

Supplemental Information: Online Resource 1 – Supplemental Methods

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Outpatients prescribed with fluvoxamine around the time of COVID-19 diagnosis are not at a reduced risk of subsequent hospitalization and death compared to their non-prescribed peers: population-based matched cohort study

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1. Identification of drug prescriptions

Table S1 ATC codes used for identification of prescribed drugs (issued prescriptions)

Drug	ATC¹
Psycholeptics (antipsychotics, anxiolytics, hypnotics, sedatives)	N05
Psychoanaleptics (antidepressants, psychostimulants, nootropics, antimentia drugs)	N06
Other nervous system drugs not classified under N05/06	N07
Oral antidiabetic drugs	A10B
Insulin	A10A
Anticoagulants	B01AA, B01AB, B01AE, B01AF
RAAS inhibitors	C09
Beta blocking agents	C07
Diuretics	C03, C07B, C07C, C09DA, C09DX01, C09DX03
Systemic corticosteroids	H02
Antivirals	J05A
Antineoplastic agents	L01, L02, L03
Immunosuppressants	L04

¹ Includes all children codes

2. Identification of comorbidities

Table S2 Charlson comorbidity index codes

Charlson comorbidity components	ICD10 codes ¹
Myocardial infarction	I21, I22, I25.2
Congestive heart failure	I09.9, I11.0, I13.0, I13.2, I25.5, I42.0, I42.5, I42.6, I42.7, I42.8, I42.9, I43, I50, P29.0
Peripheral vascular disease	I70, I71, I73.1, I73.8, I73.9, I77.1, I79.0, I79.2, K55.1, K55.8, K55.9, Z95.8, Z95.9
Cerebrovascular disease	G45, G46, H34.0, I60, I61, I62, I63, I64, I65, I66, I67, I68, I69
Dementia	F00, F01, F02, F03, F05.1, G30, G31.1
Chronic pulmonary disease	I27.8, I27.9, J40, J41, J42, J43, J44, J45, J46, J47, J60, J61, J62, J63, J64, J65, J66, J67, J68.4, J70.1, J70.3
Rheumatic disease	M05, M06, M31.5, M32, M33, M34, M35.1, M35.3, M36.0
Peptic ulcer disease	K25, K26, K27, K28
Mild liver disease	B18, K70.0, K70.1, K70.2, K70.3, K70.9, K71.3, K71.4, K71.5, K71.7, K73, K74, K76.0, K76.2, K76.3, K76.4, K76.8, K76.9, Z94.4
Diabetes without chronic complications	E10.0, E10.1, E10.6, E10.8, E10.9, E11.0, E11.1, E11.6, E11.8, E11.9, E12.0, E12.1, E12.6, E12.8, E12.9, E13.0, E13.1, E13.6, E13.8, E13.9, E14.0, E14.1, E14.6, E14.8, E14.9
Diabetes with chronic complications	E10.2, E10.3, E10.4, E10.5, E10.7, E11.2, E11.3, E11.4, E11.5, E11.7, E12.2, E12.3, E12.4, E12.5, E12.7, E13.2, E13.3, E13.4, E13.5, E13.7, E14.2, E14.3, E14.4, E14.5, E14.7
Hemiplegia or paraplegia	G04.1, G11.4, G80.1, G80.2, G81, G82, G83.0, G83.1, G83.2, G83.3, G83.4, G83.9
Renal disease	I12.0, I13.1, N03.2, N03.3, N03.4, N03.5, N03.6, N03.7, N05.2, N05.3, N05.4, N05.5, N05.6, N05.7, N18, N19, N25.0, Z49.0, Z49.1, Z49.2, Z94.0, Z99.2
Malignancy	C00, C01, C02, C03, C04, C05, C06, C07, C08, C09, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C30, C31, C32, C33, C34, C37, C38, C39, C40, C41, C43, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58, C60, C61, C62, C63, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C81, C82, C83, C84, C85, C88, C90, C91, C92, C93, C94, C95, C96, C97
Moderate or severe liver disease	I85.0, I85.9, I86.4, I98.2, K70.4, K71.1, K72.1, K72.9, K76.5, K76.6, K76.7
Metastatic solid tumor	C77, C78, C79, C80
AIDS	B20, B21, B22, B24

¹ All subcodes are included when subcode is not specified

Table S3 Weights used for calculation of the Charlson comorbidity index

Charlson comorbidity components	Weights
Myocardial infarction	1
Congestive heart failure	1
Peripheral vascular disease	1
Cerebrovascular disease	1
Dementia	1
Chronic pulmonary disease	1
Rheumatic disease	1
Peptic ulcer disease	1
Mild liver disease	1
Diabetes without chronic complications	1
Diabetes with chronic complications	2
Hemiplegia or paraplegia	2
Renal disease	2
Malignancy	2
Moderate or severe liver disease	3
Metastatic solid tumor	6
AIDS	6

Table S4 Additional comorbidities (ICD-10 codes) used for matching

Covariates for matching	ICD10 codes¹
Atrial fibrillation or undulation	I48
Autoimmune diseases	D86, G35, K50, K52, K73, K74.3, K90.0, L10, L40, L93, L94, M05, M06, M07, M08, M09, M30, M32, M33, M34, M35, M36, M45, M51, N00, N01, N03, N04, N05
Cancer	C00, C01, C02, C03, C04, C05, C06, C07, C08, C09, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C30, C31, C32, C33, C34, C37, C38, C39, C40, C41, C43, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58, C60, C61, C62, C63, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C78, C79, C80, C81, C82, C83, C84, C85, C88, C90, C91, C92, C93, C94, C95, C96, C97
Congestive heart failure	I09.9, I11.0, I13.0, I13.2, I25.5, I42.0, I42.5, I42.6, I42.7, I42.8, I42.9, I43, I50, P29.0
COPD, asthma, pneumoconioses	I27.8, I27.9, J40, J41, J42, J43, J44, J45, J46, J47, J60, J61, J62, J63, J64, J65, J66, J67, J68.4, J70.1, J70.3
Ischemic or cerebrovascular disease	G45, G46, H34.0, I20, I21, I22, I23, I24, I25, I60, I61, I62, I63, I64, I65, I66, I67, I68, I69
Renal disease	N18, Z99.2
Diabetes without complications	As in Table A2
Diabetes with complications	As in Table A2
Dementia	As in Table A2
Mental and behavioral disorders due to psychoactive substance use	F10-F19
Schizophrenia, schizotypal, delusional and other non-mood psychotic disorders	F20-F29
Mood/affective disorders	F30-F39
Anxiety, dissociative, stress-related, somatoform and other nonpsychotic mood disorders	F40-F48
Disorders due to known physiological condition: amnesic, delirium, other, personality and behavior and unspecified	F04, F05, F06, F07, F09
Behavioral syndromes associated with physiological disturbances and physical factors	F50-F59
Disorders of adult personality and behavior	F60-F69
Intellectual disabilities	F70-F79
Pervasive and specific developmental disorders	F80-F89
Behavioral and emotional disorders with onset usually occurring in childhood and adolescence	F90-F98

¹ All subcodes are included when subcode is not specified.

3. Identification of immunocompromised patients

Patients were considered immunocompromised when meeting any of the following: 1) were diagnosed with HIV/AIDS (ICD10 codes: B20, B21, B22, B24); 2) within 12 months before COVID-19 diagnoses were issued (i) at least 6 prescriptions for antineoplastic drugs; or (ii) at least 9 prescriptions for immunosuppressive drugs; or (iii) at least 9 prescriptions for systemic corticosteroids; 3) received solid organ or stem cells transplants (ICD codes: Z94.0, Z94.1, Z94.2, Z94.3, Z94.4, Z94.6, Z94.8); 4) were maintained on dialysis (ICD10 codes found in primary care records or in hospital records: N18.5, Z99.2); 5) were hospitalized due to cancer (ICD10 codes for cancer used for Charlson comorbidity index in hospital records); 6) had any of the following diagnoses: D45, D46, D47. Exact codes used to detect prescriptions of antineoplastic, immunosuppressive and systemic corticosteroid drugs are displayed in Table 1.

4. Identifications of patients suffering from diabetes

Due to specific rules related to diagnosing diabetes mellitus (DM), patients were assigned diagnosis of diabetes (only) when undergoing measurement of HbA1c. We considered that a patient suffered from diabetes any of the following was met: i) at least two entries of DM diagnosis could be identified between January 1 2019 and the index COVID-19 diagnosis; or ii) one entry of DM diagnosis was identified over the designated period and at least one prescription was issued for either insulin preparations or for oral antidiabetics (for ATC codes, see Table 1).

References

Quan H, Sundararajan V, Halfon P, Fong A, Burnand B, Luthi JC et al (2005) Coding algorithms for defining comorbidities in ICD-9-M and ICD-10 administrative data. Medical Care 43:1130-1139.