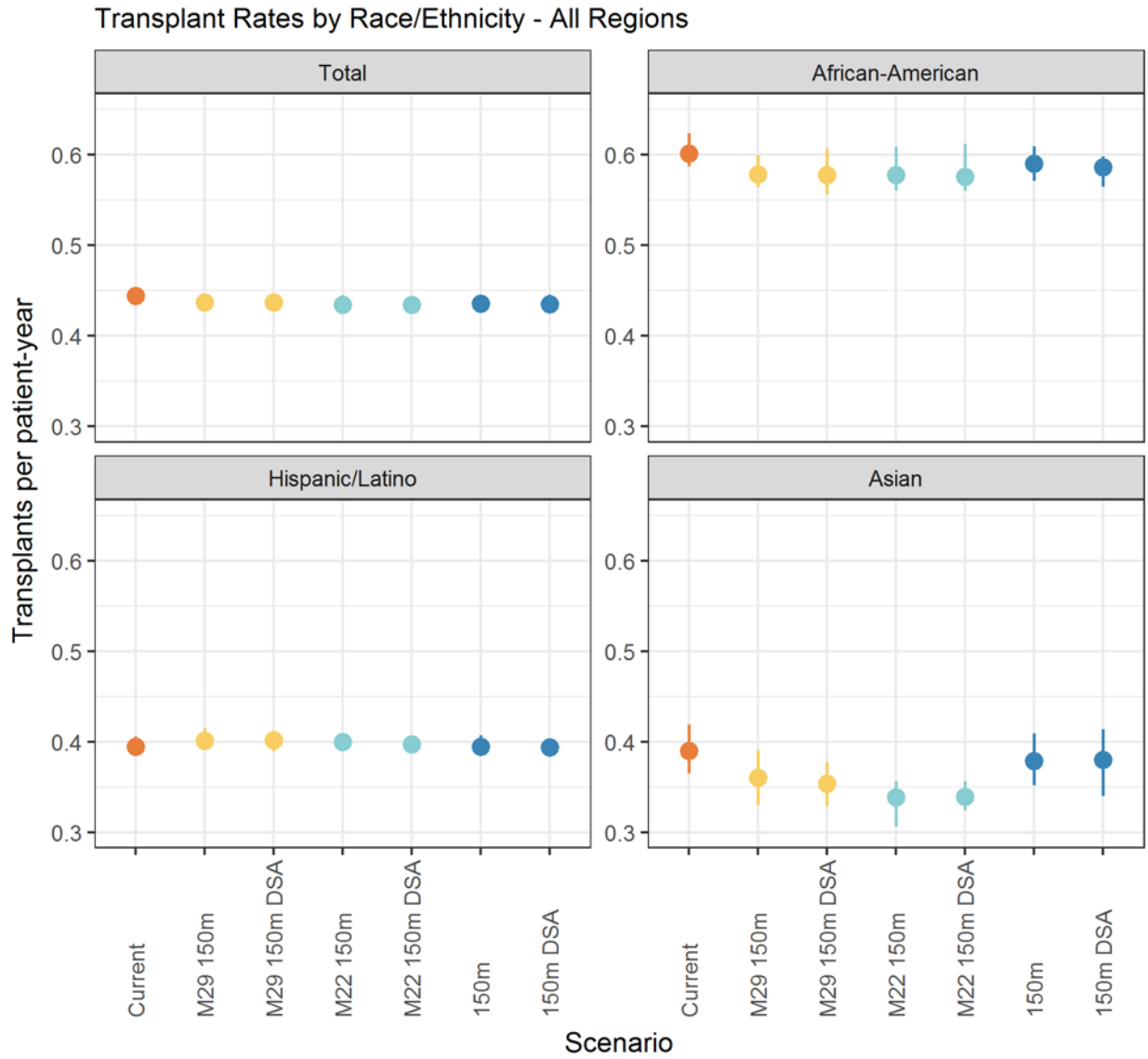


Figure 151 Transplant rates by race/ethnicity - all regions

PRELIMINARY

Transplant Counts

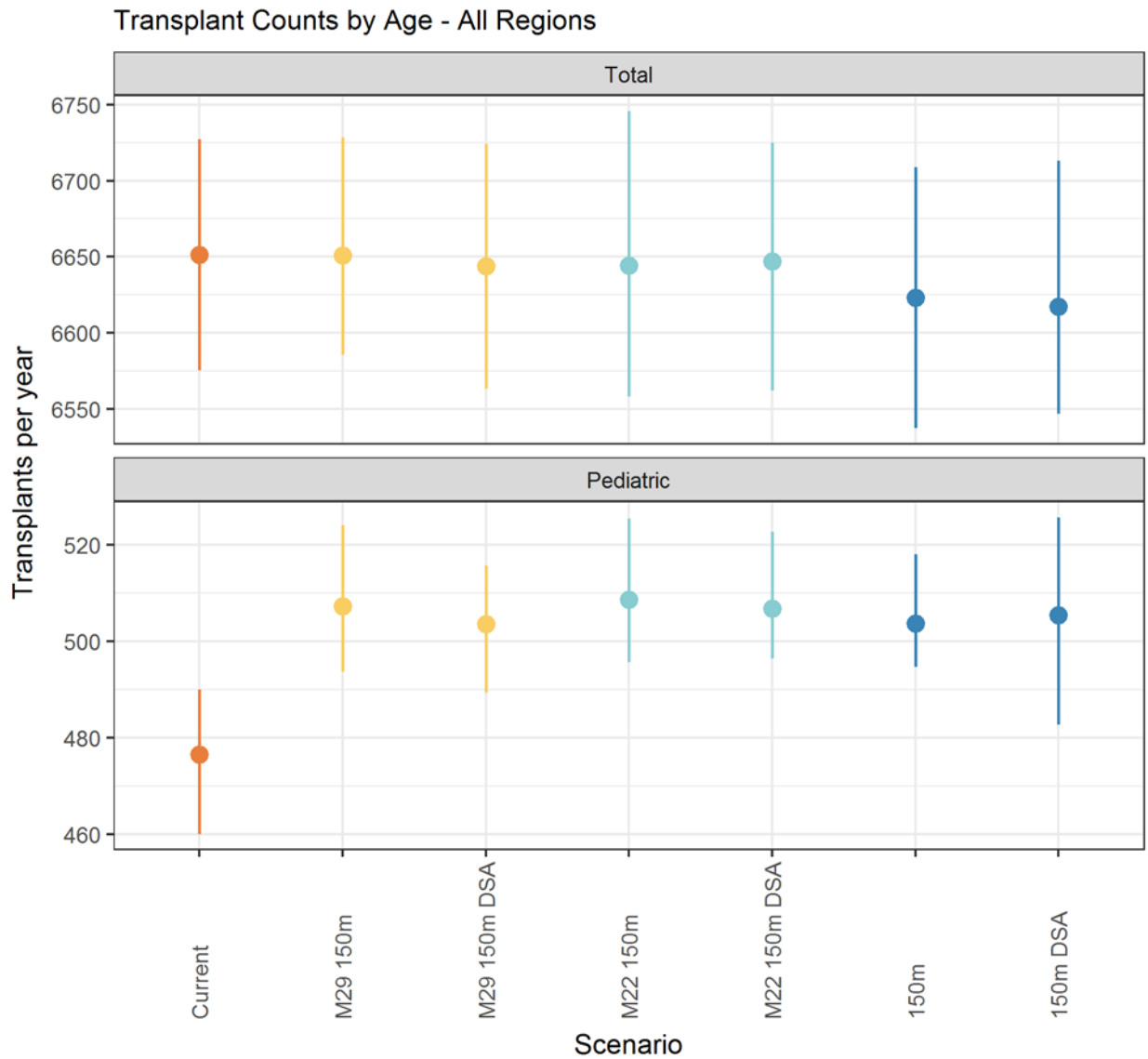


Figure 152 Transplant counts by age - all regions

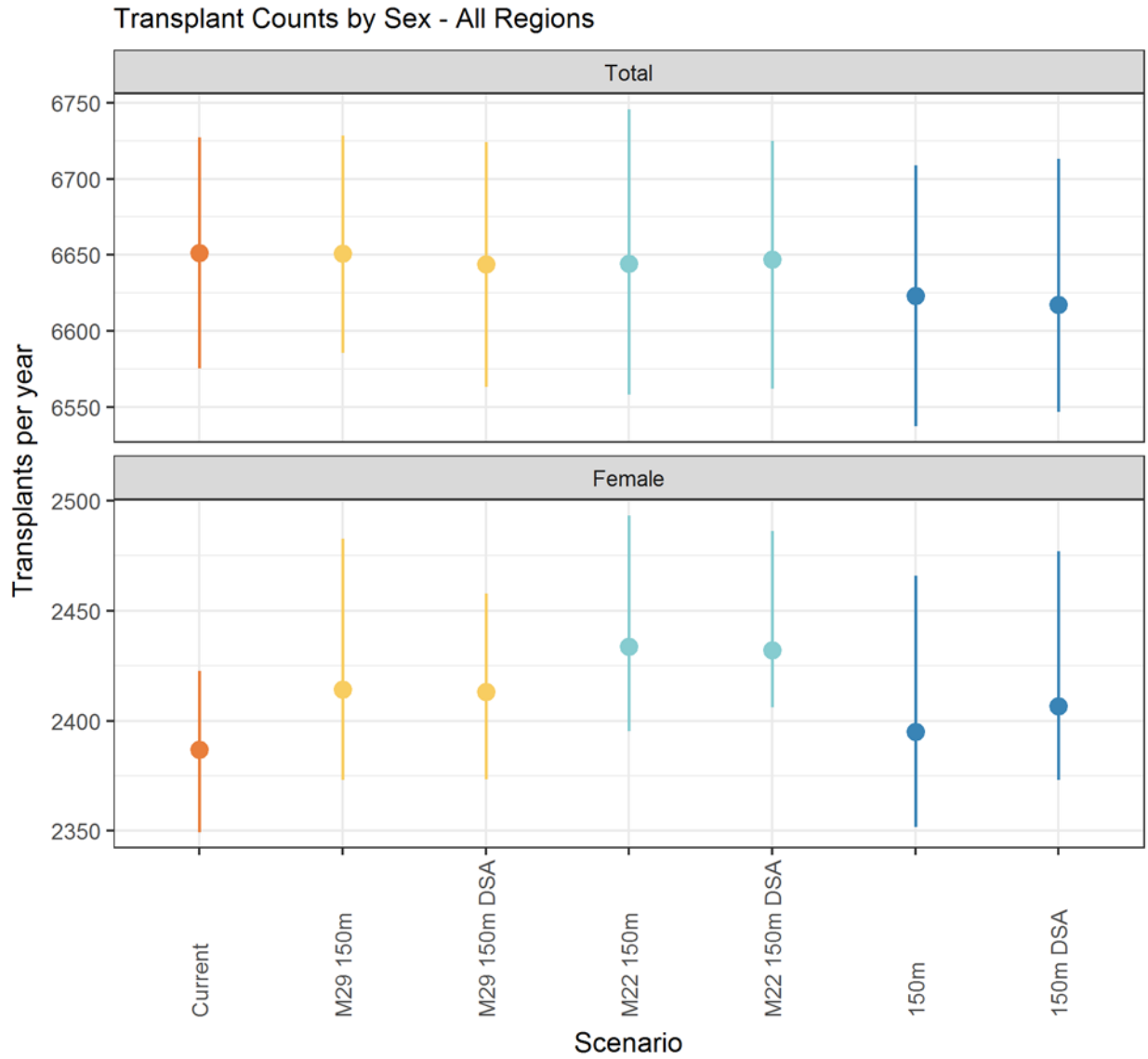


Figure 153 Transplant counts by sex - all regions

PRR

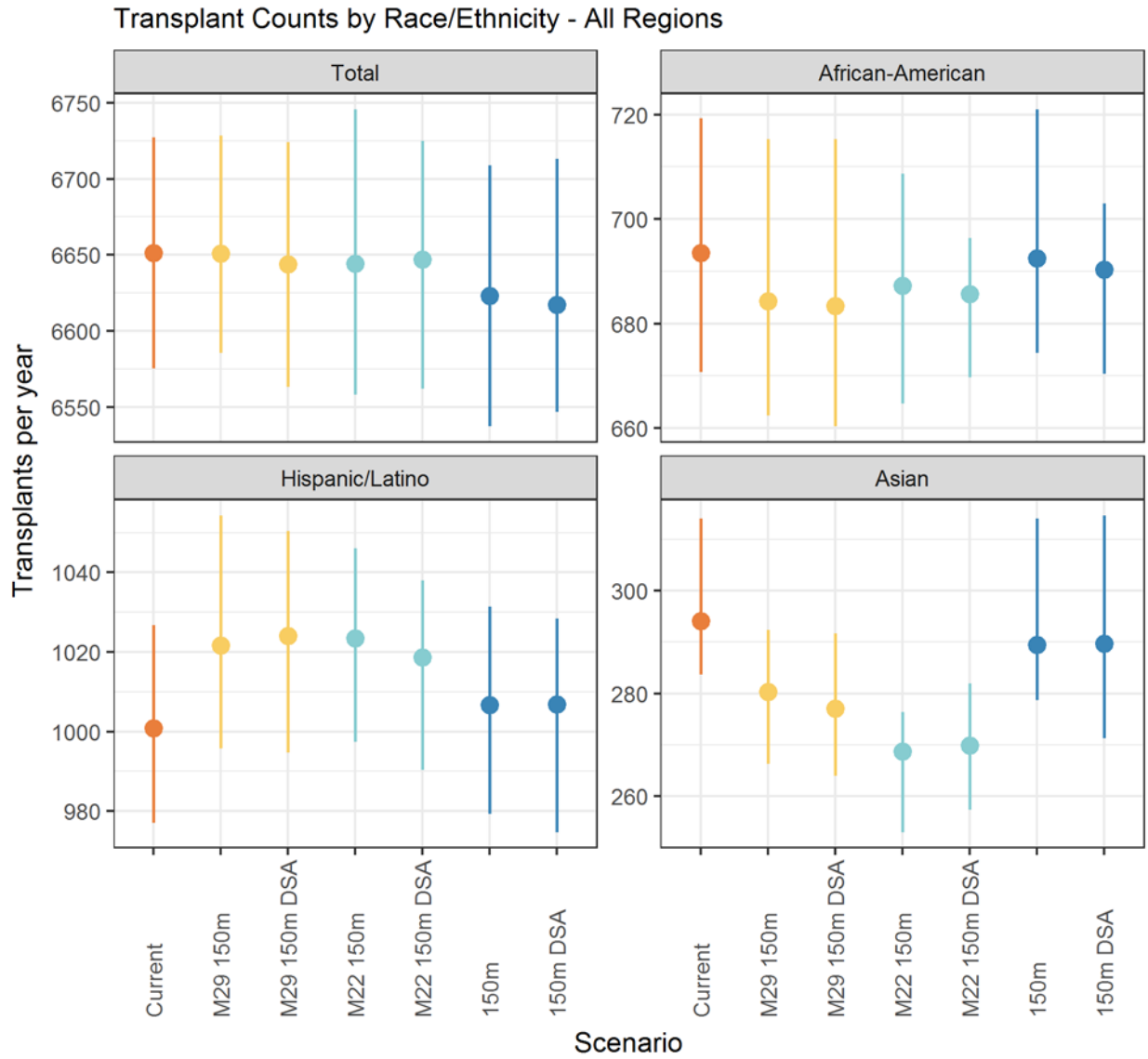


Figure 154 Transplant counts by race/ethnicity - all regions

PRR

Variance in Transplant Rates by DSA

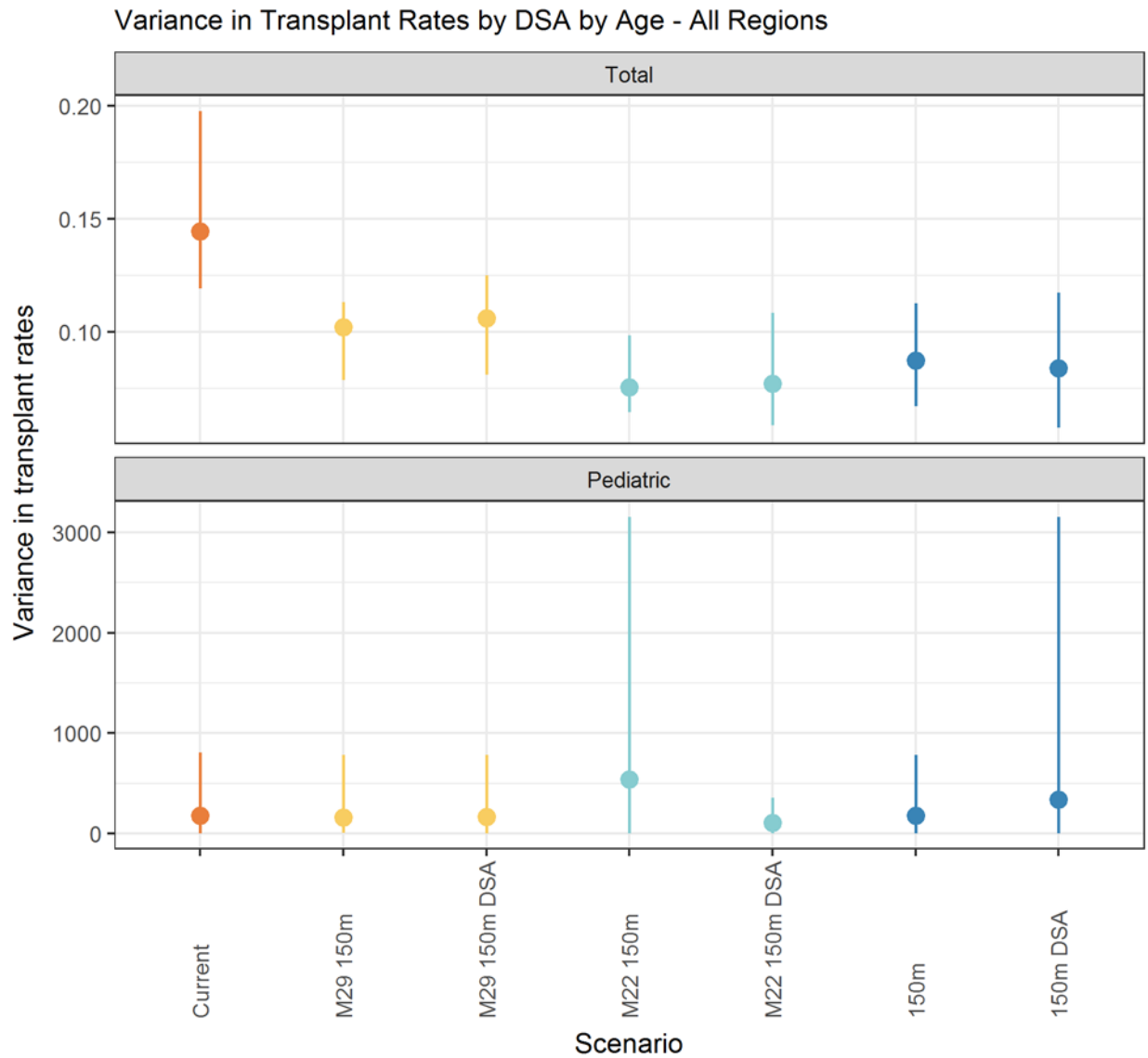


Figure 155 Variance in transplant rates by DSA by age - all regions

PRV

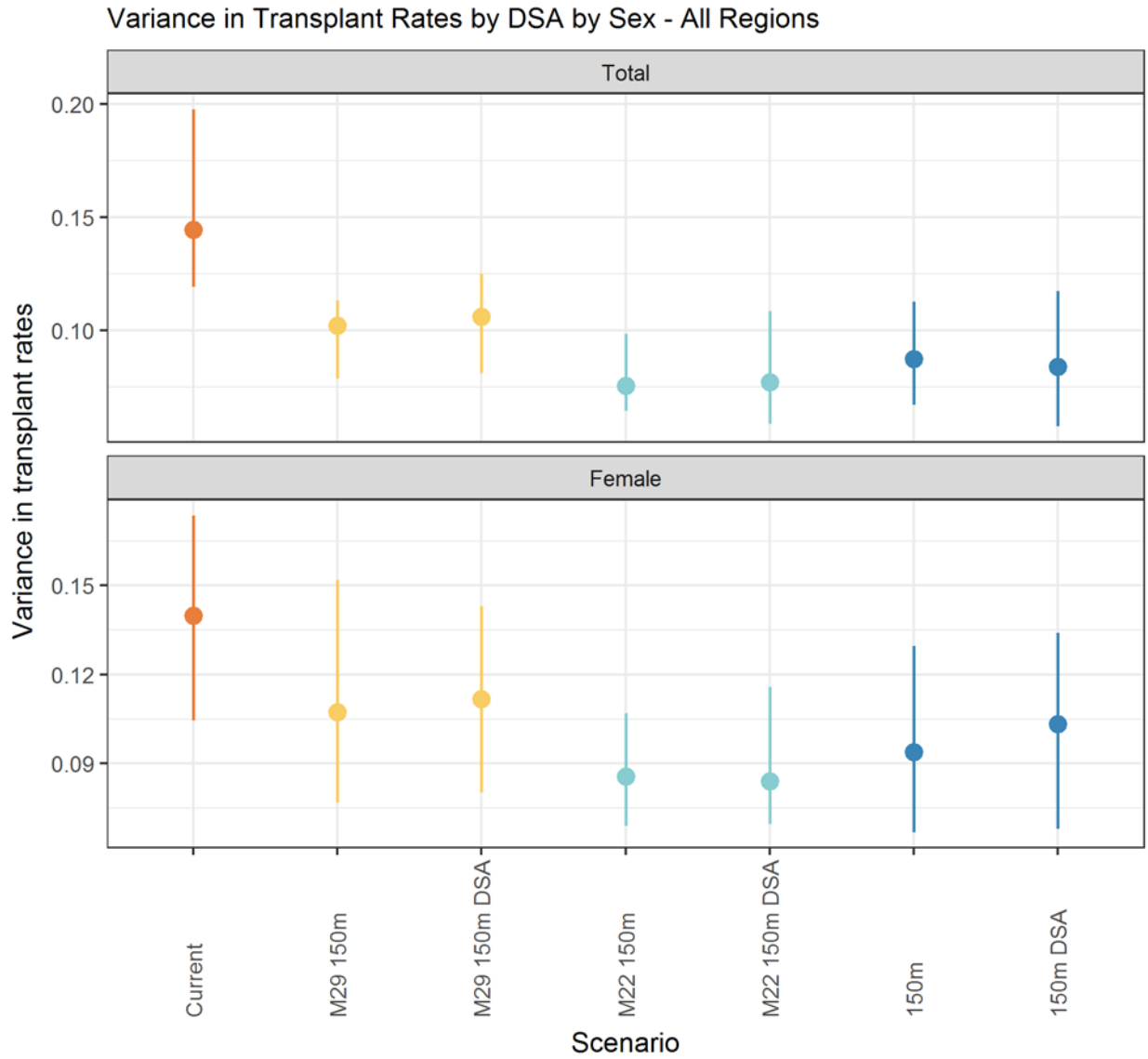


Figure 156 Variance in transplant rates by DSA by sex - all regions

PRELIMINARY



Figure 157 Variance in transplant rates by DSA by race/ethnicity - all regions

PRELIMINARY

Waitlist Mortality

Waitlist Mortality Rates

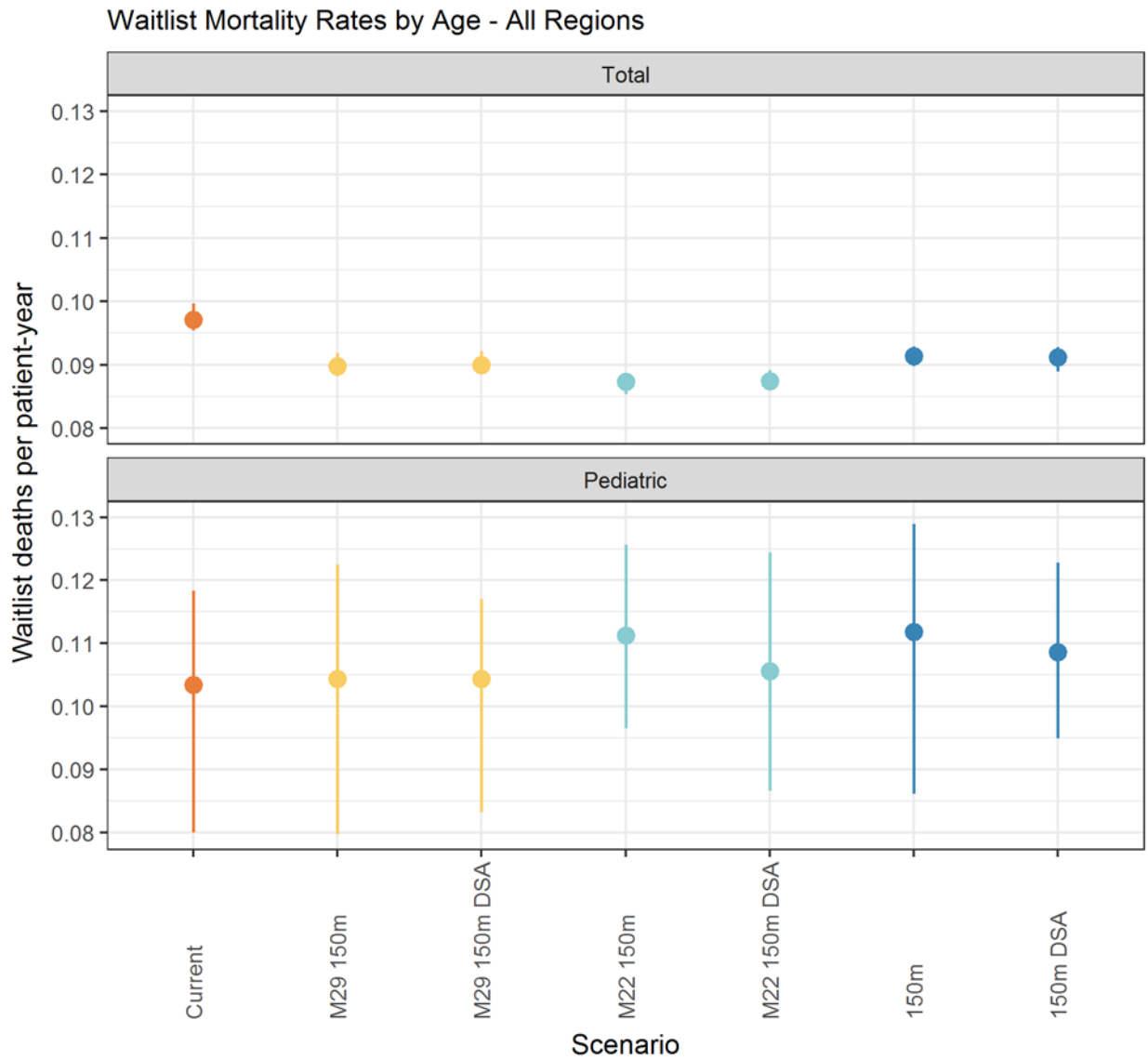


Figure 158 Waitlist mortality rates by age - all regions

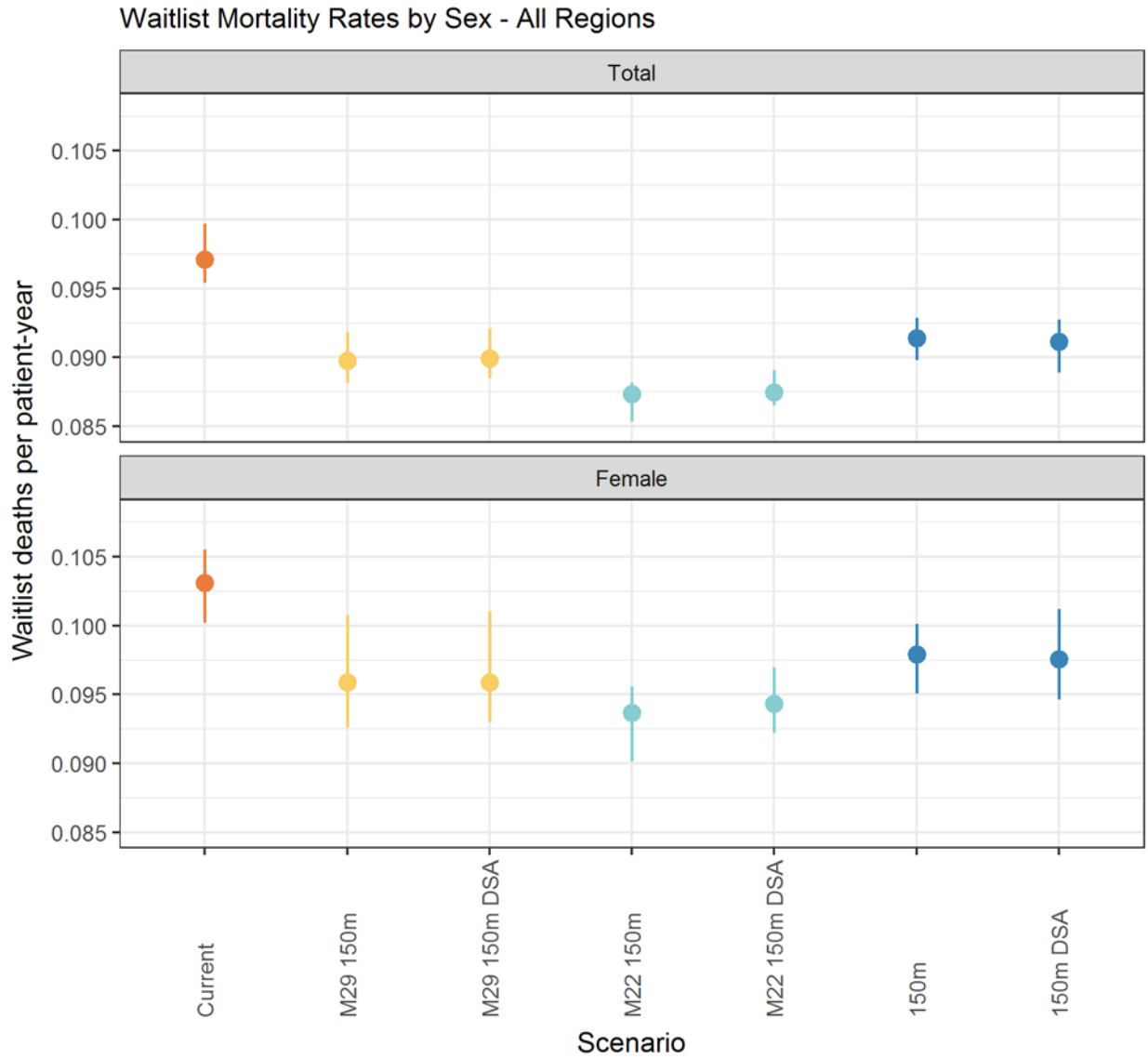


Figure 159 Waitlist mortality rates by sex - all regions

PRELIMINARY

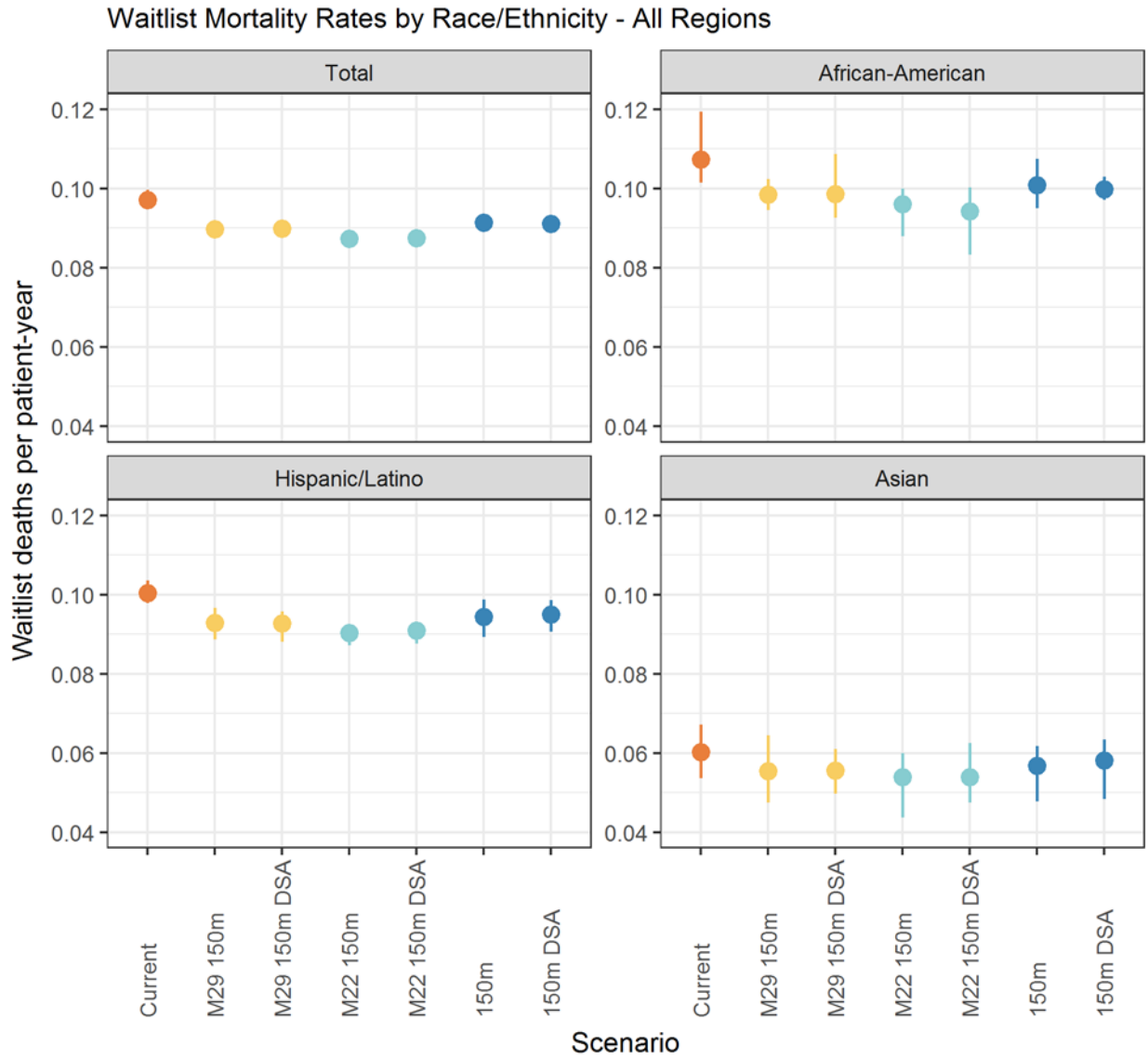


Figure 160 Waitlist mortality rates by race/ethnicity - all regions

PRELIMINARY

Waitlist Mortality Counts

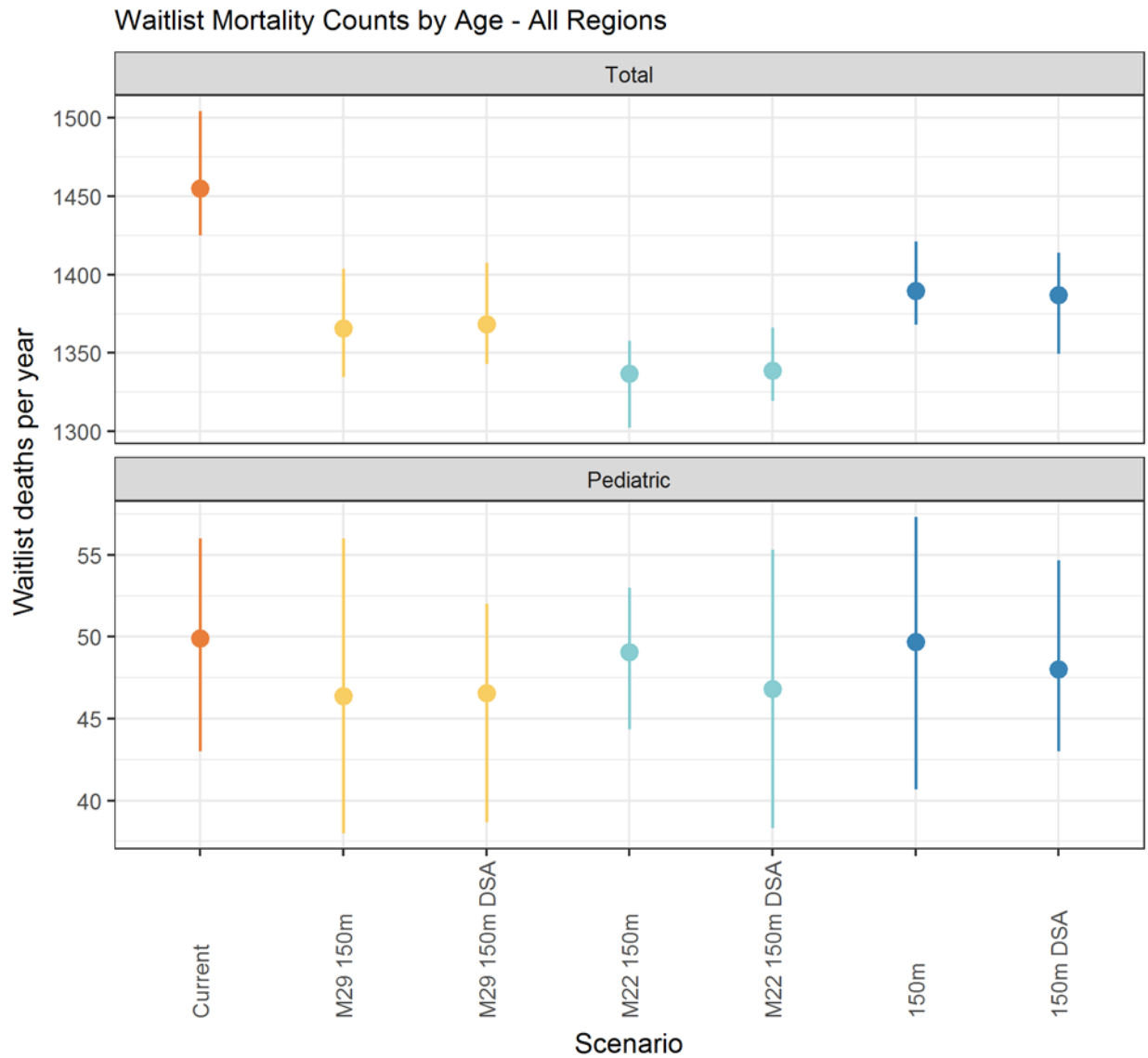


Figure 161 Waitlist mortality counts by age - all regions

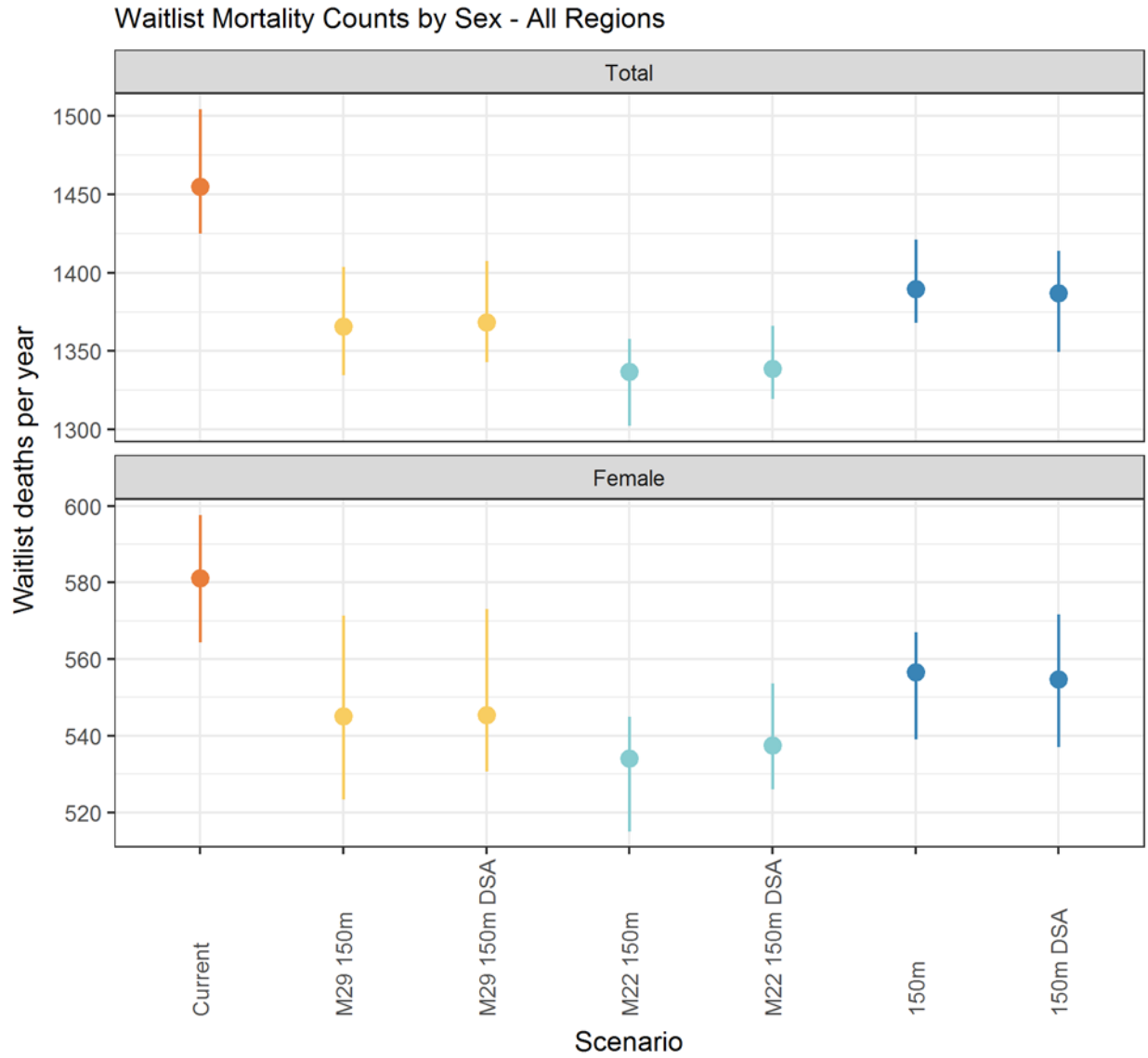


Figure 162 Waitlist mortality counts by sex - all regions

PRELIMINARY

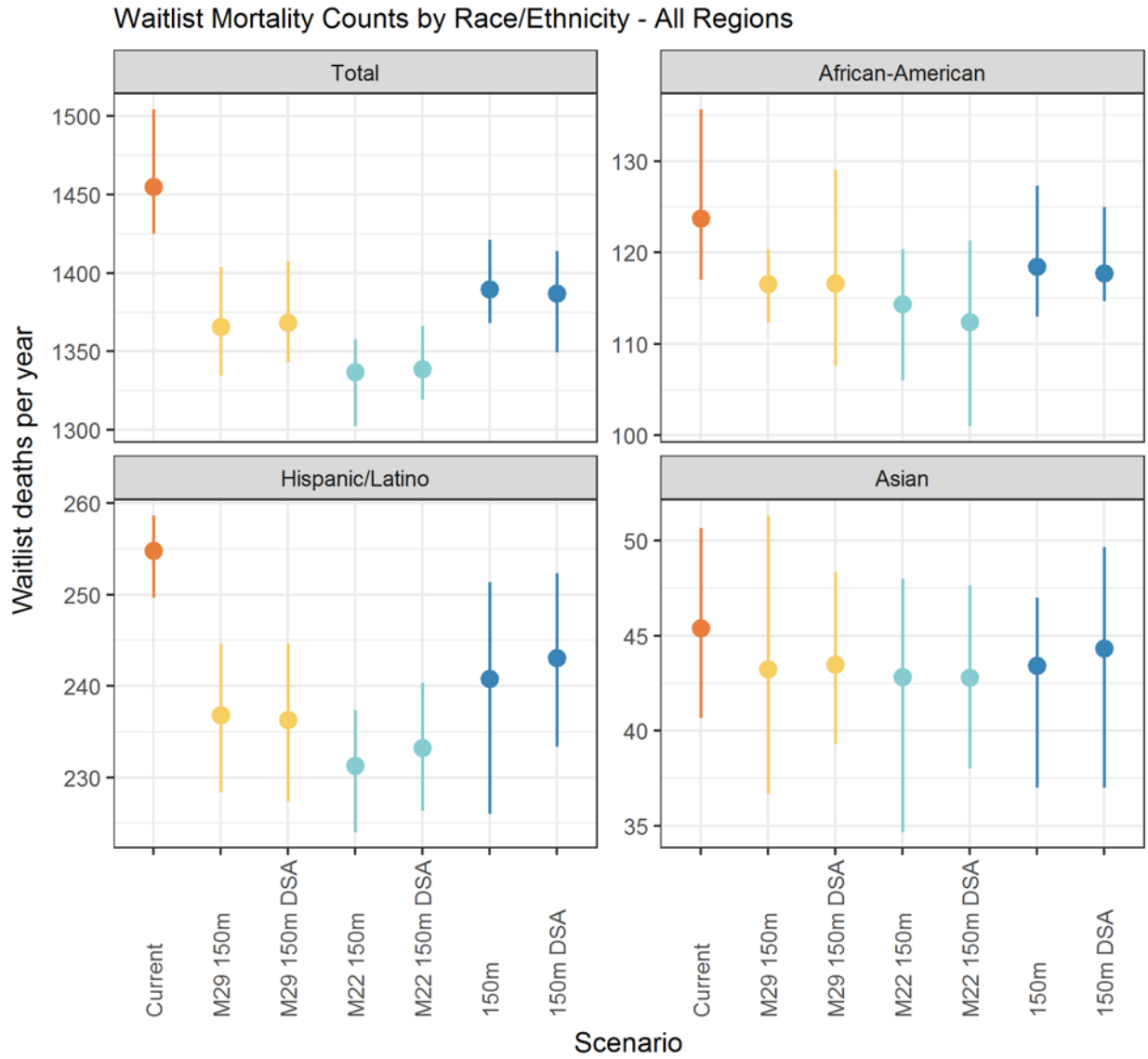


Figure 163 Waitlist mortality counts by race/ethnicity - all regions

PRELIMINARY

Variance in Waitlist Mortality Rates by DSA

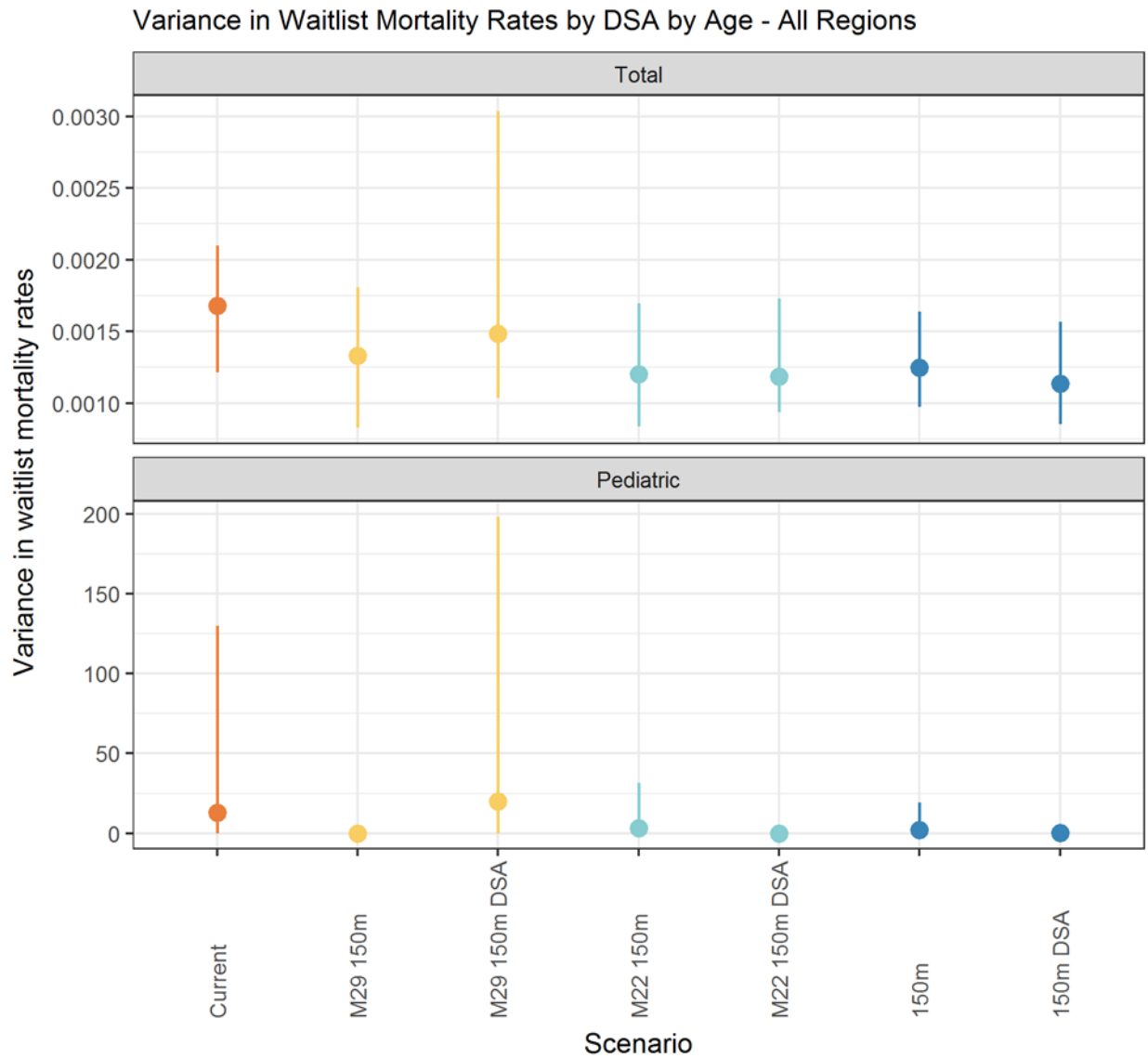


Figure 164 Variance in waitlist mortality rates by DSA by age - all regions

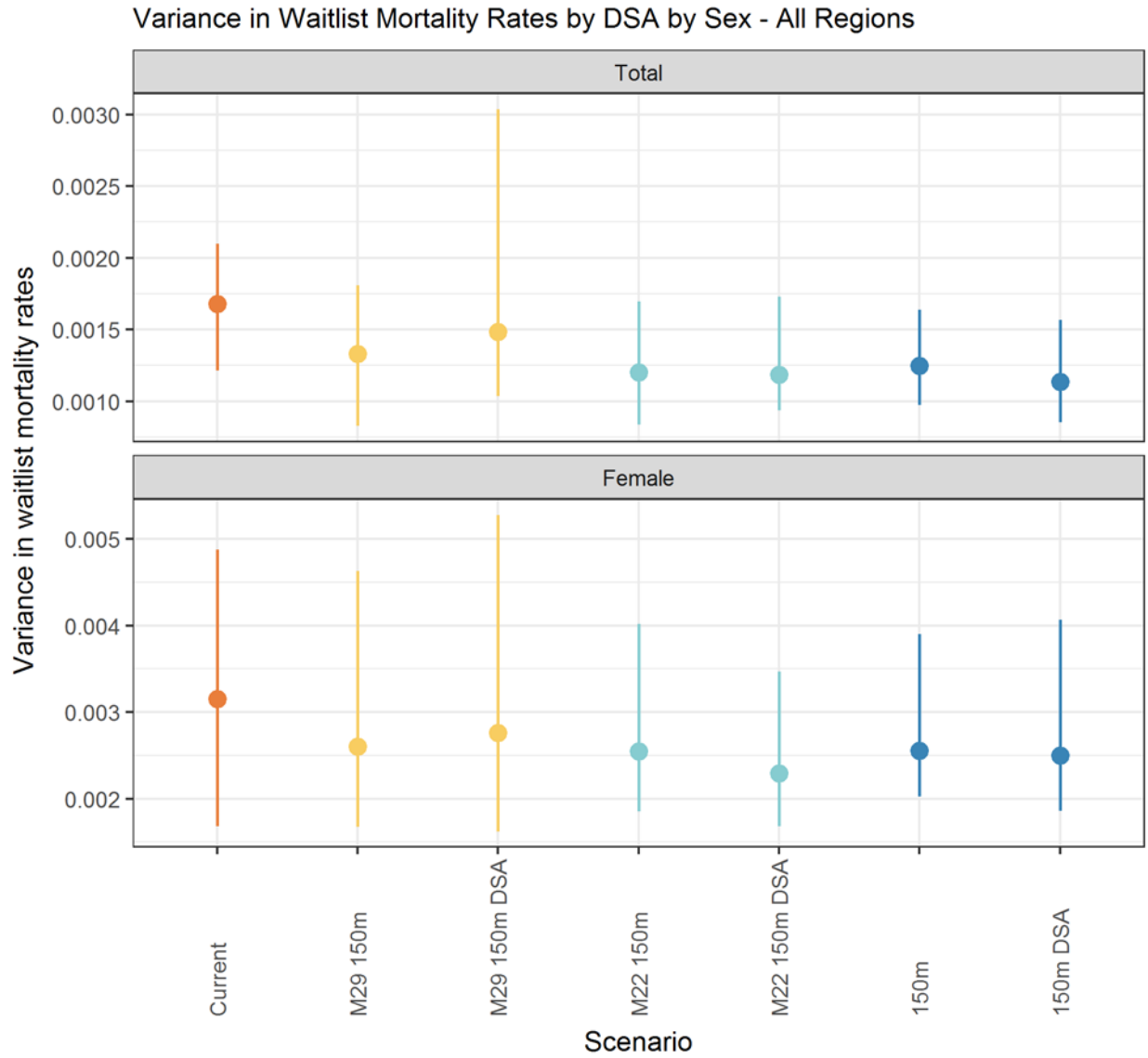


Figure 165 Variance in waitlist mortality rates by DSA by sex - all regions

PRELIMINARY

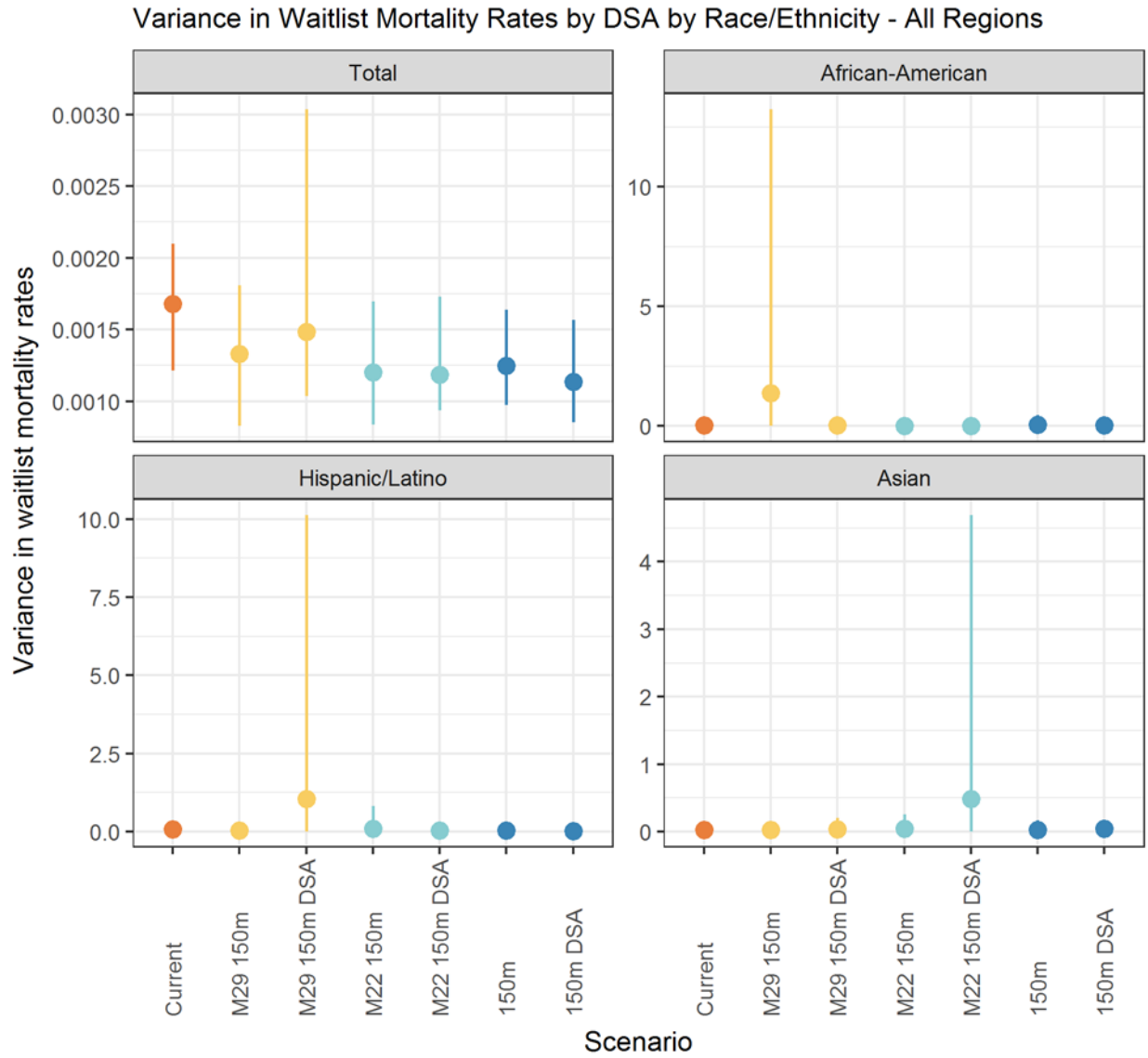


Figure 166 Variance in waitlist mortality rates by DSA by race/ethnicity - all regions

PRELIMINARY

Posttransplant Mortality

Posttransplant Mortality Rates

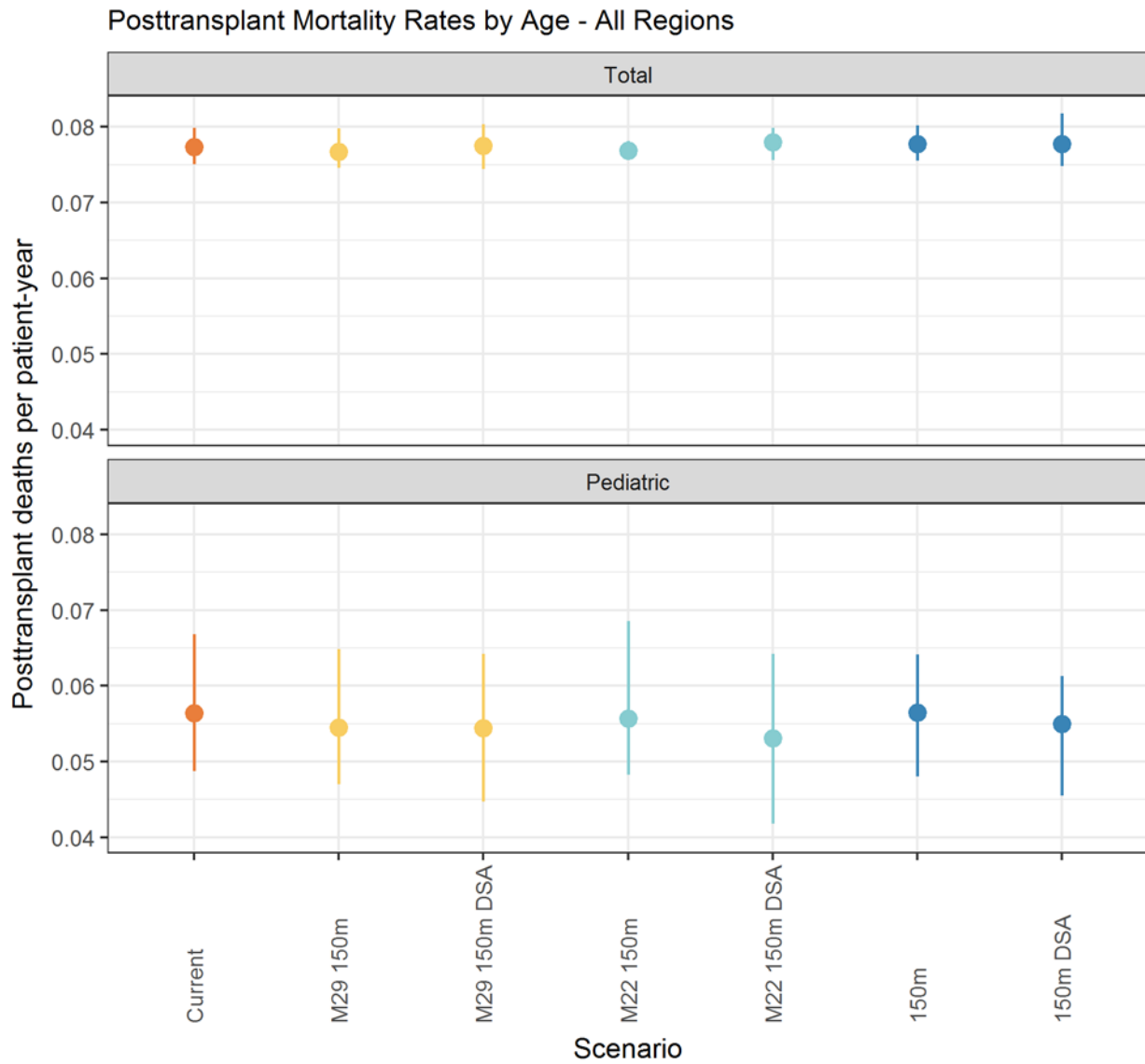


Figure 167 Posttransplant mortality rates by age - all regions

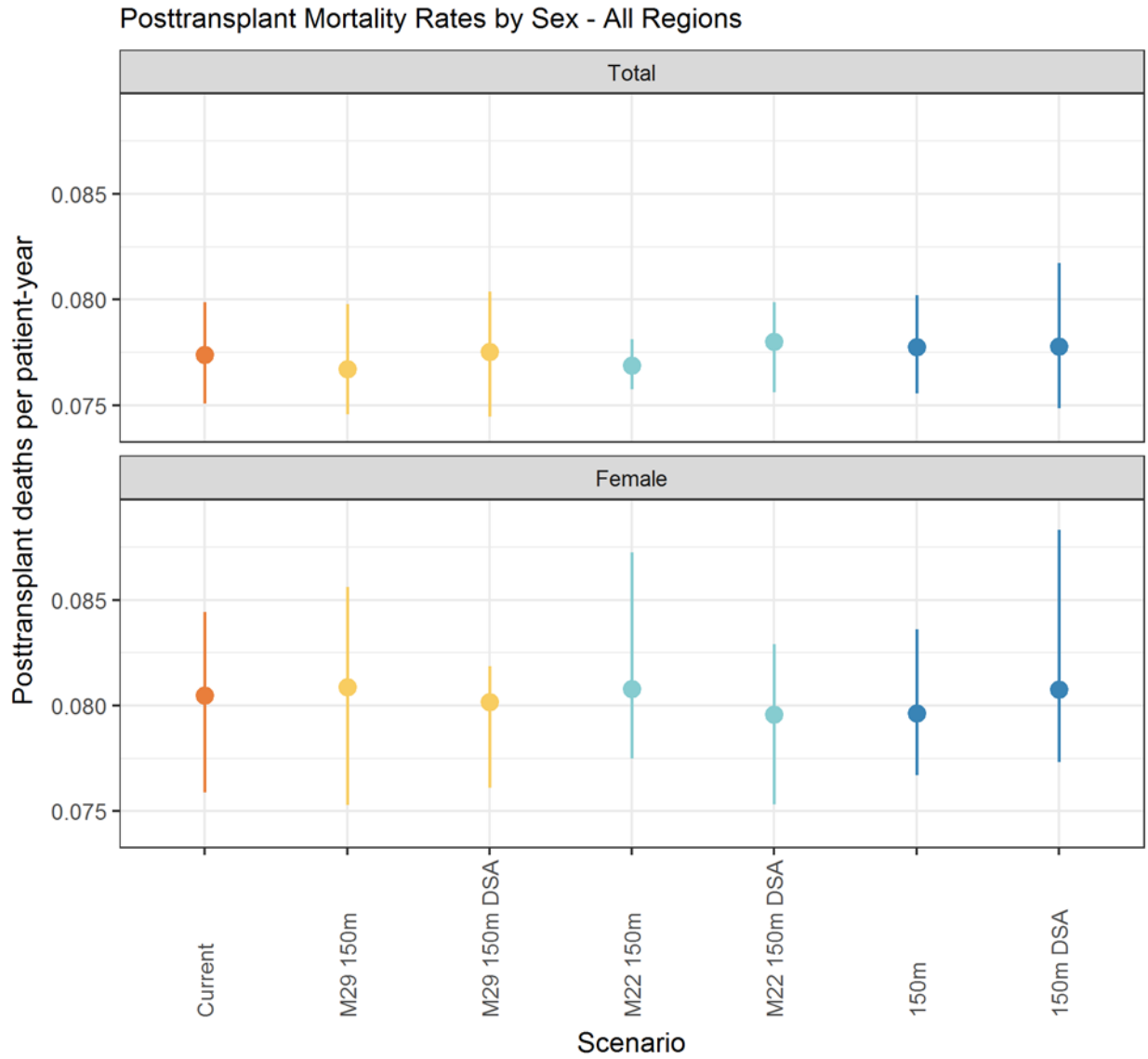


Figure 168 Posttransplant mortality rates by sex - all regions

PRELIMINARY

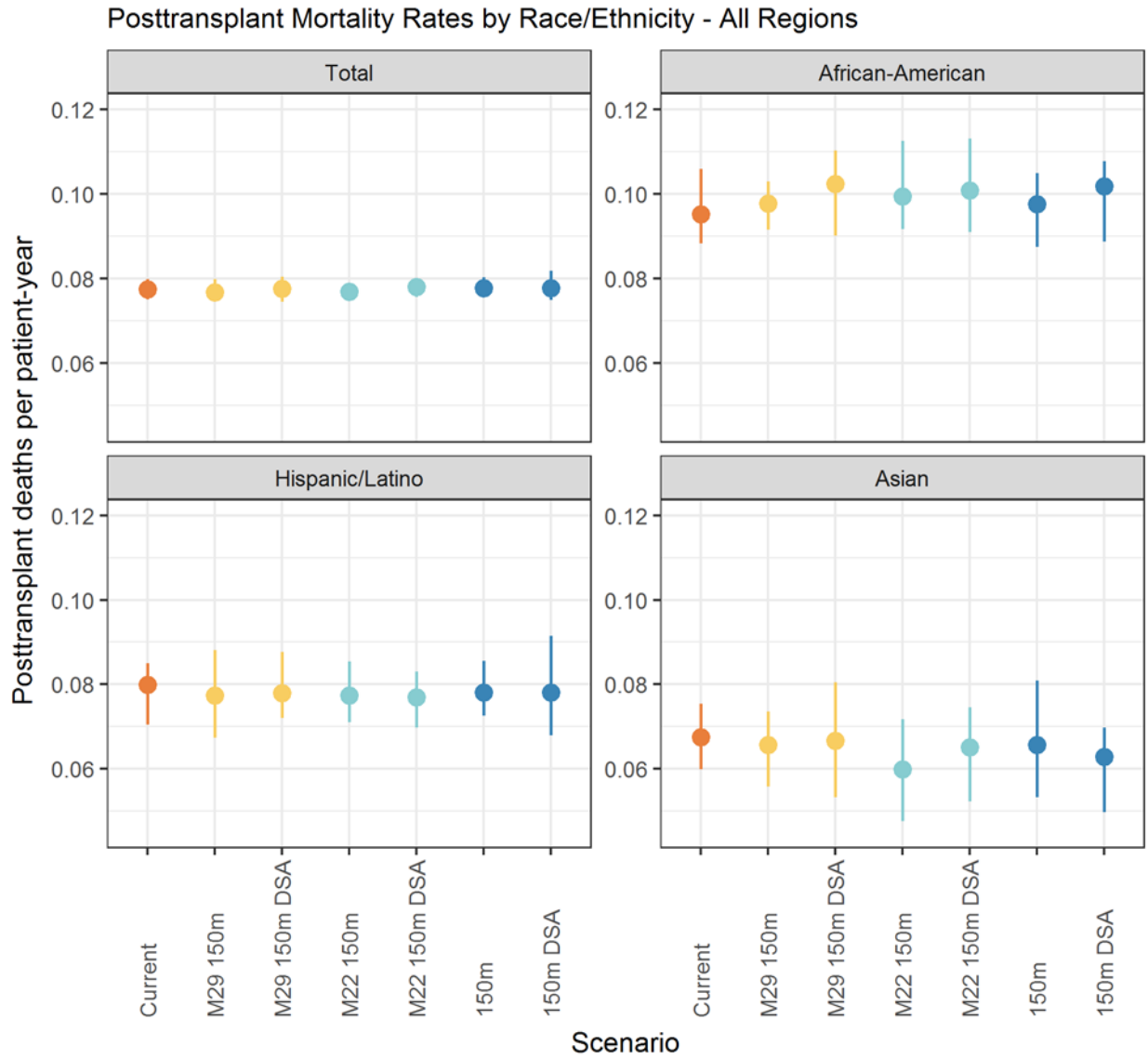


Figure 169 Posttransplant mortality rates by race/ethnicity - all regions

PRELIMINARY

Posttransplant Mortality Counts

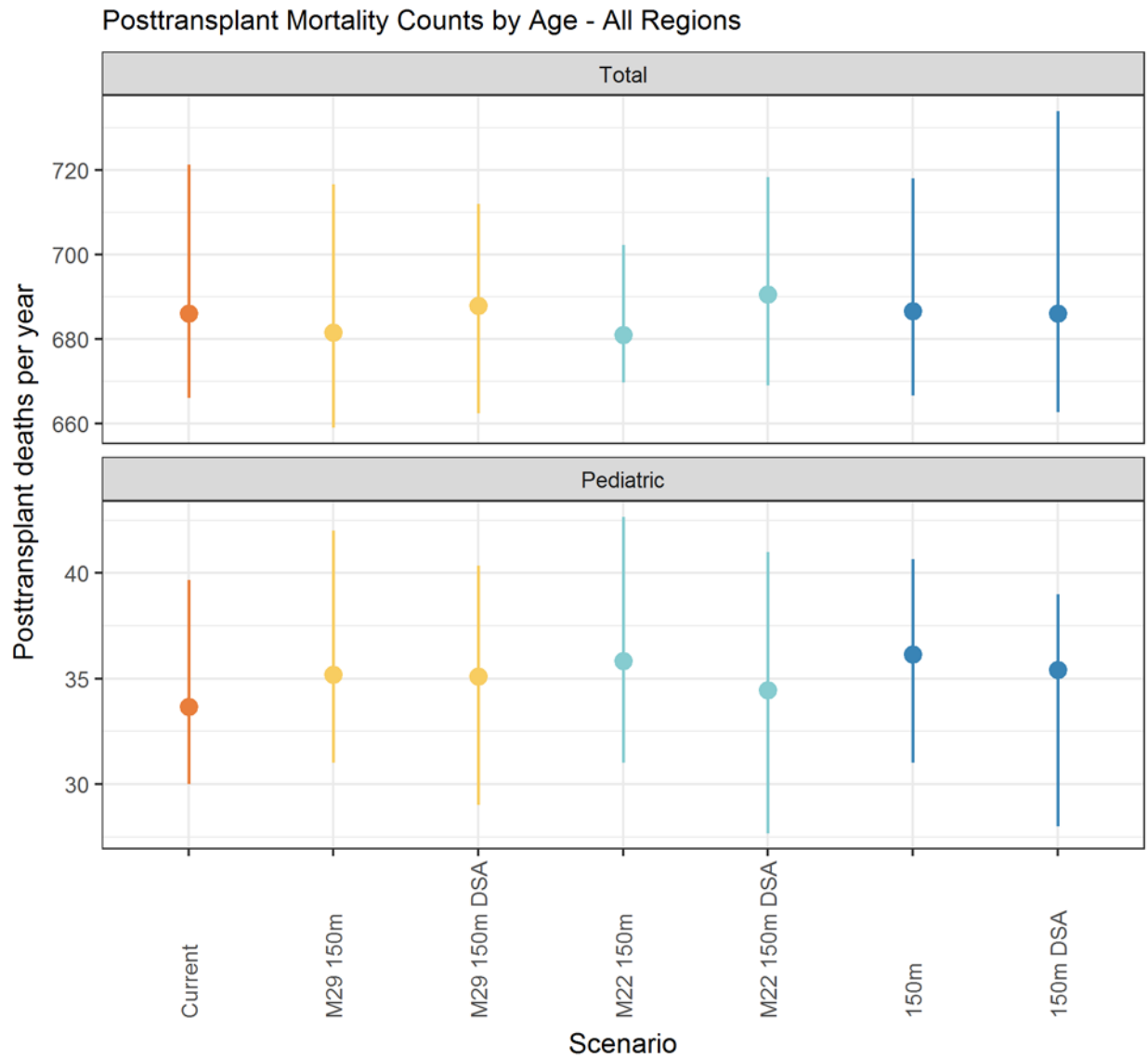


Figure 170 Posttransplant mortality counts by age - all regions



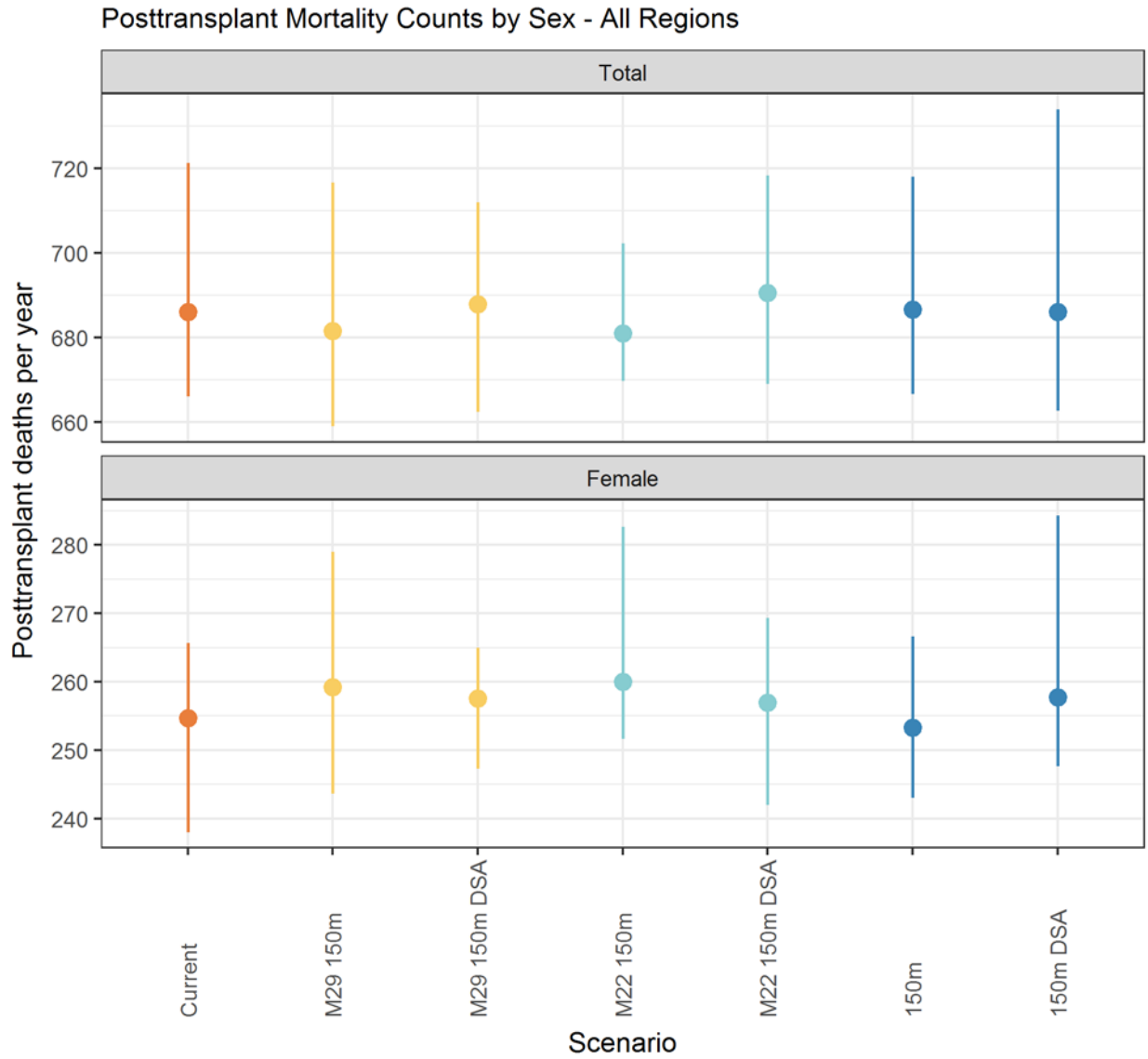


Figure 171 Posttransplant mortality counts by sex - all regions

PRELIMINARY

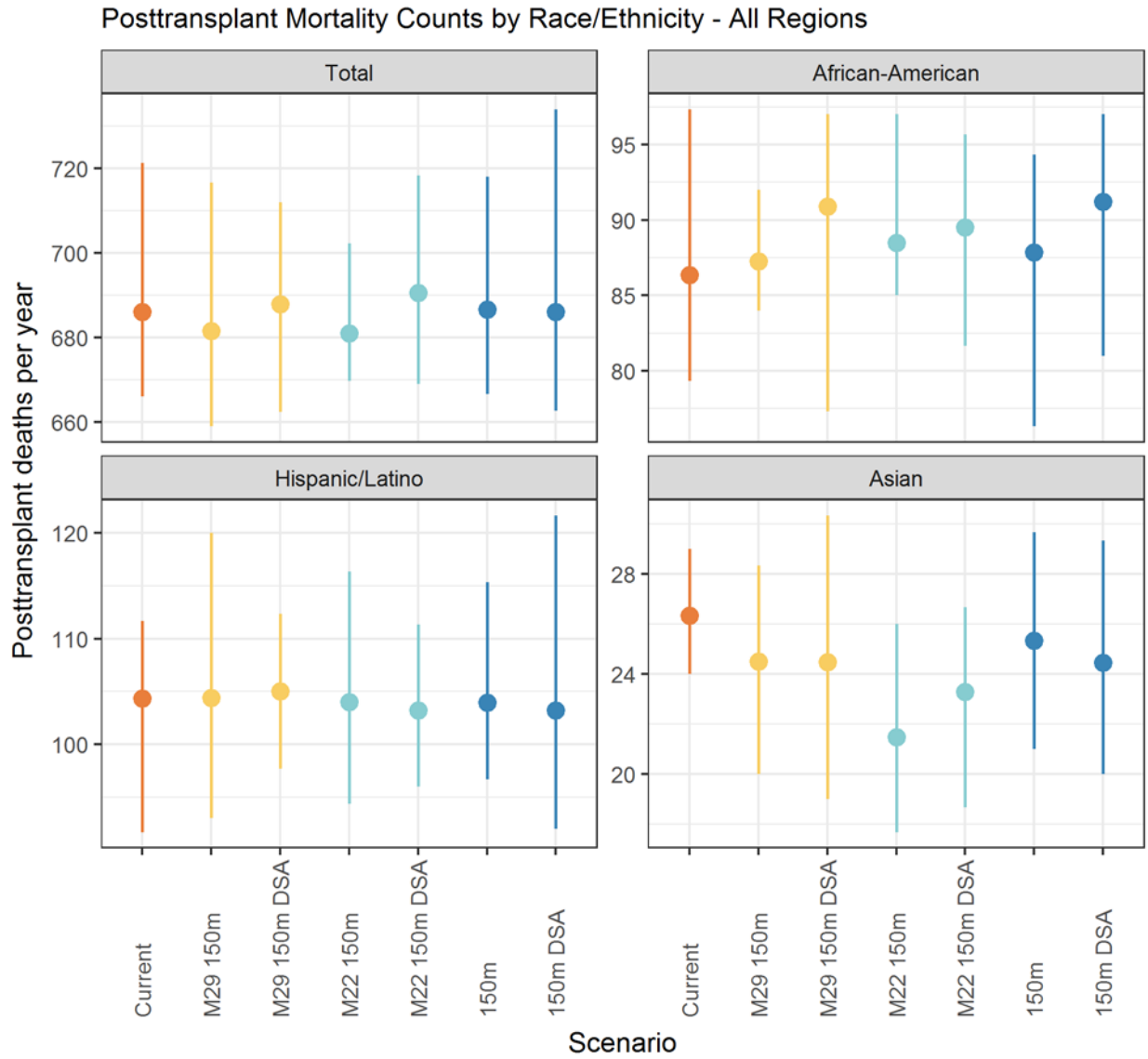


Figure 172 Posttransplant mortality counts by race/ethnicity - all regions

PRELIMINARY

Transport

Median Transport Time

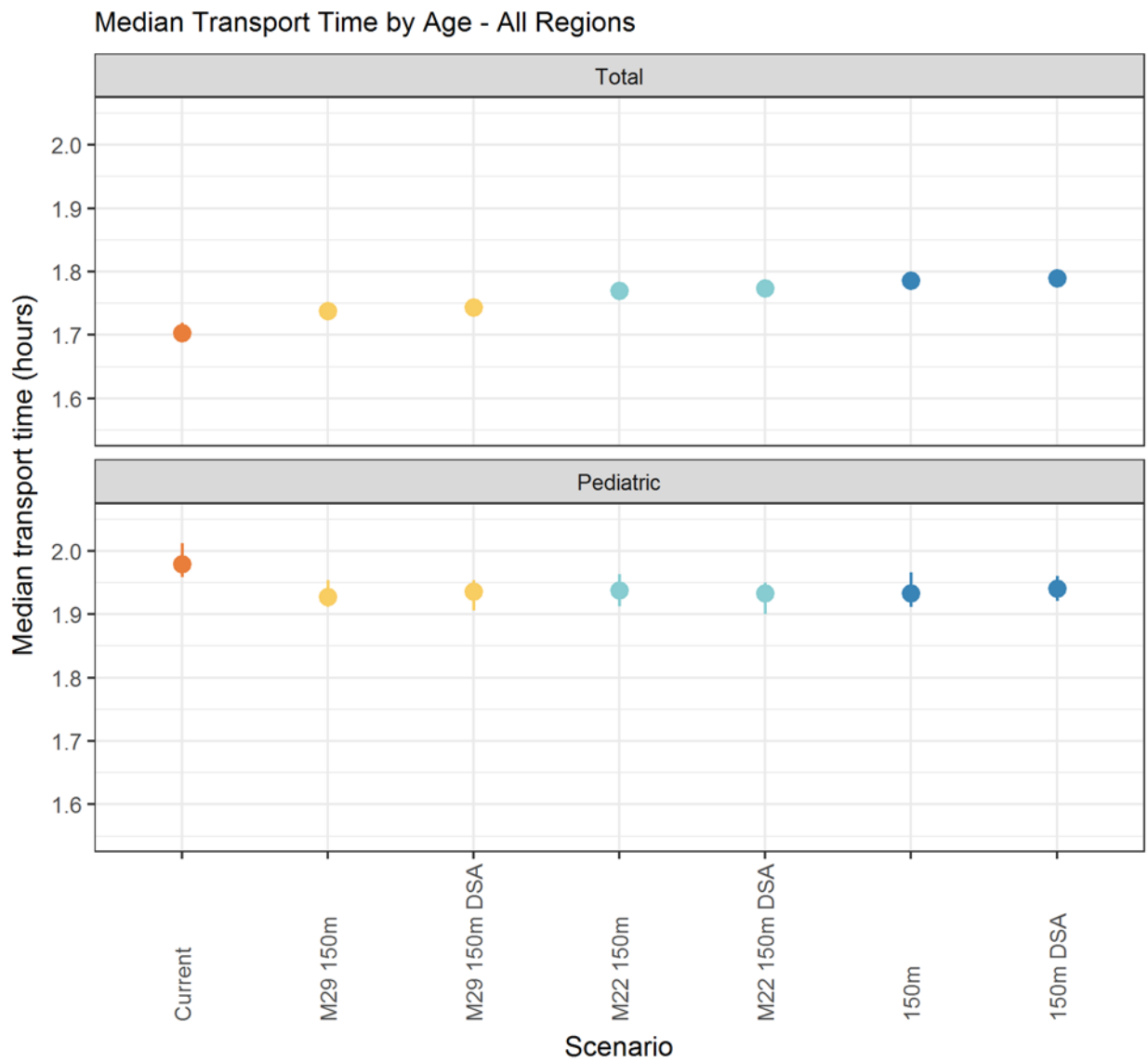


Figure 173 Median Transport Time by age - all regions

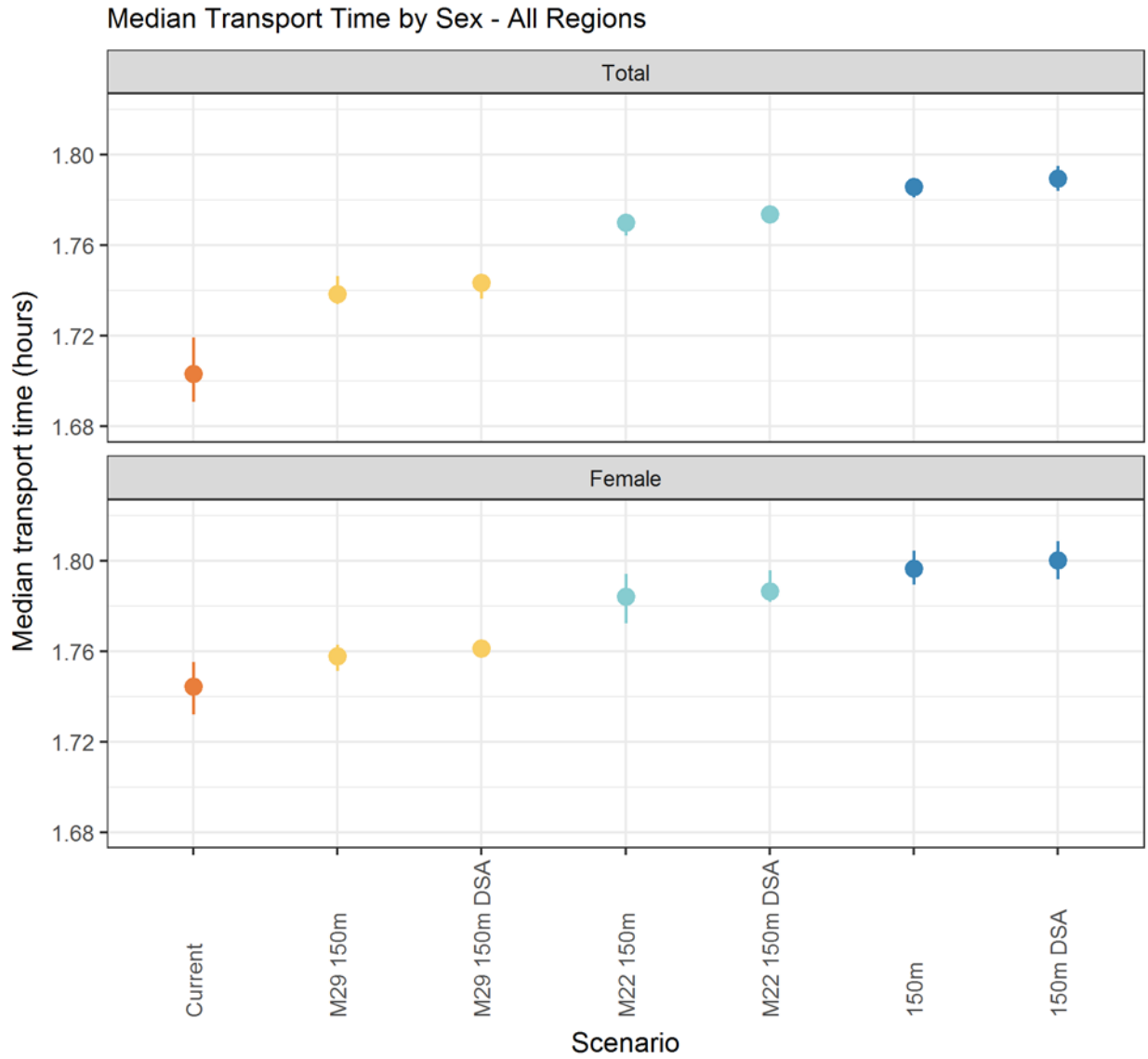


Figure 174 Median Transport Time by sex - all regions

PRELIMINARY

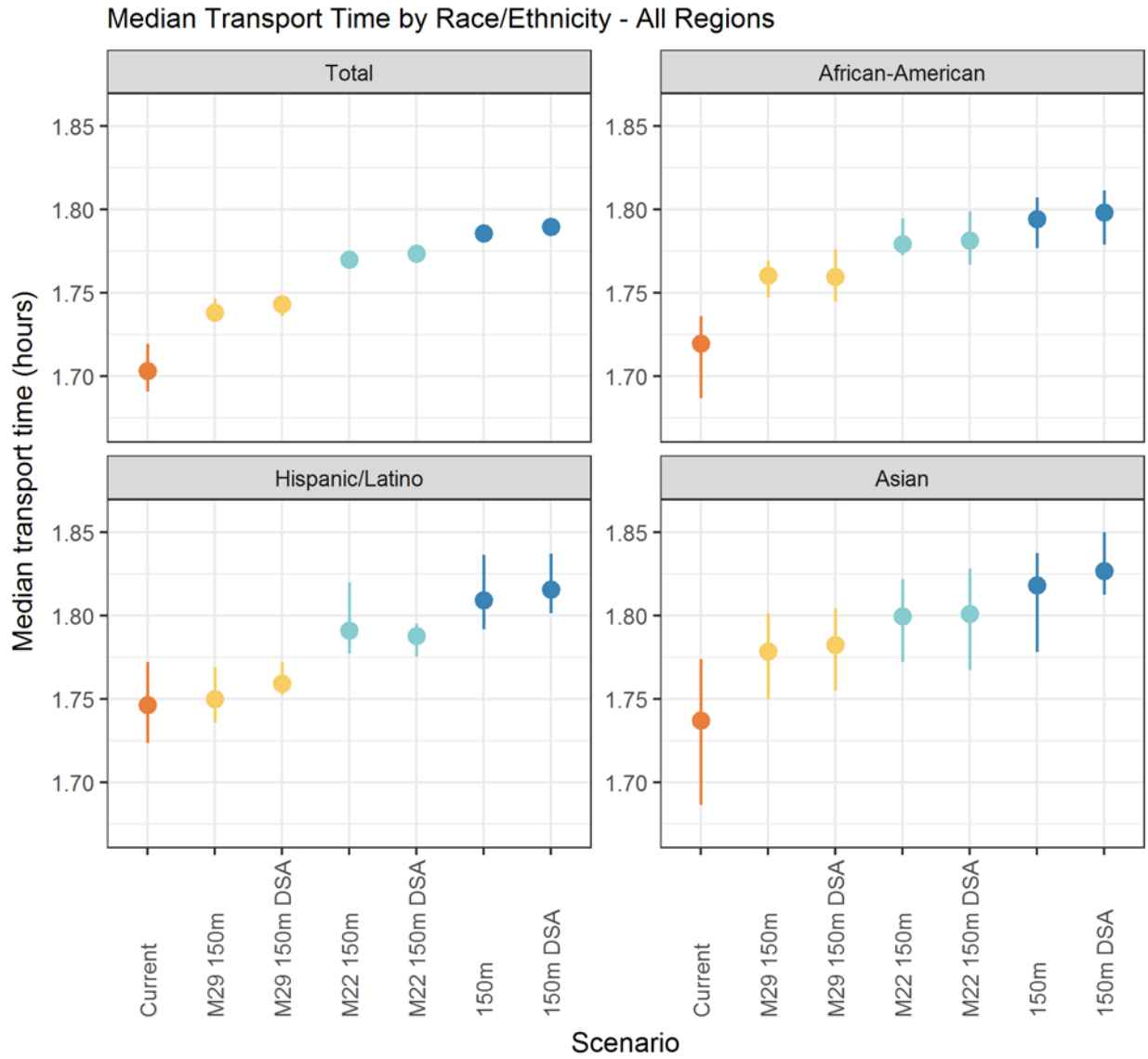


Figure 175 Median Transport Time by race/ethnicity - all regions

PRELIMINARY

Median Transport Distance

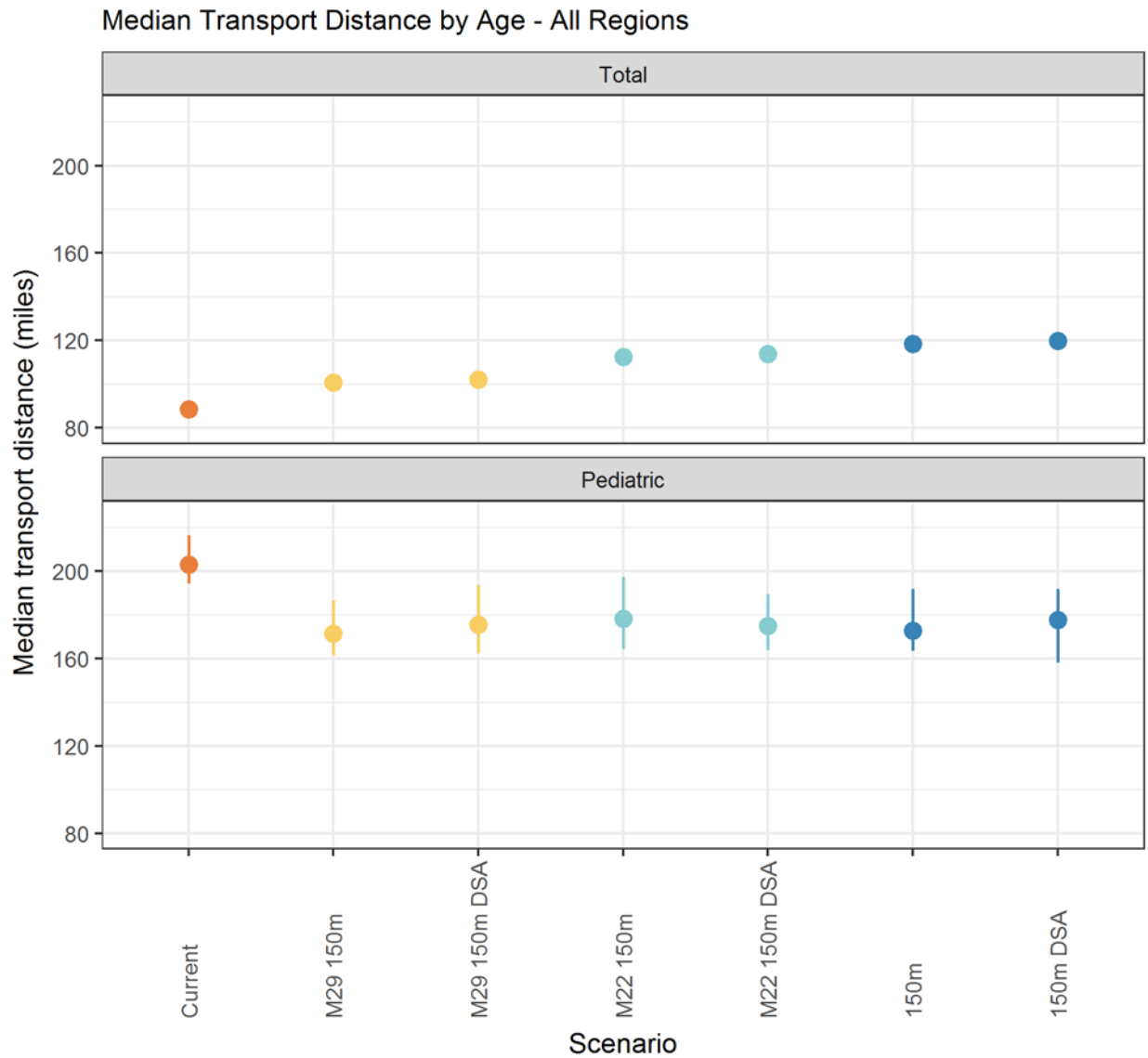


Figure 176 Median Transport Distance by age - all regions

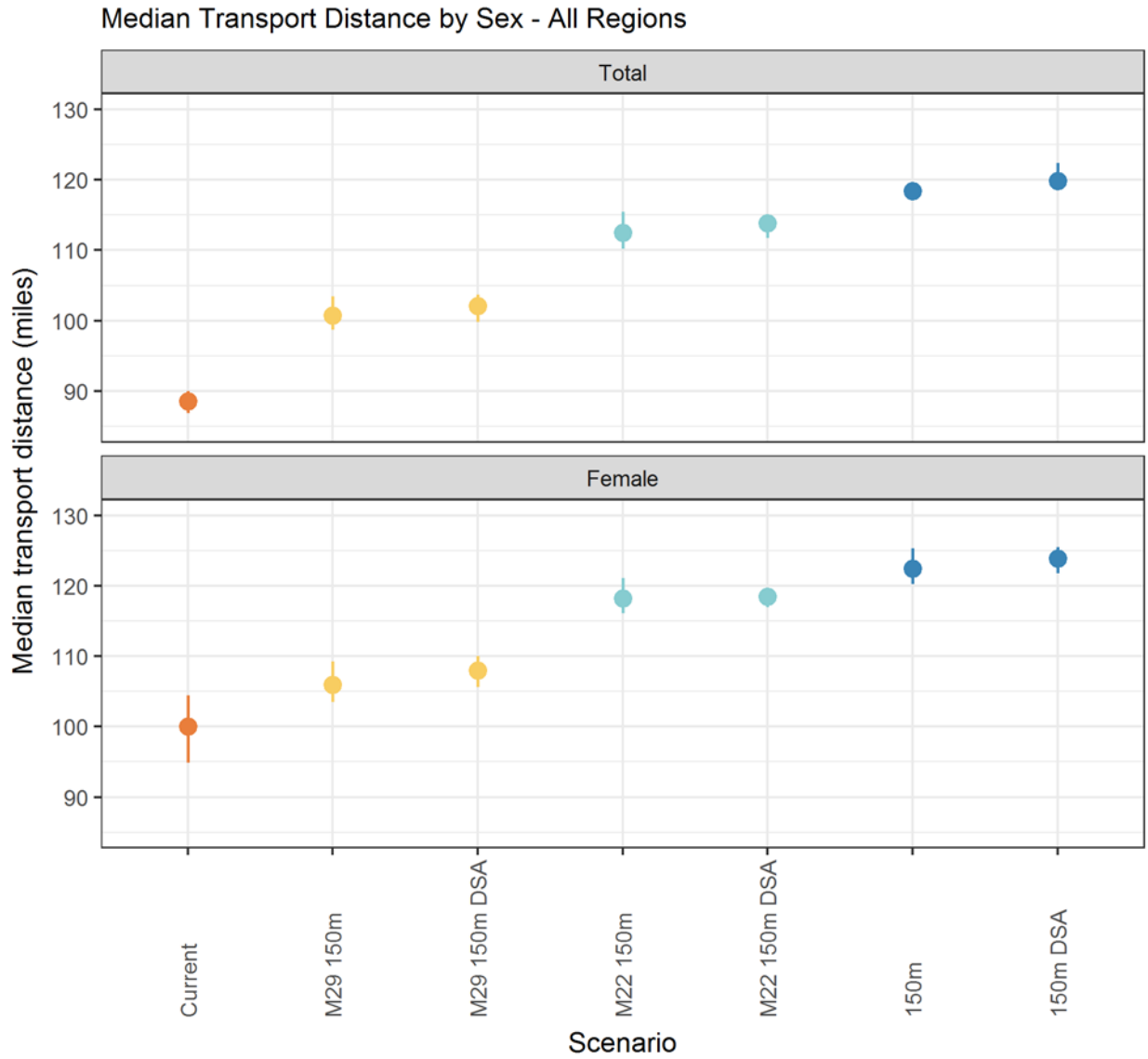


Figure 177 Median Transport Distance by sex - all regions

PRELIMINARY

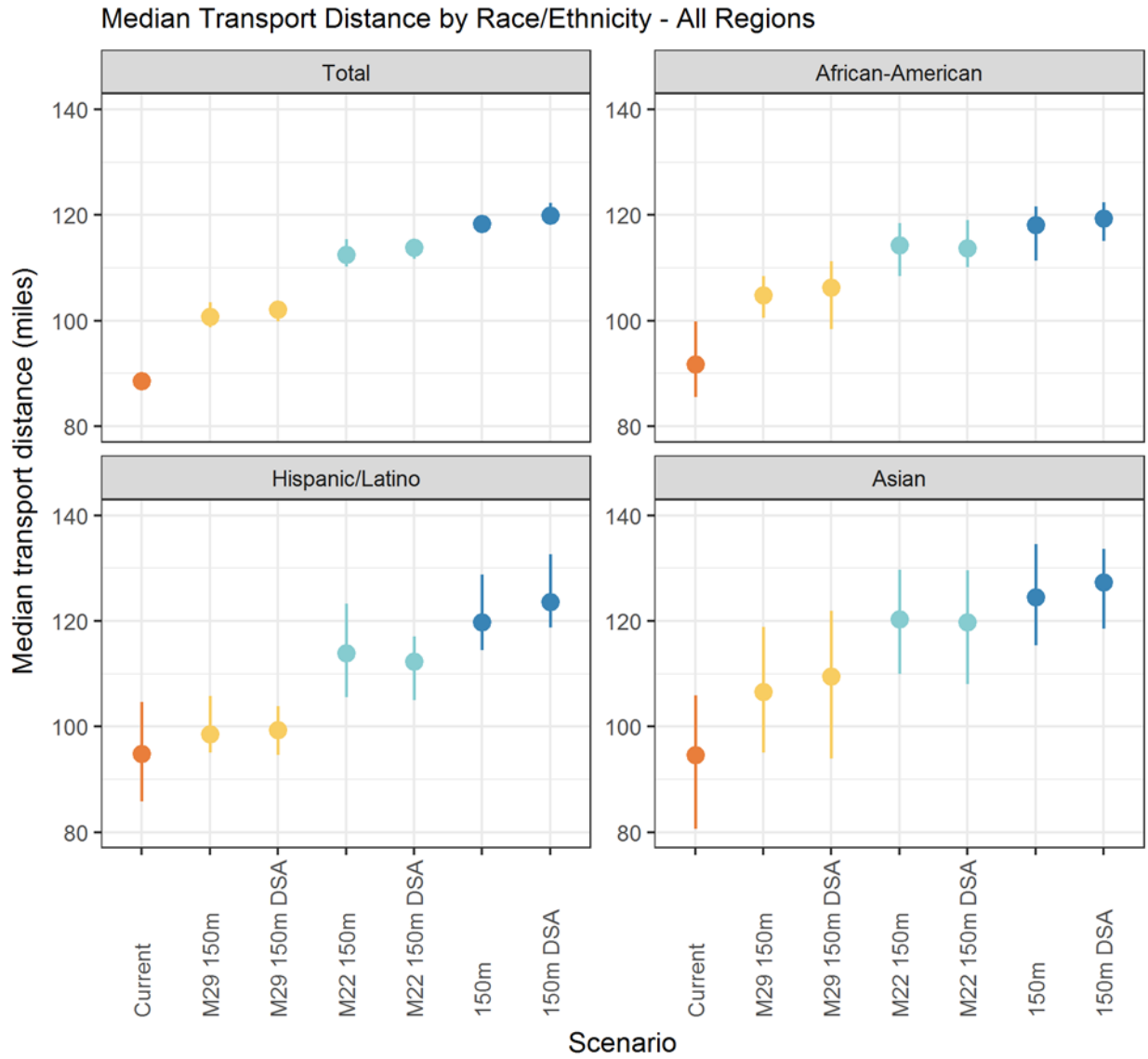


Figure 178 Median Transport Distance by race/ethnicity - all regions

PRELIMINARY

Percent of Organs Flown

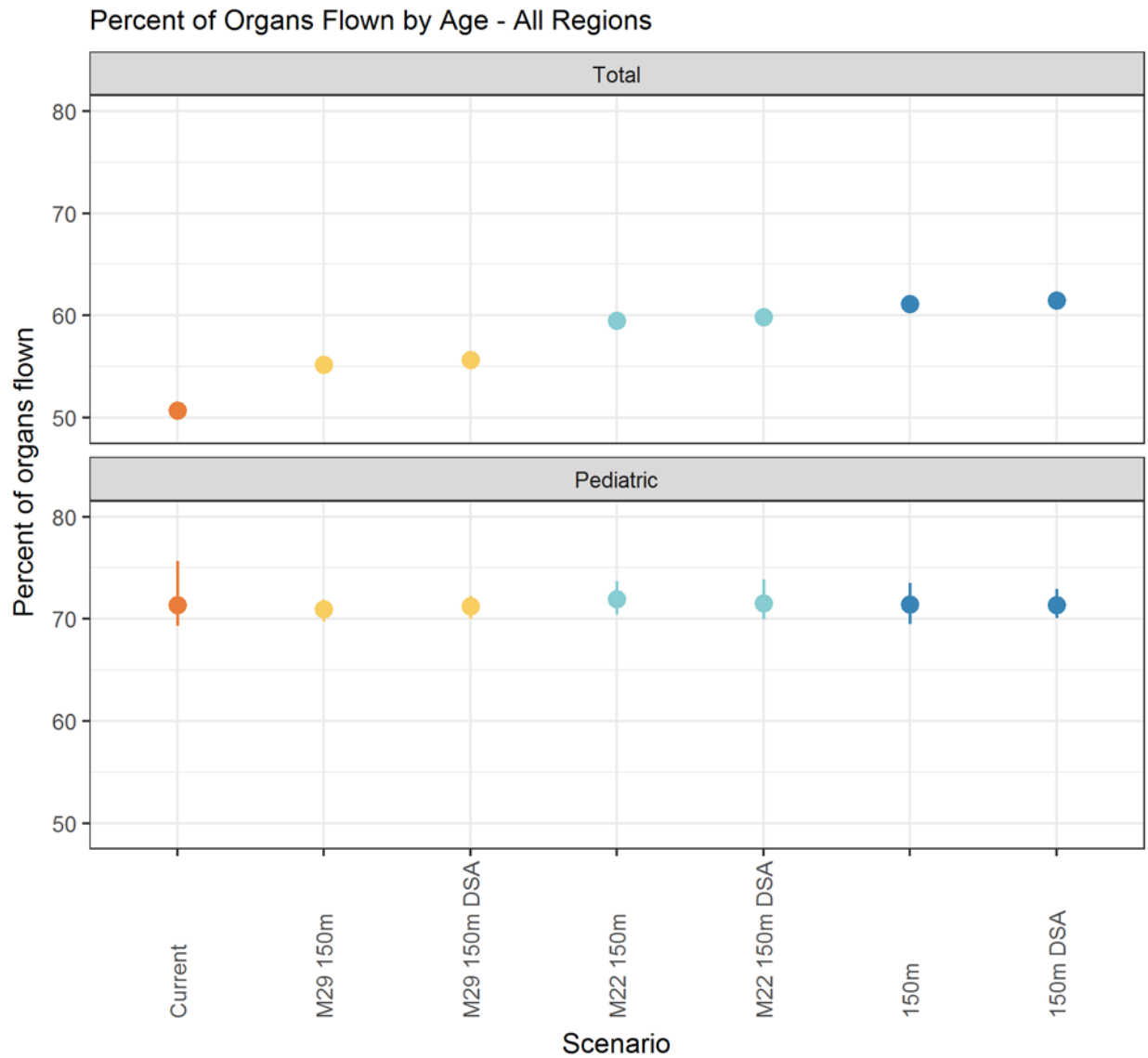


Figure 179 Percent of Organs Flown by age - all regions

PRIVACY



Figure 180 Percent of Organs Flown by sex - all regions

PRELIMINARY

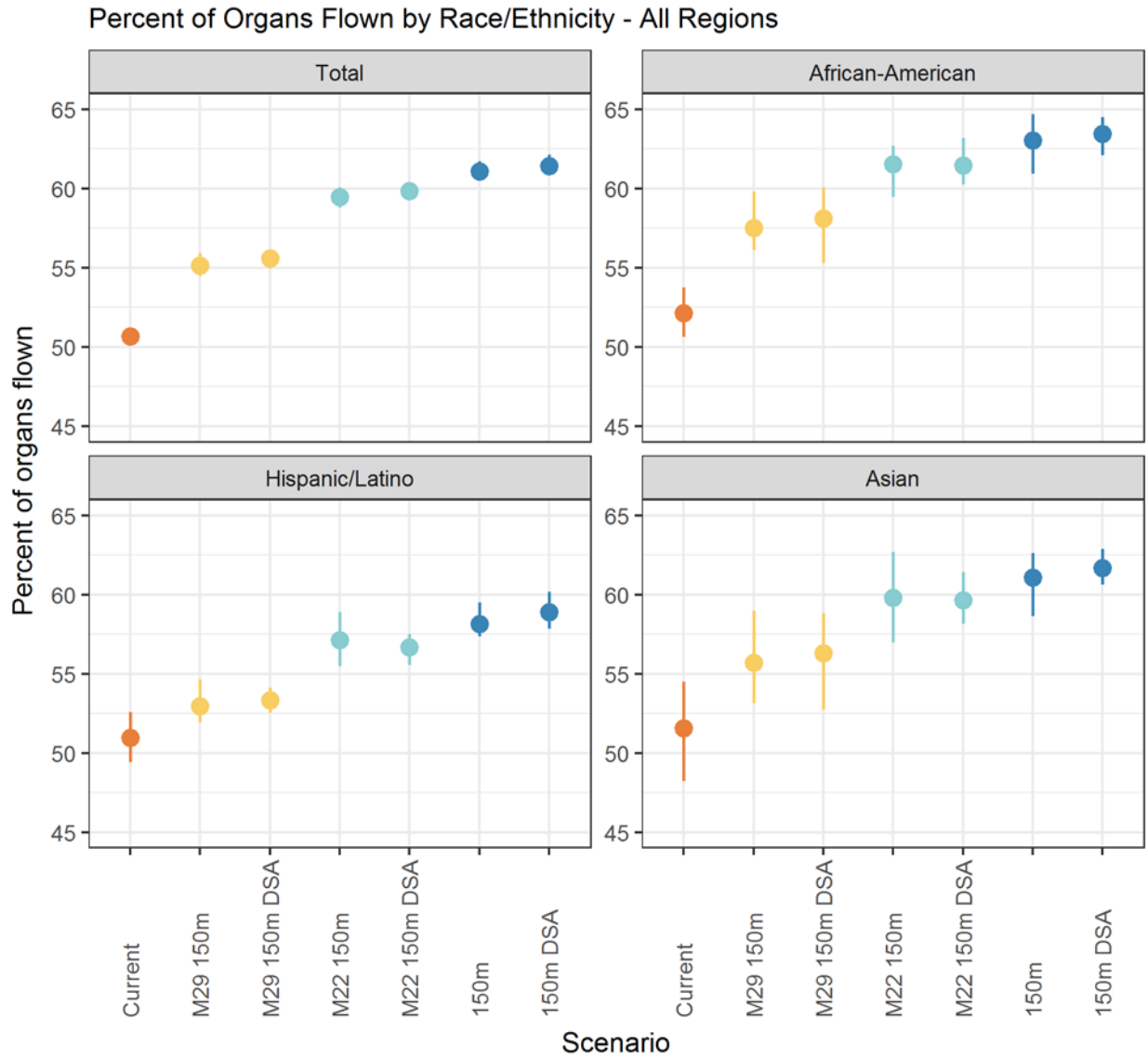


Figure 181 Percent of Organs Flown by race/ethnicity - all regions

PRELIMINARY

Percent of Within DSA Transplants

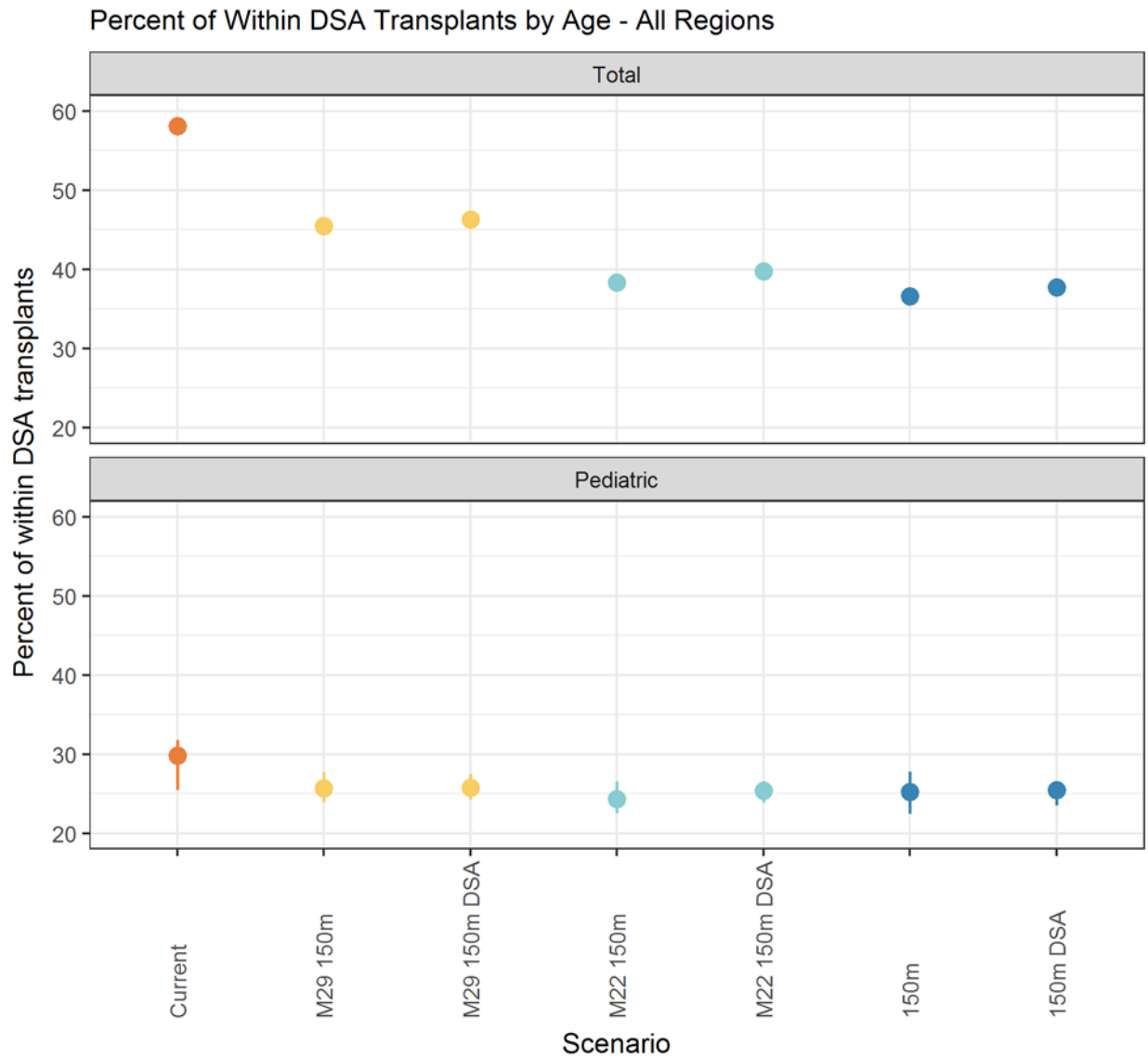


Figure 182 Percent of within DSA transplants by age - all regions

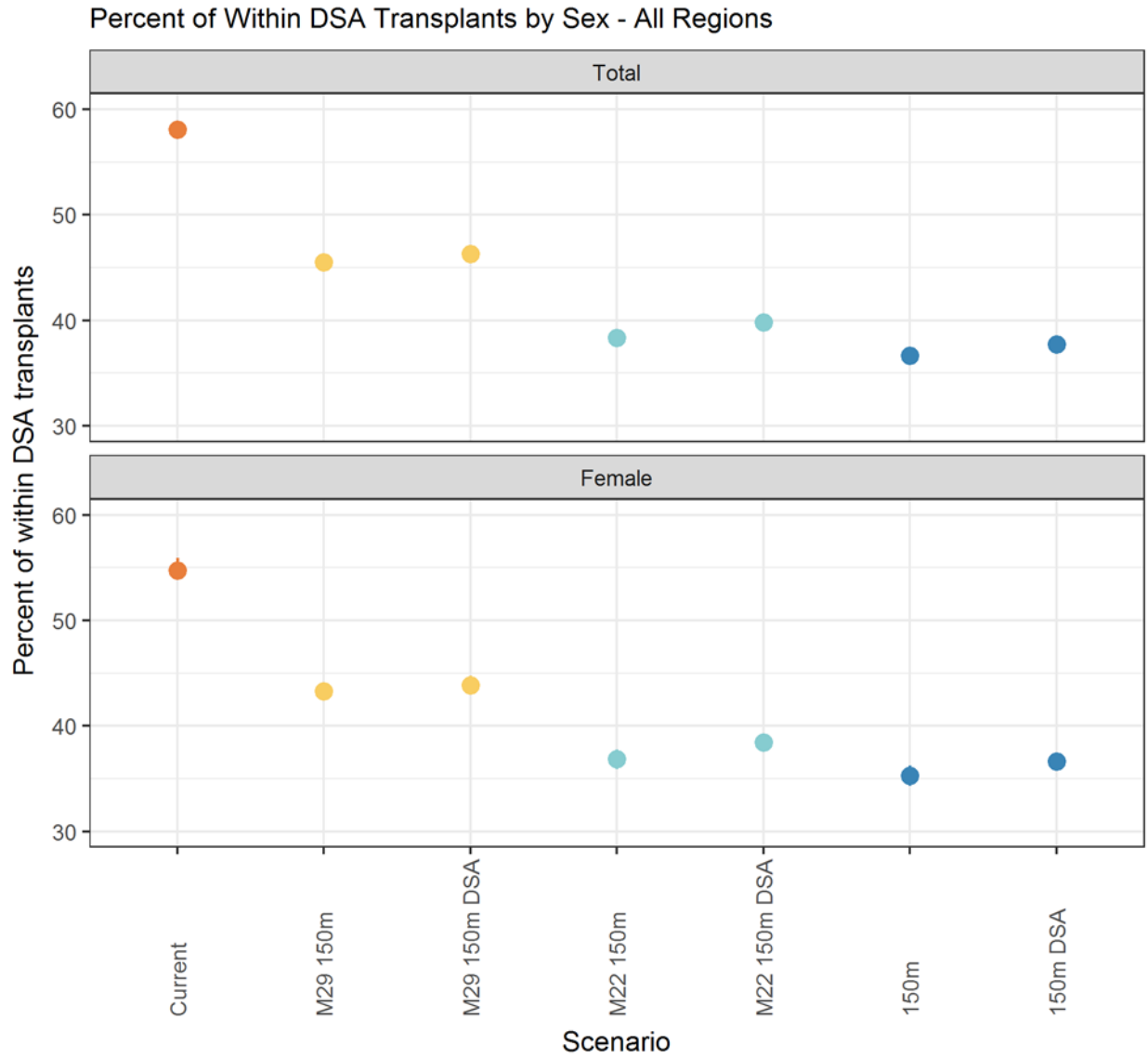


Figure 183 Percent of within DSA transplants by sex - all regions

PRELIMINARY

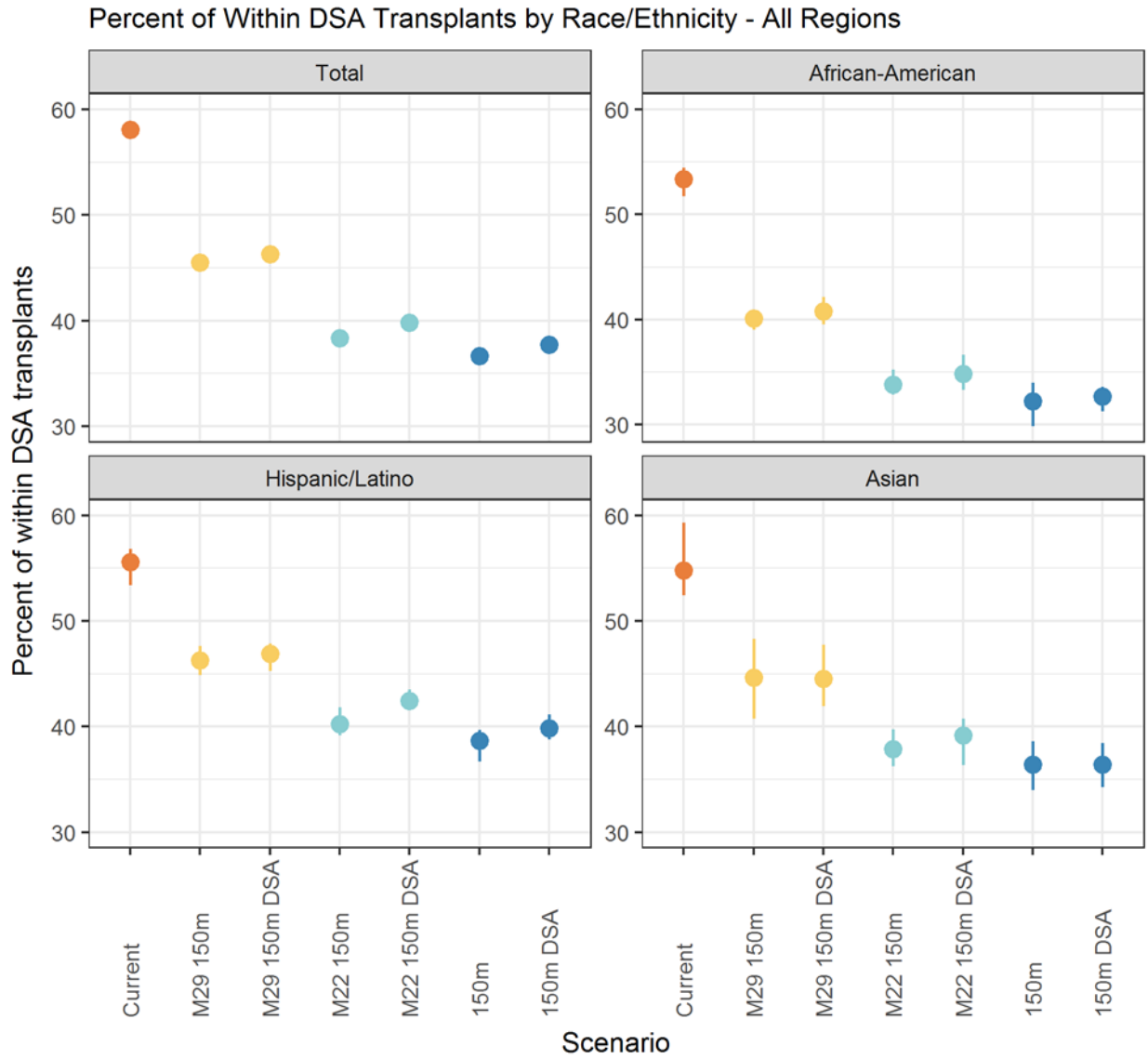


Figure 184 Percent of within DSA transplants by race/ethnicity - all regions

PRELIMINARY