Supplementary Table 1. Diagnostic and procedural codes from the ICD-10 classification system employed in this study

CONDITION	ICD 10 CODES
Type II Diabetes	E11.x
Parkinson's Disease	G20.
Hypoglycemia	E10.641. E10.649
Depression	F32
Anxiety Disorders	F40-F48
Personality Disorders	F60
Apathy	R45
Sleep Disorders	G47.51. F44.9. F51.9. G47.9. G47.6. R53
Pain and Sensory Symptoms	R51-52
Essential Tremor	G25. R25
Axial Symptoms	R47. R13. R26
Suicide Attempt	T14.91
Tobacco Use	F17. Z72.0. Z87.891. T65.2
All-cause dementia	G31.0. G31.83. F00. F01. F02. F03. F05.1
Alzheimer dementia	G30.0. G30.1. G30.8. G30.9
Vascular dementia	F01.50. F01.51
COVID 19	B34.2. B97.29. U07.1

Supplementary Table 2. Prevalence of Parkinson disease. distribution by age and clinical characteristics and in-hospital outcomes among patients hospitalized with type 2 diabetes in Spain 2017-2023. according to sex

	Women	Men	p
T2DM n	1909653	2688015	<0.001
2017 PD, prevalence n (%)	6450(2.44)	7837(2.2)	<0.001
2018 PD, prevalence n (%)	6868(2.52)	8544(2.26)	<0.001
2019 PD, prevalence n (%)	7066(2.55)	8998(2.33)	<0.001
2020 PD, prevalence n (%)	6465(2.57)	8659(2.41)	<0.001
2021 PD, prevalence n (%)	6648(2.47)	8787(2.29)	<0.001
2022 PD, prevalence n (%)	7414(2.61)	9867(2.44)	<0.001
2023 PD, prevalence n (%)	7188(2.48)	10140(2.42)	0.108
Age. mean (SD)	81.65(7.56)	79.56(7.84)	<0.001
40-64 year, n (%)	1277(2.65)	2614(4.16)	<.001
65-74 year, n (%)	6579(13.68)	12276(19.54)	
75-84 year, n (%)	21363(44.41)	29822(47.46)	
≥85 year, n (%)	18880(39.25)	18120(28.84)	
CCI, mean (SD)	0.92(0.9)	1.08(0.97)	<0.001
Hypoglycemia, n (%)	846(1.76)	1010(1.61)	0.051
Depression symptoms, n (%)	5636(11.72)	3579(5.7)	<.001
Anxiety, n (%)	3143(6.53)	1454(2.31)	<.001
Personality disorders, n (%)	296(0.62)	333(0.53)	0.060
Apathy. n (%)	303(0.63)	512(0.81)	<.001
Sleep disorders. n (%)	573(1.19)	749(1.19)	0.991
Pain and sensory symptoms. n (%)	211(0.44)	141(0.22)	<.001
Essential tremor, n (%)	2035(4.23)	1945(3.1)	<.001
Axial symptoms, n (%)	4643(9.65)	7444(11.85)	<.001
Suicide Attempt, n (%)	9(0.02)	10(0.02)	0.724
Alcohol, n (%)	346(0.72)	4079(6.49)	<.001
All-cause dementia, n (%)	8386(17.43)	9999(15.91)	<.001
AD,n (%)	2982(6.2)	2534(4.03)	<.001
VD, n (%)	1882(3.91)	2941(4.68)	<.001
Covid 19, n (%)	2039(4.24)	3147(5.01)	<.001
UCI, n (%)	1419(2.95)	2396(3.81)	<.001
IHM, n (%)	5606(11.66)	7562(12.04)	0.052
LOHS, Median (IQR)	7(7)	6(8)	0.297
Costs-€, Median (IQR)	4004.49(2404.99)	4048.67(2494.28)	<0.001

Supplementary table 3. In-hospital mortality among men and women hospitalized with type 2 diabetes. according to selected concomitant condition and to the presence of Parkinson Disease in Spain for the period 2017-2023.

	IHM Men			IHM Women		
	Without PD	With PD	p-value	Without PD	With PD	p-value
Age, mean (SD)	77.98(10.23)	81.79(7.29)	<0.001	82.9(9.42)	83.94(6.99)	<0.001
40-64 year, n (%)	21756(3.61)	155(5.93)	0.000	8188(3.01)	86(6.73)	0.000
65-74 year, n (%)	44603(5.64)	1002(8.16)	0.000	18808(4.81)	435(6.61)	0.000
75-84 year, n (%)	68697(8.37)	3400(11.4)	0.000	49290(7.82)	2155(10.09)	0.000
≥85 year, n (%)	59152(14.4)	3005(16.58)	0.000	81127(14.28)	2930(15.52)	0.000
CCI, mean (SD)	1.56(1.02)	1.24(1.01)	<0.001	1.35(0.95)	1.11(0.94)	<0.001
LOHS, n (%)	7(11)	6(9)	<0.001	6(9)	6(8)	0.011
Costs in euros, Median (IQR)	5243.9(4198.11)	5078.99(2826.76)	<0.001	4934.08(3105.22)	4875.86(2725.52)	<0.001
Hypoglycemia, n (%)	3665(14.32)	133(13.17)	0.304	3280(13.45)	115(13.59)	0.905
Depression symptoms, n (%)	4362(7.02)	370(10.34)	0.000	9261(7.08)	574(10.18)	0.000
Anxiety, n (%)	2593(5.79)	113(7.77)	0.002	6003(6.13)	272(8.65)	0.000
Personality disorders, n (%)	385(4.82)	16(4.8)	0.988	356(4.3)	22(7.43)	0.010
Apathy, n (%)	1865(16.98)	71(13.87)	0.066	1008(13.34)	32(10.56)	0.162
Sleep disorders, n (%)	2965(15.76)	101(13.48)	0.093	2015(12.81)	62(10.82)	0.160
Pain and sensory symptoms, n (%)	310(5.92)	15(10.64)	0.020	369(5.52)	15(7.11)	0.321
Essential tremor, n (%)	2630(7.82)	203(10.44)	0.000	2711(7.68)	187(9.19)	0.013
Axial symptoms, n (%)	11741(11.84)	1093(14.68)	0.000	9833(12.54)	638(13.74)	0.016
Suicide Attempt, n (%)	19(4.04)	0(0)	0.516	4(1.43)	0(0)	0.718
Alcohol, n (%)	22277(7.34)	412(10.1)	0.000	1839(7.1)	19(5.49)	0.246
Tobacco use, n (%)	67598(6.32)	1666(9.78)	0.000	8825(4.75)	143(7.87)	0.000
All-cause dementia, n (%)	19074(14.28)	1403(14.03)	0.492	24206(14.06)	1160(13.83)	0.565
Alzheimer dementia, n (%)	7862(17.17)	426(16.81)	0.644	12688(15.8)	473(15.86)	0.922
Vascular dementia, n (%)	4441(14.98)	454(15.44)	0.511	4702(15.06)	285(15.14)	0.911
Covid 19, n (%)	15776(15.26)	601(19.1)	0.000	10765(14.67)	365(17.9)	0.000

IHM: in-hospital mortality.