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Supplementary Table 1. Outcome definitions	
Read codes	
Code	Term
J600.00	Acute necrosis of liver
J60..00	Acute and subacute liver necrosis
J600000	Acute hepatic failure
J600011	Acute liver failure
J600100	Acute hepatitis - noninfective
J600200	Acute yellow atrophy
J600z00	Acute necrosis of liver NOS
J601.00	Subacute necrosis of liver
J601000	Subacute hepatic failure
J601100	Subacute hepatitis - noninfective
J601200	Subacute yellow atrophy
J601z00	Subacute necrosis of liver NOS
J60z.00	Acute and subacute liver necrosis NOS
J622.00	Hepatic coma
J622.11	Encephalopathy - hepatic
J625.00	[X] Hepatic failure
J625.11	[X] Liver failure
J62y.11	Hepatic failure NOS
J62y.12	Liver failure NOS
J62y.13	Hepatic failure
J633.00	Hepatitis unspecified
J633000	Toxic hepatitis
J633z00	Hepatitis unspecified NOS
J635500	Toxic liver disease with chronic active hepatitis
J635300	Toxic liver disease with chronic persistent hepatitis
J635600	Toxic liver disease with fibrosis and cirrhosis of liver
Jyu7600	[X]Toxic liver disease, unspecified
J635.00	Toxic liver disease
J635000	Toxic liver disease with cholestasis
J635100	Toxic liver disease with hepatic necrosis
J635X00	Toxic liver disease, unspecified
J635200	Toxic liver disease with acute hepatitis
J635400	Toxic liver disease with chronic lobular hepatitis
J636.00	Central haemorrhagic necrosis of liver
J63y100	Nonspecific reactive hepatitis
D307000	Deficiency of coagulation factor due to liver disease
J624.00	Hepatorenal syndrome

SP14200	Hepatic failure as a complication of care
SP14300	Hepatorenal syndrome as a complication of care
J635700	Acute hepatic failure due to drugs
J63B.00	Autoimmune hepatitis
SNOMED-CT codes	
Code	Term
197355005	Toxic liver disease with cholestasis
197358007	Toxic liver disease with acute hepatitis
197359004	Toxic liver disease with chronic persistent hepatitis
197354009	[X]Toxic liver disease with other disorders of liver
197354009	Toxic liver disease, unspecified
197361008	Toxic liver disease with chronic active hepatitis
197354009	[X]Toxic liver disease, unspecified
197356006	Toxic liver disease with hepatic necrosis
197354009	Toxic liver disease
197360009	Toxic liver disease with chronic lobular hepatitis
197362001	Toxic liver disease with fibrosis and cirrhosis of liver
197268000	Acute and subacute liver necrosis
197269008	Acute necrosis of liver
197270009	Acute liver failure
197274000	Subacute necrosis of liver
197268000	Acute/subac. necrosis of liver
197270009	ALF - Acute liver failure
197276003	Subacute yellow atrophy of liver
197269008	Acute yellow atrophy of liver
235856003	Subacute necrosis of liver NOS
197269008	Acute necrosis of liver NOS
197268000	Acute and subacute liver necrosis NOS
197276003	Subacute yellow atrophy
197269008	Acute yellow atrophy
197275004	Subacute hepatic failure
72445008	Subacute hepatitis - noninfective
197271008	Acute hepatitis - noninfective
197271008	Acute noninfectious hepatitis
72445008	Subacute noninfective hepatitis
72445008	Subacute non-infective hepatitis
197270009	Acute hepatic failure
197274000	Subacute hepatic necrosis
37871000	Acute hepatitis
413438002	Acute hepatic failure due to drugs

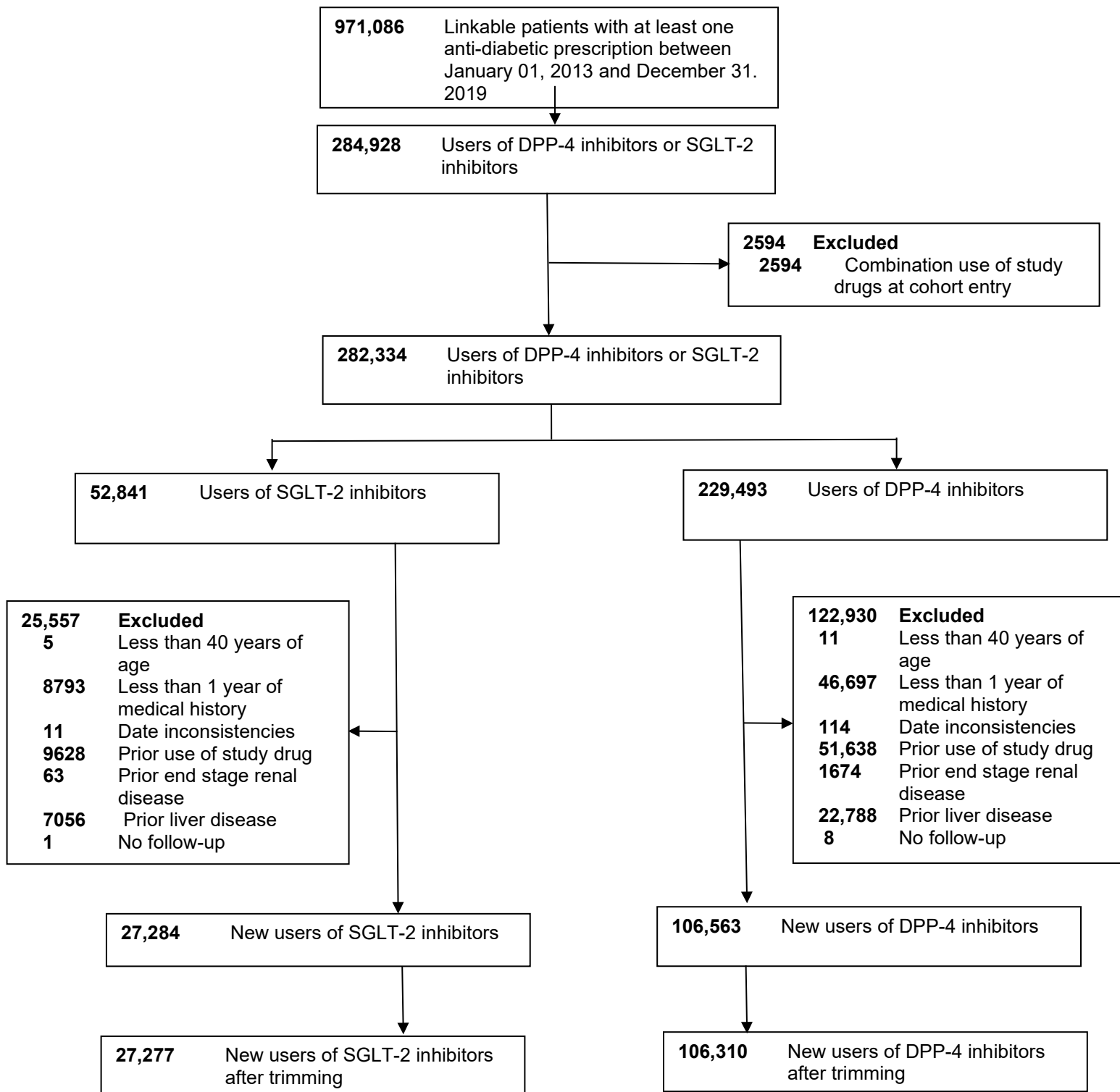
72836002	Hepatic coma
13920009	Encephalopathy - hepatic
59927004	Hepatic failure
213230009	Hepatic failure as a complication of care
59927004	[X] Hepatic failure
59927004	Hepatic failure NOS
213230009	Liver failure as a complication of care
906001000006101	[RFC] Liver failure
59927004	Liver failure NOS
59927004	[X] Liver failure
773411000000107	Compensation for liver failure
773411000000107	Other specified compensation for liver failure
59927004	Liver function failure
773411000000107	Compensation for liver failure NOS
128241005	Hepatitis unspecified
128241005	Hepatitis unspecified NOS
197364000	Central haemorrhagic necrosis of liver
235858002	Nonspecific reactive hepatitis
408335007	Autoimmune hepatitis
191296000	Deficiency of coagulation factor due to liver disease
213231008	Hepatorenal syndrome as a complication of care
51292008	HRF - Hepatorenal failure
51292008	Hepatorenal failure
51292008	Hepatorenal syndrome
88469006	Cerebrohepatorenal syndrome
ICD-10 code-based definition	
Code	Term
K71.0	Toxic liver disease with cholestasis
K71.1	Toxic liver disease with hepatic necrosis
K71.2	Toxic liver disease with acute hepatitis
	Toxic liver disease with hepatitis, not elsewhere classified
K71.6	
K71.9	Toxic liver disease, unspecified
K72.0	Acute and subacute hepatic failure
K72.9	Hepatic failure, unspecified
K75.9	Inflammatory liver disease, unspecified
K76.2	Central hemorrhagic necrosis of liver
Enzyme-based definition	
Alanine or aspartate transaminase increase to $\geq 5$ -fold the upper normal limit	
OR	
ALP increases to $\geq 2$ -fold the upper normal limit	
OR	

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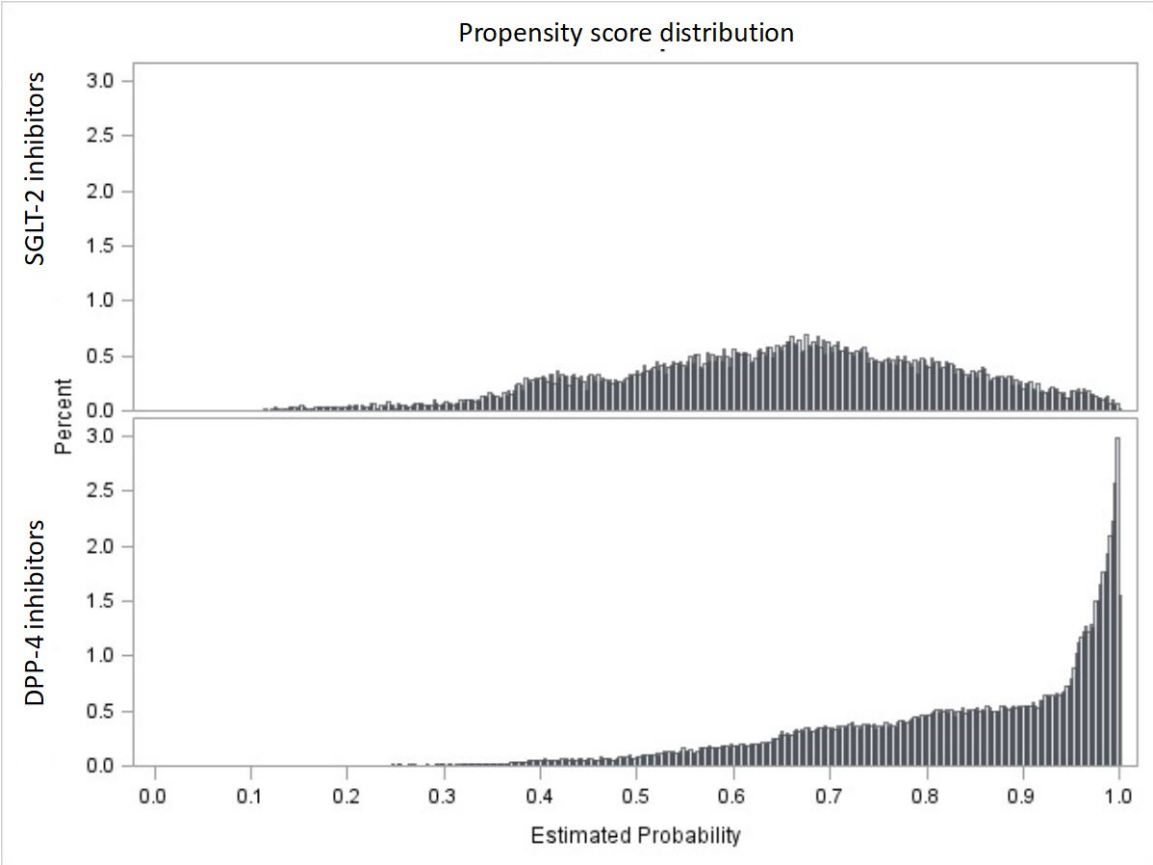
Total bilirubin concentration increases  $>2$ -fold the upper normal limit associated with  
Alanine or aspartate transaminase increases to  $\geq 3$ -fold the upper normal limit.

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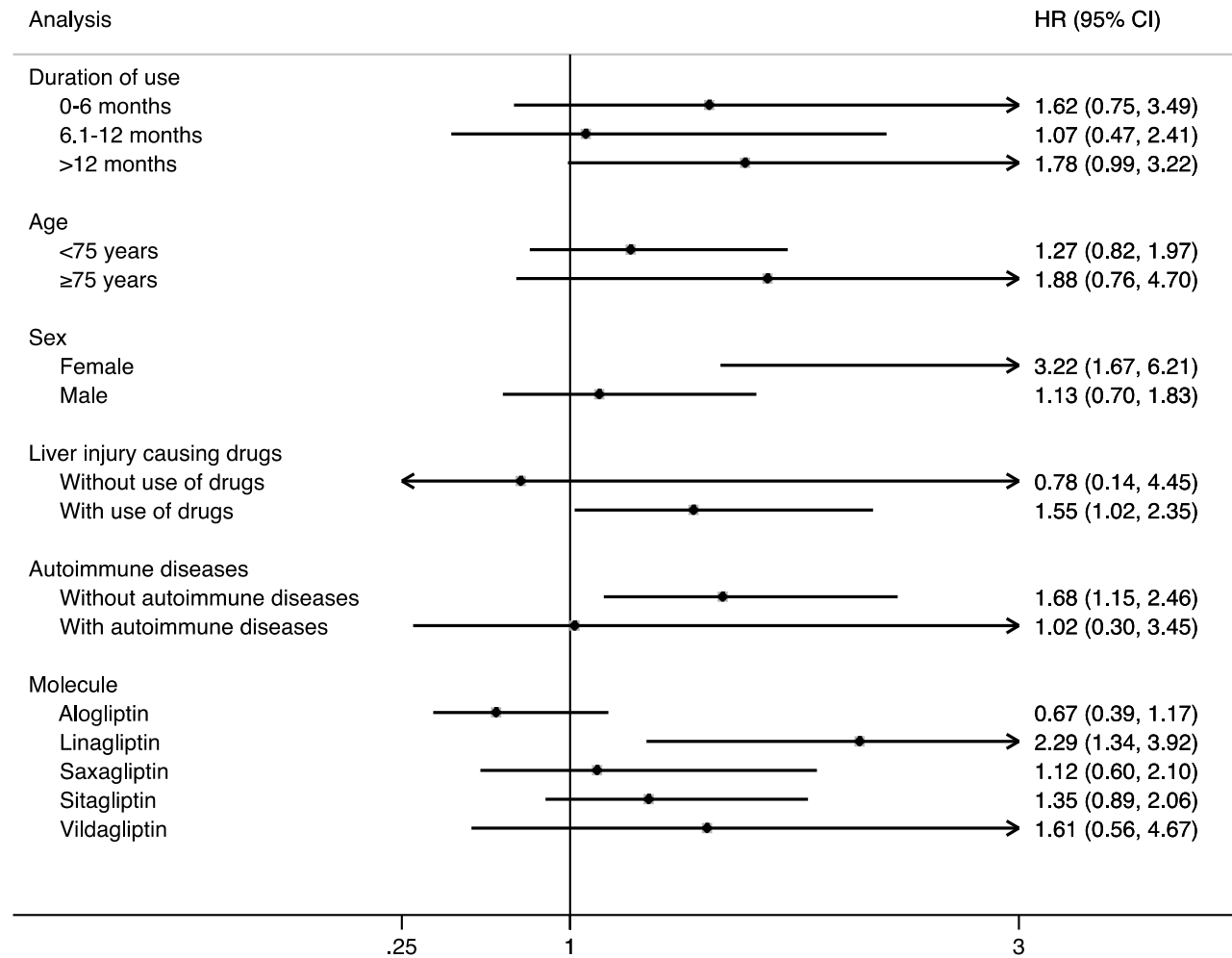
Supplementary Figure 1. Study Flow Chart for Comparison Between Users of Dipeptidyl Peptidase-4 Inhibitors and Sodium Glucose Cotransporter-2 Inhibitors



Supplementary Figure 2. Propensity Score Distribution for Users of Dipeptidyl Peptidase-4 Inhibitors and Sodium Glucose Cotransporter-2 Inhibitors

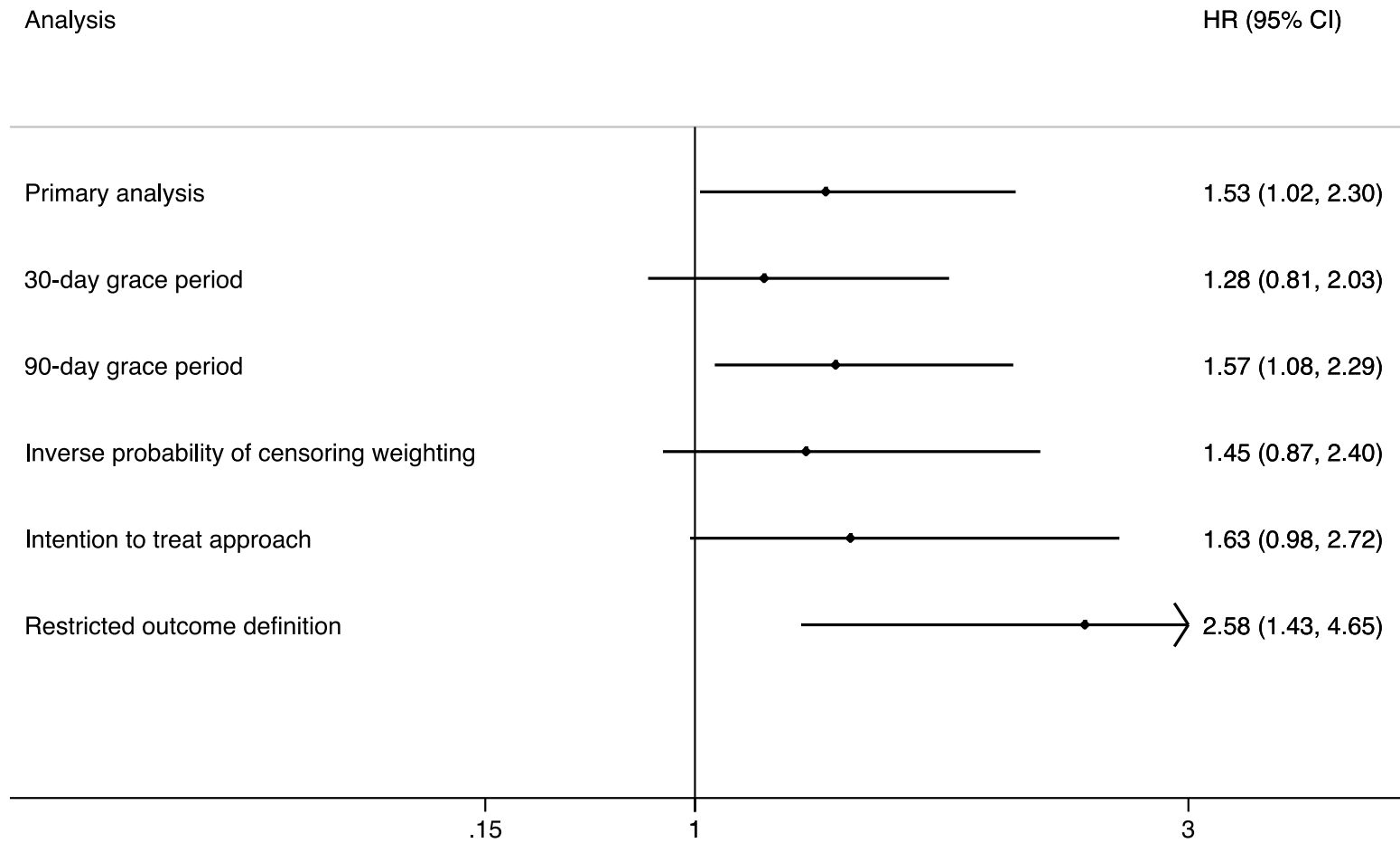


Supplementary Figure 3. Forest Plot Depicting Secondary Analyses Comparing Dipeptidyl Peptidase-4 Inhibitors and Sodium Glucose Cotransporter-2 Inhibitors

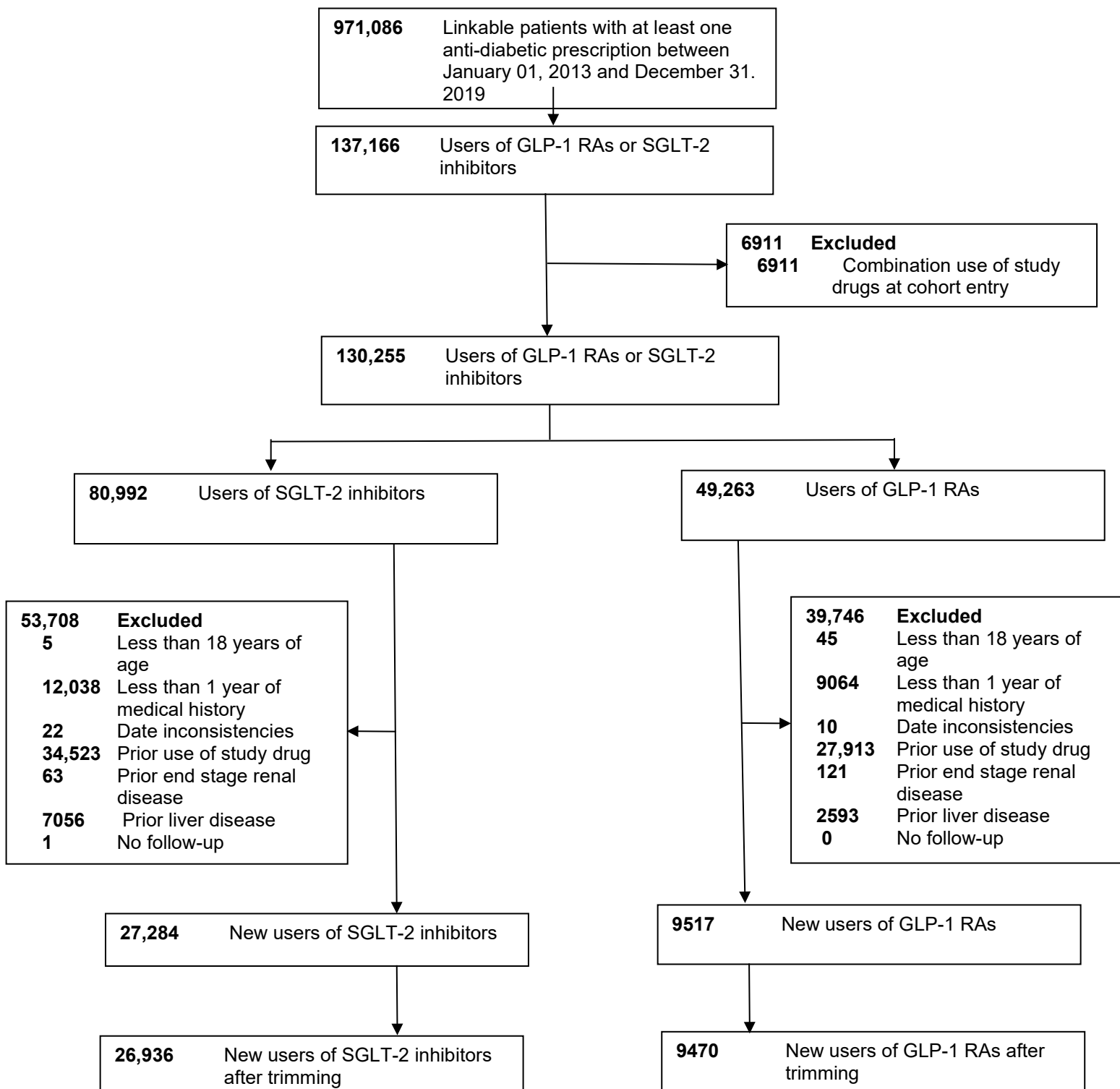




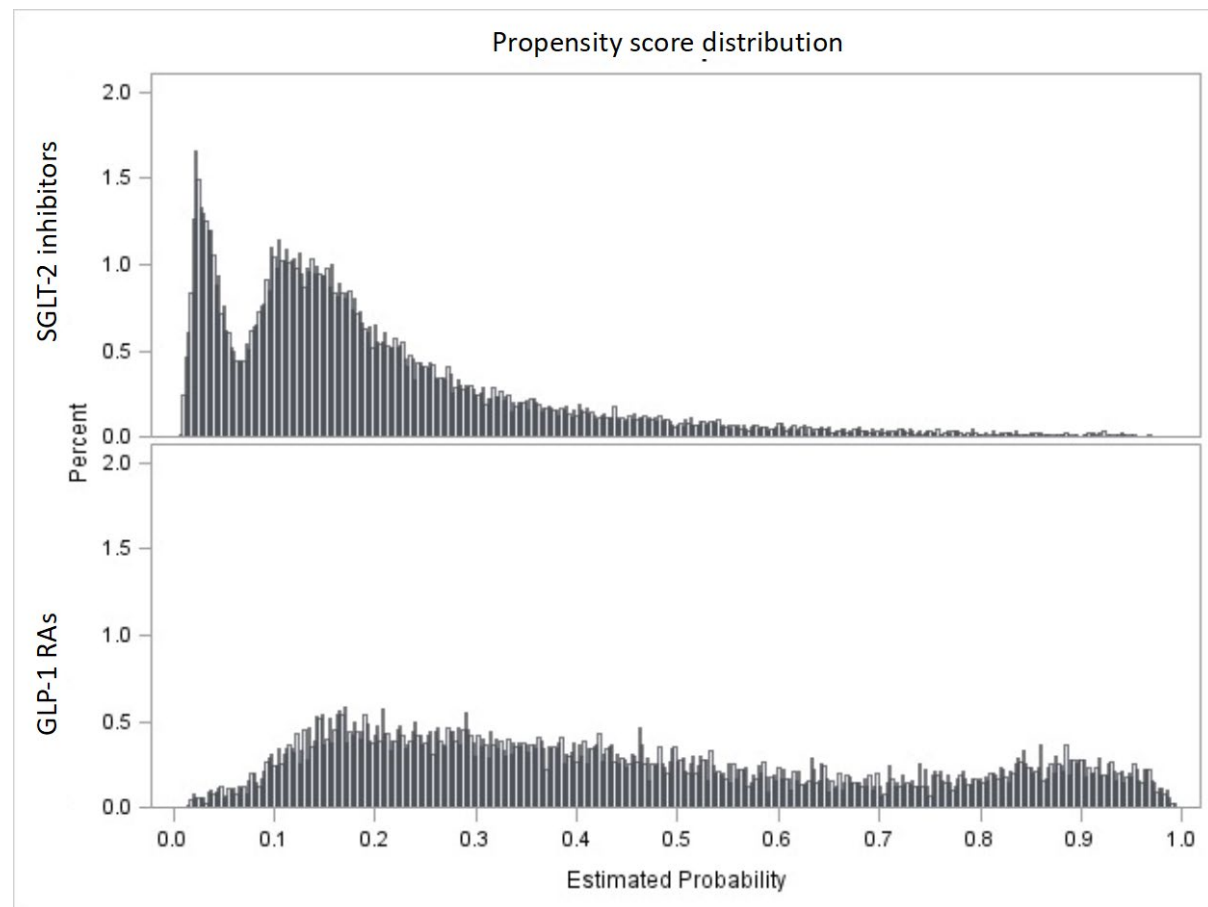
Supplementary Figure 4. Forest Plot Depicting Sensitivity Analyses Comparing Dipeptidyl Peptidase-4 Inhibitors and Sodium Glucose Cotransporter-2 Inhibitors



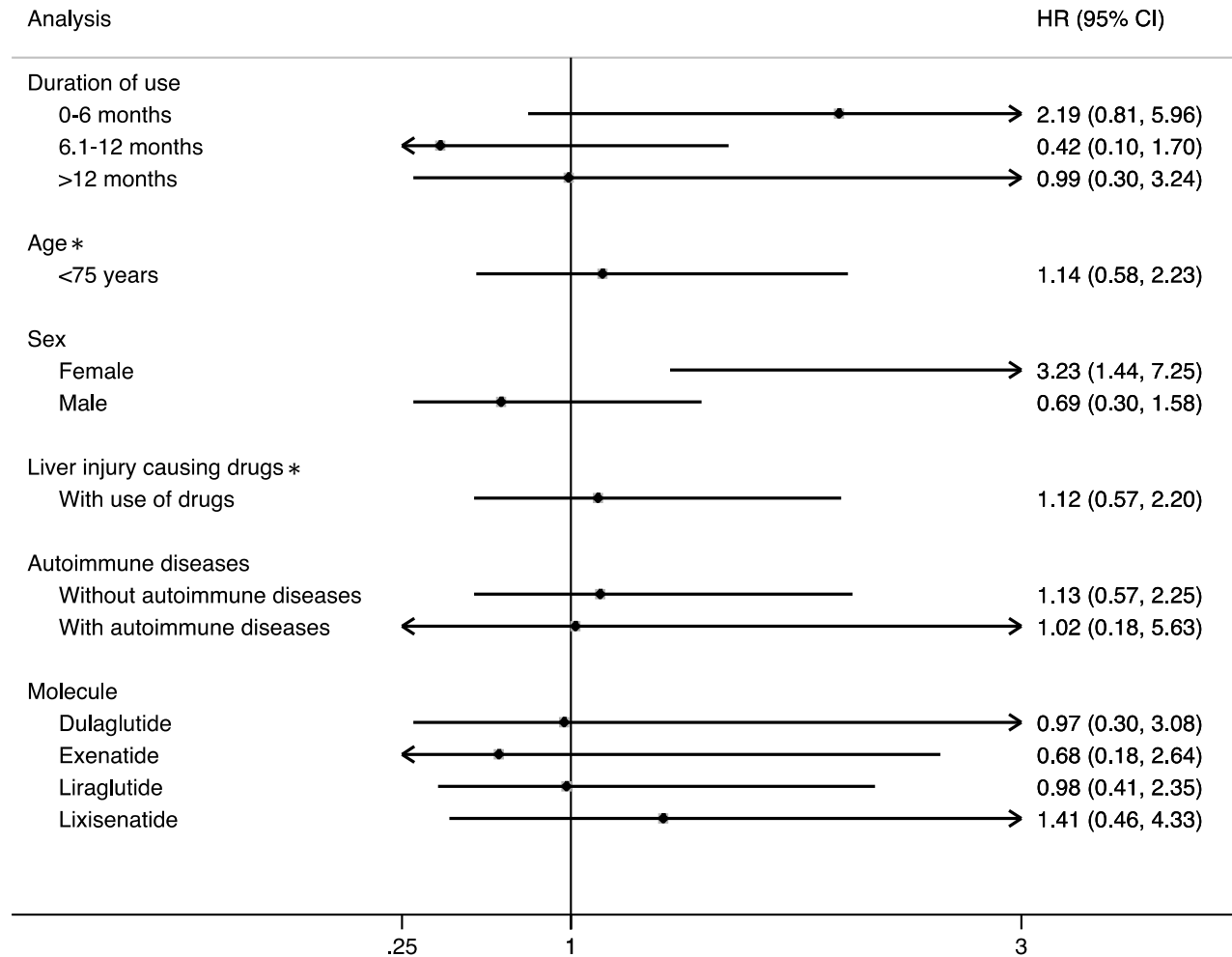
Supplementary Figure 5. Study Flow Chart for Comparison Between Users of Glucagon-like Peptide-1 Receptor Agonists and Sodium Glucose Cotransporter-2 Inhibitors



Supplementary Figure 6. Propensity Score Distribution for Users of Glucagon-like Peptide-1 Receptor Agonist and Sodium Glucose Cotransporter-2 Inhibitors

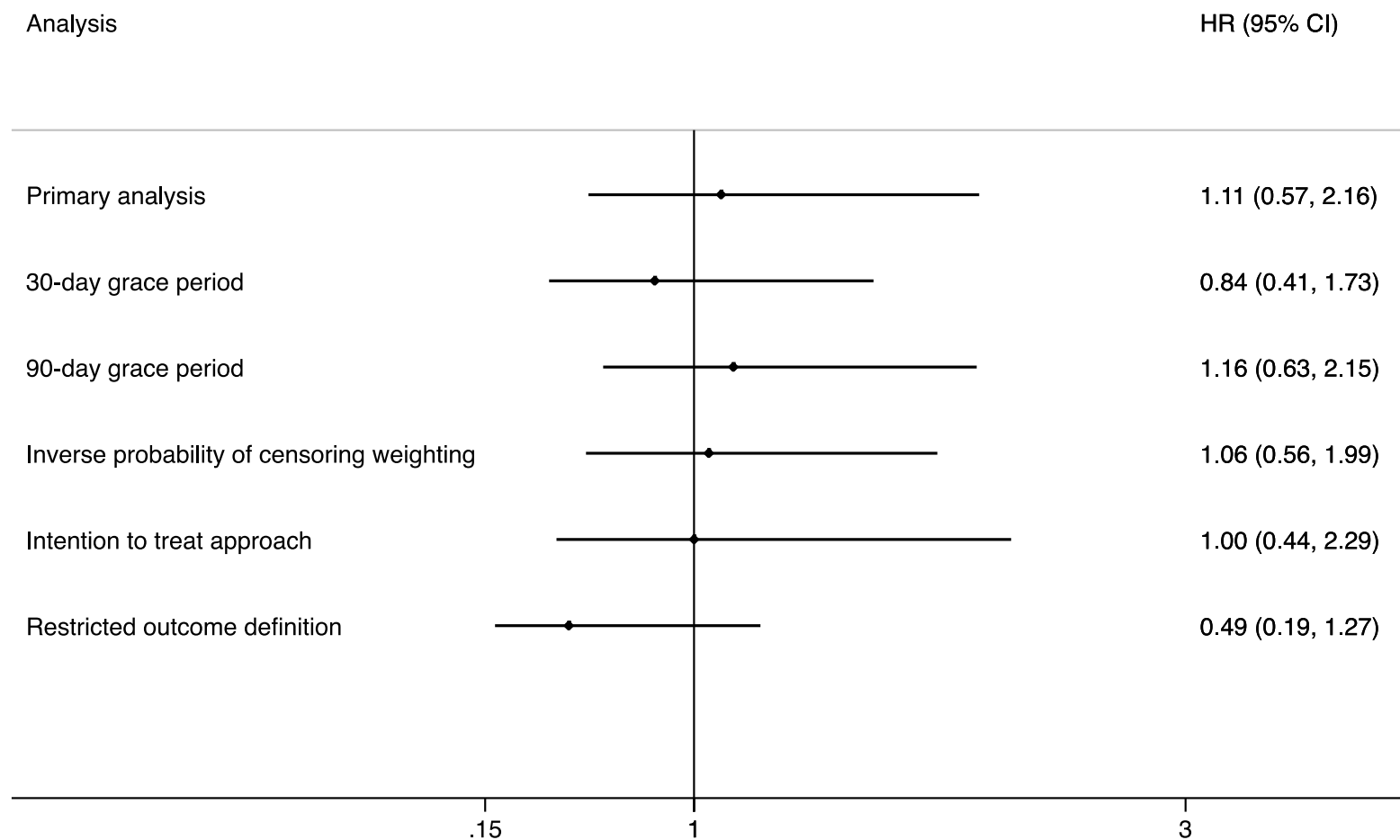


Supplementary Figure 7. Forest Plot Depicting Secondary Analyses Comparing Glucagon-like Peptide-1 Receptor Agonist and Sodium Glucose Cotransporter-2 Inhibitors



\* Categories of age  $\geq 75$  years and without use of liver injury causing drugs without any event

Supplementary Figure 8. Forest Plot Depicting Sensitivity Analyses Comparing Glucagon-like Peptide-1 Receptor Agonist and Sodium Glucose Cotransporter-2 Inhibitors



Supplementary Table 2. Hazard Ratios for Neuropathy Comparing DPP-4 Inhibitors and GLP-1 RAs with SGLT-2 Inhibitors

Exposure	Patients	Events	Person-years	Incidence rate (95% CI) * <sup>†</sup>	Crude HR	Weighted HR (95% CI) <sup>†</sup>
DPP-4 Inhibitors vs. SGLT-2 Inhibitors						
SGLT-2 inhibitors	28,285	398	35,490	13.6 (12.5-14.8)	1.00	1.00 [Reference]
DPP-4 inhibitors	98,379	2030	162,228	12.5 (12.0-13.1)	1.15	0.93 (0.85-1.02)
GLP-1 RAs vs. SGLT-2 Inhibitors						
SGLT-2 inhibitors	28,165	397	35,378	16.6 (15.4-17.9)	1.00	1.00 [Reference]
GLP-1 RAs	8954	260	13,812	18.8 (16.6-21.3)	1.70	1.13 (0.98-1.30)

Abbreviations: CI, confidence interval; DPP-4, dipeptidyl peptidase 4; GLP-1 RAs, glucagon-like peptide 1 receptor agonists; HR, hazard ratio; SGLT-2, sodium-glucose cotransporter-2.

\* Per 1000 person-years.

<sup>†</sup> Weighted using propensity score fine stratification.