HbA1c treatment effect

Propensity score matching

Female (n=4692)

Predicted HbA1c benefit on SGLT2i

>5 mmol/mol (n=294)

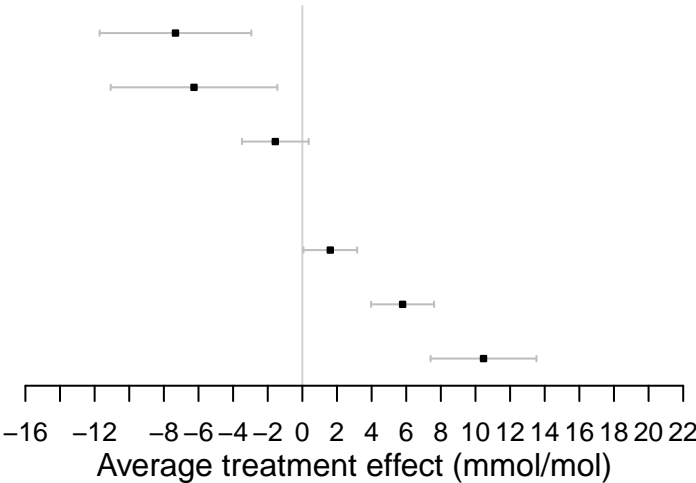3–5 mmol/mol (n=222)

0–3 mmol/mol (n=1088)

Predicted HbA1c benefit on GLP1–RA

0–3 mmol/mol (n=1472)

3–5 mmol/mol (n=1030)

>5 mmol/mol (n=586)

−16 −12 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20 22
Average treatment effect (mmol/mol)

Male (n=5974)
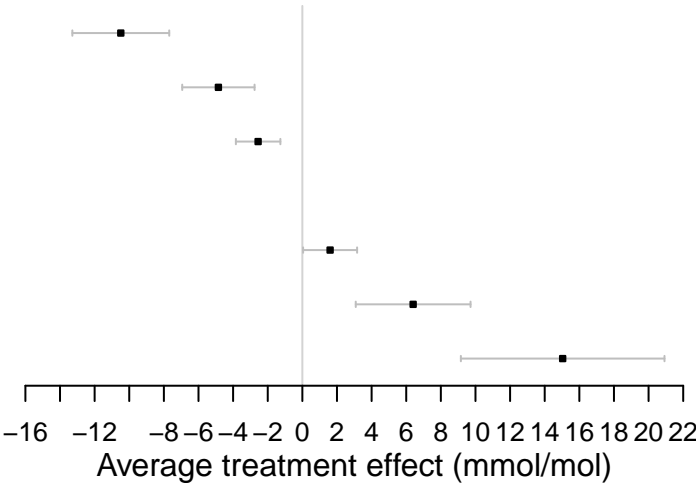
Predicted HbA1c benefit on SGLT2i

>5 mmol/mol (n=692)

3–5 mmol/mol (n=1012)

0–3 mmol/mol (n=2254)

Predicted HbA1c benefit on GLP1–RA

0–3 mmol/mol (n=1490)

3–5 mmol/mol (n=326)

>5 mmol/mol (n=200)

−16 −12 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20 22
Average treatment effect (mmol/mol)

Propensity score matching + adjust

Female (n=4692)

Predicted HbA1c benefit on SGLT2i
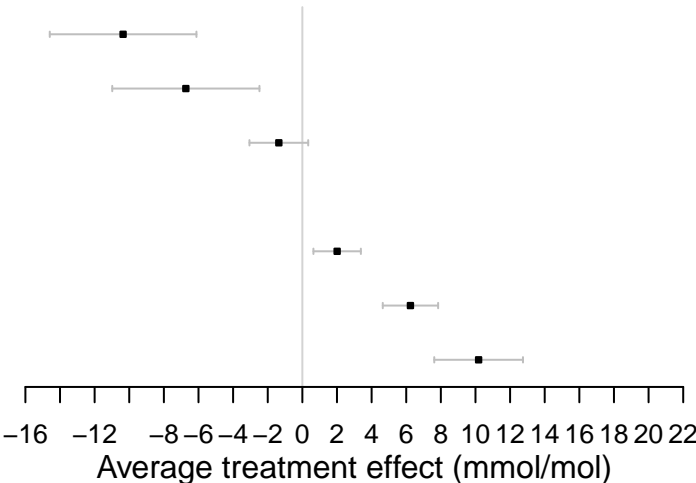
>5 mmol/mol (n=294)

3–5 mmol/mol (n=222)

0–3 mmol/mol (n=1088)

Predicted HbA1c benefit on GLP1–RA

0–3 mmol/mol (n=1472)

3–5 mmol/mol (n=1030)

>5 mmol/mol (n=586)

−16 −12 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20 22
Average treatment effect (mmol/mol)

Male (n=5974)

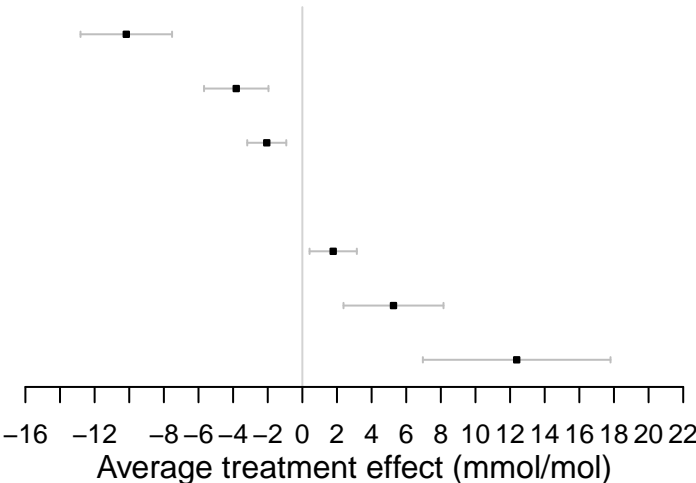Predicted HbA1c benefit on SGLT2i

>5 mmol/mol (n=692)

3–5 mmol/mol (n=1012)

0–3 mmol/mol (n=2254)

Predicted HbA1c benefit on GLP1–RA

0–3 mmol/mol (n=1490)

3–5 mmol/mol (n=326)

>5 mmol/mol (n=200)

−16 −12 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20 22
Average treatment effect (mmol/mol)

Adjust

Female (n=11356)
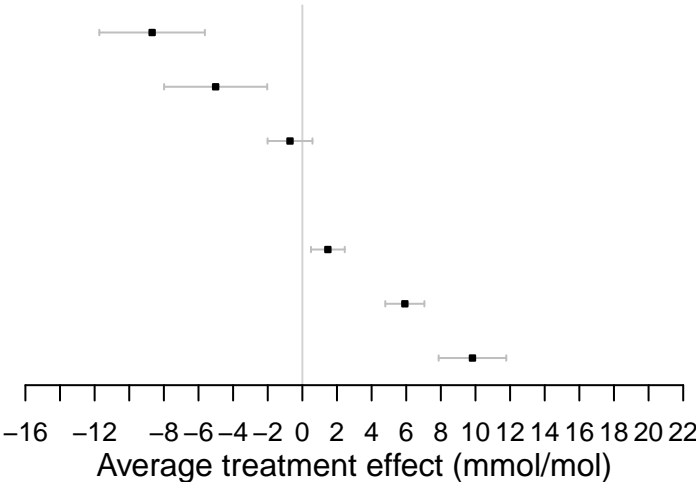
Predicted HbA1c benefit on SGLT2i

>5 mmol/mol (n=591)

3–5 mmol/mol (n=538)

0–3 mmol/mol (n=2267)

Predicted HbA1c benefit on GLP1–RA

0–3 mmol/mol (n=3779)

3–5 mmol/mol (n=2694)

>5 mmol/mol (n=1487)

−16 −12 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20 22
Average treatment effect (mmol/mol)

Male (n=17329)

Predicted HbA1c benefit on SGLT2i

>5 mmol/mol (n=1602)

3–5 mmol/mol (n=2315)
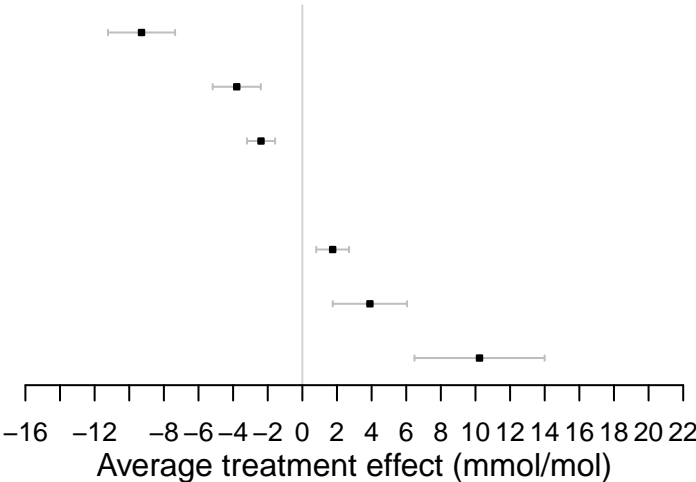
0–3 mmol/mol (n=6474)

Predicted HbA1c benefit on GLP1–RA

0–3 mmol/mol (n=5285)

3–5 mmol/mol (n=1084)

>5 mmol/mol (n=569)

−16 −12 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20 22
Average treatment effect (mmol/mol)

Weight change

Propensity score matching

□ SGLT2 ■ GLP1

Female (n=7125)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=484)
3–5 mmol/mol (n=383)
0–3 mmol/mol (n=1629)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=2296)
3–5 mmol/mol (n=1436)
>5 mmol/mol (n=897)

□ SGLT2 ■ GLP1

Male (n=9155)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=1047)
3–5 mmol/mol (n=1495)
0–3 mmol/mol (n=3521)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=2333)
3–5 mmol/mol (n=490)
>5 mmol/mol (n=269)

Propensity score matching + adjusted

□ SGLT2 ■ GLP1

Female (n=7125)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=484)
3–5 mmol/mol (n=383)
0–3 mmol/mol (n=1629)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=2296)
3–5 mmol/mol (n=1436)
>5 mmol/mol (n=897)

□ SGLT2 ■ GLP1

Male (n=9155)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=1047)
3–5 mmol/mol (n=1495)
0–3 mmol/mol (n=3521)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=2333)
3–5 mmol/mol (n=490)
>5 mmol/mol (n=269)

Adjusted

□ SGLT2 ■ GLP1

Female (n=16460)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=879)
3–5 mmol/mol (n=763)
0–3 mmol/mol (n=3355)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=5575)
3–5 mmol/mol (n=3744)
>5 mmol/mol (n=2144)

□ SGLT2 ■ GLP1

Male (n=25268)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=2273)
3–5 mmol/mol (n=3433)
0–3 mmol/mol (n=9580)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=7656)
3–5 mmol/mol (n=1556)
>5 mmol/mol (n=770)

Predicted weight change (kg)

eGFR change

Propensity score matching

SGLT2 GLP1

Female (n=7202)
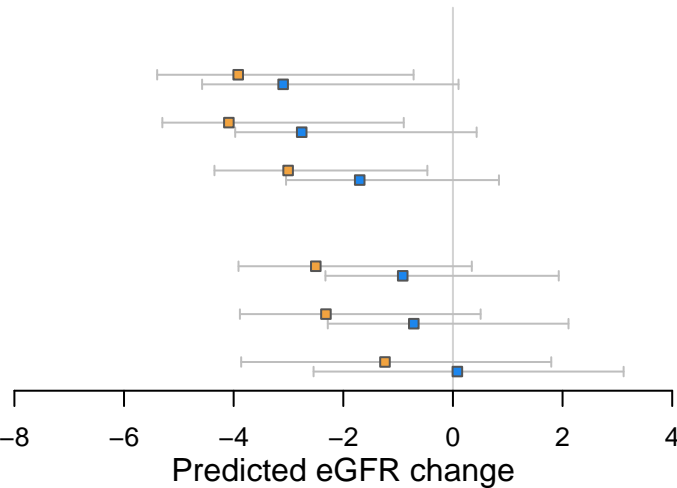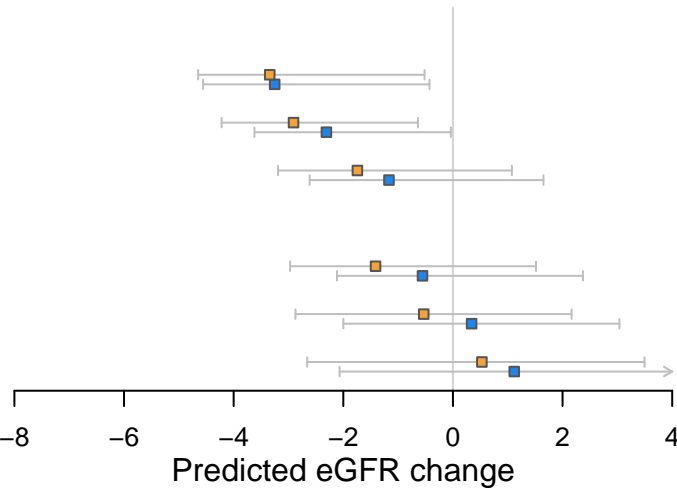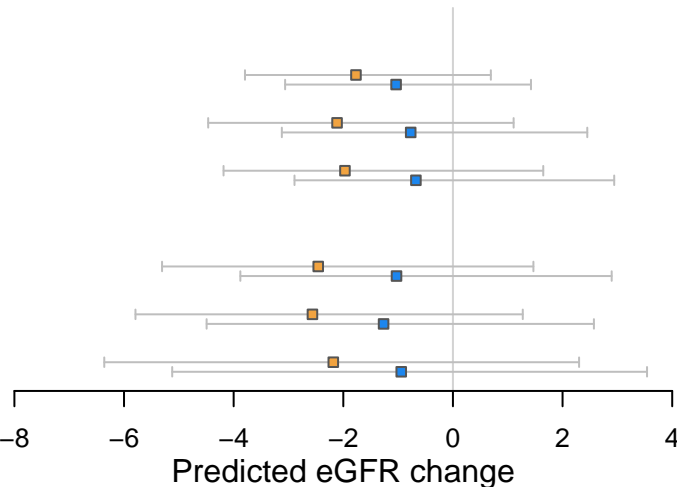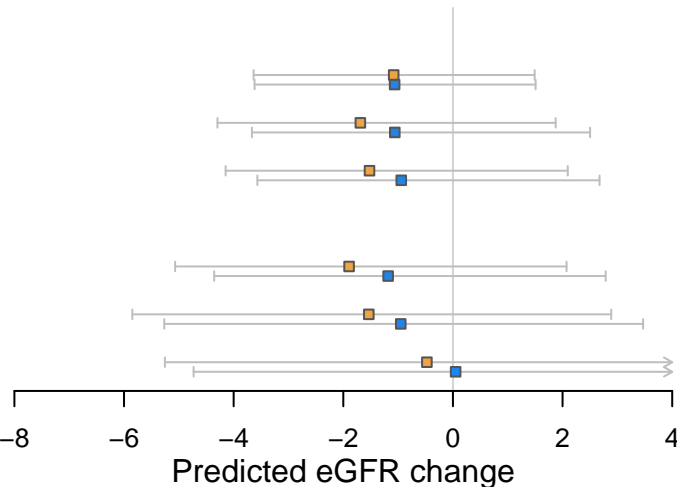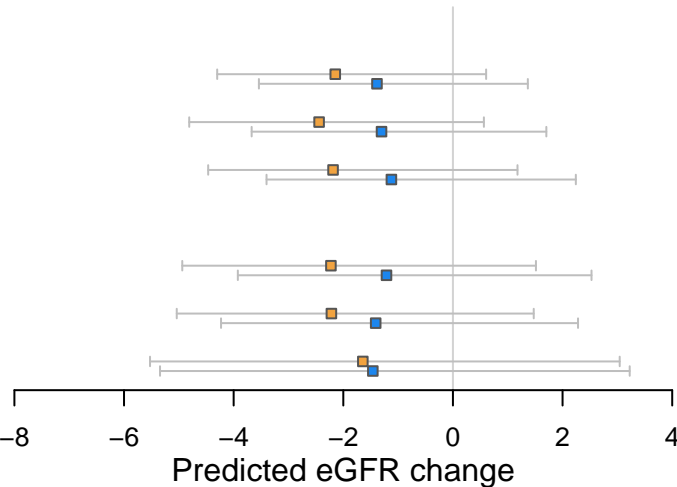Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=447)
3–5 mmol/mol (n=390)
0–3 mmol/mol (n=1599)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=2353)
3–5 mmol/mol (n=1448)
>5 mmol/mol (n=965)

Predicted eGFR change

SGLT2 GLP1

Male (n=9416)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=1093)
3–5 mmol/mol (n=1546)
0–3 mmol/mol (n=3577)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=2367)
3–5 mmol/mol (n=522)
>5 mmol/mol (n=311)

Predicted eGFR change

Propensity score matching + adjusted

SGLT2 GLP1

Female (n=7202)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=447)
3–5 mmol/mol (n=390)
0–3 mmol/mol (n=1599)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=2353)
3–5 mmol/mol (n=1448)
>5 mmol/mol (n=965)

Predicted eGFR change

SGLT2 GLP1

Male (n=9416)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=1093)
3–5 mmol/mol (n=1546)
0–3 mmol/mol (n=3577)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=2367)
3–5 mmol/mol (n=522)
>5 mmol/mol (n=311)

Predicted eGFR change

Adjusted

SGLT2 GLP1

Female (n=17439)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=892)
3–5 mmol/mol (n=808)
0–3 mmol/mol (n=3453)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=5888)
3–5 mmol/mol (n=4040)
>5 mmol/mol (n=2358)

Predicted eGFR change

SGLT2 GLP1

Male (n=26900)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=2442)
3–5 mmol/mol (n=3597)
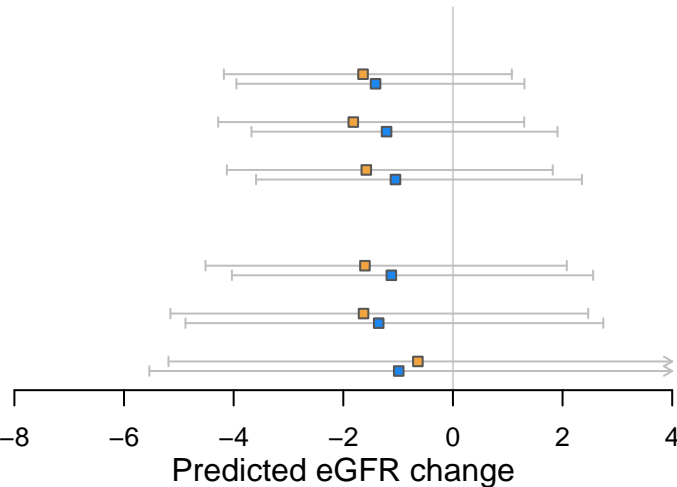0–3 mmol/mol (n=10148)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=8102)
3–5 mmol/mol (n=1718)
>5 mmol/mol (n=893)

Predicted eGFR change

Discontinuation

Propensity score matching

SGLT2 ▪ GLP1   SGLT2 ▪ GLP1

Female (n=13711)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=971, event = 167)
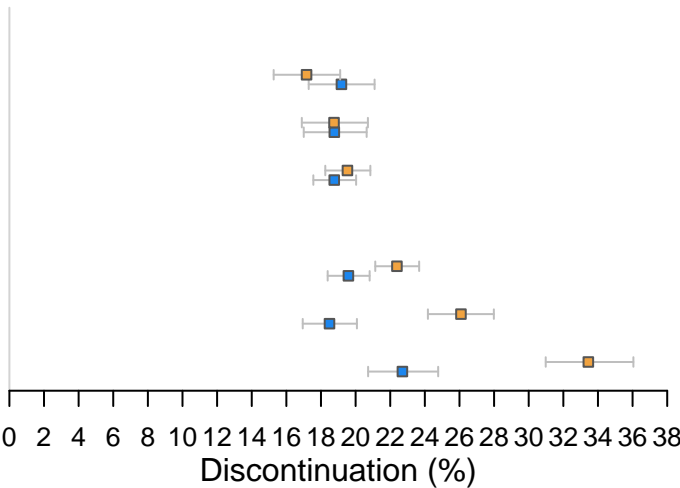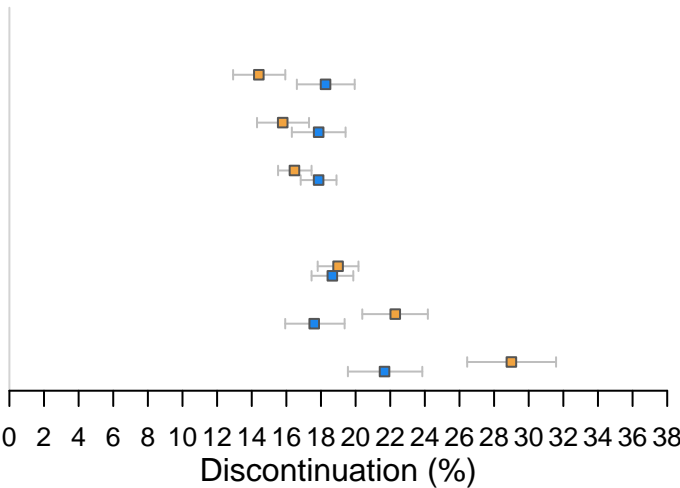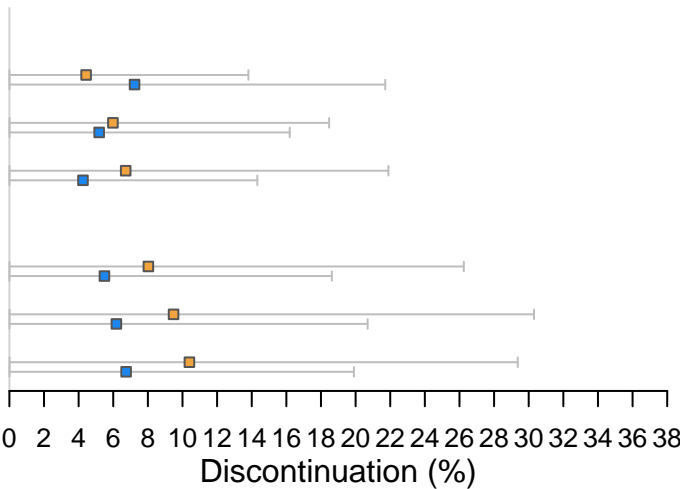3–5 mmol/mol (n=790, event = 128)
0–3 mmol/mol (n=3078, event = 547)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=4383, event = 845)
3–5 mmol/mol (n=2600, event = 509)
>5 mmol/mol (n=1889, event = 450)

Male (n=17281)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=2072, event = 292)
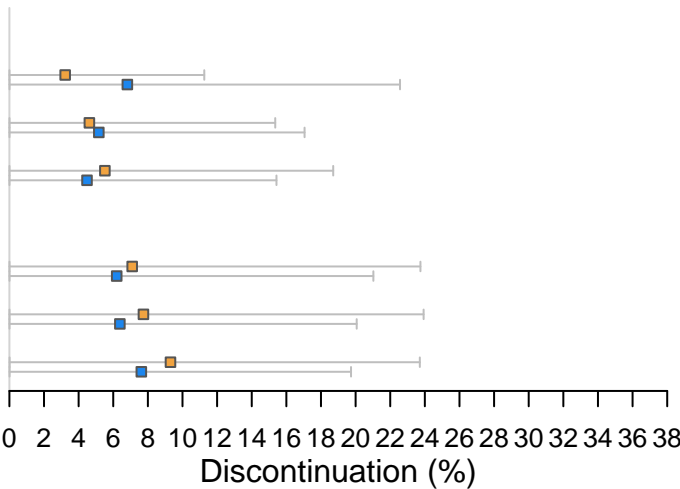3–5 mmol/mol (n=2805, event = 434)
0–3 mmol/mol (n=6467, event = 1001)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=4289, event = 711)
3–5 mmol/mol (n=977, event = 180)
>5 mmol/mol (n=671, event = 151)

Discontinuation (%)

Propensity score matching + adjusted

SGLT2 ▪ GLP1   SGLT2 ▪ GLP1

Female (n=13711)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=971, event = 167)
3–5 mmol/mol (n=790, event = 128)
0–3 mmol/mol (n=3078, event = 547)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=4383, event = 845)
3–5 mmol/mol (n=2600, event = 509)
>5 mmol/mol (n=1889, event = 450)

Male (n=17281)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=2072, event = 292)
3–5 mmol/mol (n=2805, event = 434)
0–3 mmol/mol (n=6467, event = 1001)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=4289, event = 711)
3–5 mmol/mol (n=977, event = 180)
>5 mmol/mol (n=671, event = 151)

Discontinuation (%)

Adjusted

SGLT2 ▪ GLP1   SGLT2 ▪ GLP1

Female (n=31387)
Predicted HbA1c benefit on SGLT2i
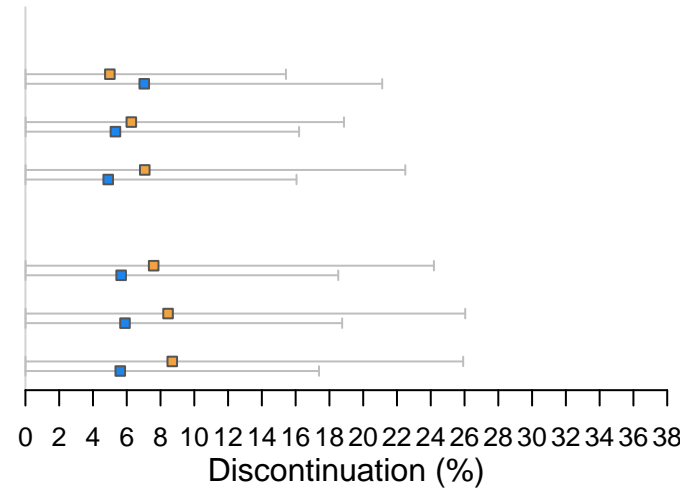>5 mmol/mol (n=1771, event = 288)
3–5 mmol/mol (n=1493, event = 231)
0–3 mmol/mol (n=6235, event = 1115)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=10295, event = 2005)
3–5 mmol/mol (n=7059, event = 1401)
>5 mmol/mol (n=4534, event = 1072)

Male (n=46354)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=4277, event = 563)
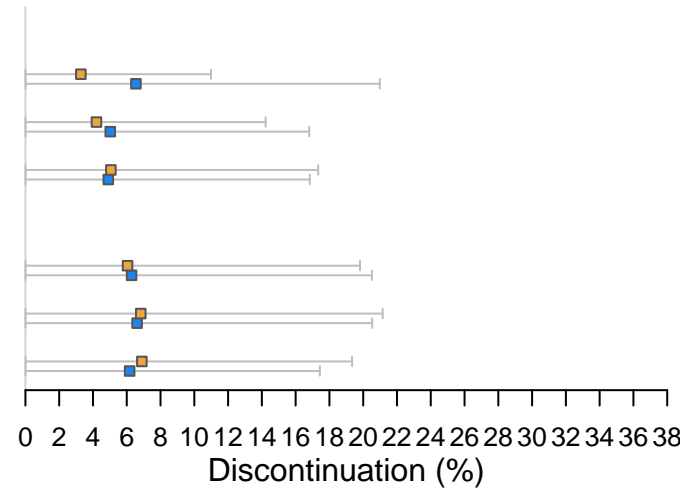3–5 mmol/mol (n=6164, event = 861)
0–3 mmol/mol (n=17011, event = 2638)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=13964, event = 2287)
3–5 mmol/mol (n=3109, event = 573)
>5 mmol/mol (n=1829, event = 389)

Discontinuation (%)

CVD outcomes for no comorbidities population (GLP1 control, values correspond to SGLT2)

Propensity score matching

Female (n=8235)

Predicted HbA1c benefit on SGLT2i

>5 mmol/mol (n=644, event = 11)
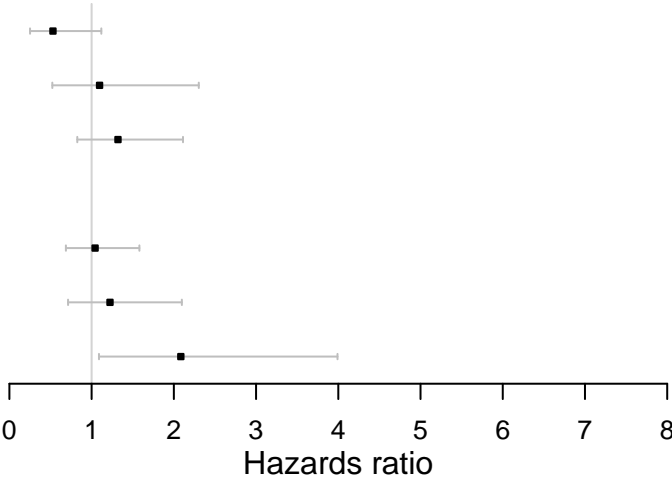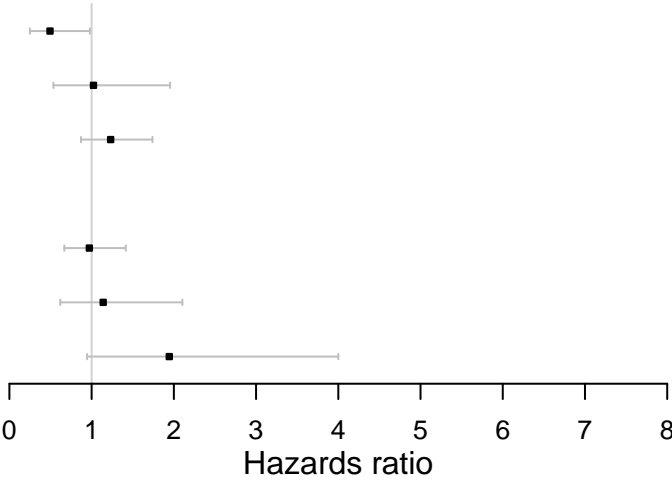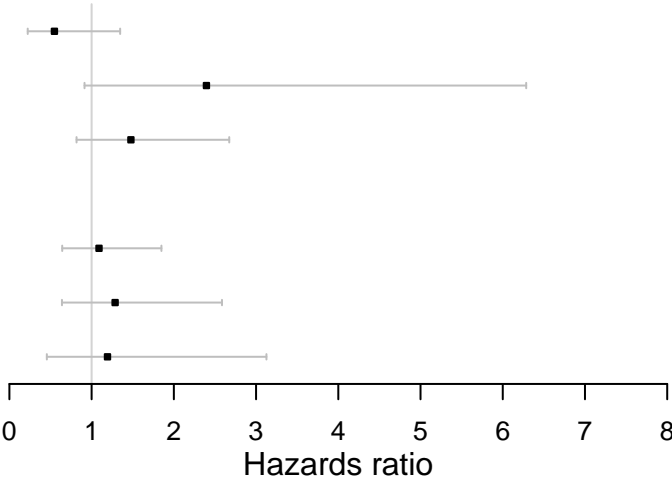
3–5 mmol/mol (n=491, event = 6)

0–3 mmol/mol (n=1975, event = 34)

Predicted HbA1c benefit on GLP1-RA

0–3 mmol/mol (n=2570, event = 57)

3–5 mmol/mol (n=1749, event = 42)

>5 mmol/mol (n=806, event = 31)

Male (n=8859)

Predicted HbA1c benefit on SGLT2i

>5 mmol/mol (n=1177, event = 27)
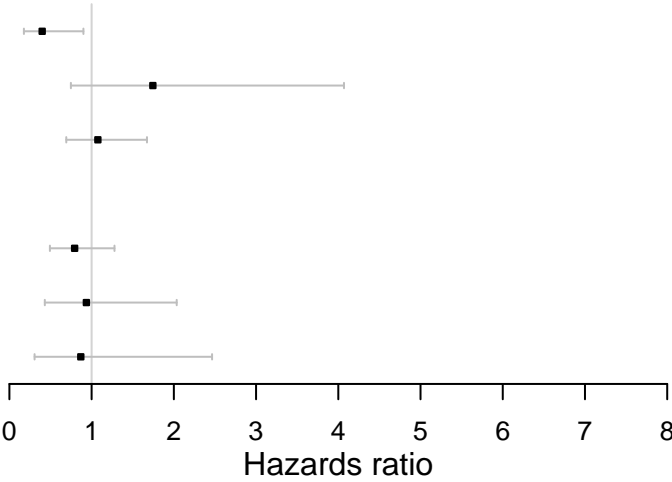
3–5 mmol/mol (n=1578, event = 31)

0–3 mmol/mol (n=3445, event = 113)

Predicted HbA1c benefit on GLP1-RA

0–3 mmol/mol (n=2159, event = 82)

3–5 mmol/mol (n=330, event = 16)

>5 mmol/mol (n=170, event = 16)

Propensity score matching + adjusted

Female (n=8235)

Predicted HbA1c benefit on SGLT2i

>5 mmol/mol (n=644, event = 11)

3–5 mmol/mol (n=491, event = 6)

0–3 mmol/mol (n=1975, event = 34)

Predicted HbA1c benefit on GLP1-RA

0–3 mmol/mol (n=2570, event = 57)

3–5 mmol/mol (n=1749, event = 42)

>5 mmol/mol (n=806, event = 31)

Male (n=8859)

Predicted HbA1c benefit on SGLT2i

>5 mmol/mol (n=1177, event = 27)

3–5 mmol/mol (n=1578, event = 31)

0–3 mmol/mol (n=3445, event = 113)

Predicted HbA1c benefit on GLP1-RA

0–3 mmol/mol (n=2159, event = 82)

3–5 mmol/mol (n=330, event = 16)

>5 mmol/mol (n=170, event = 16)

Adjusted

Female (n=22122)

Predicted HbA1c benefit on SGLT2i

>5 mmol/mol (n=1308, event = 22)

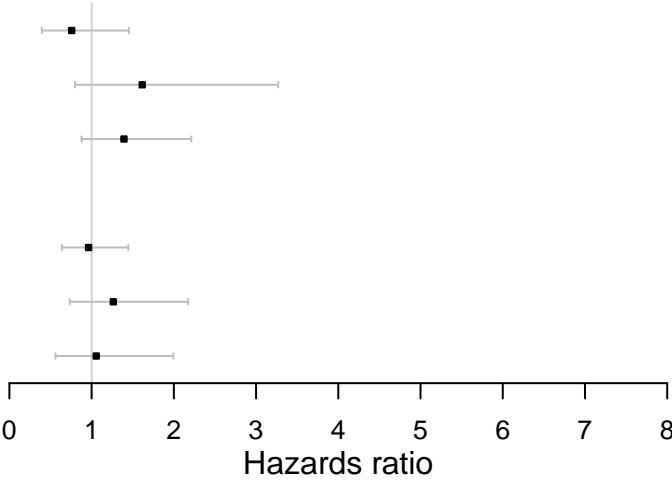3–5 mmol/mol (n=1104, event = 9)

0–3 mmol/mol (n=4586, event = 64)

Predicted HbA1c benefit on GLP1-RA

0–3 mmol/mol (n=7308, event = 148)

3–5 mmol/mol (n=5438, event = 105)

>5 mmol/mol (n=2378, event = 84)

Male (n=29930)

Predicted HbA1c benefit on SGLT2i

>5 mmol/mol (n=2928, event = 58)

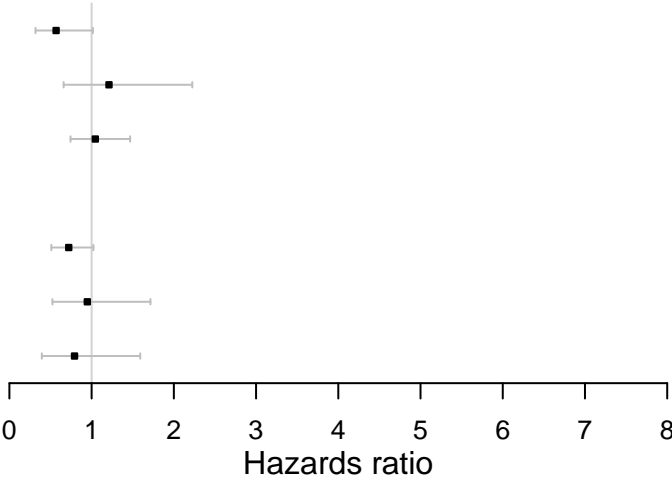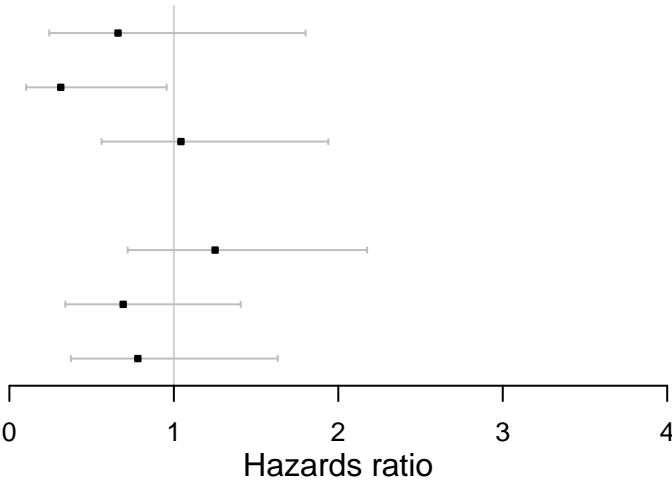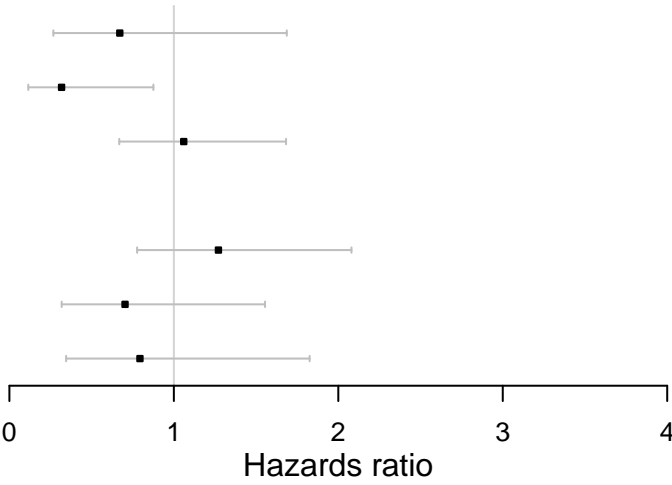3–5 mmol/mol (n=4223, event = 88)

0–3 mmol/mol (n=11693, event = 318)

Predicted HbA1c benefit on GLP1-RA

0–3 mmol/mol (n=9111, event = 264)

3–5 mmol/mol (n=1325, event = 55)

>5 mmol/mol (n=650, event = 45)

HF outcomes for no comorbidities population (GLP1 control, values correspond to SGLT2)

Propensity score matching

Female (n=8235)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=644, event = 7)
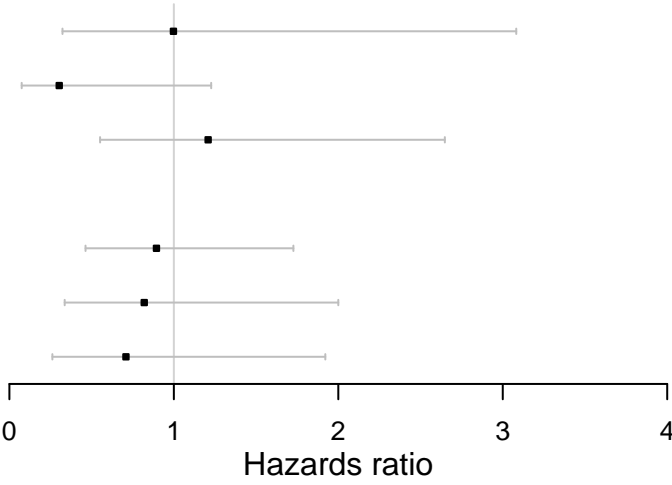3−5 mmol/mol (n=491, event = 3)
0−3 mmol/mol (n=1975, event = 11)
Predicted HbA1c benefit on GLP1−RA
0−3 mmol/mol (n=2570, event = 37)
3−5 mmol/mol (n=1749, event = 24)
>5 mmol/mol (n=806, event = 21)

Hazards ratio

Male (n=8859)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=1177, event = 12)
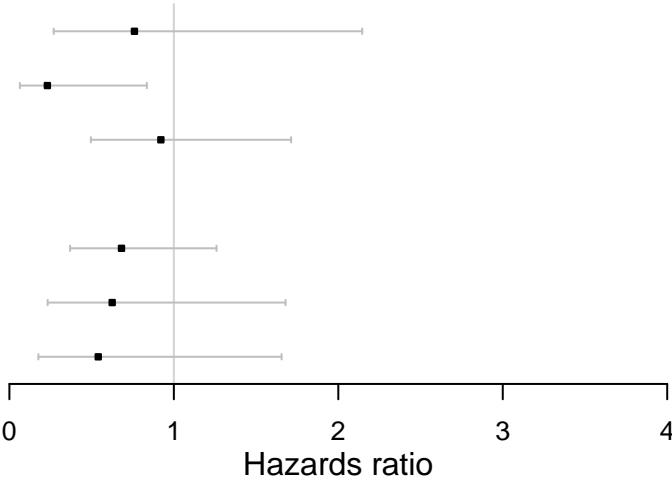3−5 mmol/mol (n=1578, event = 17)
0−3 mmol/mol (n=3445, event = 68)
Predicted HbA1c benefit on GLP1−RA
0−3 mmol/mol (n=2159, event = 44)
3−5 mmol/mol (n=330, event = 9)
>5 mmol/mol (n=170, event = 9)

Hazards ratio

Propensity score matching + adjusted

Female (n=8235)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=644, event = 7)
3−5 mmol/mol (n=491, event = 3)
0−3 mmol/mol (n=1975, event = 11)
Predicted HbA1c benefit on GLP1−RA
0−3 mmol/mol (n=2570, event = 37)
3−5 mmol/mol (n=1749, event = 24)
>5 mmol/mol (n=806, event = 21)

Hazards ratio

Male (n=8859)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=1177, event = 12)
3−5 mmol/mol (n=1578, event = 17)
0−3 mmol/mol (n=3445, event = 68)
Predicted HbA1c benefit on GLP1−RA
0−3 mmol/mol (n=2159, event = 44)
3−5 mmol/mol (n=330, event = 9)
>5 mmol/mol (n=170, event = 9)

Hazards ratio

Adjusted

Female (n=22122)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=1308, event = 12)
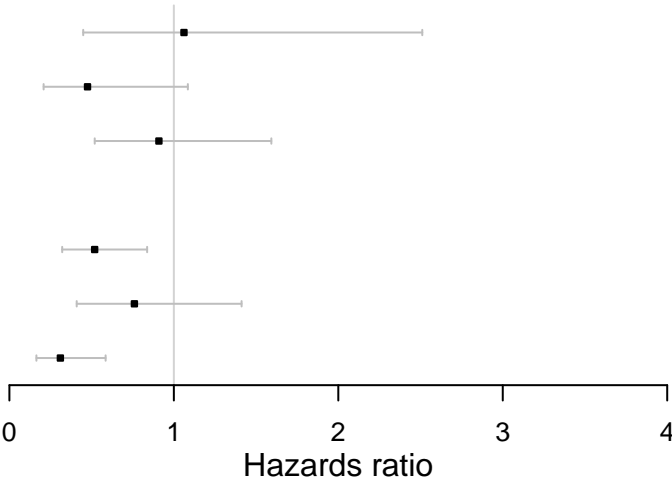3−5 mmol/mol (n=1104, event = 7)
0−3 mmol/mol (n=4586, event = 28)
Predicted HbA1c benefit on GLP1−RA
0−3 mmol/mol (n=7308, event = 86)
3−5 mmol/mol (n=5438, event = 63)
>5 mmol/mol (n=2378, event = 59)

Hazards ratio

Male (n=29930)
Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=2928, event = 30)
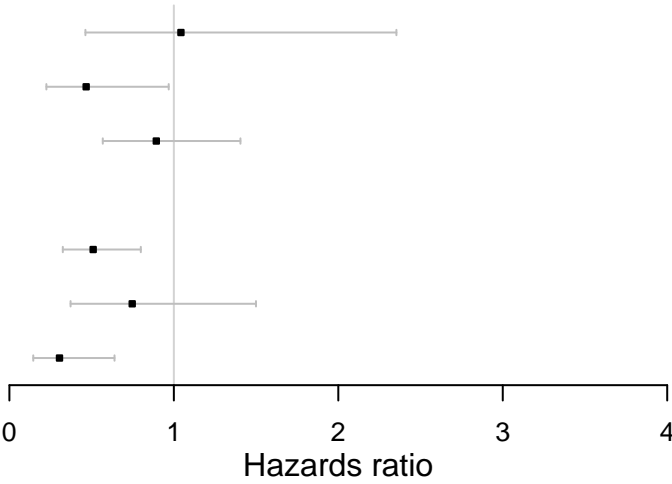3−5 mmol/mol (n=4223, event = 36)
0−3 mmol/mol (n=11693, event = 157)
Predicted HbA1c benefit on GLP1−RA
0−3 mmol/mol (n=9111, event = 122)
3−5 mmol/mol (n=1325, event = 31)
>5 mmol/mol (n=650, event = 24)

Hazards ratio

CVD outcomes for no CVD population (GLP1 control, values correspond to SGLT2)

Propensity score matching

Female (n=9095)

Predicted HbA1c benefit on SGLT2i

>5 mmol/mol (n=658, event = 5)
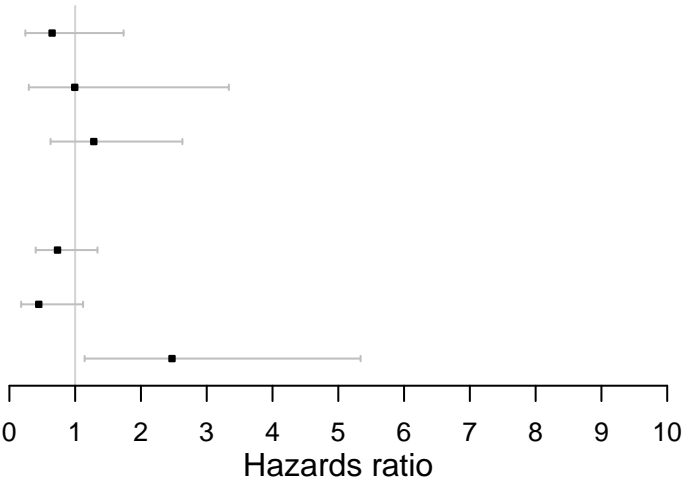
3–5 mmol/mol (n=522, event = 1)

0–3 mmol/mol (n=1982, event = 13)

Predicted HbA1c benefit on GLP1–RA

0–3 mmol/mol (n=2786, event = 24)

3–5 mmol/mol (n=1922, event = 16)

>5 mmol/mol (n=1225, event = 25)

Male (n=9459)

Predicted HbA1c benefit on SGLT2i

>5 mmol/mol (n=1216, event = 16)

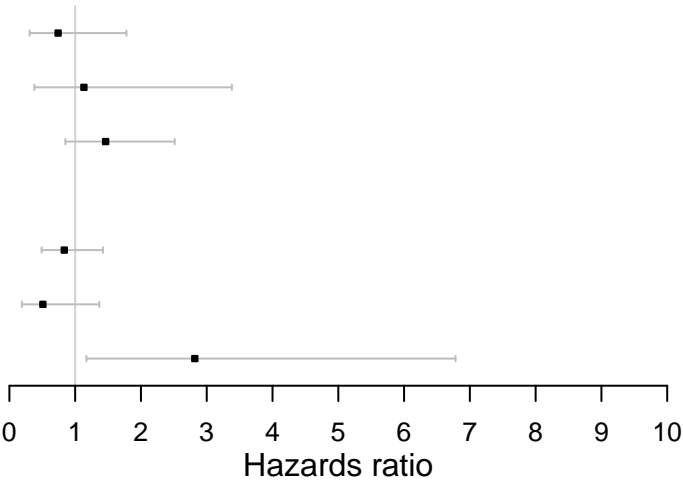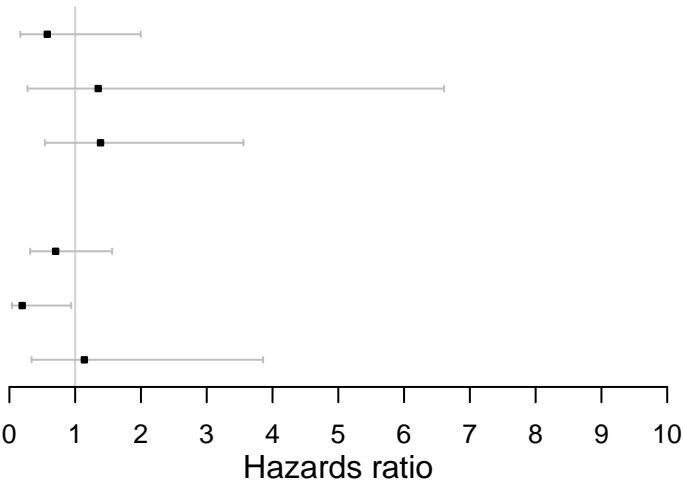3–5 mmol/mol (n=1580, event = 12)

0–3 mmol/mol (n=3582, event = 48)

Predicted HbA1c benefit on GLP1–RA

0–3 mmol/mol (n=2368, event = 44)

3–5 mmol/mol (n=425, event = 8)

>5 mmol/mol (n=288, event = 7)

Propensity score matching + adjusted

Female (n=9095)

Predicted HbA1c benefit on SGLT2i

>5 mmol/mol (n=658, event = 5)

3–5 mmol/mol (n=522, event = 1)

0–3 mmol/mol (n=1982, event = 13)

Predicted HbA1c benefit on GLP1–RA

0–3 mmol/mol (n=2786, event = 24)

3–5 mmol/mol (n=1922, event = 16)

>5 mmol/mol (n=1225, event = 25)

Male (n=9459)

Predicted HbA1c benefit on SGLT2i

>5 mmol/mol (n=1216, event = 16)

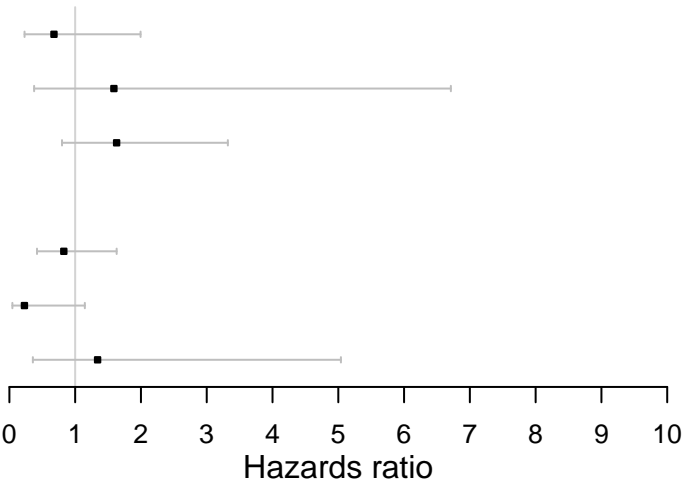3–5 mmol/mol (n=1580, event = 12)

0–3 mmol/mol (n=3582, event = 48)

Predicted HbA1c benefit on GLP1–RA

0–3 mmol/mol (n=2368, event = 44)

3–5 mmol/mol (n=425, event = 8)

>5 mmol/mol (n=288, event = 7)

Adjusted

Female (n=23621)

Predicted HbA1c benefit on SGLT2i

>5 mmol/mol (n=1329, event = 11)
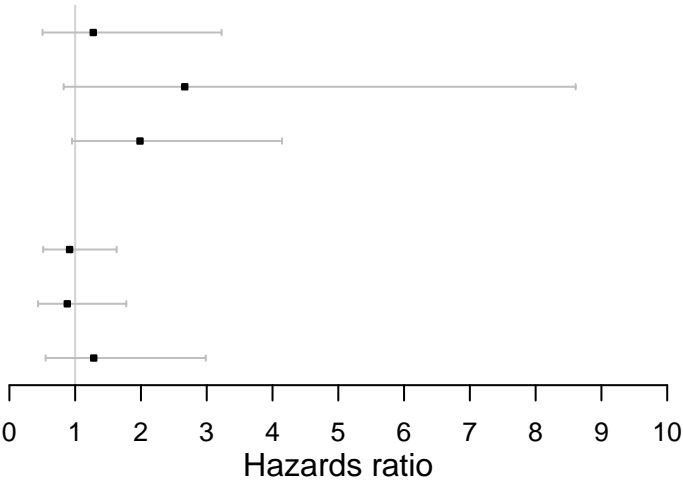
3–5 mmol/mol (n=1129, event = 2)

0–3 mmol/mol (n=4651, event = 27)

Predicted HbA1c benefit on GLP1–RA

0–3 mmol/mol (n=7622, event = 71)

3–5 mmol/mol (n=5715, event = 46)

>5 mmol/mol (n=3175, event = 51)

Male (n=31231)

Predicted HbA1c benefit on SGLT2i

>5 mmol/mol (n=2991, event = 32)
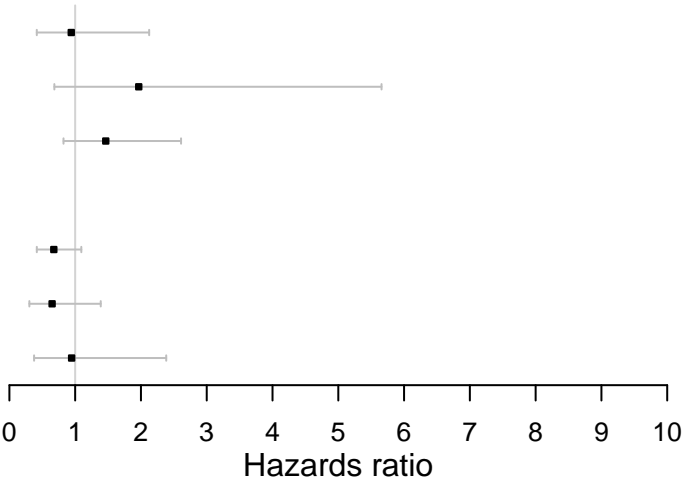
3–5 mmol/mol (n=4277, event = 39)

0–3 mmol/mol (n=11983, event = 146)

Predicted HbA1c benefit on GLP1–RA

0–3 mmol/mol (n=9520, event = 127)

3–5 mmol/mol (n=1533, event = 33)

>5 mmol/mol (n=927, event = 20)

HF outcomes for no HF population (GLP1 control, values correspond to SGLT2)

Propensity score matching

Female (n=10585)

Predicted HbA1c benefit on SGLT2i
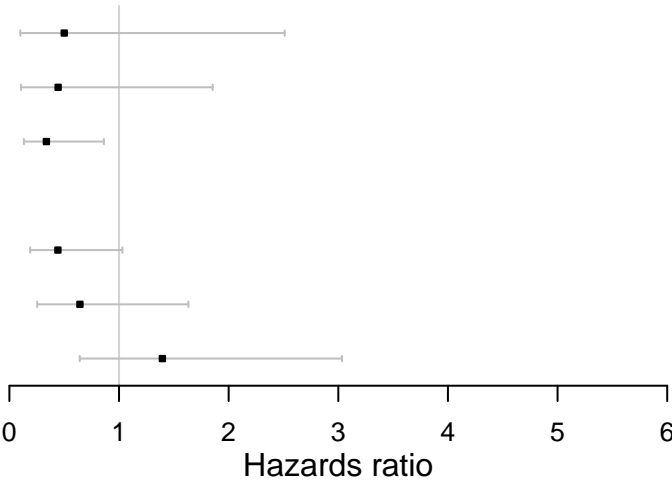>5 mmol/mol (n=715, event = 3)
3–5 mmol/mol (n=578, event = 2)
0–3 mmol/mol (n=2265, event = 5)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=3249, event = 17)
3–5 mmol/mol (n=2267, event = 12)
>5 mmol/mol (n=1511, event = 16)

Hazards ratio

Male (n=12257)

Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=1359, event = 4)
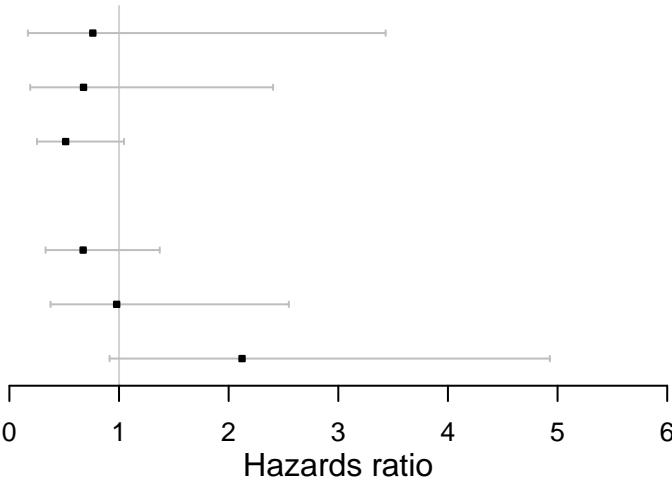3–5 mmol/mol (n=1880, event = 8)
0–3 mmol/mol (n=4468, event = 32)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=3275, event = 20)
3–5 mmol/mol (n=754, event = 10)
>5 mmol/mol (n=521, event = 15)

Hazards ratio

Propensity score matching + adjusted

Female (n=10585)

Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=715, event = 3)
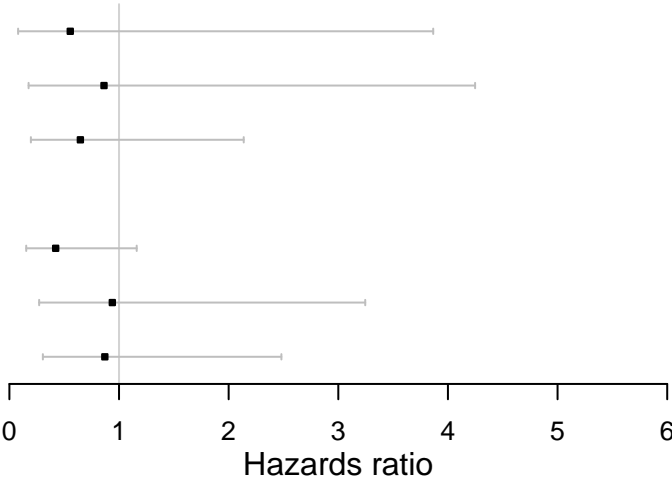3–5 mmol/mol (n=578, event = 2)
0–3 mmol/mol (n=2265, event = 5)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=3249, event = 17)
3–5 mmol/mol (n=2267, event = 12)
>5 mmol/mol (n=1511, event = 16)

Hazards ratio

Male (n=12257)

Predicted HbA1c benefit on SGLT2i
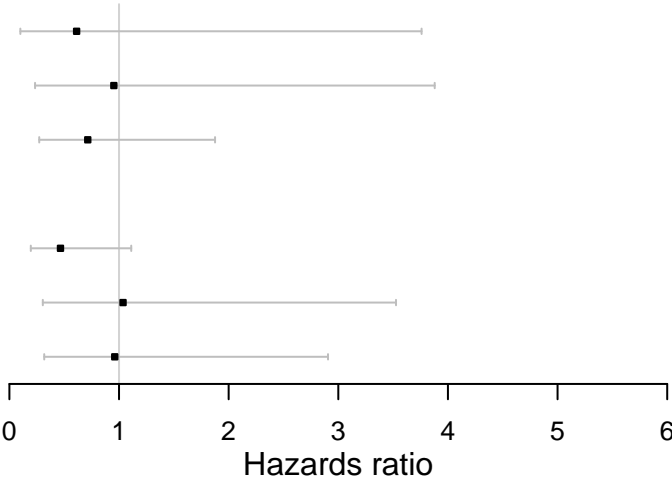>5 mmol/mol (n=1359, event = 4)
3–5 mmol/mol (n=1880, event = 8)
0–3 mmol/mol (n=4468, event = 32)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=3275, event = 20)
3–5 mmol/mol (n=754, event = 10)
>5 mmol/mol (n=521, event = 15)

Hazards ratio

Adjusted

Female (n=27172)

Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=1427, event = 3)
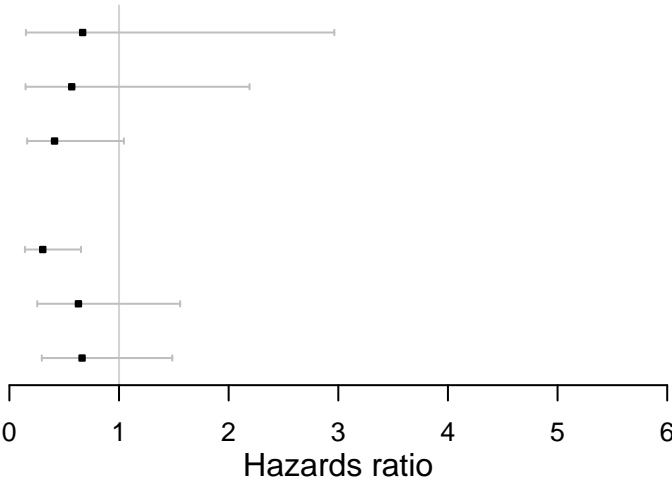3–5 mmol/mol (n=1240, event = 2)
0–3 mmol/mol (n=5185, event = 9)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=8812, event = 28)
3–5 mmol/mol (n=6589, event = 22)
>5 mmol/mol (n=3919, event = 37)

Hazards ratio

Male (n=39256)

Predicted HbA1c benefit on SGLT2i
>5 mmol/mol (n=3338, event = 8)
3–5 mmol/mol (n=4948, event = 15)
0–3 mmol/mol (n=14228, event = 53)
Predicted HbA1c benefit on GLP1–RA
0–3 mmol/mol (n=12515, event = 53)
3–5 mmol/mol (n=2630, event = 23)
>5 mmol/mol (n=1597, event = 26)

Hazards ratio