

Supplementary Material

Individuals at risk for severe COVID-19 if infected with SARS-CoV-2 in whom ritonavir-containing therapies are contraindicated or may lead to interactions with concomitant medications: A retrospective analysis of German health insurance claims data

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Supplementary Material 1

Risk factors based on RKI criteria

Aged ≥ 60 years, or ≥ 18 years and at least two outpatient diagnoses in two yearly quarters or one inpatient diagnosis with a diagnosis code for one of the selected indications

ICD-10-GM [27]

Obesity E23, E24, E65, E66, E88, G11

Diabetes E10, E11, E12, E13, E14

Diseases of liver B15, B17, B18, B19, K70, K71, K72, K74, K76

Diseases of kidney I12, N18, N19, Z49

Diseases of the respiratory system J40, J41, J42, J43, J44, J45, J46, J47, J60, J61, J62, J63, J64, J65, J66, J67, J68, J69, J70, J84, J961

Cardiovascular diseases I09, I10, I11, I13, I24, I25, I27, I48, I50, I51, I67, I69, I97, P29, R03, Z13, Z82

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, C77, C78, C79, C81, C82, C83, C84, C85, C86, C88, C90, C91, C92, C93, C94, C95, C96

Down's syndrome Q90

Neurological and psychiatric diseases F00, F01, F02, F03, F10, F11, F14, F17, F20, F32, F33, F70, F71, F72, F73, F78, F99, G21, G24, G40

Compromised immune system B20, B21, B22, B23, B24, D70, D71, D72, D73, D74, D75, D76, D77, D80, D81, D82, D83, D84, D86, D89, D90, K50, K51, M05, M06, O98.7, Z09.80, Z94

OPS codes

Diabetes 8-984

Diseases of the kidney 8-85*

EBM codes

Diseases of the kidney 3610, 13611, 40823, 40824, 40828

High-risk patients with a compromised immune system fall into classes K1+K2, K1+K3 or K2+K4

ICD-10-GM codes for K1

Immunodeficiency with predominant antibody deficiency D80

Combined immunodeficiencies D81

Immunodeficiency in combination with other severe defects D82

Common Variable Immunodeficiency D83

Other immunodeficiencies D84

Sarcoidosis D86

Other disorders involving the immune system, not elsewhere classified D89

Immune compromise after radiation, chemotherapy and other immunosuppressive measures
D90

Functional disorders of the neutrophil granulocytes D71

Autoimmune disease (systemic) M359

HIV disease B20, B21, B22, B23, B24

Chronic lymphocytic leukaemia C91.1

Plasmocytoma (multiple myeloma) C90.0

Malignant lymphoma C81, C82, C83, C84, C85

Certain early complications of trauma T79

Chronic inflammatory bowel diseases K50, K51, K52

Sickle cell anaemia D57

Mental and behavioural disorders caused by alcohol F10

Degeneration of the nervous system due to alcohol G31.2

Toxic effect of alcohol T51

Alcohol-induced chronic pancreatitis K86.0

Alcohol gastritis K29.2

Alcohol polyneuropathy G62.1

Alcohol myopathy G72.1

Alcohol-induced pseudo-Cushing's syndrome E24.4

Rehabilitation measures for alcoholism Z50.2

Diabetes mellitus associated with malnutrition E12

Malnutrition, E40, E41, E42, E43, E44, E45, E46

Cachexia R64

ATC codes for K2

Antineoplastic agents L01

Immunostimulants L03

Immunosuppressants L04

Glucocorticoid (immunosuppressants) H02AB

EBM and OPS (procedures leading to immunodeficiency) codes for K3

EBM

Soft jet or orthovolt therapy 25310

High-voltage therapy 2532*

Brachytherapy 2533*

OPS

Radiotherapy 8-52

Nuclear medicine therapy 8-53

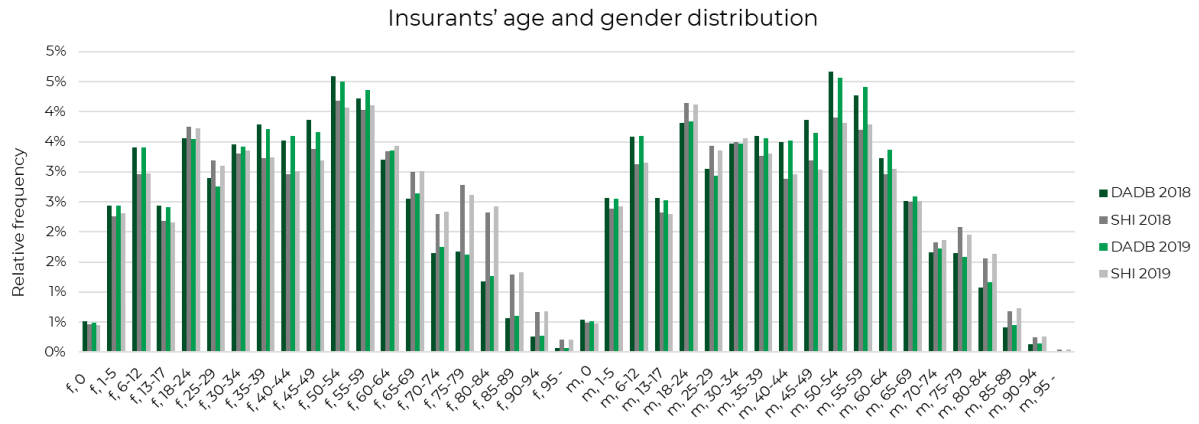
Cytostatic chemotherapy, immunotherapy and antiretroviral therapy 8-54

OPS (procedures associated with immunodeficiency) code for K4

Splenectomy (removal of the spleen) 5-413

Supplementary Material 2

Age and sex distribution of individuals in the DADB and the statutory health insurance (SHI) population for 2018 and 2019. Data for females and males are shown on the left and right of the figure, respectively.



Supplementary Material 3

ATC codes for ritonavir-CYP3A4-mediated drugs and assignment into categories

ATC	Active substance (ABDA DB)	Active substance	Nirmatrelvir/ritonavir SmPC – "Contraindication"	Nirmatrelvir/ritonavir SmPC – "Physician´s decision"	List published by Mikus et al. – "Contraindication"	List published by Mikus et al. – "Physician´s decision"
L01XE50	Abemaciclib	Abemaciclib	0	1	1	0
L01XE13	Afatinib	Afatinib	0	1	0	0
N01AH02	Alfentanil	Alfentanil	0	0	0	1
G04CA01	Alfuzosin	Alfuzosin	1	0	1	0
N05BA12	Alprazolam	Alprazolam	0	1	0	1
C01BD01	Amiodarone	Amiodaron	1	0	0	1
N06AA09	Amitriptyline	Amitriptylin	0	1	0	1
C07FB07	Bisoprolol and amlodipine	Amlodipin	0	1	0	0
C08CA01	Amlodipine	Amlodipin	0	1	0	0
C09BB04	Perindopril and amlodipine	Amlodipin	0	1	0	0
C09BB07	Ramipril and amlodipine	Amlodipin	0	1	0	0
C09BX01	Perindopril, amlodipine and indapamide	Amlodipin	0	1	0	0
C09BX03	Ramipril, amlodipine and hydrochlorothiazide	Amlodipin	0	1	0	0
C09DB01	Valsartan and amlodipine	Amlodipin	0	1	0	0
C09DB02	Olmесartan medoxomil and amlodipine	Amlodipin	0	1	0	0
C09DB04	Telmisartan and amlodipine	Amlodipin	0	1	0	0
C09DB06	Losartan and amlodipine	Amlodipin	0	1	0	0
C09DB07	Candesartan and amlodipine	Amlodipin	0	1	0	0
C09DX01	Valsartan, amlodipine and hydrochlorothiazide	Amlodipin	0	1	0	0
C09DX03	Olmесartan medoxomil, amlodipine and hydrochlorothiazide	Amlodipin	0	1	0	0
C09XA53	Aliskiren and amlodipine	Amlodipin	0	1	0	0
C10BX09	rosuvastatin and amlodipine	Amlodipin	0	1	0	0
C10BX11	atorvastatin, amlodipine and perindopril	Amlodipin	0	1	0	0

N06BA02	Dexamfetamine	Amphetamin	0	1	0	1
N06BA12	Lisdexamfetamine	Amphetamin	0	1	0	1
J05AE05	Amprenavir	Amprenavir	0	0	0	0
L02BB05	Apalutamide	Apalutamid	0	1	1	0
B01AF02	Apixaban	Apixaban	0	0	1	0
J05AE08	Atazanavir	Atazanavir	0	0	0	1
C10AA05	Atorvastatin	Atorvastatin	0	1	0	1
C10BA05	Atorvastatin and ezetimibe	Atorvastatin	0	1	0	1
C10BX06	atorvastatin, acetylsalicylic acid and ramipril	Atorvastatin	0	1	0	1
C10BX11	atorvastatin, amlodipine and perindopril	Atorvastatin	0	1	0	1
P01AX06	Atovaquone	Atovaquon	0	1	0	0
G04BE10	avanafil	Avanafil	1	0	0	1
J04AK05	Bedaquiline	Bedaquilin	0	1	0	0
C02KX01	Bosentan	Bosentan	0	1	1	0
R01AD05	Budesonide	Budesonid	0	1	0	1
R03AK07	Formoterol and budesonide	Budesonid	0	1	0	1
R03BA02	Budesonide	Budesonid	0	1	0	1
N02AE01	Buprenorphine	Buprenorphin	0	1	0	0
N07BC01	Buprenorphine	Buprenorphin	0	1	0	0
N07BC51	Buprenorphine, combinations	Buprenorphin	0	1	0	0
A08AA62	bupropion and naltrexone	Bupropion	0	1	0	0
N06AX12	Bupropion	Bupropion	0	1	0	0
N05BE01	Buspirone	Buspiron	0	1	0	1
G02CB03	Cabergoline	Cabergolin	0	0	0	1
N04BC06	Cabergoline	Cabergolin	0	0	0	1
N03AF01	Carbamazepine	Carbamazepin	1	0	1	0
L01XE28	ceritinib	Ceritinib	0	1	1	0
C01BA01	Quinidine	Chinidin	1	0	1	0
L04AA01	Ciclosporin	Ciclosporin	0	1	1	0
L04AD01	Ciclosporin	Ciclosporin	0	1	1	0
B01AC23	Cilostazol	Cilostazol	0	0	0	1
A02BD04	Pantoprazole, amoxicillin and clarithromycin	Clarithromycin	0	1	0	0

A02BD05	Omeprazole, amoxicillin and clarithromycin	Clarithromycin	0	1	0	0
J01FA09	Clarithromycin	Clarithromycin	0	1	0	0
N03AE01	Clonazepam	Clonazepam	0	0	1	0
B01AC04	Clopidogrel	Clopidogrel	0	0	1	0
N05BA05	Potassium clorazepate	Clorazepat	1	0	1	0
N05AH02	Clozapine	Clozapin	1	0	1	0
M04AC01	Colchicine	Colchicin	1	0	1	0
B01AE07	Dabigatran etexilate	Dabigatran	0	0	1	0
G04BX14	Dapoxetine	Dapoxetin	0	0	1	0
J05AE10	Darunavir	Darunavir	0	0	0	1
J05AR22	Emtricitabine, tenofovir alafenamide, darunavir and cobicistat	Darunavir	0	0	0	1
L01XE06	Dasatinib	Dasatinib	0	1	1	0
J04AK06	Delamanid	Delamanid	0	1	1	0
N06AA01	Desipramine	Desipramin	0	1	0	0
H02AB02	Dexamethasone	Dexamethason	0	1	0	0
R01AD03	Dexamethasone	Dexamethason	0	1	0	0
R01AD53	Dexamethasone, combinations	Dexamethason	0	1	0	0
N05BA01	Diazepam	Diazepam	1	0	1	0
C01AA05	Digoxin	Digoxin	0	1	0	0
N02CA01	Dihydroergotamine	Dihydroergotamin	1	0	0	0
C08DB01	Diltiazem	Diltiazem	0	1	0	0
C01BD07	Dronedaron	Dronedaron	1	0	1	0
B01AF03	Edoxaban	Edoxaban	0	0	1	0
J05AG03	Efavirenz	Efavirenz	0	1	0	1
J05AR06	Emtricitabine, Tenofovir disoproxil and Efavirenz	Efavirenz	0	1	0	1
N02CC06	Eletriptan	Eletriptan	0	0	0	1
R07AX	Other respiratory system products	Elexacaftor	0	0	1	0
A16AX10	Eliglustat	Eliglustat	0	0	1	0
L01XE46	Encorafenib	Encorafenib	0	1	1	0
C03DA04	Eplerenone	Eplerenon	0	0	1	0
N02CA02	Ergotamine	Ergotamin	1	0	1	0

N02CA52	Ergotamine, combinations excl. psycholeptics	Ergotamin	1	0	1	0
J01FA01	Erythromycin	Erythromycin	0	1	1	0
G03AA03	Lynestrenol and ethinylestradiol	Ethinylestradiol	0	1	0	0
G03AA05	Norethisterone and ethinylestradiol	Ethinylestradiol	0	1	0	0
G03AA07	Levonorgestrel and ethinylestradiol	Ethinylestradiol	0	1	0	0
G03AA09	Desogestrel and ethinylestradiol	Ethinylestradiol	0	1	0	0
G03AA10	Gestodene and ethinylestradiol	Ethinylestradiol	0	1	0	0
G03AA11	Norgestimate and ethinylestradiol	Ethinylestradiol	0	1	0	0
G03AA12	Drospirenone and ethinylestradiol	Ethinylestradiol	0	1	0	0
G03AA13	Norelgestromin and ethinylestradiol	Ethinylestradiol	0	1	0	0
G03AA15	Chlormadinone and ethinylestradiol	Ethinylestradiol	0	1	0	0
G03AA16	Dienogest and ethinylestradiol	Ethinylestradiol	0	1	0	0
G03AB03	Levonorgestrel and ethinylestradiol	Ethinylestradiol	0	1	0	0
G03AB04	Norethisterone and ethinylestradiol	Ethinylestradiol	0	1	0	0
G03AB05	Desogestrel and ethinylestradiol	Ethinylestradiol	0	1	0	0
G03AB07	Chlormadinone and ethinylestradiol	Ethinylestradiol	0	1	0	0
G03CA01	Ethinylestradiol	Ethinylestradiol	0	1	0	0
L01XE10	Everolimus	Everolimus	0	1	1	0
L04AA18	Everolimus	Everolimus	0	1	1	0
C07FB02	Metoprolol and felodipine	Felodipin	0	0	0	1
C08CA02	Felodipine	Felodipin	0	0	0	1
C09BB05	Ramipril and felodipine	Felodipin	0	0	0	1
N01AH01	Fentanyl	Fentanyl	0	1	0	0
N02AB03	Fentanyl	Fentanyl	0	1	0	0
G04BD11	Fesoterodine	Fesoterodin	0	0	0	1
R06AX26	Fexofenadine	Fexofenadin	0	1	0	0
C01BC04	Flecainide	Flecainid	1	0	1	0
N06AB03	Fluoxetine	Fluoxetin	0	1	0	0
N05CD01	Flurazepam	Flurazepam	1	0	1	0
R01AD08	Fluticasone	Fluticason	0	1	0	1
R01AD12	Fluticasone furoate	Fluticason	0	1	0	1
R01AD58	Fluticasone, combinations	Fluticason	0	1	0	1
R03AK06	Salmeterol and fluticasone	Fluticason	0	1	0	1
R03AK10	Vilanterol and fluticasone furoate	Fluticason	0	1	0	1

R03AK11	Formoterol and fluticasone	Fluticason	0	1	0	1
R03AL08	Vilanterol, umeclidinium bromide and fluticasone furoate	Fluticason	0	1	0	1
R03BA05	Fluticasone	Fluticason	0	1	0	1
C10AA04	Fluvastatin	Fluvastatin	0	1	0	0
J05AE07	Fosamprenavir	Fosamprenavir	0	0	0	1
B02BX09	Fostamatinib	Fostamatinib	0	1	1	0
J05AP57	Glecaprevir and pibrentasvir	Glecaprevir/Pibrentasvir	0	1	1	0
N05AD01	Haloperidol	Haloperidol	0	1	0	0
L01XE27	ibrutinib	Ibrutinib	0	1	1	0
N06AA02	Imipramine	Imipramin	0	1	0	0
J05AE02	Indinavir	Indinavir	0	0	0	1
J02AC02	Itraconazole	Itraconazol	0	1	1	0
C01EB17	Ivabradine	Ivabradin	0	0	1	0
C07FX05	Metoprolol and ivabradine	Ivabradin	0	0	1	0
R07AX	Other respiratory system products	Ivacaftor	0	0	1	0
R07AX02	Ivacaftor	Ivacaftor	0	0	1	0
R07AX30	ivacaftor and lumacaftor	Ivacaftor	0	0	1	0
R07AX31	Ivacaftor and tezacaftor	Ivacaftor	0	0	1	0
N06AX25	Hyperici herba	Johanniskraut	1	0	1	0
J02AB02	Ketoconazole	Ketoconazol	0	1	1	0
N03AX09	Lamotrigine	Lamotrigin	0	1	1	0
C08CA13	Lercanidipine	Lercanidipin	0	0	1	0
C09BB02	Enalapril and lercanidipine	Lercanidipin	0	0	1	0
H03AA01	Levothyroxine sodium	Levothyroxin	0	1	0	0
H03AA03	Combinations of levothyroxine and liothyronine	Levothyroxin	0	1	0	0
C10AX12	Lomitapide	Lomitapid	1	0	0	0
R06AX13	Loratadine	Loratadin	0	1	0	0
C10AA02	Lovastatin	Lovastatin	1	0	1	0
N05AE05	Lurasidone	Lurasidon	1	0	0	0
C02KX04	Macitentan	Macitentan	0	0	1	0
J05AX09	Maraviroc	Maraviroc	0	1	0	1
A10BA02	Metformin	Metformin	0	0	0	1
A10BD02	metformin and sulfonyleureas	Metformin	0	0	0	1

A10BD03	Metformin and rosiglitazone	Metformin	0	0	0	1
A10BD05	Metformin and pioglitazone	Metformin	0	0	0	1
A10BD07	Metformin and sitagliptin	Metformin	0	0	0	1
A10BD08	Metformin and vildagliptin	Metformin	0	0	0	1
A10BD10	Metformin and saxagliptin	Metformin	0	0	0	1
A10BD15	Metformin and dapagliflozin	Metformin	0	0	0	1
A10BD16	metformin and canagliflozin	Metformin	0	0	0	1
A10BD20	Metformin and empagliflozin	Metformin	0	0	0	1
N07BC02	Methadone	Methadon	0	1	0	0
G02AB01	Methylergometrine	Methylergometrin	1	0	1	0
H02AB04	Methylprednisolone	Methylprednisolon	0	0	0	1
C01BB02	Mexiletine	Mexiletin	0	0	1	0
N05CD08	Midazolam	Midazolam Oral	1	0	1	0
N05CD08	Midazolam	Midazolam Parenteral	0	1	0	0
N02AA01	Morphine	Morphin	0	1	0	0
A06AH03	Naloxegol	Naloxegol	0	0	1	0
L01XE45	Neratinib	Neratinib	1	0	1	0
C07FB03	Atenolol and nifedipine	Nifedipin	0	1	0	1
C08CA05	Nifedipine	Nifedipin	0	1	0	1
C08GA01	Nifedipine and diuretics	Nifedipin	0	1	0	1
L01XE08	Nilotinib	Nilotinib	0	1	1	0
N06AA10	Nortriptyline	Nortriptylin	0	1	0	0
N02AA05	Oxycodone	Oxycodon	0	0	1	0
N02AA55	Oxycodone and naloxone	Oxycodon	0	0	1	0
N06AB05	Paroxetine	Paroxetin	0	1	0	0
N02AB02	Pethidine	Pethidin	1	0	1	0
N03AA02	Phenobarbital	Phenobarbital	1	0	1	0
B01AA04	Phenprocoumon	Phenprocoumon	0	0	1	0
N03AB02	Phenytoin	Phenytoin	1	0	1	0
N05AG02	Pimozide	Pimozid	1	0	1	0
M01AC01	Piroxicam	Piroxicam	0	1	0	1
M02AA07	Piroxicam	Piroxicam	0	1	0	1
C10AA03	Pravastatin	Pravastatin	0	1	0	0
C10BA03	Pravastatin and fenofibrate	Pravastatin	0	1	0	0
C05AA04	Prednisolone	Prednisolon	0	1	0	0

H02AB06	Prednisolone	Prednisolon	0	1	0	0
R01AD52	Prednisolone, combinations	Prednisolon	0	1	0	0
C01BC03	Propafenone	Propafenon	1	0	1	0
N05AH04	Quetiapine	Quetiapin	1	0	1	0
J05AX08	Raltegravir	Raltegravir	0	1	0	1
C01EB18	Ranolazine	Ranolazin	1	0	1	0
J04AB04	Rifabutin	Rifabutin	0	1	1	0
J04AB02	Rifampicin	Rifampicin	1	0	1	0
J04AM02	Rifampicin and isoniazid	Rifampicin	1	0	1	0
J04AM05	Rifampicin, pyrazinamide and isoniazid	Rifampicin	1	0	1	0
C02KX05	riociguat	Riociguat	0	1	1	0
N05AX08	Risperidone	Risperidon	0	1	1	0
B01AF01	Rivaroxaban	Rivaroxaban	0	1	1	0
C10AA07	Rosuvastatin	Rosuvastatin	0	1	0	1
C10BA06	Rosuvastatin and ezetimibe	Rosuvastatin	0	1	0	1
C10BX09	rosuvastatin and amlodipine	Rosuvastatin	0	1	0	1
R03AC12	Salmeterol	Salmeterol	0	1	1	0
R03AK06	Salmeterol and fluticasone	Salmeterol	0	1	1	0
J05AE01	Saquinavir	Saquinavir	0	0	0	1
N05AE03	Sertindole	Sertindol	0	0	1	0
N06AB06	Sertraline	Sertralin	0	1	0	0
G04BE03	Sildenafil	Sildenafil	1	0	1	0
G04CA04	Silodosin	Silodosin	0	0	1	0
C10AA01	Simvastatin	Simvastatin	1	0	1	0
C10BA02	Simvastatin and ezetimibe	Simvastatin	1	0	1	0
L04AA42	Siponimod	Siponimod	0	0	1	0
L04AA10	Sirolimus	Sirolimus	0	0	1	0
G04BD08	Solifenacin	Solifenacin	0	0	1	0
J01EE01	Sulfamethoxazole and trimethoprim	Sulfamethoxazol/Trimethoprim	0	1	0	0
L04AD02	Tacrolimus	Tacrolimus	0	1	1	0
G04BE08	Tadalafil	Tadalafil	0	1	1	0
G04CA02	Tamsulosin	Tamsulosin	0	0	1	0
G04CA52	Tamsulosin and dutasteride	Tamsulosin	0	0	1	0
R06AX12	Terfenadine	Terfenadin	1	0	0	0
R07AX	Other respiratory system products	Tezacaftor	0	0	1	0

R07AX31	Ivacaftor and tezacaftor	Tezacaftor	0	0	1	0
R03DA04	Theophylline	Theophyllin	0	1	0	0
R03DA54	Theophylline, combinations excl. psycholeptics	Theophyllin	0	1	0	0
N05AC02	Thioridazine	Thioridazin	0	1	0	0
B01AC24	Ticagrelor	Ticagrelor	0	0	1	0
J05AE09	Tipranavir	Tipranavir	0	0	0	1
G04BD07	Tolterodine	Tolterodin	0	0	1	0
N02AJ13	Tramadol and paracetamol	Tramadol	0	0	1	0
N02AX02	Tramadol	Tramadol	0	0	1	0
N02AX52	Tramadol	Tramadol	0	0	1	0
N06AX05	Trazodone	Trazodon	0	0	0	1
A01AC01	Triamcinolone	Triamcinolon	0	1	1	0
H02AB08	Triamcinolone	Triamcinolon	0	1	1	0
R01AD11	Triamcinolone	Triamcinolon	0	1	1	0
N05CD05	Triazolam	Triazolam	1	0	1	0
G04BE09	Vardenafil	Vardenafil	1	0	0	1
L01XX52	Venetoclax	Venetoclax	1	0	1	0
L01CA01	Vinblastine	Vinblastin	0	1	1	0
L01CA02	Vincristine	Vincristin	0	1	1	0
J02AC03	Voriconazole	Voriconazol	0	1	1	0
B01AA03	Warfarin	Warfarin	0	1	0	0
J05AF01	Zidovudine	Zidovudin	0	1	0	0
J05AR01	Zidovudine and lamivudine	Zidovudin	0	1	0	0
J05AR04	Zidovudine, lamivudine and abacavir	Zidovudin	0	1	0	0
N05CF02	Zolpidem	Zolpidem	0	1	0	0
	Not included in DADB as no longer available.	Astemizol	1	0	0	0
	Not included in DADB as no longer available.	Bepriidil	1	0	0	0
	Not included in DADB as no longer available.	Cisaprid	1	0	0	0
	Not included in DADB as no longer available.	Divalproex	0	1	0	0
	Not included in DADB as no longer available.	Encainid	1	0	0	0

S01AA13	Not included in DADB as no longer available.	Ergometrin	1	0	0	0
	Not included in database.	Estazolam	1	0	0	0
	Approval 2021.	Eszopiclon	0	0	1	0
	Ophthalmic drugs.	Fusidinsäure	1	0	0	0
	(So far) no independent active substance.	Norbuprenorphin	0	1	0	0
	Not included in DADB as no longer available.	Propoxyphen	1	0	0	0
	Not included in DADB as no longer available.	Voraxapar	0	1	0	0

* For medicinal products containing elexacaftor, PZN 16387662 is used for evaluation.

** For midazolam, an additional distinction is made between oral and parenteral use with the help of the PZN.

PZN	Name	ATC	Active substance	Dosage form	Form
65850	MIDAZOLAM ACC 5MG/5ML	N05CD08	Midazolam	Injection/infusion solution	parenteral
65896	MIDAZOLAM ACC 5MG/1ML	N05CD08	Midazolam	Injection/infusion solution	parenteral
68245	MIDAZOLAM ACC 15MG/3ML	N05CD08	Midazolam	Injection/infusion solution	parenteral
69144	MIDAZOLAM ACC 50MG/10ML	N05CD08	Midazolam	Injection/infusion solution	parenteral
258454	DORMICUM 50MG/10ML	N05CD08	Midazolam	Injection solution	parenteral
261953	MIDAZOLAM RATIOPH 5MG/1ML	N05CD08	Midazolam	Ampoules	parenteral
261982	MIDAZOLAM RATIOPH 5MG/5ML	N05CD08	Midazolam	Ampoules	parenteral
261999	MIDAZOLAM RATIO 15MG/3ML	N05CD08	Midazolam	Ampoules	parenteral
325044	MIDAZOLAM DELTASE 2MG/25ML	N05CD08	Midazolam	Ampoules	parenteral
325050	MIDAZOLAM 2MG/25ML DELTASE	N05CD08	Midazolam	Ampoules	parenteral
561690	MIDAZOLAM DELTASEL 2MG/ML	N05CD08	Midazolam	Injection solution	parenteral
561939	DORMICUM 7.5MG FILMTABL	N05CD08	Midazolam	Film-coated tablets	oral
787810	MIDAZOLAM RAT50MG/50ML INJ	N05CD08	Midazolam	Vials	parenteral
787827	MIDAZOLAM RA100MG/50ML INJ	N05CD08	Midazolam	Vials	parenteral
806393	MIDAZOLAM DELTASE 5MG/5ML	N05CD08	Midazolam	Ampoules	parenteral
806401	MIDAZOLAM DELTASEL 5MG/5ML	N05CD08	Midazolam	Ampoules	parenteral
806418	MIDAZOLAM 5MG/1ML DELTASEL	N05CD08	Midazolam	Ampoules	parenteral

806424	MIDAZOLAM 5MG/1ML DELTASEL	N05CD08	Midazolam	Ampoules	parenteral
806430	MIDAZOLAM 15MG/3ML CURAMED	N05CD08	Midazolam	Ampoules	parenteral
806482	MIDAZOLAM 15MG/3ML DELTASE	N05CD08	Midazolam	Ampoules	parenteral
806499	MIDAZOLAM DELTAS 50MG/10ML	N05CD08	Midazolam	Ampoules	parenteral
806513	MIDAZOLAM 90MG/18ML CURAME	N05CD08	Midazolam	Ampoules	parenteral
828064	MIDAZOLAM ROTEXMED 1MG/ML	N05CD08	Midazolam	Injection solution	parenteral
828070	MIDAZOLAM ROTEXMED 5MG/ML	N05CD08	Midazolam	Injection solution	parenteral
828093	MIDAZOLAM ROTEXMED 5MG/ML	N05CD08	Midazolam	Injection solution	parenteral
828118	MIDAZOLAM ROTEXMED 5MG/ML	N05CD08	Midazolam	Injection solution	parenteral
886423	MIDAZOLAM HEXAL 15MG/3ML	N05CD08	Midazolam	Injection solution	parenteral
886452	MIDAZOLAM HEXAL 5MG/1ML	N05CD08	Midazolam	Injection solution	parenteral
955199	MIDAZOLAM RATIO 5MG/5ML	N05CD08	Midazolam	Ampoules	parenteral
988508	MIDAZOLAM RATIOPH 5MG/1ML	N05CD08	Midazolam	Ampoules	parenteral
988514	MIDAZOLAM RATIOPH 15MG/3ML	N05CD08	Midazolam	Ampoules	parenteral
1045022	MIDAZOLAM 5MG/1ML B BR GL	N05CD08	Midazolam	Injection/infusion solution	parenteral
1045039	MIDAZOLAM 1MG/1ML B BRAUN	N05CD08	Midazolam	Injection/infusion solution	parenteral
1673043	MIDAZOLAM 5MG/5ML B BRAUN	N05CD08	Midazolam	Injection solution	parenteral
1673095	MIDAZOLAM 50MG/10ML B BRAU	N05CD08	Midazolam	Injection/infusion solution	parenteral
1846466	MIDAZOLAM RATIO 90MG/18ML	N05CD08	Midazolam	Injection/infusion solution	parenteral
2666683	MIDAZOLAM 5MG/1ML B BRAUN	N05CD08	Midazolam	Ampoules	parenteral
2666714	MIDAZOLAM 15MG/3ML B BRAUN	N05CD08	Midazolam	Ampoules	parenteral
2734924	MIDAZOLAM RATIOPH50MG/10ML	N05CD08	Midazolam	Vials	parenteral
2922608	MIDAZOLAM RATIO 90MG/18ML	N05CD08	Midazolam	Ampoules	parenteral
3085793	DORMICUM 5	N05CD08	Midazolam	Injection solution	parenteral
3085801	DORMICUM 5	N05CD08	Midazolam	Injection solution	parenteral
3096124	DORMICUM 15	N05CD08	Midazolam	Injection solution	parenteral
3757560	DORMICUM 7.5	N05CD08	Midazolam	Lacquer tablets	oral
3760906	MIDAZOLAM-HAMELN 5MG/ML	N05CD08	Midazolam	Ampoules	parenteral
3761082	MIDAZOLAM-HAMELN 5MG/ML	N05CD08	Midazolam	Ampoules	parenteral
3831807	MIDAZOLAM ACTAV 1MG/ML GLA	N05CD08	Midazolam	Injection/infusion solution	parenteral

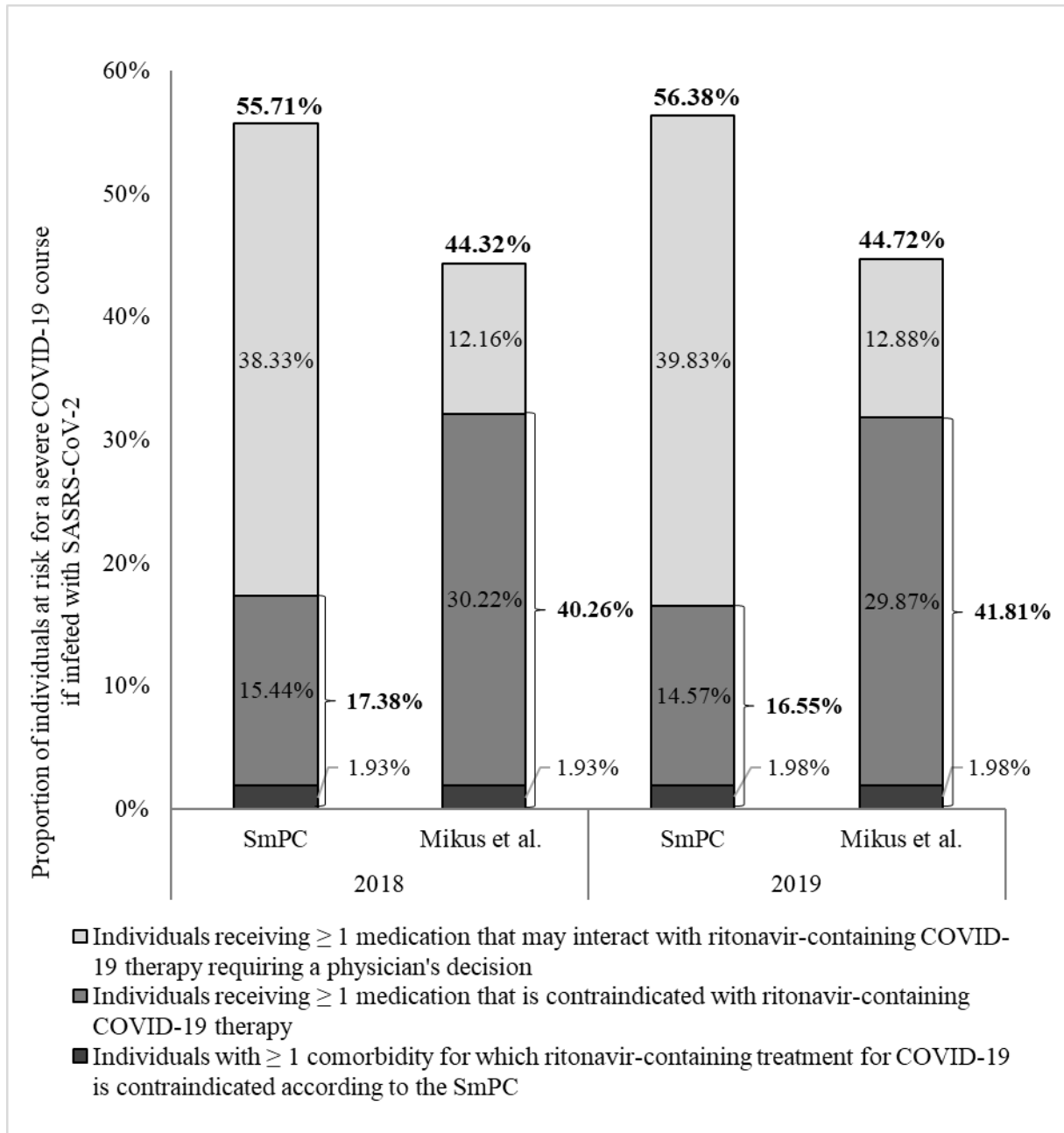
3832801	MIDAZOLAM ACTAV 2MG/ML GLA	N05CD08	Midazolam	Injection/infusion solution	parenteral
3833427	MIDAZOLAM ACTAV 2MG/ML DFL	N05CD08	Midazolam	Injection/infusion solution	parenteral
3833522	MIDAZOLAM ACTAV 2MG/ML GLA	N05CD08	Midazolam	Injection/infusion solution	parenteral
3836147	MIDAZOLAM ACTAV 5MG/ML GLA	N05CD08	Midazolam	Injection/infusion solution	parenteral
3836816	MIDAZOLAM ACTAV 5MG/ML GLA	N05CD08	Midazolam	Injection/infusion solution	parenteral
3836897	MIDAZOLAM ACTAV 5MG/ML GLA	N05CD08	Midazolam	Injection/infusion solution	parenteral
3837081	MIDAZOLAM ACTAV 5MG/ML GLA	N05CD08	Midazolam	Injection/infusion solution	parenteral
3837810	MIDAZOLAM ACTAV 5MG/ML GLA	N05CD08	Midazolam	Injection/infusion solution	parenteral
4439342	DORMICUM V5	N05CD08	Midazolam	Injection solution	parenteral
4465322	MIDAZOLAM-HAMELN 2MG/ML	N05CD08	Midazolam	Ampoules	parenteral
4467367	MIDAZOLAM-HAMELN 2MG/ML	N05CD08	Midazolam	Vials	parenteral
4921530	MIDAZOLAM RATIO 15MG/3ML	N05CD08	Midazolam	Ampoules	parenteral
4921748	MIDAZOLAM RATIO 15MG/3ML	N05CD08	Midazolam	Ampoules	parenteral
4921754	MIDAZOLAM RATIO 5MG/1ML	N05CD08	Midazolam	Ampoules	parenteral
4921760	MIDAZOLAM RATIO 5MG/1ML	N05CD08	Midazolam	Ampoules	parenteral
4921777	MIDAZOLAM RATIO 5MG/5ML	N05CD08	Midazolam	Ampoules	parenteral
4921783	MIDAZOLAM RATIO 5MG/5ML	N05CD08	Midazolam	Ampoules	parenteral
5104833	MIDAZOLAM RATIO 2MG/ML	N05CD08	Midazolam	Oral solution	oral
5104856	MIDAZOLAM RATIO 2MG/ML	N05CD08	Midazolam	Oral solution	oral
5568254	MIDAZOLAM HEXAL 5MG/5ML	N05CD08	Midazolam	Injection solution	parenteral
5918501	MIDAZOLAM-HAMELN 1MG/ML	N05CD08	Midazolam	Ampoules	parenteral
5918518	MIDAZOLAM-HAMELN 5MG/ML	N05CD08	Midazolam	Ampoules	parenteral
5918524	MIDAZOLAM-HAMELN 5MG/ML	N05CD08	Midazolam	Ampoules	parenteral
6892620	MIDAZOLAM DELTASELE 5MG/ML	N05CD08	Midazolam	Injection solution	parenteral
7028651	MIDAZOLAM 5MG/1ML B BR GL	N05CD08	Midazolam	Injection/infusion solution	parenteral
7257073	MIDAZOLAM ACTAVIS 5MG/ML	N05CD08	Midazolam	Injection solution	parenteral
7257216	MIDAZOLAM ACTAVIS 5MG/ML	N05CD08	Midazolam	Injection solution	parenteral
7257222	MIDAZOLAM ACTAVIS 1MG/ML	N05CD08	Midazolam	Injection solution	parenteral

7257245	MIDAZOLAM 2MG/ML ILO	N05CD08	Midazolam	Injection solution	parenteral
7257251	MIDAZOLAM ACTAVIS 2MG/ML	N05CD08	Midazolam	Injection solution	parenteral
7257363	MIDAZOLAM AVTAV 2MG/ML50MG	N05CD08	Midazolam	Injection solution	parenteral
7257386	MIDAZOLAM ACTAVIS 5MG/ML	N05CD08	Midazolam	Injection solution	parenteral
7257392	MIDAZOLAM ACTAV 5MG/ML15MG	N05CD08	Midazolam	Injection solution	parenteral
7257400	MIDAZOLAM 5MG/ML	N05CD08	Midazolam	Injection solution	parenteral
9247110	BUCCOLAM 2.5MG	N05CD08	Midazolam	Ready-to-fill syringes	parenteral
9247127	BUCCOLAM 5MG	N05CD08	Midazolam	Ready-to-fill syringes	parenteral
9247133	BUCCOLAM 7.5MG	N05CD08	Midazolam	Ready-to-fill syringes	parenteral
9247156	BUCCOLAM 10MG	N05CD08	Midazolam	Ready-to-fill syringes	parenteral
9312422	MIDAZOLAM 1MG/1ML B. BRAUN	N05CD08	Midazolam	Injection/infusion solution	parenteral
9312439	MIDAZOLAM 50MG/10ML MPC	N05CD08	Midazolam	Injection/infusion solution	parenteral
9941537	MIDAZOLAM B.BRAUN 1MG/ML	N05CD08	Midazolam	Infusion solution	parenteral
9941572	MIDAZOLAM B.BRAUN 1MG/ML	N05CD08	Midazolam	Infusion solution	parenteral
10168781	MIDAZOLAM-HAMELN 1MG/ML	N05CD08	Midazolam	Injection/infusion solution	parenteral
11024506	MIDAZOLAM RATIO2MG/ML ORAL	N05CD08	Midazolam	Oral solution	oral
11024794	MIDAZOLAM RATIO2MG/ML ORAL	N05CD08	Midazolam	Oral solution	oral
11356390	MIDAZOLAM PUREN 1MG/ML 5MG	N05CD08	Midazolam	Injection/infusion solution	parenteral
11356409	MIDAZOLAM PUREN 2MG/ML50MG	N05CD08	Midazolam	Injection/infusion solution	parenteral
11356415	MIDAZOLAM PUREN 2MG/ML50MG	N05CD08	Midazolam	Injection/infusion solution	parenteral
11356421	MIDAZOLAM PUREN2MG/ML100MG	N05CD08	Midazolam	Injection/infusion solution	parenteral
11356438	MIDAZOLAM PUREN 5MG/ML 5MG	N05CD08	Midazolam	Injection/infusion solution	parenteral
11356444	MIDAZOLAM PUREN 5MG/ML 50	N05CD08	Midazolam	Injection/infusion solution	parenteral
11356450	MIDAZOLAM PUREN 5MG/ML 90	N05CD08	Midazolam	Injection/infusion solution	parenteral
14330818	DESIJECT 5MG/ML ILO IN FER	N05CD08	Midazolam	Injection solution	parenteral
15568597	MIDAZOLAM ETHYP KALC5MG/ML	N05CD08	Midazolam	Injection/infusion solution	parenteral

15568605	MIDAZOLAM ETHYP KALC5MG/ML	N05CD08	Midazolam	Injection/infusion solution	parenteral
15735842	MIDAZOLAM SUN 1MG/ML	N05CD08	Midazolam	Injection/infusion solution	parenteral
15735859	MIDAZOLAM SUN 2MG/ML	N05CD08	Midazolam	Injection/infusion solution	parenteral
16169824	MIDAZOLAM ETHY KALC5MG/ML	N05CD08	Midazolam	Injection/infusion solution	parenteral
16200238	MIDAZOLAM PANPHARMA 1MG/ML	N05CD08	Midazolam	Injection solution	parenteral
16200244	MIDAZOLAM PANPHARMA 5MG/ML	N05CD08	Midazolam	Injection solution	parenteral
16200250	MIDAZOLAM PANPHARMA 5MG/ML	N05CD08	Midazolam	Injection solution	parenteral
16200267	MIDAZOLAM PANPHARMA 5MG/ML	N05CD08	Midazolam	Injection solution	parenteral
16679034	MIDAZOLAM HAMELN 5MG/ML	N05CD08	Midazolam	Injection/infusion solution	parenteral
16820515	MIDAZOLAM ETHY KALC5MG/ML	N05CD08	Midazolam	Injection/infusion solution	parenteral

Supplementary Material 4

Proportion of individuals at risk for severe COVID-19 if infected with SARS-CoV-2 in 2018 and 2019 who have contraindications for ritonavir-containing treatment due to preexisting comorbidities and/or comedications, or who may develop ritonavir-CYP3A4-mediated pDDIs which require a physician's decision



References: Nirmatrelvir/ritonavir SmPC [25]; Mikus et al. [26]