Supplementary Material

Appendix A: READ and ICD-10 Codes Used to Identify Depression

READ	Description
Code	•
3004a	Depression
E2b00	Depressive Disorder Nec
E204.00	Neurotic Depression Reactive Type
1b17.00	Depressed
Eu32z11	[X]Depression Nos
3004am	Mood Depressed
3004er	Reactive Depression
1b17.11	C/O - Feeling Depressed
3004l	Looking Depressed
E112.14	Endogenous Depression
E112.11	Agitated Depression
2960ad	Depression Agitated
E204.11	Postnatal Depression
E135.00	Agitated Depression
ICD-10	Definition
Code	
F20.4	post-schizophrenic depression
F31.3	Bipolar affective disorder, current episode mild
	or moderate depression
F31.4	Bipolar affective disorder, current episode
	severe depression without psychotic symptoms
F31.5	Bipolar affective disorder, current episode
F31.6	severe depression with psychotic symptoms Bipolar affective disorder, current episode mixed
F32.0	Mild depressive episode
F32.1 F32.2	Moderate depressive episode
F32.2	Severe depressive episode without psychotic symptoms
F32.3	Severe depressive episode with psychotic
. 52.5	symptoms
F32.4	Depressive disorder, single episode in partial
	remission
F32.5	Depressive disorder, single episode in full
	remission
F32.8	Other depressive episodes
F32.9	Depressive episode, unspecified
F33.0	Recurrent depressive disorder, current episode

	mild
F33.1	Recurrent depressive disorder, current episode moderate
F33.2	Recurrent depressive disorder, current episode severe without psychotic symptoms
F33.3	Recurrent depressive disorder, current episode severe with psychotic symptoms
F33.8	Other recurrent depressive disorders
F33.9	Recurrent depressive disorder, unspecified
F34.1	Dysthymia
F34.8	Other persistent mood [affective] disorders
F34.9	Persistent mood [affective] disorder, unspecified
F38.0	Other single mood [affective] disorders
F38.1	Other recurrent mood [affective] disorders
F38.8	Other specified mood [affective] disorders
F39	Unspecified mood [affective] disorder
F41.2	Mixed anxiety and depressive disorder
F99	Mental disorder, not elsewhere specified

Appendix B: READ and ICD-10 Codes Used to Identify Self-harm

READ Code	Description
Code	
SL14	Overdose of biological substance
SL15	Overdose of drug
SLHz.00	Drug and medicament poisoning not otherwise specified
TK00	Suicide and self-inflicted injury
TK11	Cause of overdose – deliberate
TK12	Injury – self-inflicted
TK13	Poisoning – self-inflicted
TK14	Suicide and self-harm
TK15	Attempted suicide
TK17	Para-suicide
TK0.00	Suicide + self-inflicted poisoning by solid/liquid substances
TK00.00	Suicide + self-inflicted poisoning by analgesic/antipyretic
TK01.00	Suicide + self-inflicted poisoning by barbiturates
TK01000	Suicide and self-inflicted injury by amylobarbitone
TK01100	Suicide and self-inflicted injury by barbitone
TK01400	Suicide and self-inflicted injury by phenobarbitone
TK02.00	Suicide + self-inflicted poisoning by other sedatives/hypnotics
TK03.00	Suicide + self-inflicted poisoning tranquillizer/psychotropic
TK04.00	Suicide + self-inflicted poisoning by other drugs/medicines

TK05.00	Suicide + self-inflicted poisoning by drug or medicine not otherwise specified
TK06.00	Suicide + self-inflicted poisoning by agricultural chemical
TK07.00	Suicide + self-inflicted poisoning by corrosive/caustic substance
TK0z.00	Suicide + self-inflicted poisoning by solid/liquid substance not otherwise
	specified
TK1.00	Suicide + self-inflicted poisoning by gases in domestic use
TK10.00	Suicide + self-inflicted poisoning by gas via pipeline
TK11.00	Suicide + self-inflicted poisoning by liquified petrol gas
TK1y.00	Suicide and self-inflicted poisoning by other utility gas
TK1z.00	Suicide + self-inflicted poisoning by domestic gases not otherwise specified
TK2.00	Suicide + self-inflicted poisoning by other gases and vapours
TK20.00	Suicide + self-inflicted poisoning by motor vehicle exhaust gas
TK21.00	Suicide and self-inflicted poisoning by other carbon monoxide
TK2z.00	Suicide + self-inflicted poisoning by gases and vapours not otherwise specified
TK3.00	Suicide + self-inflicted injury by hang/strangulate/suffocate
TK30.00	Suicide and self-inflicted injury by hanging
TK31.00	Suicide + self-inflicted injury by suffocation by plastic bag
TK3y.00	Suicide + self-inflicted injury by other means than hang/strangle/suffocate
TK3z.00	Suicide + self-inflicted injury by hang/strangle/suffocate not otherwise
	specified
TK4.00	Suicide and self-inflicted injury by drowning
TK5.00	Suicide and self-inflicted injury by firearms and explosives
TK51.00	Suicide and self-inflicted injury by shotgun
TK52.00	Suicide and self-inflicted injury by hunting rifle
TK54.00	Suicide and self-inflicted injury by other firearm
TK5z.00	Suicide and self-inflicted injury by firearms/explosives not otherwise specified
TK6.00	Suicide and self-inflicted injury by cutting and stabbing
TK60.00	Suicide and self-inflicted injury by cutting
TK60100	Self-inflicted lacerations to wrist
TK60111	Slashed wrists self-inflicted
TK61.00	Suicide and self-inflicted injury by stabbing
TK6z.00	Suicide and self-inflicted injury by cutting and stabbing not otherwise specified
TK7.00	Suicide and self-inflicted injury by jumping from high place
TK70.00	Suicide + self-inflicted injury – jump from residential premises
TK71.00	Suicide + self-inflicted injury â€" jump from other manmade structure
TK72.00	Suicide + self-inflicted injury â€" jump from natural sites
TK7z.00	Suicide + self-inflicted injury – jump from high place not otherwise specified
TKx.00	Suicide and self-inflicted injury by other means
TKx0.00	Suicide + self-inflicted injury – jump/lie before moving object
TKx0000	Suicide + self-inflicted injury – jumping before moving object
TKx1.00	Suicide and self-inflicted injury by burns or fire
TKx2.00	Suicide and self-inflicted injury by scald
TKx3.00	Suicide and self-inflicted injury by extremes of cold

TKx4.00	Suicide and self-inflicted injury by electrocution
TKx5.00	Suicide and self-inflicted injury by crashing motor vehicle
TKx6.00	Suicide and self-inflicted injury by crashing of aircraft
TKx7.00	Suicide and self-inflicted injury caustic substance
TKxy.00	Suicide and self-inflicted injury by other specified means
TKxz.00	Suicide and self-inflicted injury by other means not otherwise specified
ТКу.00	Late effects of self-inflicted injury
TKz.00	Suicide and self-inflicted injury not otherwise specified
U200	[X]Intentional self-harm
U211	[X]Self-inflicted injury
U212	[X]Injury – self-inflicted
U213	[X]Suicide
U214	[X]Attempted suicide
U215	[X]Para-suicide
U20.00	[X]Intentional self-poisoning/exposure to noxious substances
U20.11	[X]Deliberate drug overdose/other poisoning
U200.00	[X]Intentional self-poisoning/exposure to non-opioid analgesic
U200.11	[X]Overdose – paracetamol
U200.12	[X]Overdose – ibuprofen
U200.13	[X]Overdose – aspirin
U200000	[X]Intentional self-poisoning/exposure to non-opioid analgesic at home
U200100	[X]Intentional self-poisoning non-opioid analgesic at residential institution
U200400	[X]Intentional self-poisoning non-opioid analgesic in street/highway
U200500	[X]Intentional self-poisoning non-opioid analgesic trade/service area
U200y00	[X]Intentional self-poisoning non-opioid analgesic other specified place
U200z00	[X]Intentional self-poisoning non-opioid analgesic unspecifified place
U201.00	[X]Intentional self-poisoning/exposure to antiepileptic
U201000	[X]Intentional self-poisoning/exposure to antiepileptic at home
U201z00	[X]Intentional self-poisoning antiepileptic unspecified place
U202.00	[X]Intentional self-poisoning/exposure to sedative hypnotic
U202.11	[X]Overdose – sleeping tablets
U202.12	[X]Overdose – diazepam
U202.13	[X]Overdose – temazepam
U202.15	[X]Overdose – nitrazepam
U202.16	[X]Overdose – benzodiazepine
U202.17	[X]Overdose – barbiturate
U202.18	[X]Overdose – amobarbital
U202000	[X]Intentional self-poisoning /exposure to sedative hypnotic at home
U202400	[X]Intentional self-poisoning sedative hypnotic in street/highway
U202y00	[X]Intentional self-poisoning sedative hypnotic other specified place
U202z00	[X]Intentional self-poisoning sedative hypnotic unspecified place
11304 00	[X]Intertional Sen Poisoning Seadtive Hypnotic dispectived place
U204.00	[X]Intentional self-poisoning/exposure to psychotropic drug

U204.12	[X]Overdose – amitriptyline
U204.13	[X]Overdose – SSRI
U204000	[X]Intentional self-poisoning /exposure to psychotropic drug at home
U204100	[X]Intentional self-poisoning psychotropic drug at residential institution
U204y00	[X]Intentional self-poisoning psychotropic drug other specified place
U204z00	[X]Intentional self-poisoning psychotropic drug unspecified place
U205000	[X]Intentional self-poisoning/exposure to narcotic drug at home
U205y00	[X]Intentional self-poisoning narcotic drug other specified place
U205z00	[X]Intentional self-poisoning narcotic drug unspecified place
U206.00	[X]Intentional self-poisoning/exposure to hallucinogen
U206400	[X]Intentional self-poisoning hallucinogen in street/highway
U207.00	[X]Intentional self-poisoning/exposure to other autonomic drug
U207000	[X]Intentional self-poisoning/exposure to other autonomic drug at home
U207z00	[X]Intentional self-poisoning other autonomic drug unspecified place
U208.00	[X]Intentional self-poisoning/exposure to other/unspecified drug/ medicament
U208400	[X]Intentional self-poisoning other/unspecified drug/medication in
	street/highway
U208y00	[X]Intentional self-poisoning other/unspecified drug/medication other specified
	place
U208z00	[X]Intentional self-poisoning other/unspecified drug/medication unspecified
11304.00	place [Villatoration of college and colleg
U20A.00	[X]Intentional self-poisoning organic solvent
U20A.11	[X]Self-poisoning from glue solvent
U20A000	"[X]Intentional self-poisoning organic solvent
U20A400	"[X]Intentional self-poisoning organic solvent
U20Az00	"[X]Intentional self-poisoning organic solvent
U20B.00	[X]Intentional self-poisoning/exposure to other gas/vapour U20B.11 [X]Self carbon monoxide poisoning
U20B000	[X]Intentional self-poisoning/exposure to other gas/vapour at home
U20B200	[X]Intentional self-poisoning other gas/vapour school/public admin area
U20By00	[X]Intentional self-poisoning other gas/vapour other specified place
U20Bz00	[X]Intentional self-poisoning other gas/vapour unspecified place
U20C.00	[X]Intentional self-poisoning/exposure to pesticide
U20C.11	[X]Self-poisoning with weedkiller
U20C.12	[X]Self-poisoning with paraquat
U20C000	[X]Intentional self-poisoning/exposure to pesticide at home
U20Cy00	[X]Intentional self-poisoning pesticide other specified place
U20y.00	[X]Intentional self-poisoning/exposure to unspecified chemical
U20y000	[X]Intentional self-poisoning/exposure to unspecified chemical at home
U20y200	[X]Intentional self-poisoning unspecified chemical school/public admin area
U20yz00	[X]Intentional self-poisoning unspecified chemical unspecified place
U21.00	[X]Intentional self-harm by hanging/strangulation/suffocation
U210.00	[X]Intentional self-harm by hanging/strangulation/suffocation at home

U211.00	[X]Intentional self-harm by hanging/strangulation/suffocation occurrence at residential institution
U21y.00	[X]Intentional self-harm by hanging/strangulation/suffocation other specified place
U21z.00	[X]Intentional self-harm by hanging/strangulation/suffocation unspecified place
U22.00	[X]Intentional self-harm by drowning and submersion
U221.0	[X]Intentional self-harm by drowning/submersion occurrence at residential institution
U22y.00	[X]Intentional self-harm by drowning/submersion occurrence at other specified place
U22z.00	[X]Intentional self-harm by drowning/submersion occurrence at unspecified place
U24.00	[X]Intentional self-harm by rifle shotgun/larger firearm discharge
U241.00	[X]Intentional self-harm by rifle shotgun/larger firearm discharge occurrence at residential institution
U242.00	[X]Intentional self-harm by rifle shotgun/larger firearm discharge in school/public admin area
U25.00	[X]Intentional self-harm by other/unspecified firearm discharge
U250.00	[X]Intentional self-harm other/unspecif firearm discharge occurrence at home
U26.00	[X]Intentional self-harm by explosive material
U27.00	[X]Intentional self-harm by smoke
U270.00	[X]Intentional self-harm by smoke fire/flames occurrence at home
U274.00	[X]Intentional self-harm by smoke fire/flame occurrence in street/highway
U27z.00	[X]Intentional self-harm by smoke fire/flames occurrence in unspecified place
U28.00	[X]Intentional self-harm by steam hot vapours/hot objects
U280.00	[X]Intentional self-harm by steam hot vapours/hot objects occurrence at home
U28z.00	[X]Intentional self-harm by steam hot vapours/hot objects occurrence in unspecified place
U29.00	[X]Intentional self-harm by sharp object
U290.00	[X]Intentional self-harm by sharp object occurrence at home
U291.00	[X]Intentional self-harm by sharp object occurrence at residential institution
U294.00	[X]Intentional self-harm by sharp object occurrence in street/highway
U29y.00	[X]Intentional self-harm by sharp object occurrence at other specified place
U29z.00	[X]Intentional self-harm by sharp object occurrence at unspecified place
U2A.00	[X]Intentional self-harm by blunt object
U2A0.00	[X]Intentional self-harm by blunt object occurrence at home
U2A1.00	[X]Intentional self-harm by blunt object occurrence at residential institution
U2A3.00	[X]Intentional self-harm by blunt object occurrence at sports/athletic area
U2B.00	[X]Intentional self-harm by jumping from a high place
U2B0.00	[X]Intentional self-harm by jumping from high place occurrence at home
U2B4.00	[X]Intentional self-harm by jumping from high place occurring in street/highway
U2B6.00	[X]Intentional self-harm by jumping from high place industrial/construction area

	place
U2Bz.0	0
U2C.00	[X]Intentional self-harm by jumping/lying before moving object
	[X]Intentional self-harm by jumping/lying before moving object occurrence at residential institution
9	[X]Intentional self-harm by jumping/lying before moving object occurrence in street/highway
· ·	[X]Intentional self-harm by jumping/lying before moving object occurrence other specified place
U2D.00	[X]Intentional self-harm by crashing of motor vehicle
U2D0.00	[X]Intentional self-harm by crashing of motor vehicle occurrence at home
	[X]Intentional self-harm by crashing of motor vehicle occurrence in street/highway
i	[X]Intentional self-harm by crashing of motor vehicle occurrence industrial/construction area
U2E.00 [X]Self-	-mutilation
U2y.00	[X]Intentional self-harm by other specified means
U2y0.00	[X]Intentional self-harm by other specified means occurrence at home
1 -	[X]Intentional self-harm by other specified means occurrence at residential institution
U2yz.00	[X]Intentional self-harm by other specif means occurrence at unspecified place
U2z.00	[X]Intentional self-harm by unspecified means
U2z0.00	[X]Intentional self-harm by unspecified means occurrence at home
	[X]Intentional self-harm by unspecified means occurrence school/institution/public administrative area
U2zy.00	[X]Intentional self-harm by unspecified means occurrence other specified place
U2zz.00	[X]Intentional self-harm by unspecified means occurrence at unspecified place
U30.11	[X]Deliberate drug poisoning
U41.00	[X]Hanging strangulation + suffocation undetermined intent
U44.00	[X]Rifle shotgun + larger firearm discharge undetermined intent
U45.00	[X]Other + unspecified firearm discharge undetermined intent
U4B.00	[X]Falling jumping/pushed from high place undetermine intent
	[X]Fall jump/push from high place undetermine intent occurring at unspecified place
U72.00	[X]Sequelae of intentional self-harm assault + event of undetermined intent
U720.00	[X]Sequelae of intentional self-harm
ZRLfC12	Health of the Nation Outcome Scales item 2 â€" nonaccidental self-injury
ZX00	Self-harm
ZX11	Self-damage Self-damage
ZX1.00	Self-injurious behaviour
ZX1.12	SIB – self-injurious behaviour
	Deliberate self-harm
ZX11.00	Biting self

ZX11.11	Bites self
ZX12.00	Burning self
ZX13.00	Cutting self
ZX13.11	Cuts self
ZX15.00	Drowning self
ZX18.00	Hanging self
ZX19.00	Hitting self
ZX19100	Punching self
ZX19200	Slapping self
ZX1B.00	Jumping from height
ZX1B100	Jumping from building
ZX1B200	Jumping from bridge
ZX1B300	Jumping from cliff
ZX1C.00	Nipping self
ZX1E.00	Pinching self
ZX1G.00	Scratches self
ZX1H.00	Self-asphyxiation
ZX1H100	Self-strangulation
ZX1H200	Self-suffocation
ZX1I.00	Self-scalding
ZX1J.00	Self-electrocution
ZX1K.00	Self-incineration
ZX1K.11	Setting fire to self
ZX1K.12	Setting self alight
ZX1L.00	Self-mutilation
ZX1L100	Self-mutilation of hands
ZX1L200	Self-mutilation of genitalia
ZX1L300	Self-mutilation of penis
ZX1L600	Self-mutilation of ears
ZX1LD00	[X]Self mutilation
ZX1M.00	Shooting self
ZX1N.00	Stabbing self
ZX1Q.00	Throwing self in front of train
ZX1Q.11	Jumping under train
ZX1R.00	Throwing self in front of vehicle
ZX1S.00	Throwing self onto floor
ICD-10code	Description
X60	Intentional self-poisoning by and exposure to nonopioid analgesics, antipyretics
VC1	and antirheumatics
X61	Intentional self-poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified
X62	Intentional self-poisoning by and exposure to narcotics and psychodysleptics

	[hallucinogens], not elsewhere classified
X63	Intentional self-poisoning by and exposure to other drugs acting on the
	autonomic nervous system
X64	Intentional self-poisoning by and exposure to other and unspecified drugs,
	medicaments and biological substances
X65	Intentional self-poisoning by and exposure to alcohol
X66	Intentional self-poisoning by and exposure to organic solvents and halogenated hydrocarbons and their vapours
X67	Intentional self-poisoning by and exposure to other gases and vapours
X68	Intentional self-poisoning by and exposure to pesticides
X69	Intentional self-poisoning by and exposure to other and unspecified chemicals and noxious substances
X70	Intentional self-harm by hanging, strangulation and suffocation
X71	Intentional self-harm by drowning and submersion
X72	Intentional self-harm by handgun discharge
X73	Intentional self-harm by rifle, shotgun and larger firearm discharge
X74	Intentional self-harm by other and unspecified firearm discharge
X75	Intentional self-harm by explosive material
X76	Intentional self-harm by smoke, fire and flames
X77	Intentional self-harm by steam, hot vapours and hot objects
X78	Intentional self-harm by sharp object
X79	Intentional self-harm by blunt object
X80	Intentional self-harm by jumping from a high place
X81	Intentional self-harm by jumping or lying before moving object
X82	Intentional self-harm by crashing of motor vehicle
X83	Intentional self-harm by other specified means
X84	Intentional self-harm by unspecified means
Y10	Poisoning by and exposure to nonopioid analgesics, antipyretics and
	antirheumatics, undetermined intent
Y11	Poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism
	and psychotropic drugs, not elsewhere classified, undetermined intent
Y12	Poisoning by and exposure to narcotics and psychodysleptics [hallucinogens],
	not elsewhere classified, undetermined intent
Y13	Poisoning by and exposure to other drugs acting on the autonomic nervous
Y14	system, undetermined intent
114	Poisoning by and exposure to other and unspecified drugs, medicaments and biological substances, undetermined intent
Y15	Poisoning by and exposure to alcohol, undetermined intent
Y16	Poisoning by and exposure to organic solvents and halogenated hydrocarbons
110	and their vapours, undetermined intent
Y17	Poisoning by and exposure to other gases and vapours, undetermined intent
Y18	Poisoning by and exposure to pesticides, undetermined intent
Y19	Poisoning by and exposure to other and unspecified chemicals and noxious
•	substances, undetermined intent
Y20	Hanging, strangulation and suffocation, undetermined intent

Y21	Drowning and submersion, undetermined intent
Y22	Handgun discharge, undetermined intent
Y23	Rifle, shotgun and larger firearm discharge, undetermined intent
Y24	Other and unspecified firearm discharge, undetermined intent
Y25	Contact with explosive material, undetermined intent
Y26	Exposure to smoke, fire and flames, undetermined intent
Y27	Contact with steam, hot vapours and hot objects, undetermined intent
Y28	Contact with sharp object, undetermined intent
Y29	Contact with blunt object, undetermined intent
Y30	Falling, jumping or pushed from a high place, undetermined intent
Y31	Falling, lying or running before or into moving object, undetermined intent
Y32	Crashing of motor vehicle, undetermined intent
Y33	Other specified events, undetermined intent
Y34	Unspecified event, undetermined intent

Appendix C. Covariates Forced into the High Density Propensity Score

All covariates assessed in the 365 days prior to study index date
Age at index date
Alcohol Abuse [Never, Former, Current, Unknown]
BMI
Duration of treated diabetes [time between first oral antidiabetic drug and study index date]
History of:
Cirrhosis
Congestive heart failure
Hypertension
Hyperlipidemia
Ischemic heart disease
Peripheral heart disease
Number of hospitalizations
Most recent HbAlc value to index date
Number of distinct prescription drugs
Prior use of benzodiazepines or other hypnotics, antipsychotics, levothyroxine or triiodothyrinine,
anticonvulsants, or mood stabilizers
Sex
Smoking status [Never, Former, Current, Unknown]
Socioeconomic status [quintiles of Index of Mulitiple Deprivation]
Use of other antidiabetic agents
Year of cohort entry

Appendix D. Measures of frequency and association for depression among DPP-4 inhibtor and GLP-1 receptor agonist cohorts

	DPP4i	SU	GLP1ra	SU
Number of patients	6207	22218	502	16728
Person-years follow-up	5591	18683	549	13628
Number of events	45	215	10	182
Incidence per 1000 person-years	8.0	11.5	18.2	13.4
(95%CI)	(6.0-10.8)	(10.1-13.2)	(10-33.5)	(11.6-15.4)
Crude Hazard Ratio	0.70	-ref-	1.39	-ref-
(95% CI)	(0.50 - 0.96)		(0.74-2.63)	
Adjusted Hazard Ratio	0.81	-ref-	1.22	-ref-
(95% CI)	(0.57-1.14)		(0.61-2.42)	

S = suppressed due to low number of events

Appendix E. Measures of frequency and association for self-harm among DPP-4 inhibtor and GLP-1 receptor agonist cohorts

•	DPP4i	SU	GLP1ra	SU
Number of patients	6211	22180	502	16632
Person-years follow-up	5632	18839	563	13696
Number of events	S	5	S	S
Incidence per 1000 person-years	S	0.3	S	S
(95%CI)		(0.1-0.6)		
Crude Hazard Ratio	0.66	-ref-	S	-ref-
(95% CI)	(0.08-5.69)			
Adjusted Hazard Ratio	0.77	-ref-	S	-ref-
(95% CI)	(0.07-8.21)			

S =suppressed due to low number of events

Appendix F. Measures of frequency and association for depression or self-harm among DPP-4 inhibtor and GLP-1 receptor agonist cohorts when patients are matched 1:1 by propensity score.

	DPP4i	SU	GLP1ra	SU
Number of patients	6008	6008	488	488
Person-years follow-up	548	4488	529	349
Number of events	44	49	10	7
Incidence per 1000 person-years	8.0	10.9	18.9	20.1
(95%CI)	(6-10.8)	(8.3-14.4)	(10.4-34.8)	(9.9-41.3)
Crude Hazard Ratio	0.75	-ref-	0.99	-ref-
(95% CI)	(0.50-1.13)		(0.37-2.61)	
Adjusted Hazard Ratio	0.77	-ref-	0.98	-ref-
(95% CI)	(0.51-1.16)		(0.36-2.61)	

Appendix G. Measures of frequency and association for depression or self-harm among DPP-4 inhibtor and GLP-1 receptor agonist cohorts when patients are adjusted for pattern of glucose-lowering therapy.

	DPP4i	SU	GLP1RA	SU
Number of patients	4416	15943	117	4165
Person-years follow-up	3743	12614	90	3327
Number of events	36	140	S	61
Incidence per 1000 person-years	9.6	11.1	33.4	18.3
(95%CI)	(7-13.3)	(9.4-13.1)	(12.1-97.5)	(14.3-23.6)
Crude Hazard Ratio	0.86	-ref-	1.82	-ref-
(95% CI)	(0.60-1.24)		(0.57-5.80)	
Adjusted Hazard Ratio	1.00	-ref-	1.55	-ref-
(95% CI)	(0.66-1.49)		(0.46-5.18)	

S = suppressed due to low number of events

Appendix H. Measures of frequency and association for depression or self-harm among DPP-4 inhibtor and GLP-1 receptor agonist cohorts when patients are restricted to only those with HES/ONS linked data.

	DPP4i	SU	GLP1ra	SU
Number of patients	3348	13243	262	9997
Person-years follow-up	2841	10762	290	7904
Number of events	27	132	S	111
Incidence per 1000 person-years	9.5	12.3	13.8	14
(95%CI)	(6.5-13.8)	(10.3-14.5)	(5.6-35.3)	(11.7-16.9)
Crude Hazard Ratio	0.78	-ref-	1.00	-ref-
(95% CI)	(0.51-1.17)		(0.37-2.72)	
Adjusted Hazard Ratio	0.99(-ref-	0.93	-ref-
(95% CI)	0.63-1.55)		(0.32-2.71)	

Appendix I. Measures of frequency and association for depression or self-harm among DPP-4 inhibtor and GLP-1 receptor agonist cohorts when patients are restricted to second-line therapy after metformin monotherapy.

	DPP4i	SU	GLP1ra	SU
Number of patients	1255	4612	65	2112
Person-years follow-up	1191	3601	47	1680
Number of events	11	48	S	29
Incidence per 1000 person-years	9.2	13.3	43(13.3-155.3)	17.3
(95%CI)	(5.2-16.5)	(10.1-17.7)		(12-24.8)
Crude Hazard Ratio	0.71	-ref-	2.49(0.59-10.45)	-ref-
(95% CI)	(0.37-1.38)			
Adjusted Hazard Ratio	0.67	-ref-	1.92(0.44-8.31)	-ref-
(95% CI)	(0.34-1.34)			

S = suppressed due to low number of events

Appendix J. Measures of frequency and association for depression or self-harm among DPP-4 inhibtor and GLP-1 receptor agonist cohorts when BMI categories (in addition to hdps deciles) were added to the

Cox proportional regression model.

	DPP4i	SU	GLP1ra	SU
Number of patients	6206	22128	501	16409
Person-years follow-up	5589	18596	549	13418
Number of events	46	218	10	183
Incidence per 1000 person-years	8.2	11.7	18.2	13.6
(95%CI)	(6.2-11)	(10.3-13.4)	(10-33.5)	(11.8-15.8)
Crude Hazard Ratio (95% CI)	0.70 (0.51-0.96)	-ref-	1.36 (0.72-2.58)	-ref-
Adjusted Hazard Ratio (95% CI)	0.81 (0.58-1.15)	-ref-	1.25 (0.63-2.51)	-ref-

S =suppressed due to low number of events

Appendix K. Time-dependent Cox regression for DPP-4 inhibitor monotherapy and

combination therapies Vs. Sulfonylurea (SU) monotherapy

Exposure vs. SU monotherapy	Coef	*Adjusted HR	Lower .95	Upper .95	Se (coef)	Pr <u>(> z)</u>
DPP-4i monotherapy	-0.07	0.93	0.65	1.32	0.18	0.69
DPP-4i/SU	-0.53	0.59	0.34	1.02	0.28	0.06
DPP-4i/Other	-0.16	0.85	0.70	1.04	0.10	0.11
DPP-4i/SU/Other	-0.13	0.88	0.68	1.14	0.13	0.33

^{*}Adjusted for deciles of hdps

Appendix L. Time-dependent Cox regression for GLP-1 receptor agonist (GLP1ra)

monotherapy and combination therapies Vs. Sulfonvlurea (SU) monotherapy

Exposure vs. SU monotherapy	Coef	*Adjusted HR	Lower .95	Upper .95	Se (coef)	Pr <u>(> z)</u>
GLP1ra monotherapy	-0.51	0.60	0.30	1.21	0.36	0.15
GLP1ra /SU	0.45	1.57	0.78	3.18	0.36	0.21
GLP1ra /Other	0.14	1.16	0.88	1.52	0.14	0.31
GLP1ra /SU/Other	-0.31	0.73	0.47	1.15	0.23	0.18

^{*}Adjusted for deciles of hdps