

**Title:** Long-term risk of post-acute sequelae among adults following SARS-CoV-2 or influenza virus infection: a retrospective cohort study in a large, integrated healthcare system

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**Key points:**

- Non-severe acute respiratory illnesses involving SARS-CoV-2 and influenza virus are associated with similar risk of post-acute sequelae (PAS).
- Severe COVID-19 cases experience greater risk of PAS than severe influenza cases.
- PAS following COVID-19 are more likely to necessitate hospital admission.

## ABSTRACT

**Background:** The comparative risk of post-acute sequelae (PAS) associated with SARS-CoV-2 and influenza virus infection remains unclear.

**Methods:** We undertook a retrospective cohort study within the Kaiser Permanente Southern California healthcare system of COVID-19 and influenza cases who received acute respiratory illness (ARI) diagnoses in virtual, outpatient, or inpatient settings between 1 September, 2022 and 31 December, 2023. We monitored PAS-associated healthcare utilization across all settings through 180 days after index ARI diagnoses. We estimated adjusted hazard ratios (aHRs) comparing COVID-19 cases to influenza cases, weighting to account for cases' probability of retention in follow-up and infection with SARS-CoV-2 or influenza virus at the index ARI episode.

**Results:** Analyses included 74,738 COVID-19 cases and 18,790 influenza cases, among whom 35,835 (38.3%), 26,579 (28.4%), 23,388 (25.0%), and 7,726 (8.3%) received care for their index ARI episodes in virtual, ambulatory, emergency department, and inpatient settings, respectively. Risk of PAS diagnoses in any clinical setting was similar among COVID-19 and influenza cases (aHR=1.04 [95% confidence interval: 0.99-1.09] and aHR=1.01 [0.97-1.06] 31-90 and 91-180 days after index, respectively). However, COVID-19 cases experienced higher risk of severe PAS conditions necessitating inpatient care (aHR=1.31 [1.07-1.59] and aHR=1.24 [1.03-1.49] 31-90 and 91-180 days after index, respectively). This heightened risk of severe PAS following COVID-19 was concentrated among patients who required inpatient admission at their index episode.

**Conclusions:** PAS outcomes occur with similar frequency among non-severe COVID-19 cases and influenza cases. However, PAS among COVID-19 cases are more likely to require hospital admission than PAS among influenza cases.

## INTRODUCTION

Acute respiratory infections are associated with post-acute sequelae (PAS), a complex constellation of symptoms which may involve multiple organ systems. Longitudinal studies have estimated that as many as 30% of individuals may experience at least one post-acute symptom or PAS condition  $\geq 30$  days after SARS-CoV-2 infection.<sup>1–3</sup> Some studies have demonstrated persistent presentation of PAS for up to 3 years following the acute stages of COVID-19.<sup>4</sup> Although less extensively studied, PAS including neurological conditions<sup>5,6</sup> and chronic fatigue<sup>7</sup> have also been documented after influenza infection, with reports of severe or prolonged post-influenza conditions dating to the 1918 pandemic.<sup>8</sup> However, it remains unclear whether SARS-CoV-2 and influenza infections pose comparable risk for PAS, and whether the clinical phenotypes of PAS associated with SARS-CoV-2 and influenza are distinct.

Several comparative studies<sup>9,10</sup> have reported greater risk of PAS after COVID-19 in comparison to influenza, albeit inconsistently.<sup>11</sup> However, a key limitation of these studies has been their restriction to hospitalized COVID-19 and influenza patients, as PAS also affect patients whose preceding viral infections were not severe.<sup>12</sup> Persons hospitalized for SARS-CoV-2 and influenza are not representative of all people infected with these viruses, and may experience different PAS outcomes in comparison to non-hospitalized patients. We therefore aimed to assess the risk of PAS following COVID-19 and influenza among adults, including a broad sample of individuals whose initial illness varied in clinical severity. We compared PAS outcomes measured based on subsequent healthcare utilization across settings spanning virtual to inpatient care in analyses that applied stringent correction for bias due to confounding and retention.

## METHODS

**Setting.** We analyzed data collected from members of Kaiser Permanente Southern California (KPSC), an integrated health-care organization comprised of 16 hospitals and 226 medical offices providing care to >4.8 million members across Southern California. Members reflect the socioeconomic and racial and ethnic diversity of the area's population.<sup>13,14</sup> All aspects of clinical care received at KPSC facilities, including diagnoses, clinical notes, laboratory tests, and prescriptions, are linked by a unique identifier in patients' electronic health records (EHRs). Insurance claims submitted for reimbursement capture care received from external healthcare providers, enabling near-complete capture of healthcare receipt among members.

**Study design.** We conducted a retrospective cohort study of all KPSC members aged  $\geq 18$  years with a positive molecular test for SARS-CoV-2 or influenza between September 1, 2022 and December 31, 2023. We restricted analyses to individuals with accompanying acute respiratory illness (ARI) diagnoses in any clinical setting between 7 days before or after the positive test.

Eligible participants had  $\geq 1$  year of continuous KPSC membership (allowing 45-day enrollment gap) before the positive test date to enable accurate capture of comorbid conditions and healthcare utilization. We limited analyses to the first documented ARI diagnosis associated with a positive SARS-CoV-2 or influenza test result in any 180-day period for each individual (index ARI episode). Multiple index episodes were included from the same individual if these episodes occurred  $\geq 180$  days apart. We excluded SARS-CoV-2 infections identified between 30 days before and 14 days after individuals received any COVID-19 vaccine dose, and influenza infections identified 30 days before to 14 days after individuals received any influenza vaccine, so that participants' recorded vaccination status at time of infection reflected doses from which they could be expected to have mounted a response. We excluded patients with missing information on age or sex to enable adjustment for confounding.

**Exposures.** The primary exposure was the virus detected at each index ARI episode; we defined exposure groups as COVID-19 cases and influenza cases. We stratified further stratified exposure groups based on respiratory viral season (October, 2022–September, 2023, and October–December, 2023), differing viral lineages (influenza type A or B, where available from testing data, and putative SARS-CoV-2 variant based on dominant lineages circulating during the respective time periods<sup>15</sup>). Additionally, we distinguished index ARI episodes according to the highest-acuity care setting in which individuals received ARI diagnoses. In order from lowest to highest acuity, strata included virtual (online/telehealth) settings, ambulatory (outpatient/urgent care) settings, emergency departments, and inpatient (hospital) facilities.

**Outcomes.** We defined PAS outcomes as diagnoses occurring 31-180 days after cases' index ARI episodes associated with a confirmed SARS-CoV-2 or influenza virus infection. We used prespecified ICD-10 diagnoses codes categorized into 10 disease categories with similar mechanisms and body systems affected (cardiopulmonary, hemolytic, respiratory, musculoskeletal, renal, gastrointestinal, neurological, skin, endocrine, and mental health conditions; **Table S1**). Although there is no universal case definition for PAS, this definition included published US Centers for Disease Control criteria for Post-COVID Conditions,<sup>2</sup> augmented with definitions from other EHR-based studies<sup>16-19</sup> We conducted separate analyses for PAS affecting each disease category, and for a composite outcome of any PAS. Consistent with our classification for index ARI diagnoses, we took the highest-acuity care setting where PAS diagnoses were assigned in each follow-up period as an indicator of severity..

We censored observations at death, disenrollment, or end of study period, whichever occurred first. We stratified follow-up into proximal (31-90 days) and distal (91-180 days) periods following each index ARI episode.

**Statistical analysis.** We measured associations via the adjusted hazard ratio (aHR) for time to first PAS diagnosis among COVID-19 cases versus influenza cases. Consistent with target-trial emulation frameworks,<sup>20</sup> we used a two-stage weighting approach to mitigate selection bias (due to differential depletion of susceptibles prior to follow-up initiation) and confounding. First, to address differential censoring prior to the beginning of each follow-up interval among COVID-19 cases and influenza cases, we generated inverse probability of censoring weights (IPCWs) addressing each individual's probability of remaining enrolled through the beginning of each 30-day period after index.<sup>21</sup> We estimated IPCWs via the Breslow estimator for survival curves from fitted Cox proportional hazards models with death or disenrollment 0-180 days after cases' index date as the outcome. Second, to account for differences in characteristics of COVID-19 cases and influenza cases, we also generated inverse probability of treatment (exposure) weights (IPTWs), addressing each individual's probability of an index infection with SARS-CoV-2 or influenza. We computed stabilized IPTWs via logistic regression models defining infecting virus as the outcome.<sup>22</sup> All weighting models accounted for individuals' age group, sex, highest-acuity care setting for the index ARI episode, race/ethnicity, Charlson comorbidity index, history of diagnoses in each PAS disease category, history of depression, cigarette smoking, prior-year healthcare utilization (across ambulatory, emergency department, and inpatient settings), body mass index, COVID-19 and seasonal influenza vaccination status, calendar month of the index episode, and neighborhood deprivation index.<sup>23</sup> We list categorizations for continuous variables in **Table 1**.

We estimated aHRs using Cox proportional hazards models, defining distinct observations for each 30-day period (31-60, 61-90, 91-120, 121-150, 151-180 days) after the index date to update IPCWs. Weights for each follow-up interval were the product of the individual's (time-varying) IPCW and the individual's (time-invariant) IPTW for infection with the identified virus.<sup>24</sup> We generated doubly-robust aHR estimates by including covariates used in the weighting models in analysis models, and used the sandwich variance estimator to account for repeated observations across multiple periods for each individual. We fit separate models for follow-up periods 31-90 days and 91-180 days after index. We verified the proportional hazards assumption by testing for non-zero slopes of Schoenfeld residuals from fitted Cox proportional hazards models.<sup>25</sup> We considered differences in risk to be statistically meaningful if 95% confidence intervals around aHR estimates excluded the null value.

We conducted subgroup analyses restricted to individuals with or without history of prior diagnoses corresponding to PAS conditions within each organ system category in the preceding year. Among persons with such history, we interpreted PAS outcomes as exacerbations of pre-existing conditions, such that aHR estimates conveyed the differences in risk of post-viral exacerbations among COVID-19 cases and influenza cases. Among persons without history of such diagnoses, we interpreted PAS outcomes as new-onset illness, such that aHR estimates conveyed the differential risk of new-onset PAS among COVID-19 cases and influenza cases.

Last, we conducted subgroup analyses stratified by age, sex, severity of the index ARI episode, and receipt of antivirals and vaccines. We defined antiviral receipt for the index infection as dispenses of molnupiravir or nirmatrelvir-ritonavir (for COVID-19 cases) and oseltamivir, zanamivir, peramivir, or baloxavir (for influenza

cases), occurring within 7 days before or after index. We defined up-to-date influenza vaccination status as receipt of seasonal influenza vaccination within 15-180 days before index. Based on US vaccination recommendations during the study period<sup>26</sup> and estimated durations of protection against SARS-CoV-2 infection after vaccination,<sup>27-29</sup> we defined up-to-date COVID-19 vaccination as receipt of  $\geq 3$  COVID-19 vaccine doses, including one dose within 15-180 days before index.

**Ethics.** This study was reviewed and approved by the KPSC institutional review board with a waiver of informed consent and was conducted consistent with federal law and CDC policy (45 C.F.R. part 46.101(c); 21 C.F.R. part 56).

## RESULTS

Analyses included 74,738 eligible COVID-19 cases and 18,790 eligible influenza cases. In comparison to influenza cases, COVID-19 cases were older, had higher Charlson comorbidity index scores, and had higher outpatient healthcare utilization in the year prior to index date as well as greater likelihood of hospital admission in the prior year (**Table 1**). Additionally, COVID-19 cases had higher likelihood of receiving care in either inpatient settings or in virtual settings only.

Overall, 97.3% and 95.3% of COVID-19 cases were retained in follow-up through 31 and 91 days after their index date, respectively (72,745 and 71,238 of 74,738, respectively), as were 97.9% and 95.7% of influenza cases (18,395 and 17,990 of 18,790, respectively; **Table S2**). Within 31-90 days after index dates, 45.2% of COVID-19 cases and 38.9% of influenza cases received PAS diagnoses, and within 91-180 days after index dates, 52.8% of COVID-19 cases and 44.0% of influenza cases received PAS diagnoses. Cardiopulmonary PAS were the most common outcome among both COVID-19 cases and influenza cases (23.9% and 16.1% of cases, respectively).

Absolute differences in weighted incidence of PAS diagnoses by virus were modest in analyses adjusting for individuals' probability of infection with each virus and censoring (**Table 2**). Within 31-90 days after index, weighted incidence rates of PAS diagnoses per 100 person-months at risk were 26.5 (95% confidence interval: 26.2-26.8) among COVID-19 cases and 25.9 (25.4-26.5) among influenza cases; within 91-180 days after index, weighted incidence rates were 23.0 (22.7-23.2) and 22.6 (22.1-23.0) per 100 person-months among COVID-19 and influenza cases, respectively. In terms of relative (proportional) differences in weighted PAS incidence rates comparing COVID-19 cases and influenza cases, differentiation was most apparent for PAS diagnoses in inpatient settings. We observed 1.5 (1.4-1.5) and 1.2 (1.1-1.4) inpatient PAS diagnoses per 100 person-months among COVID-19 and influenza cases, respectively, 31-90 days after index, and 1.1 (1.0-1.1) and 0.9 (0.8-1.0) inpatient PAS diagnoses per 100 person-months among COVID-19 and influenza cases, respectively, 91-180 days after index.

Using doubly-robust Cox proportional hazards models, we did not identify appreciable differences in risk of PAS outcomes among COVID-19 cases and influenza cases either 31-90 days or 91-180 days after cases' index dates (aHR=1.04 [95% confidence interval: 0.99-1.09] and aHR=1.01 [0.97-1.06] at 31-90 and 91-180 days after index, respectively, for COVID-19 versus influenza cases; **Table 3**). However, COVID-19 cases had 31% (7-59%) and 24% (3-49%) higher risk than influenza cases of receiving PAS diagnoses in inpatient settings 31-90 days and 91-180 days after index in comparison to influenza cases, respectively. This higher risk of inpatient PAS diagnoses among COVID-19 cases versus influenza cases was apparent in the 31-90 day follow-up period for cardiopulmonary, hemolytic, respiratory, gastrointestinal, neurological, skin, endocrine, and mental health PAS categories. We also identified higher risk of cardiopulmonary, gastrointestinal, neurological, skin, endocrine, and mental health PAS diagnoses in lower-acuity settings among COVID-19 cases than influenza cases; point estimates suggested a smaller difference in risk among COVID-19 versus influenza cases for PAS diagnoses within virtual, ambulatory, and emergency department settings than within inpatient settings for each of these syndromic categories. In comparison to influenza cases, COVID-19 cases also experienced higher risk of cardiopulmonary, gastrointestinal, neurological, and mental health PAS diagnoses in inpatient settings 91-180 days after index.

Similarly, differences between COVID-19 cases and influenza cases in risk of PAS exacerbations of pre-existing conditions were mainly evident for diagnoses in inpatient settings (**Table 4**). Within 31-90 days after



index, COVID-19 cases with pre-existing cardiopulmonary, hemolytic, gastrointestinal, neurological, endocrine, and mental health diagnoses experienced 32-97% greater risk of exacerbations resulting in inpatient diagnoses for these conditions than influenza cases with pre-existing diagnoses within the same syndromic categories. Within 91-180 days after index, COVID-19 cases experienced 41-216% greater risk of exacerbations leading to inpatient diagnoses of pre-existing musculoskeletal, gastrointestinal, neurological, and mental health conditions in comparison to influenza cases. For new-onset PAS diagnoses, COVID-19 experienced greater risk than influenza cases of respiratory diagnoses in inpatient settings 31-90 days after index, and of renal conditions in inpatient settings 91-180 days after index. However, estimated aHRs had greater uncertainty for comparisons of new-onset PAS diagnoses than for PAS exacerbations, reflecting the low frequency of new-onset PAS diagnoses compared to PAS exacerbations (**Table S3**).

Higher risk of inpatient PAS diagnoses among COVID-19 cases compared to influenza cases was primarily apparent among patients whose index ARI episodes necessitated inpatient admission (**Table 5**). Compared to influenza cases who received ARI diagnoses in inpatient settings, COVID-19 cases who received ARI diagnoses in inpatient settings had 73% (30-130%) and 49% (9-106%) higher risk of inpatient PAS diagnoses 31-90 and 91-180 days after index, respectively. Evidence of increased risk of PAS diagnoses among COVID-19 cases was inconsistent among patients whose index ARI episodes were managed in lower-acuity care settings. Differences in risk of inpatient PAS diagnoses among COVID-19 cases and influenza cases were apparent only among cases who did not receive antiviral treatment (aHR=2.09 [1.45-3.03] for untreated COVID-19 cases versus untreated influenza cases within 31-90 days after index). We did not identify differences in risk of inpatient PAS diagnoses among COVID-19 cases and influenza cases who were up-to-date with COVID-19 and influenza vaccines, respectively, at the time of their index ARI episode. Differences in risk of inpatient-diagnosed PAS conditions among COVID-19 cases versus influenza cases were more strongly apparent among female cases than male cases; additionally, differences in PAS risk among COVID-19 cases versus influenza cases appeared within multiple age groups.

Our finding that COVID-19 cases experienced greater risk than influenza cases of severe PAS necessitating hospital admission held within analyses disaggregated by season (2022-23 and 2023-24), SARS-CoV-2 variant period (BA.4/BA.5, XBB/XBB.1.5, and BA.2.86/JN.1), and influenza comparator virus (A or B), although these analyses encountered lower statistical power than primary analyses (**Table S4**). Consistent with our primary analyses, we did not identify appreciable differences in risk of PAS outcomes that included diagnoses in lower-acuity settings within most subgroups (**Table 5**; **Table S4**).

## DISCUSSION

Within our study, COVID-19 cases and influenza cases experienced similar risk of PAS diagnoses up to 180 days after their index ARI episode. The primary distinguishing characteristic of PAS following COVID-19 versus influenza was that COVID-19 cases experienced higher risk of severe PAS necessitating inpatient admission. Further, these differences in risk were dependent on the severity of cases' index infection. Whereas risk of severe PAS was comparable among COVID-19 cases and influenza cases who received care for their index episode in virtual, ambulatory, or emergency department settings, COVID-19 cases hospitalized for their index infection had higher risk of severe PAS than influenza cases who were hospitalized for their index infection. Differences in PAS risk were attenuated in strata of patients who received antiviral treatment or whose vaccination status was up-to-date against their infecting virus. Our findings demonstrate that COVID-19 cases and influenza cases experience similar risk of PAS, although the spectrum of PAS occurring after COVID-19 includes more severe manifestations than PAS occurring after influenza. This heightened risk of severe PAS is concentrated among patients who experienced severe COVID-19, and may be attenuated by vaccination or antiviral treatment.

Cardiopulmonary manifestations accounted for the greatest share of all PAS outcomes observed among both COVID-19 and influenza cases, and have been widely documented as sequelae of respiratory virus infections, not limited to SARS-CoV-2 and influenza.<sup>8-11,30-32</sup> Although less common, severe PAS outcomes involving hemolytic, gastrointestinal, neurological, and skin conditions showed the greatest relative degree of elevation among COVID-19 cases compared to influenza cases within 31-90 days after index. Within 91-180 days after index, severe PAS outcomes involving musculoskeletal, gastrointestinal, neurological, and skin conditions showed the greatest relative degree of elevation among COVID-19 cases.

Among individuals with pre-existing conditions corresponding to each PAS category, COVID-19 cases experienced higher risk than influenza cases of exacerbations leading to inpatient PAS diagnoses. Point estimates of aHRs were consistent with the hypothesis that COVID-19 cases also experienced greater risk of new-onset severe PAS in comparison to influenza cases. However, given the low incidence of severe PAS among individuals without pre-existing conditions, such differences were uncertain from a statistical perspective and may not be clinically meaningful.

Comprehensive capture of healthcare interactions in an integrated system enabled us to represent a broad severity spectrum of index ARI episodes and subsequent PAS in comparison to prior studies which addressed only hospitalized COVID-19 cases and influenza cases.<sup>9,10</sup> Moreover, access to detailed information on cases' demographics, comorbidities, and prior patterns of healthcare utilization enabled us to adjust rigorously for differences in characteristics of COVID-19 cases and influenza cases, as well as time-dependent sources of bias not addressed in prior studies. The diverse demographic and clinical characteristics of the enrolled population furthermore support external generalizability of our results.

However, our analysis had several limitations. First, the studied PAS outcomes could be more strongly associated with SARS-CoV-2 infection than with influenza infection simply because our PAS code list was assembled in part from findings of prior studies of post-COVID-19 conditions.<sup>2,16-19</sup> Second, our analysis was limited to adults. Children also experience PAS associated with SARS-CoV-2<sup>33</sup> and other respiratory viruses,<sup>34,35</sup> suggesting similar studies should be undertaken in pediatric cohorts. Third, testing practices for SARS-CoV-2 and influenza differed during the study period. Whereas SARS-CoV-2 testing was widely undertaken for both inpatients and in ambulatory settings, influenza testing was less widely available and may have been reserved for individuals with more severe illness, or those receiving an initial negative SARS-CoV-2 test result. Our analyses adjusted for measured differences between COVID-19 cases and influenza cases; however, unmeasured sources of confounding and selection bias may remain. Fourth, as our study was restricted to individuals who received ARI diagnoses, our findings did not address PAS potentially associated with asymptomatic SARS-CoV-2 and influenza infections. Last, our analyses did not address differences in PAS risk beyond 180 days after cases' index dates, limiting our ability to compare differences in the lengths of time COVID-19 cases and influenza cases may be at risk for PAS.

We found that PAS outcomes occurred with similar frequency among COVID-19 cases and influenza cases, although PAS among COVID-19 cases were more likely to require hospital admission than PAS among influenza cases. Whereas PAS are widely known to occur after COVID-19, our results suggest that the risk of PAS associated with influenza may be under-appreciated and worthy of further study. For COVID-19, rigorous estimates of the burden of PAS are necessary for the contemporary context of circulating variants and population immunity; such analyses should adjust for counterfactual risk absent infection through control-group comparisons.<sup>36</sup> Similar estimates are also needed for influenza and other respiratory viruses, and can collectively inform the value of interventions aiming to prevent or mitigate the severity of viral respiratory infections.

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**Table 1: Characteristics of COVID-19 cases and influenza cases.**

Characteristic		Index infection	
		COVID-19 N=74,738	Influenza N=18,790
Age	18-29	7,081 (9.5)	4,012 (21.4)
	30-39	10,206 (13.7)	3,786 (20.1)
	40-49	11,433 (15.3)	3,040 (16.2)
	50-59	13,815 (18.5)	2,769 (14.7)
	60-69	13,114 (17.5)	2,422 (12.9)
	70-79	11,195 (15.0)	1,765 (9.4)
	80-89	6,265 (8.4)	808 (4.3)
	≥90	1,629 (2.2)	188 (1.0)
		<i>Median (interquartile range)</i>	
		56 (41–70)	44 (31–61)
Sex	Female	44,689 (59.8)	11,216 (59.7)
	Male	30,049 (40.2)	7,574 (40.3)
Race/ethnicity	White, non-Hispanic	19,284 (25.8)	4,483 (23.9)
	Black, non-Hispanic	8,030 (10.7)	1,818 (9.7)
	Hispanic, any race	35,094 (47.0)	10,013 (53.3)
	Asian	8,865 (11.9)	1,553 (8.3)
	Pacific Islander	601 (0.8)	126 (0.7)
	Native American, Alaska Native	147 (0.2)	40 (0.2)
	Multiple/Other/Unknown	2,717 (3.6)	757 (4.0)
Neighborhood deprivation index	1 <sup>st</sup> quintile (most deprived)	15,249 (20.4)	3,513 (18.7)
	2 <sup>nd</sup> quintile	15,077 (20.2)	3,712 (19.8)
	3 <sup>rd</sup> quintile	14,967 (20.0)	3,690 (19.6)
	4 <sup>th</sup> quintile	14,885 (19.9)	3,758 (20.0)
	5 <sup>th</sup> quintile (least deprived)	14,529 (19.4)	4,110 (21.9)
Body mass index	Underweight	1,016 (1.4)	199 (1.1)
	Normal weight	14,572 (19.5)	3,301 (17.6)
	Overweight	21,002 (28.1)	4,862 (25.9)
	Obese	23,169 (31.0)	5,874 (31.3)
	Morbidly obese	6,257 (8.4)	1,567 (8.3)
Charlson comorbidity index	0	36,285 (48.5)	10,992 (58.5)
	1-2	22,347 (29.9)	5,128 (27.3)
	3-5	10,199 (13.6)	1,742 (9.3)
	≥6	5,907 (7.9)	928 (4.9)
		<i>Median (interquartile range)</i>	
		1 (0–2)	0 (0–1)
Cigarette smoking	Never smoked	48,327 (64.7)	11,971 (63.7)
	Former smoking	16,594 (22.2)	3,324 (17.7)
	Current smoking	3,042 (4.1)	981 (5.2)
Prior-year ambulatory healthcare utilization	0 visits	3,250 (4.3)	1,460 (7.8)
	1-9 visits	42,079 (56.3)	11,779 (62.7)
	10-19 visits	18,015 (24.1)	3,575 (19.0)
	20-29 visits	6,511 (8.7)	1,168 (6.2)
	≥30 visits	4,883 (6.5)	808 (4.3)
		<i>Median (interquartile range)</i>	
		8 (4–15)	6 (3–12)
Prior year emergency department utilization	No presentation	51,841 (69.4)	13,368 (71.1)
	Any presentation	22,897 (30.6)	5,422 (28.9)
Prior year inpatient admission	No admission	67,171 (89.9)	17,480 (93.0)
	Any admission	7,567 (10.1)	1,310 (7.0)
COVID-19 vaccination (doses received)			
	0 doses received	7,350 (9.8)	3,020 (16.1)

	1-2 doses received	15,116 (20.2)	5,497 (29.3)
	≥3 doses received	52,272 (69.9)	10,273 (54.7)
COVID-19 vaccination (recency of last dose)	No COVID-19 vaccination within 30-180 days	63,897 (85.5)	17,557 (93.4)
	Received 30-180 days previously	10,841 (14.5)	1,233 (6.6)
Seasonal influenza vaccination	Not received in prior season	31,013 (41.5)	11,242 (59.8)
	Received in prior season	43,725 (58.5)	7,548 (40.2)
Antiviral treatment within 7 days of index date	Not received	52,808 (70.7)	8,809 (46.9)
	Received	21,930 (29.3)	9,981 (53.1)
History of previous diagnosis within each PAS category	Cardiopulmonary	34,871 (46.7)	6,418 (34.2)
	Hemolytic	7,399 (9.9)	1,121 (6.0)
	Respiratory	32,975 (44.1)	8,289 (44.1)
	Musculoskeletal	32,786 (43.9)	6,843 (36.4)
	Renal	9,896 (13.2)	1,553 (8.3)
	Gastrointestinal	17,820 (23.8)	3,466 (18.4)
	Neurological	22,164 (29.7)	4,406 (23.4)
	Skin	9,910 (13.3)	2,215 (11.8)
	Endocrine	18,701 (25.0)	3,353 (17.8)
	Mental health	25,426 (34.0)	5,549 (29.5)
Highest-acuity care setting for index infection	Virtual	32,788 (43.9)	3,047 (16.2)
	Ambulatory	18,017 (24.1)	8,562 (45.6)
	Emergency department	17,253 (23.1)	6,135 (32.7)
	Inpatient	6,680 (8.9)	1,046 (5.6)

Eligible individuals were Kaiser Permanente Southern California healthcare plan members aged ≥18 years with a positive molecular test for SARS-CoV-2 or influenza between September 1, 2022 and December 31, 2023, who had been members of KPSC for ≥12 months preceding their index episode. We restricted analyses to individuals with accompanying acute respiratory illness diagnoses in any clinical setting between 7 days before or after the positive test.

**Table 2: Rates of post-acute sequelae managed in various clinical settings, adjusted via weighting to address loss-to-follow up and differences among cases by index infection.**

Outcome		Weighted incidence over period per 100 person-months at risk (95% CI) by index infection <sup>1</sup>			
		<i>Within 31-90d</i>		<i>Within 91-180d</i>	
		<u>COVID-19</u>	<u>Influenza</u>	<u>COVID-19</u>	<u>Influenza</u>
PAS—by category					
	Any	26.5 (26.2, 26.8)	25.9 (25.4, 26.5)	23.0 (22.7, 23.2)	22.6 (22.1, 23.0)
	Cardiopulmonary	10.4 (10.3, 10.6)	10.5 (10.2, 10.9)	8.5 (8.4, 8.7)	8.2 (8.0, 8.5)
	Hemolytic	1.6 (1.5, 1.7)	1.6 (1.4, 1.7)	1.2 (1.2, 1.3)	1.1 (1.0, 1.2)
	Respiratory	7.3 (7.2, 7.5)	8.1 (7.8, 8.4)	6.0 (5.9, 6.1)	6.3 (6.1, 6.6)
	Musculoskeletal	6.2 (6.1, 6.4)	6.3 (6.0, 6.5)	5.7 (5.6, 5.8)	5.5 (5.3, 5.7)
	Renal	3.1 (3.0, 3.2)	3.4 (3.2, 3.6)	2.4 (2.3, 2.5)	2.5 (2.4, 2.6)
	Gastrointestinal	3.3 (3.2, 3.4)	2.9 (2.7, 3.1)	2.7 (2.7, 2.8)	2.5 (2.4, 2.6)
	Neurological	4.5 (4.4, 4.7)	4.2 (4.0, 4.4)	4.0 (4.0, 4.1)	3.4 (3.2, 3.6)
	Skin	1.2 (1.2, 1.3)	1.3 (1.2, 1.4)	1.2 (1.2, 1.3)	1.3 (1.2, 1.4)
	Endocrine	6.8 (6.6, 6.9)	6.4 (6.1, 6.6)	5.4 (5.3, 5.5)	5.3 (5.1, 5.5)
	Mental health	6.7 (6.6, 6.9)	7.0 (6.7, 7.3)	5.5 (5.4, 5.7)	5.2 (5.0, 5.4)
PAS—by clinical setting					
	Any setting	26.5 (26.2, 26.8)	25.9 (25.4, 26.5)	23.0 (22.7, 23.2)	22.6 (22.1, 23.0)
	Ambulatory or higher-acuity setting	20.9 (20.6, 21.1)	20.2 (19.7, 20.7)	18.4 (18.2, 18.6)	18.3 (17.9, 18.7)
	Emergency department or higher-acuity setting	6.6 (6.5, 6.7)	6.5 (6.2, 6.8)	5.9 (5.8, 6.0)	5.6 (5.4, 5.8)
	Inpatient setting	1.5 (1.4, 1.5)	1.2 (1.1, 1.4)	1.1 (1.0, 1.1)	0.9 (0.8, 1.0)

PAS: post-acute sequelae; CI: Confidence interval.

<sup>1</sup>Incidence is computed accounting for time to first event for the indicated outcomes; person-time after the first event is excluded from denominators. Weights are computed as the product of inverse probability of treatment/exposure weights (accounting for individuals' probability of infection with their identified virus) and inverse probability of censoring weights (accounting for the probability of retention through each 30-day period after the index date).



**Table 3: Adjusted hazard ratios of post-acute sequelae.**

Outcome	Acuity of care setting for PAS diagnoses	Adjusted hazard ratio (95% CI), COVID-19 cases compared to influenza cases <sup>1</sup>	
		Within 31-90 days	Within 91-180 days
Any PAS	Any setting	1.04 (0.99, 1.09)	1.01 (0.97, 1.06)
	Ambulatory or higher-acuity setting	1.06 (1.00, 1.12)	1.00 (0.95, 1.06)
	Emergency department or higher-acuity setting	1.05 (0.96, 1.16)	1.07 (0.98, 1.17)
	Inpatient setting	1.31 (1.07, 1.59)	1.24 (1.03, 1.49)
Cardiopulmonary PAS	Any setting	1.06 (0.98, 1.13)	1.06 (0.98, 1.14)
	Ambulatory or higher-acuity setting	1.05 (0.97, 1.13)	1.08 (0.99, 1.17)
	Emergency department or higher-acuity setting	1.13 (1.00, 1.28)	1.12 (1.00, 1.26)
	Inpatient setting	1.33 (1.07, 1.67)	1.24 (1.01, 1.53)
Hemolytic PAS	Any setting	1.11 (0.94, 1.30)	1.19 (0.98, 1.45)
	Ambulatory or higher-acuity setting	1.11 (0.94, 1.32)	1.15 (0.94, 1.41)
	Emergency department or higher-acuity setting	1.55 (1.16, 2.07)	1.43 (1.10, 1.85)
	Inpatient setting	1.66 (1.09, 2.54)	1.23 (0.90, 1.68)
Respiratory PAS	Any setting	0.91 (0.84, 1.00)	0.95 (0.87, 1.04)
	Ambulatory or higher-acuity setting	0.94 (0.85, 1.03)	0.98 (0.89, 1.08)
	Emergency department or higher-acuity setting	1.01 (0.88, 1.15)	1.01 (0.88, 1.16)
	Inpatient setting	1.43 (1.11, 1.85)	1.03 (0.80, 1.34)
Musculoskeletal PAS	Any setting	1.00 (0.90, 1.11)	1.04 (0.96, 1.14)
	Ambulatory or higher-acuity setting	1.00 (0.89, 1.12)	1.07 (0.97, 1.17)
	Emergency department or higher-acuity setting	1.02 (0.82, 1.28)	1.10 (0.92, 1.31)
	Inpatient setting	1.40 (0.83, 2.37)	2.04 (1.29, 3.24)
Renal PAS	Any setting	0.96 (0.84, 1.09)	0.96 (0.82, 1.12)
	Ambulatory or higher-acuity setting	0.92 (0.80, 1.05)	0.97 (0.81, 1.15)
	Emergency department or higher-acuity setting	0.98 (0.78, 1.24)	1.13 (0.93, 1.37)
	Inpatient setting	1.23 (0.93, 1.61)	1.17 (0.89, 1.52)
Gastrointestinal PAS	Any setting	1.19 (1.07, 1.33)	1.12 (0.99, 1.27)
	Ambulatory or higher-acuity setting	1.19 (1.06, 1.35)	1.15 (1.00, 1.33)
	Emergency department or higher-acuity setting	1.35 (1.11, 1.64)	1.35 (1.10, 1.65)
	Inpatient setting	1.75 (1.28, 2.38)	1.43 (1.05, 1.94)
Neurological PAS	Any setting	1.12 (1.00, 1.26)	1.23 (1.11, 1.37)
	Ambulatory or higher-acuity setting	1.09 (0.97, 1.23)	1.17 (0.97, 1.41)
	Emergency department or higher-acuity setting	1.21 (0.97, 1.51)	1.17 (0.97, 1.41)
	Inpatient setting	1.60 (1.15, 2.23)	2.11 (1.54, 2.90)
Skin PAS	Any setting	0.93 (0.75, 1.15)	0.91 (0.73, 1.13)
	Ambulatory or higher-acuity setting	1.01 (0.81, 1.25)	0.87 (0.68, 1.11)
	Emergency department or higher-acuity setting	1.54 (1.07, 2.22)	0.96 (0.61, 1.51)
	Inpatient setting	7.27 (1.55, 34.09)	2.82 (0.85, 9.32)
Endocrine PAS	Any setting	1.10 (1.01, 1.20)	1.02 (0.93, 1.11)
	Ambulatory or higher-acuity setting	1.10 (1.00, 1.20)	1.01 (0.92, 1.12)
	Emergency department or higher-acuity setting	1.15 (0.98, 1.34)	1.12 (0.96, 1.32)
	Inpatient setting	1.36 (1.04, 1.77)	1.13 (0.87, 1.47)
Mental health PAS	Any setting	0.98 (0.90, 1.07)	1.09 (0.99, 1.19)
	Ambulatory or higher-acuity setting	1.06 (0.94, 1.19)	1.13 (1.00, 1.27)
	Emergency department or higher-acuity setting	1.20 (1.00, 1.44)	1.15 (0.95, 1.39)
	Inpatient setting	1.58 (1.20, 2.08)	1.40 (1.06, 1.84)

PAS: post-acute sequelae; CI: Confidence interval.

<sup>1</sup>Estimates are computed as adjusted hazards ratios via doubly-robust Cox proportional hazards models weighted to account for individuals' inverse probability of infection with their identified virus and the inverse of their probability of retention through each 30-day period after the index date. Covariates used in weighting models are included in the analysis model. We use the sandwich variance estimator to account for repeated observations of individuals across multiple 30-day periods.

**Table 4: Adjusted hazards ratios of post-acute sequelae as new-onset conditions or exacerbations of existing conditions.**

Outcome	Acuity of care setting for PAS diagnoses	Adjusted hazard ratio (95% CI), COVID-19 cases compared to influenza cases <sup>1</sup>			
		Exacerbation of pre-existing conditions after index infection <sup>2</sup>		New-onset PAS conditions after index infection <sup>3</sup>	
		Within 31-90 days	Within 91-180 days	Within 31-90 days	Within 91-180 days
Cardiopulmonary PAS	Any setting	1.05 (0.97, 1.13)	1.02 (0.94, 1.10)	1.02 (0.84, 1.25)	1.25 (1.06, 1.47)
	Ambulatory or higher-acuity setting	1.04 (0.96, 1.12)	1.03 (0.95, 1.13)	1.05 (0.86, 1.30)	1.26 (1.07, 1.49)
	Emergency department or higher-acuity setting	1.10 (0.96, 1.25)	1.11 (0.98, 1.25)	1.33 (0.99, 1.79)	1.08 (0.83, 1.42)
	Inpatient setting	1.32 (1.05, 1.65)	1.20 (0.97, 1.50)	1.23 (0.65, 2.35)	1.56 (0.95, 2.55)
Hemolytic PAS	Any setting	1.04 (0.86, 1.26)	1.24 (0.96, 1.59)	1.21 (0.86, 1.72)	1.05 (0.78, 1.41)
	Ambulatory or higher-acuity setting	1.06 (0.87, 1.29)	1.19 (0.92, 1.55)	1.19 (0.82, 1.72)	1.01 (0.75, 1.36)
	Emergency department or higher-acuity setting	1.76 (1.22, 2.52)	1.45 (1.03, 2.05)	1.21 (0.77, 1.89)	1.31 (0.92, 1.87)
	Inpatient setting	1.97 (1.14, 3.42)	1.19 (0.80, 1.78)	1.27 (0.69, 2.35)	1.24 (0.81, 1.90)
Respiratory PAS	Any setting	0.96 (0.87, 1.06)	0.96 (0.87, 1.06)	0.84 (0.71, 0.99)	0.96 (0.80, 1.15)
	Ambulatory or higher-acuity setting	1.00 (0.90, 1.12)	0.96 (0.86, 1.07)	0.84 (0.69, 1.01)	1.07 (0.88, 1.31)
	Emergency department or higher-acuity setting	1.07 (0.91, 1.25)	0.99 (0.85, 1.15)	0.90 (0.71, 1.15)	1.07 (0.80, 1.42)
	Inpatient setting	1.33 (0.99, 1.77)	1.09 (0.82, 1.47)	2.12 (1.30, 3.44)	0.77 (0.46, 1.30)
Musculoskeletal PAS	Any setting	0.97 (0.85, 1.10)	1.01 (0.90, 1.13)	1.07 (0.90, 1.27)	1.13 (0.97, 1.31)
	Ambulatory or higher-acuity setting	0.97 (0.84, 1.11)	1.05 (0.93, 1.18)	1.08 (0.89, 1.30)	1.11 (0.95, 1.31)
	Emergency department or higher-acuity setting	0.90 (0.68, 1.21)	1.04 (0.82, 1.31)	1.32 (1.05, 1.66)	1.23 (0.97, 1.56)
	Inpatient setting	1.33 (0.72, 2.44)	3.16 (1.76, 5.69)	1.60 (0.50, 5.12)	0.91 (0.42, 1.96)
Renal PAS	Any setting	0.95 (0.83, 1.08)	0.95 (0.81, 1.11)	1.09 (0.68, 1.74)	1.18 (0.86, 1.62)
	Ambulatory or higher-acuity setting	0.92 (0.80, 1.05)	0.95 (0.80, 1.12)	1.02 (0.63, 1.65)	1.28 (0.91, 1.79)
	Emergency department or higher-acuity setting	0.95 (0.75, 1.21)	1.11 (0.90, 1.37)	1.31 (0.76, 2.25)	1.28 (0.88, 1.85)
	Inpatient setting	1.20 (0.90, 1.59)	1.06 (0.79, 1.43)	1.51 (0.71, 3.21)	2.31 (1.26, 4.24)
Gastrointestinal PAS	Any setting	1.15 (1.00, 1.32)	1.22 (1.05, 1.42)	1.29 (1.09, 1.52)	0.99 (0.79, 1.24)
	Ambulatory or higher-acuity setting	1.15 (0.99, 1.34)	1.24 (1.05, 1.47)	1.28 (1.06, 1.54)	1.01 (0.78, 1.31)
	Emergency department or higher-acuity setting	1.46 (1.14, 1.86)	1.50 (1.16, 1.94)	1.12 (0.82, 1.54)	1.13 (0.81, 1.57)
	Inpatient setting	1.88 (1.32, 2.67)	1.57 (1.06, 2.34)	1.41 (0.77, 2.57)	1.17 (0.74, 1.87)
Neurological PAS	Any setting	1.11 (0.97, 1.29)	1.20 (1.04, 1.37)	1.14 (0.95, 1.36)	1.32 (1.14, 1.52)
	Ambulatory or higher-acuity setting	1.09 (0.94, 1.28)	1.19 (1.02, 1.38)	1.08 (0.89, 1.31)	1.31 (1.12, 1.53)
	Emergency department or higher-acuity setting	1.17 (0.88, 1.56)	1.16 (0.90, 1.48)	1.25 (0.93, 1.68)	1.18 (0.92, 1.51)
	Inpatient setting	1.68 (1.20, 2.35)	2.61 (1.84, 3.71)	1.32 (0.54, 3.20)	1.17 (0.64, 2.13)
Skin PAS	Any setting	0.88 (0.66, 1.17)	1.12 (0.86, 1.47)	0.98 (0.75, 1.29)	0.82 (0.62, 1.09)
	Ambulatory or higher-acuity setting	0.88 (0.64, 1.19)	1.11 (0.82, 1.50)	1.14 (0.89, 1.45)	0.78 (0.57, 1.06)
	Emergency department or higher-acuity setting	2.22 (0.81, 6.05)	1.77 (0.84, 3.71)	1.36 (0.95, 1.95)	0.80 (0.47, 1.35)
	Inpatient setting	--	--	4.73 (0.99, 22.69)	3.25 (0.71, 14.85)
Endocrine PAS	Any setting	1.11 (1.02, 1.22)	1.01 (0.92, 1.11)	1.17 (0.82, 1.66)	1.29 (0.95, 1.74)
	Ambulatory or higher-acuity setting	1.10 (1.00, 1.21)	1.01 (0.91, 1.12)	1.22 (0.81, 1.83)	1.29 (0.92, 1.82)
	Emergency department or higher-acuity setting	1.15 (0.98, 1.34)	1.11 (0.94, 1.30)	1.45 (0.69, 3.08)	1.38 (0.80, 2.36)
	Inpatient setting	1.33 (1.02, 1.74)	1.10 (0.84, 1.45)	1.88 (0.36, 9.79)	1.20 (0.50, 2.87)
Mental health PAS	Any setting	1.00 (0.91, 1.10)	1.06 (0.96, 1.17)	0.90 (0.72, 1.12)	1.16 (0.98, 1.36)

Ambulatory or higher-acuity setting	1.13 (1.00, 1.29)	1.11 (0.97, 1.28)	0.84 (0.64, 1.11)	1.13 (0.91, 1.40)
Emergency department or higher-acuity setting	1.19 (0.98, 1.46)	1.17 (0.95, 1.45)	1.20 (0.76, 1.89)	0.99 (0.65, 1.50)
Inpatient setting	1.57 (1.17, 2.11)	1.41 (1.03, 1.93)	1.59 (0.80, 3.16)	1.24 (0.72, 2.13)

PAS: post-acute sequelae; CI: Confidence interval.

<sup>1</sup>Estimates are computed as adjusted hazards ratios via doubly-robust Cox proportional hazards models weighted to account for individuals' inverse probability of infection with their identified virus and the inverse of their probability of retention through each 30-day period after the index date. Covariates used in weighting models are included in the analysis model. We use the sandwich variance estimator to account for repeated observations of individuals across multiple 30-day periods.

<sup>2</sup>Analyses of exacerbation outcomes are limited to individuals with a history of any preceding diagnosis (prior to their index infection) with conditions included in the indicated PAS category.

<sup>3</sup>Analyses of new-onset PAS outcomes are limited to individuals without a history of any preceding diagnosis (prior to their index infection) with conditions included in the indicated PAS category.

**Table 5: Adjusted hazard ratios of post-acute sequelae across differing subgroups.**

Characteristic	Stratum	Adjusted hazards ratio (95% CI), COVID-19 cases compared to influenza cases, according to severity of index episode <sup>1</sup>			
		Within 31-90 days		Within 91-180 days	
		Any severity	Inpatient managed	Any severity	Inpatient managed
Age group	18-29	1.02 (0.90, 1.15)	1.23 (0.78, 1.93)	1.17 (1.04, 1.33)	0.79 (0.49, 1.30)
	30-39	1.07 (0.95, 1.21)	1.08 (0.70, 1.66)	1.01 (0.90, 1.13)	1.50 (0.95, 2.39)
	40-49	0.99 (0.87, 1.12)	0.83 (0.46, 1.53)	1.01 (0.91, 1.12)	0.66 (0.39, 1.10)
	50-59	1.10 (0.96, 1.25)	1.27 (0.68, 2.36)	0.96 (0.85, 1.08)	0.87 (0.51, 1.48)
	60-69	0.99 (0.89, 1.10)	1.04 (0.71, 1.50)	1.00 (0.90, 1.11)	1.56 (1.07, 2.29)
	70-79	1.01 (0.90, 1.13)	1.82 (1.26, 2.63)	0.99 (0.88, 1.12)	1.47 (1.03, 2.08)
	80-89	0.99 (0.85, 1.15)	1.08 (0.71, 1.64)	1.03 (0.89, 1.20)	0.97 (0.65, 1.46)
	≥90	0.90 (0.70, 1.16)	2.25 (1.16, 4.36)	0.88 (0.65, 1.19)	1.09 (0.60, 1.97)
Sex	Female	1.03 (0.96, 1.09)	1.47 (1.15, 1.89)	1.01 (0.95, 1.07)	1.31 (1.04, 1.65)
	Male	1.05 (0.97, 1.14)	1.18 (0.89, 1.56)	1.01 (0.93, 1.09)	1.13 (0.87, 1.49)
Antiviral received	Not received	1.04 (0.96, 1.12)	2.09 (1.45, 3.03)	1.07 (1.00, 1.14)	1.28 (0.92, 1.78)
	Received	1.05 (0.98, 1.13)	0.76 (0.58, 1.00)	0.99 (0.92, 1.06)	0.96 (0.75, 1.22)
Vaccination status <sup>2</sup>	Up-to-date vaccination status with respect to index infection	0.95 (0.73-1.23)	0.85 (0.66-1.09)	0.56 (0.20-1.55)	0.63 (0.29-1.38)
Highest-acuity care setting for index infection	Virtual	1.03 (0.92, 1.15)	1.07 (0.59, 1.95)	0.96 (0.86, 1.06)	1.43 (0.82, 2.48)
	Ambulatory	1.10 (1.02, 1.19)	1.06 (0.70, 1.60)	1.02 (0.95, 1.08)	0.92 (0.64, 1.32)
	Emergency department	0.99 (0.92, 1.06)	1.14 (0.84, 1.55)	1.10 (1.02, 1.18)	1.00 (0.76, 1.31)
	Inpatient	0.99 (0.86, 1.14)	1.73 (1.30, 2.30)	0.93 (0.81, 1.06)	1.49 (1.09, 2.06)

CI: Confidence interval.

<sup>1</sup>Estimates are computed as adjusted hazards ratios via doubly-robust Cox proportional hazards models weighted to account for individuals' inverse probability of infection with their identified virus and the inverse of their probability of retention through each 30-day period after the index date. Covariates used in weighting models are included in the analysis model. We use the sandwich variance estimator to account for repeated observations of individuals across multiple 30-day periods.

<sup>2</sup>We defined up-to-date as: ≥3 COVID-19 vaccine doses, with ≥1 dose received in the 6 months preceding index dates, for COVID-19, and ≥1 seasonal influenza vaccine dose within the 6 months preceding index dates for influenza.

**Table S1: Diagnosis codes (ICD-10-CM) used to define post-acute sequelae.**

ICD10 code	Description	Sub-condition
<b>Cardiovascular system disorders</b>		
I200	Unstable angina	Cardiovascular disease
I201	Angina pectoris with documented spasm	Cardiovascular disease
I208	Other forms of angina pectoris	Cardiovascular disease
I209	Angina pectoris, unspecified	Cardiovascular disease
I240	Acute coronary thrombosis not resulting in myocardial infarction	Cardiovascular disease
I248	Other forms of acute ischemic heart disease	Cardiovascular disease
I249	Acute ischemic heart disease, unspecified	Cardiovascular disease
I2510	Atherosclerotic heart disease of native coronary artery without angina pectoris	Cardiovascular disease
I25110	Atherosclerotic heart disease of native coronary artery with unstable angina pectoris	Cardiovascular disease
I25111	Atherosclerotic heart disease of native coronary artery with angina pectoris with	Cardiovascular disease
I25118	Atherosclerotic heart disease of native coronary artery with other forms of	Cardiovascular disease
I25119	Atherosclerotic heart disease of native coronary artery with unspecified angina pectoris	Cardiovascular disease
I256	Silent myocardial ischemia	Cardiovascular disease
I25700	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unstable angina pectoris	Cardiovascular disease
I25701	Atherosclerosis of coronary artery bypass graft(s), unspecified, with angina pectoris with	Cardiovascular disease
I25708	Atherosclerosis of coronary artery bypass graft(s), unspecified, with other forms of	Cardiovascular disease
I25709	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unspecified angina pectoris	Cardiovascular disease
I25710	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unstable angina	Cardiovascular disease
I25711	Atherosclerosis of autologous vein coronary artery bypass graft(s) with angina pectoris	Cardiovascular disease
I25718	Atherosclerosis of autologous vein coronary artery bypass graft(s) with other forms	Cardiovascular disease
I25719	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unspecified angina	Cardiovascular disease
I25720	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unstable angina	Cardiovascular disease
I25721	Atherosclerosis of autologous artery coronary artery bypass graft(s) with angina pectoris	Cardiovascular disease
I25728	Atherosclerosis of autologous artery coronary artery bypass graft(s) with other forms	Cardiovascular disease
I25729	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unspecified angina	Cardiovascular disease
I25730	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with unstable angina	Cardiovascular disease
I25731	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with angina pectoris	Cardiovascular disease
I25738	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with other forms	Cardiovascular disease
I25739	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with unspecified angina	Cardiovascular disease
I25750	Atherosclerosis of native coronary artery of transplanted heart with unstable angina	Cardiovascular disease
I25751	Atherosclerosis of native coronary artery of transplanted heart with angina pectoris	Cardiovascular disease
I25758	Atherosclerosis of native coronary artery of transplanted heart with other forms	Cardiovascular disease
I25759	Atherosclerosis of native coronary artery of transplanted heart with unspecified angina	Cardiovascular disease
I25760	Atherosclerosis of bypass graft of coronary artery of transplanted heart with	Cardiovascular disease
I25761	Atherosclerosis of bypass graft of coronary artery of transplanted heart with	Cardiovascular disease
I25768	Atherosclerosis of bypass graft of coronary artery of transplanted heart with	Cardiovascular disease
I25769	Atherosclerosis of bypass graft of coronary artery of transplanted heart with	Cardiovascular disease
I25790	Atherosclerosis of other coronary artery bypass graft(s) with unstable angina pectoris	Cardiovascular disease
I25791	Atherosclerosis of other coronary artery bypass graft(s) with angina pectoris with	Cardiovascular disease
I25798	Atherosclerosis of other coronary artery bypass graft(s) with other forms of	Cardiovascular disease
I25799	Atherosclerosis of other coronary artery bypass graft(s) with unspecified angina pectoris	Cardiovascular disease
I25810	Atherosclerosis of coronary artery bypass graft(s) without angina pectoris	Cardiovascular disease
I25811	Atherosclerosis of native coronary artery of transplanted heart without angina pectoris	Cardiovascular disease
I25812	Atherosclerosis of bypass graft of coronary artery of transplanted heart without	Cardiovascular disease
I2582	Chronic total occlusion of coronary artery	Cardiovascular disease
I2583	Coronary atherosclerosis due to lipid rich plaque	Cardiovascular disease
I2584	Coronary atherosclerosis due to calcified coronary lesion	Cardiovascular disease
I2589	Other forms of chronic ischemic heart disease	Cardiovascular disease
I259	Chronic ischemic heart disease, unspecified	Cardiovascular disease
Z9861	Coronary angioplasty status	Cardiovascular disease
I470	Re-entry ventricular arrhythmia	Cardiac dysrhythmia
I471	Supraventricular tachycardia	Cardiac dysrhythmia
I472	Ventricular tachycardia	Cardiac dysrhythmia
I4720	Ventricular tachycardia unspecified	Cardiac dysrhythmia
I4721	torsades de pointes	Cardiac dysrhythmia
I4729	Other ventricular tachycardia	Cardiac dysrhythmia
I479	Paroxysmal tachycardia, unspecified	Cardiac dysrhythmia
I480	Paroxysmal atrial fibrillation	Cardiac dysrhythmia
I481	Persistent atrial fibrillation	Cardiac dysrhythmia
I4811	Longstanding persistent atrial fibrillation	Cardiac dysrhythmia
I4819	Other persistent atrial fibrillation	Cardiac dysrhythmia
I4820	Unspecified chronic atrial fibrillation	Cardiac dysrhythmia
I4821	Permanent atrial fibrillation	Cardiac dysrhythmia
I483	Typical atrial flutter	Cardiac dysrhythmia



I484	Atypical atrial flutter	Cardiac dysrhythmia
I4891	Unspecified atrial fibrillation	Cardiac dysrhythmia
I4892	Unspecified atrial flutter	Cardiac dysrhythmia
I4901	Ventricular fibrillation	Cardiac dysrhythmia
I4902	Ventricular flutter	Cardiac dysrhythmia
I491	Atrial premature depolarization	Cardiac dysrhythmia
I492	Junctional premature depolarization	Cardiac dysrhythmia
I493	Ventricular premature depolarization	Cardiac dysrhythmia
I4940	Unspecified premature depolarization	Cardiac dysrhythmia
I4949	Other premature depolarization	Cardiac dysrhythmia
I495	Sick sinus syndrome	Cardiac dysrhythmia
I498	Other specified cardiac arrhythmias	Cardiac dysrhythmia
I499	Cardiac arrhythmia, unspecified	Cardiac dysrhythmia
R000	Tachycardia, unspecified	Cardiac dysrhythmia
R001	Bradycardia, unspecified	Cardiac dysrhythmia
R002	Palpitations	Cardiac dysrhythmia
R008	Other abnormalities of heart beat	Cardiac dysrhythmia
R009	Unspecified abnormalities of heart beat	Cardiac dysrhythmia
R010	Benign and innocent cardiac murmurs	Cardiac dysrhythmia
R011	Cardiac murmur, unspecified	Cardiac dysrhythmia
R012	Other cardiac sounds	Cardiac dysrhythmia
R030	Elevated blood-pressure reading, without diagnosis of hypertension	Cardiac dysrhythmia
R0989	Other specified symptoms and signs involving the circulatory and respiratory systems	CHF
I050	Rheumatic mitral stenosis	CHF
I051	Rheumatic mitral insufficiency	CHF
I052	Rheumatic mitral stenosis with insufficiency	CHF
I058	Other rheumatic mitral valve diseases	CHF
I059	Rheumatic mitral valve disease, unspecified	CHF
I060	Rheumatic aortic stenosis	CHF
I061	Rheumatic aortic insufficiency	CHF
I062	Rheumatic aortic stenosis with insufficiency	CHF
I068	Other rheumatic aortic valve diseases	CHF
I069	Rheumatic aortic valve disease, unspecified	CHF
I070	Rheumatic tricuspid stenosis	CHF
I071	Rheumatic tricuspid insufficiency	CHF
I072	Rheumatic tricuspid stenosis and insufficiency	CHF
I078	Other rheumatic tricuspid valve diseases	CHF
I079	Rheumatic tricuspid valve disease, unspecified	CHF
I080	Rheumatic disorders of both mitral and aortic valves	CHF
I081	Rheumatic disorders of both mitral and tricuspid valves	CHF
I082	Rheumatic disorders of both aortic and tricuspid valves	CHF
I083	Combined rheumatic disorders of mitral, aortic and tricuspid valves	CHF
I088	Other rheumatic multiple valve diseases	CHF
I089	Rheumatic multiple valve disease, unspecified	CHF
I090	Rheumatic myocarditis	CHF
I091	Rheumatic diseases of endocardium, valve unspecified	CHF
I092	Chronic rheumatic pericarditis	CHF
I0981	Rheumatic heart failure	CHF
I0989	Other specified rheumatic heart diseases	CHF
I502	Other CHF	CHF
I503	Other CHF	CHF
I099	Rheumatic heart disease, unspecified	CHF
I2101	ST elevation (STEMI) myocardial infarction involving left main coronary artery	Acute MI
I2102	ST elevation (STEMI) myocardial infarction involving left anterior descending coronary artery	Acute MI
I2109	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior	Acute MI
I2111	ST elevation (STEMI) myocardial infarction involving right coronary artery	Acute MI
I2119	ST elevation (STEMI) myocardial infarction involving other coronary artery of inferior	Acute MI
I2121	ST elevation (STEMI) myocardial infarction involving left circumflex coronary artery	Acute MI
I2129	ST elevation (STEMI) myocardial infarction involving other sites	Acute MI
I213	ST elevation (STEMI) myocardial infarction of unspecified site	Acute MI
I214	Non-ST elevation (NSTEMI) myocardial infarction	Acute MI
I219	Acute myocardial infarction, unspecified	Acute MI
I21A1	Myocardial infarction type 2	Acute MI
I21A9	Other myocardial infarction type	Acute MI
I220	Subsequent ST elevation (STEMI) myocardial infarction of anterior wall	Acute MI
I221	Subsequent ST elevation (STEMI) myocardial infarction of inferior wall	Acute MI
I222	Subsequent non-ST elevation (NSTEMI) myocardial infarction	Acute MI

I228	Subsequent ST elevation (STEMI) myocardial infarction of other sites	Acute MI
I229	Subsequent ST elevation (STEMI) myocardial infarction of unspecified site	Acute MI
A3681	Diphtheritic cardiomyopathy	Myocarditis and cardiomyopathy
B3320	Viral carditis, unspecified	Myocarditis and cardiomyopathy
B3322	Viral myocarditis	Myocarditis and cardiomyopathy
B3324	Viral cardiomyopathy	Myocarditis and cardiomyopathy
B5881	Toxoplasma myocarditis	Myocarditis and cardiomyopathy
I255	Ischemic cardiomyopathy	Myocarditis and cardiomyopathy
I400	Infective myocarditis	Myocarditis and cardiomyopathy
I401	Isolated myocarditis	Myocarditis and cardiomyopathy
I408	Other acute myocarditis	Myocarditis and cardiomyopathy
I409	Acute myocarditis, unspecified	Myocarditis and cardiomyopathy
I41	Myocarditis in diseases classified elsewhere	Myocarditis and cardiomyopathy
I420	Dilated cardiomyopathy	Myocarditis and cardiomyopathy
I421	Obstructive hypertrophic cardiomyopathy	Myocarditis and cardiomyopathy
I422	Other hypertrophic cardiomyopathy	Myocarditis and cardiomyopathy
I423	Endomyocardial (eosinophilic) disease	Myocarditis and cardiomyopathy
I424	Endocardial fibroelastosis	Myocarditis and cardiomyopathy
I425	Other restrictive cardiomyopathy	Myocarditis and cardiomyopathy
I428	Other cardiomyopathies	Myocarditis and cardiomyopathy
I429	Cardiomyopathy, unspecified	Myocarditis and cardiomyopathy
I43	Cardiomyopathy in diseases classified elsewhere	Myocarditis and cardiomyopathy
I514	Myocarditis, unspecified	Myocarditis and cardiomyopathy
J1082	Influenza due to other identified influenza virus with myocarditis	Myocarditis and cardiomyopathy
J1182	Influenza due to unidentified influenza virus with myocarditis	Myocarditis and cardiomyopathy
O903	Peripartum cardiomyopathy	Myocarditis and cardiomyopathy
B3321	Viral endocarditis	Myocarditis and cardiomyopathy
I27	Pulmonary hypertension (all subcodes)	Pulmonary hypertension
I10	Essential (primary) hypertension	Hypertension
I11	Hypertensive heart disease	Hypertension
I12	Hypertensive chronic kidney disease	Hypertension
I13	Hypertensive heart and chronic kidney disease	Hypertension
I15	Secondary hypertension	Hypertension
I16	Hypertensive crisis	Hypertension
R570	Cardiogenic shock	Cardiogenic shock
<b>Hemolytic and vascular system disorders</b>		
D473	Essential (hemorrhagic) thrombocythemia	Coagulation and hemorrhagic
D65	Disseminated intravascular coagulation [defibrination syndrome]	Coagulation and hemorrhagic
D68311	Acquired hemophilia	Coagulation and hemorrhagic
D68312	Antiphospholipid antibody with hemorrhagic disorder	Coagulation and hemorrhagic
D68318	Other hemorrhagic disorder due to intrinsic circulating anticoagulants, antibodies, or inhibitors	Coagulation and hemorrhagic
D6832	Hemorrhagic disorder due to extrinsic circulating anticoagulants	Coagulation and hemorrhagic
D684	Acquired coagulation factor deficiency	Coagulation and hemorrhagic
D6851	Activated protein C resistance	Coagulation and hemorrhagic
D6852	Prothrombin gene mutation	Coagulation and hemorrhagic
D6859	Other primary thrombophilia	Coagulation and hemorrhagic
D6861	Antiphospholipid syndrome	Coagulation and hemorrhagic
D6862	Lupus anticoagulant syndrome	Coagulation and hemorrhagic
D6869	Other thrombophilia	Coagulation and hemorrhagic
D688	Other specified coagulation defects	Coagulation and hemorrhagic
D689	Coagulation defect, unspecified	Coagulation and hemorrhagic
D690	Allergic purpura	Coagulation and hemorrhagic
D691	Qualitative platelet defects	Coagulation and hemorrhagic
D692	Other nonthrombocytopenic purpura	Coagulation and hemorrhagic
D693	Immune thrombocytopenic purpura	Coagulation and hemorrhagic
D6941	Evans syndrome	Coagulation and hemorrhagic
D6942	Congenital and hereditary thrombocytopenia purpura	Coagulation and hemorrhagic
D6949	Other primary thrombocytopenia	Coagulation and hemorrhagic
D6951	Posttransfusion purpura	Coagulation and hemorrhagic
D6959	Other secondary thrombocytopenia	Coagulation and hemorrhagic
D696	Thrombocytopenia, unspecified	Coagulation and hemorrhagic
D698	Other specified hemorrhagic conditions	Coagulation and hemorrhagic
D699	Hemorrhagic condition, unspecified	Coagulation and hemorrhagic
D7582	Heparin induced thrombocytopenia (HIT)	Coagulation and hemorrhagic
D75838	Other thrombocytosis	Coagulation and hemorrhagic
D75839	Thrombocytosis, unspecified	Coagulation and hemorrhagic
M362	Hemophilic arthropathy	Coagulation and hemorrhagic

D473	Essential (hemorrhagic) thrombocythemia	Coagulation and hemorrhagic
D65	Disseminated intravascular coagulation [defibrination syndrome]	Coagulation and hemorrhagic
D68311	Acquired hemophilia	Coagulation and hemorrhagic
D68312	Antiphospholipid antibody with hemorrhagic disorder	Coagulation and hemorrhagic
D68318	Other hemorrhagic disorder due to intrinsic circulating anticoagulants, antibodies, or inhibitors	Coagulation and hemorrhagic
D6832	Hemorrhagic disorder due to extrinsic circulating anticoagulants	Coagulation and hemorrhagic
D684	Acquired coagulation factor deficiency	Coagulation and hemorrhagic
D6851	Activated protein C resistance	Coagulation and hemorrhagic
D6852	Prothrombin gene mutation	Coagulation and hemorrhagic
D6859	Other primary thrombophilia	Coagulation and hemorrhagic
D6861	Antiphospholipid syndrome	Coagulation and hemorrhagic
D6862	Lupus anticoagulant syndrome	Coagulation and hemorrhagic
D6869	Other thrombophilia	Coagulation and hemorrhagic
D688	Other specified coagulation defects	Coagulation and hemorrhagic
D689	Coagulation defect, unspecified	Coagulation and hemorrhagic
D690	Allergic purpura	Coagulation and hemorrhagic
D691	Qualitative platelet defects	Coagulation and hemorrhagic
D692	Other nonthrombocytopenic purpura	Coagulation and hemorrhagic
D693	Immune thrombocytopenic purpura	Coagulation and hemorrhagic
D6941	Evans syndrome	Coagulation and hemorrhagic
D6942	Congenital and hereditary thrombocytopenia purpura	Coagulation and hemorrhagic
D6949	Other primary thrombocytopenia	Coagulation and hemorrhagic
D6951	Posttransfusion purpura	Coagulation and hemorrhagic
D6959	Other secondary thrombocytopenia	Coagulation and hemorrhagic
D696	Thrombocytopenia, unspecified	Coagulation and hemorrhagic
D698	Other specified hemorrhagic conditions	Coagulation and hemorrhagic
D699	Hemorrhagic condition, unspecified	Coagulation and hemorrhagic
D7582	Heparin induced thrombocytopenia (HIT)	Coagulation and hemorrhagic
D75838	Other thrombocytosis	Coagulation and hemorrhagic
D75839	Thrombocytosis, unspecified	Coagulation and hemorrhagic
M362	Hemophilic arthropathy	Coagulation and hemorrhagic
D686	Other thrombophilia	Coagulation and hemorrhagic
D72.819	Decreased white blood cell count	Coagulation and hemorrhagic
I82401	Acute embolism and thrombosis of unspecified deep veins of right lower	Thromboembolic event
I82402	Acute embolism and thrombosis of unspecified deep veins of left lower	Thromboembolic event
I82403	Acute embolism and thrombosis of unspecified deep veins of lower extremity,	Thromboembolic event
I82409	Acute embolism and thrombosis of unspecified deep veins of unspecified lower	Thromboembolic event
I82491	Acute embolism and thrombosis of other specified deep vein of right	Thromboembolic event
I82492	Acute embolism and thrombosis of other specified deep vein of left	Thromboembolic event
I82493	Acute embolism and thrombosis of other specified deep vein of lower	Thromboembolic event
I82499	Acute embolism and thrombosis of other specified deep vein of unspecified	Thromboembolic event
I824Y1	Acute embolism and thrombosis of unspecified deep veins of right proximal	Thromboembolic event
I824Y2	Acute embolism and thrombosis of unspecified deep veins of left proximal	Thromboembolic event
I824Y3	Acute embolism and thrombosis of unspecified deep veins of proximal lower	Thromboembolic event
I824Y9	Acute embolism and thrombosis of unspecified deep veins of unspecified proximal	Thromboembolic event
I824Z1	Acute embolism and thrombosis of unspecified deep veins of right distal	Thromboembolic event
I824Z2	Acute embolism and thrombosis of unspecified deep veins of left distal	Thromboembolic event
I824Z3	Acute embolism and thrombosis of unspecified deep veins of distal lower	Thromboembolic event
I824Z9	Acute embolism and thrombosis of unspecified deep veins of unspecified distal	Thromboembolic event
I82621	Acute embolism and thrombosis of deep veins of right upper extremity	Thromboembolic event
I82622	Acute embolism and thrombosis of deep veins of left upper extremity	Thromboembolic event
I82623	Acute embolism and thrombosis of deep veins of upper extremity, bilateral	Thromboembolic event
I82629	Acute embolism and thrombosis of deep veins of unspecified upper extremity	Thromboembolic event
I82501	Chronic embolism and thrombosis of unspecified deep veins of right lower	Thromboembolic event
I82502	Chronic embolism and thrombosis of unspecified deep veins of left lower	Thromboembolic event
I82503	Chronic embolism and thrombosis of unspecified deep veins of lower extremity,	Thromboembolic event
I82509	Chronic embolism and thrombosis of unspecified deep veins of unspecified lower	Thromboembolic event
I82591	Chronic embolism and thrombosis of other specified deep vein of right	Thromboembolic event
I82592	Chronic embolism and thrombosis of other specified deep vein of left	Thromboembolic event
I82593	Chronic embolism and thrombosis of other specified deep vein of lower	Thromboembolic event
I82599	Chronic embolism and thrombosis of other specified deep vein of unspecified	Thromboembolic event
I825Y1	Chronic embolism and thrombosis of unspecified deep veins of right proximal	Thromboembolic event
I825Y2	Chronic embolism and thrombosis of unspecified deep veins of left proximal	Thromboembolic event
I825Y3	Chronic embolism and thrombosis of unspecified deep veins of proximal lower	Thromboembolic event
I825Y9	Chronic embolism and thrombosis of unspecified deep veins of unspecified proximal	Thromboembolic event
I825Z1	Chronic embolism and thrombosis of unspecified deep veins of right distal	Thromboembolic event
I825Z2	Chronic embolism and thrombosis of unspecified deep veins of left distal	Thromboembolic event

I825Z3	Chronic embolism and thrombosis of unspecified deep veins of distal lower	Thromboembolic event
I825Z9	Chronic embolism and thrombosis of unspecified deep veins of unspecified distal	Thromboembolic event
I82721	Chronic embolism and thrombosis of deep veins of right upper extremity	Thromboembolic event
I82722	Chronic embolism and thrombosis of deep veins of left upper extremity	Thromboembolic event
I82723	Chronic embolism and thrombosis of deep veins of upper extremity, bilateral	Thromboembolic event
I82729	Chronic embolism and thrombosis of deep veins of unspecified upper extremity	Thromboembolic event
I82	Other venous embolism and thrombosis (all subcodes)	Thromboembolic event
G460	Middle cerebral artery syndrome	Cerebrovascular disease
G461	Anterior cerebral artery syndrome	Cerebrovascular disease
G462	Posterior cerebral artery syndrome	Cerebrovascular disease
G463	Brain stem stroke syndrome	Cerebrovascular disease
G464	Cerebellar stroke syndrome	Cerebrovascular disease
G465	Pure motor lacunar syndrome	Cerebrovascular disease
G466	Pure sensory lacunar syndrome	Cerebrovascular disease
G467	Other lacunar syndromes	Cerebrovascular disease
G468	Other vascular syndromes of brain in cerebrovascular diseases	Cerebrovascular disease
I671	Cerebral aneurysm, nonruptured	Cerebrovascular disease
I672	Cerebral atherosclerosis	Cerebrovascular disease
I673	Progressive vascular leukoencephalopathy	Cerebrovascular disease
I675	Moyamoya disease	Cerebrovascular disease
I676	Nonpyogenic thrombosis of intracranial venous system	Cerebrovascular disease
I677	Cerebral arteritis, not elsewhere classified	Cerebrovascular disease
I6781	Acute cerebrovascular insufficiency	Cerebrovascular disease
I6782	Cerebral ischemia	Cerebrovascular disease
I6783	Posterior reversible encephalopathy syndrome	Cerebrovascular disease
I67841	Reversible cerebrovascular vasoconstriction syndrome	Cerebrovascular disease
I67848	Other cerebrovascular vasospasm and vasoconstriction	Cerebrovascular disease
I67850	Cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy	Cerebrovascular disease
I67858	Other hereditary cerebrovascular disease	Cerebrovascular disease
I6789	Other cerebrovascular disease	Cerebrovascular disease
I679	Cerebrovascular disease, unspecified	Cerebrovascular disease
I680	Cerebral amyloid angiopathy	Cerebrovascular disease
I682	Cerebral arteritis in other diseases classified elsewhere	Cerebrovascular disease
I688	Other cerebrovascular disorders in diseases classified elsewhere	Cerebrovascular disease
I60	Nontraumatic subarachnoid hemorrhage	Cerebrovascular disease
I61	Nontraumatic intracerebral hemorrhage	Cerebrovascular disease
I62	Other and unspecified nontraumatic intracranial hemorrhage	Cerebrovascular disease
I63	Cerebral infarction	Cerebrovascular disease
I69	Sequelae of cerebrovascular disease	Cerebrovascular disease
I679	Cerebrovascular disease, unspecified	Cerebrovascular disease
I680	Cerebral amyloid angiopathy	Cerebrovascular disease
I682	Cerebral arteritis in other diseases classified elsewhere	Cerebrovascular disease
I688	Other cerebrovascular disorders in diseases classified elsewhere	Cerebrovascular disease
I60	Nontraumatic subarachnoid hemorrhage	Cerebrovascular disease
I61	Nontraumatic intracerebral hemorrhage	Cerebrovascular disease
I62	Other and unspecified nontraumatic intracranial hemorrhage	Cerebrovascular disease
I63	Cerebral infarction	Cerebrovascular disease
I69	Sequelae of cerebrovascular disease	Cerebrovascular disease
<b>Respiratory System disorders</b>		
J4520	Mild intermittent asthma, uncomplicated	Asthma
J4521	Mild intermittent asthma with (acute) exacerbation	Asthma
J4522	Mild intermittent asthma with status asthmaticus	Asthma
J4530	Mild persistent asthma, uncomplicated	Asthma
J4531	Mild persistent asthma with (acute) exacerbation	Asthma
J4532	Mild persistent asthma with status asthmaticus	Asthma
J4540	Moderate persistent asthma, uncomplicated	Asthma
J4541	Moderate persistent asthma with (acute) exacerbation	Asthma
J4542	Moderate persistent asthma with status asthmaticus	Asthma
J4550	Severe persistent asthma, uncomplicated	Asthma
J4551	Severe persistent asthma with (acute) exacerbation	Asthma
J4552	Severe persistent asthma with status asthmaticus	Asthma
J45901	Unspecified asthma with (acute) exacerbation	Asthma
J45902	Unspecified asthma with status asthmaticus	Asthma
J45909	Unspecified asthma, uncomplicated	Asthma
J45990	Exercise induced bronchospasm	Asthma
J45991	Cough variant asthma	Asthma
J45998	Other asthma	Asthma

R040	Epistaxis	Respiratory symptoms
R041	Hemorrhage from throat	Respiratory symptoms
R042	Hemoptysis	Respiratory symptoms
R0481	Acute idiopathic pulmonary hemorrhage in infants	Respiratory symptoms
R0489	Hemorrhage from other sites in respiratory passages	Respiratory symptoms
R049	Hemorrhage from respiratory passages, unspecified	Respiratory symptoms
R05	Cough	Respiratory symptoms
R051	Acute cough	Respiratory symptoms
R052	Subacute cough	Respiratory symptoms
R053	Chronic cough	Respiratory symptoms
R054	Cough syncope	Respiratory symptoms
R058	Other specified cough	Respiratory symptoms
R059	Cough, unspecified	Respiratory symptoms
R0600	Dyspnea, unspecified	Respiratory symptoms
R0601	Orthopnea	Respiratory symptoms
R0602	Shortness of breath	Respiratory symptoms
R0603	Acute respiratory distress	Respiratory symptoms
R0609	Other forms of dyspnea	Respiratory symptoms
R061	Stridor	Respiratory symptoms
R062	Wheezing	Respiratory symptoms
R064	Hyperventilation	Respiratory symptoms
R066	Hiccough	Respiratory symptoms
R067	Sneezing	Respiratory symptoms
R0681	Apnea, not elsewhere classified	Respiratory symptoms
R0682	Tachypnea, not elsewhere classified	Respiratory symptoms
R0689	Other abnormalities of breathing	Respiratory symptoms
R069	Unspecified abnormalities of breathing	Respiratory symptoms
R070	Pain in throat	Respiratory symptoms
R071	Chest pain on breathing	Respiratory symptoms
R0781	Pleurodynia	Respiratory symptoms
R0782	Intercostal pain	Respiratory symptoms
R0901	Asphyxia	Respiratory symptoms
R0902	Hypoxemia	Respiratory symptoms
R093	Abnormal sputum	Respiratory symptoms
R0981	Nasal congestion	Respiratory symptoms
R0982	Postnasal drip	Respiratory symptoms
R072	pleurodynia	Respiratory symptoms
R078	intercostal	Respiratory symptoms
R079	other chest pain	Respiratory symptoms
I2601	Septic pulmonary embolism with acute cor pulmonale	Acute pulmonary embolism
I2602	Saddle embolus of pulmonary artery with acute cor pulmonale	Acute pulmonary embolism
I2609	Other pulmonary embolism with acute cor pulmonale	Acute pulmonary embolism
I2690	Septic pulmonary embolism without acute cor pulmonale	Acute pulmonary embolism
I2692	Saddle embolus of pulmonary artery without acute cor pulmonale	Acute pulmonary embolism
I2693	Single subsegmental pulmonary embolism without acute cor pulmonale	Acute pulmonary embolism
I2694	Multiple subsegmental pulmonary emboli without acute cor pulmonale	Acute pulmonary embolism
I2699	Other pulmonary embolism without acute cor pulmonale	Acute pulmonary embolism
J96.10	Chronic respiratory failure unspecified whether with hypoxia or hypercapnia	COPD and Bronchitis
J96.11	Chronic respiratory failure WITH HYPOXIA	COPD and Bronchitis
J96.12	Chronic respiratory failure WITH HYPERCAPNIA	COPD and Bronchitis
J20	Acute bronchitis	COPD and Bronchitis
J40	Bronchitis, not specified as acute or chronic	COPD and Bronchitis
J41	Simple and mucopurulent chronic bronchitis	COPD and Bronchitis
J42	Unspecified chronic bronchitis	COPD and Bronchitis
J84	Interstitial lung disease	Interstitial lung disease
J960	Acute respiratory failure	Acute respiratory failure
J81	Pulmonary edema	Pulmonary edema
J4520	Mild intermittent asthma, uncomplicated	Asthma
J4521	Mild intermittent asthma with (acute) exacerbation	Asthma
J4522	Mild intermittent asthma with status asthmaticus	Asthma
J4530	Mild persistent asthma, uncomplicated	Asthma
J4531	Mild persistent asthma with (acute) exacerbation	Asthma
J4532	Mild persistent asthma with status asthmaticus	Asthma
J4540	Moderate persistent asthma, uncomplicated	Asthma
J4541	Moderate persistent asthma with (acute) exacerbation	Asthma
J4542	Moderate persistent asthma with status asthmaticus	Asthma
J4550	Severe persistent asthma, uncomplicated	Asthma



J4551	Severe persistent asthma with (acute) exacerbation	Asthma
J4552	Severe persistent asthma with status asthmaticus	Asthma
J45901	Unspecified asthma with (acute) exacerbation	Asthma
J45902	Unspecified asthma with status asthmaticus	Asthma
J45909	Unspecified asthma, uncomplicated	Asthma
J45990	Exercise induced bronchospasm	Asthma
J45991	Cough variant asthma	Asthma
J45998	Other asthma	Asthma
R040	Epistaxis	Respiratory symptoms
R041	Hemorrhage from throat	Respiratory symptoms
R042	Hemoptysis	Respiratory symptoms
R0481	Acute idiopathic pulmonary hemorrhage in infants	Respiratory symptoms
R0489	Hemorrhage from other sites in respiratory passages	Respiratory symptoms
R049	Hemorrhage from respiratory passages, unspecified	Respiratory symptoms
R05	Cough	Respiratory symptoms
R051	Acute cough	Respiratory symptoms
R052	Subacute cough	Respiratory symptoms
R053	Chronic cough	Respiratory symptoms
R054	Cough syncope	Respiratory symptoms
R058	Other specified cough	Respiratory symptoms
R059	Cough, unspecified	Respiratory symptoms
R0600	Dyspnea, unspecified	Respiratory symptoms
R0601	Orthopnea	Respiratory symptoms
R0602	Shortness of breath	Respiratory symptoms
R0603	Acute respiratory distress	Respiratory symptoms
R0609	Other forms of dyspnea	Respiratory symptoms
R061	Stridor	Respiratory symptoms
R062	Wheezing	Respiratory symptoms
R064	Hyperventilation	Respiratory symptoms
R066	Hiccough	Respiratory symptoms
R067	Sneezing	Respiratory symptoms
R0681	Apnea, not elsewhere classified	Respiratory symptoms
R0682	Tachypnea, not elsewhere classified	Respiratory symptoms
R0689	Other abnormalities of breathing	Respiratory symptoms
R069	Unspecified abnormalities of breathing	Respiratory symptoms
R070	Pain in throat	Respiratory symptoms
R071	Chest pain on breathing	Respiratory symptoms
R0781	Pleurodynia	Respiratory symptoms
R0782	Intercostal pain	Respiratory symptoms
R0901	Asphyxia	Respiratory symptoms
R0902	Hypoxemia	Respiratory symptoms
R093	Abnormal sputum	Respiratory symptoms
R0981	Nasal congestion	Respiratory symptoms
R0982	Postnasal drip	Respiratory symptoms
R072	pleurodynia	Respiratory symptoms
R078	intercostal	Respiratory symptoms
R079	other chest pain	Respiratory symptoms
I2601	Septic pulmonary embolism with acute cor pulmonale	Acute pulmonary embolism
I2602	Saddle embolus of pulmonary artery with acute cor pulmonale	Acute pulmonary embolism
I2609	Other pulmonary embolism with acute cor pulmonale	Acute pulmonary embolism
I2690	Septic pulmonary embolism without acute cor pulmonale	Acute pulmonary embolism
I2692	Saddle embolus of pulmonary artery without acute cor pulmonale	Acute pulmonary embolism
I2693	Single subsegmental pulmonary embolism without acute cor pulmonale	Acute pulmonary embolism
I2694	Multiple subsegmental pulmonary emboli without acute cor pulmonale	Acute pulmonary embolism
I2699	Other pulmonary embolism without acute cor pulmonale	Acute pulmonary embolism
J96.10	Chronic respiratory failure unspecified whether with hypoxia or hypercapnia	COPD and Bronchitis
J96.11	Chronic respiratory failure WITH HYPOXIA	COPD and Bronchitis
J96.12	Chronic respiratory failure WITH HYPERCAPNIA	COPD and Bronchitis
J20	Acute bronchitis	COPD and Bronchitis
J40	Bronchitis, not specified as acute or chronic	COPD and Bronchitis
J41	Simple and mucopurulent chronic bronchitis	COPD and Bronchitis
J42	Unspecified chronic bronchitis	COPD and Bronchitis
J84	Interstitial lung disease	Interstitial lung disease
J960	Acute respiratory failure	Acute respiratory failure
J81	Pulmonary edema	Pulmonary edema
<b>Musculoskeletal system disorders</b>		
R531	Weakness	Malaise and fatigue

R5381	Other malaise	Malaise and fatigue
R5382	Chronic fatigue, unspecified	Malaise and fatigue
R5383	Other fatigue	Malaise and fatigue
M2550	Pain in unspecified joint	Musculoskeletal pain
M25511	Pain in right shoulder	Musculoskeletal pain
M25512	Pain in left shoulder	Musculoskeletal pain
M25519	Pain in unspecified shoulder	Musculoskeletal pain
M25521	Pain in right elbow	Musculoskeletal pain
M25522	Pain in left elbow	Musculoskeletal pain
M25529	Pain in unspecified elbow	Musculoskeletal pain
M25531	Pain in right wrist	Musculoskeletal pain
M25532	Pain in left wrist	Musculoskeletal pain
M25539	Pain in unspecified wrist	Musculoskeletal pain
M25541	Pain in joints of right hand	Musculoskeletal pain
M25542	Pain in joints of left hand	Musculoskeletal pain
M25549	Pain in joints of unspecified hand	Musculoskeletal pain
M25551	Pain in right hip	Musculoskeletal pain
M25552	Pain in left hip	Musculoskeletal pain
M25559	Pain in unspecified hip	Musculoskeletal pain
M25561	Pain in right knee	Musculoskeletal pain
M25562	Pain in left knee	Musculoskeletal pain
M25569	Pain in unspecified knee	Musculoskeletal pain
M25571	Pain in right ankle and joints of right foot	Musculoskeletal pain
M25572	Pain in left ankle and joints of left foot	Musculoskeletal pain
M25579	Pain in unspecified ankle and joints of unspecified foot	Musculoskeletal pain
M2559	Pain in other specified joint	Musculoskeletal pain
M2560	Stiffness of unspecified joint, not elsewhere classified	Musculoskeletal pain
M25611	Stiffness of right shoulder, not elsewhere classified	Musculoskeletal pain
M25612	Stiffness of left shoulder, not elsewhere classified	Musculoskeletal pain
M25619	Stiffness of unspecified shoulder, not elsewhere classified	Musculoskeletal pain
M25621	Stiffness of right elbow, not elsewhere classified	Musculoskeletal pain
M25622	Stiffness of left elbow, not elsewhere classified	Musculoskeletal pain
M25629	Stiffness of unspecified elbow, not elsewhere classified	Musculoskeletal pain
M25631	Stiffness of right wrist, not elsewhere classified	Musculoskeletal pain
M25632	Stiffness of left wrist, not elsewhere classified	Musculoskeletal pain
M25639	Stiffness of unspecified wrist, not elsewhere classified	Musculoskeletal pain
M25641	Stiffness of right hand, not elsewhere classified	Musculoskeletal pain
M25642	Stiffness of left hand, not elsewhere classified	Musculoskeletal pain
M25649	Stiffness of unspecified hand, not elsewhere classified	Musculoskeletal pain
M25651	Stiffness of right hip, not elsewhere classified	Musculoskeletal pain
M25652	Stiffness of left hip, not elsewhere classified	Musculoskeletal pain
M25659	Stiffness of unspecified hip, not elsewhere classified	Musculoskeletal pain
M25661	Stiffness of right knee, not elsewhere classified	Musculoskeletal pain
M25662	Stiffness of left knee, not elsewhere classified	Musculoskeletal pain
M25669	Stiffness of unspecified knee, not elsewhere classified	Musculoskeletal pain
M25671	Stiffness of right ankle, not elsewhere classified	Musculoskeletal pain
M25672	Stiffness of left ankle, not elsewhere classified	Musculoskeletal pain
M25673	Stiffness of unspecified ankle, not elsewhere classified	Musculoskeletal pain
M25674	Stiffness of right foot, not elsewhere classified	Musculoskeletal pain
M25675	Stiffness of left foot, not elsewhere classified	Musculoskeletal pain
M25676	Stiffness of unspecified foot, not elsewhere classified	Musculoskeletal pain
M2569	Stiffness of other specified joint, not elsewhere classified	Musculoskeletal pain
M546	Pain in thoracic spine	Musculoskeletal pain
M5481	Occipital neuralgia	Musculoskeletal pain
M5489	Other dorsalgia	Musculoskeletal pain
M549	Dorsalgia, unspecified	Musculoskeletal pain
M791	Myalgia	Musculoskeletal pain
M7910	Myalgia, unspecified site	Musculoskeletal pain
M7911	Myalgia of mastication muscle	Musculoskeletal pain
M7912	Myalgia of auxiliary muscles, head and neck	Musculoskeletal pain
M7918	Myalgia, other site	Musculoskeletal pain
M79601	Pain in right arm	Musculoskeletal pain
M79602	Pain in left arm	Musculoskeletal pain
M79603	Pain in arm, unspecified	Musculoskeletal pain
M79604	Pain in right leg	Musculoskeletal pain
M79605	Pain in left leg	Musculoskeletal pain
M79606	Pain in leg, unspecified	Musculoskeletal pain

M79609	Pain in unspecified limb	Musculoskeletal pain
M79621	Pain in right upper arm	Musculoskeletal pain
M79622	Pain in left upper arm	Musculoskeletal pain
M79629	Pain in unspecified upper arm	Musculoskeletal pain
M79631	Pain in right forearm	Musculoskeletal pain
M79632	Pain in left forearm	Musculoskeletal pain
M79639	Pain in unspecified forearm	Musculoskeletal pain
M79641	Pain in right hand	Musculoskeletal pain
M79642	Pain in left hand	Musculoskeletal pain
M79643	Pain in unspecified hand	Musculoskeletal pain
M79644	Pain in right finger(s)	Musculoskeletal pain
M79645	Pain in left finger(s)	Musculoskeletal pain
M79646	Pain in unspecified finger(s)	Musculoskeletal pain
M79651	Pain in right thigh	Musculoskeletal pain
M79652	Pain in left thigh	Musculoskeletal pain
M79659	Pain in unspecified thigh	Musculoskeletal pain
M79661	Pain in right lower leg	Musculoskeletal pain
M79662	Pain in left lower leg	Musculoskeletal pain
M79669	Pain in unspecified lower leg	Musculoskeletal pain
M79671	Pain in right foot	Musculoskeletal pain
M79672	Pain in left foot	Musculoskeletal pain
M79673	Pain in unspecified foot	Musculoskeletal pain
M79674	Pain in right toe(s)	Musculoskeletal pain
M79675	Pain in left toe(s)	Musculoskeletal pain
M79676	Pain in unspecified toe(s)	Musculoskeletal pain
M60000	Infective myositis, unspecified right arm	Muscle disorders
M60001	Infective myositis, unspecified left arm	Muscle disorders
M60002	Infective myositis, unspecified arm	Muscle disorders
M60003	Infective myositis, unspecified right leg	Muscle disorders
M60004	Infective myositis, unspecified left leg	Muscle disorders
M60005	Infective myositis, unspecified leg	Muscle disorders
M60009	Infective myositis, unspecified site	Muscle disorders
M60011	Infective myositis, right shoulder	Muscle disorders
M60012	Infective myositis, left shoulder	Muscle disorders
M60019	Infective myositis, unspecified shoulder	Muscle disorders
M60021	Infective myositis, right upper arm	Muscle disorders
M60022	Infective myositis, left upper arm	Muscle disorders
M60029	Infective myositis, unspecified upper arm	Muscle disorders
M60031	Infective myositis, right forearm	Muscle disorders
M60032	Infective myositis, left forearm	Muscle disorders
M60039	Infective myositis, unspecified forearm	Muscle disorders
M60041	Infective myositis, right hand	Muscle disorders
M60042	Infective myositis, left hand	Muscle disorders
M60043	Infective myositis, unspecified hand	Muscle disorders
M60044	Infective myositis, right finger(s)	Muscle disorders
M60045	Infective myositis, left finger(s)	Muscle disorders
M60046	Infective myositis, unspecified finger(s)	Muscle disorders
M60051	Infective myositis, right thigh	Muscle disorders
M60052	Infective myositis, left thigh	Muscle disorders
M60059	Infective myositis, unspecified thigh	Muscle disorders
M60061	Infective myositis, right lower leg	Muscle disorders
M60062	Infective myositis, left lower leg	Muscle disorders
M60069	Infective myositis, unspecified lower leg	Muscle disorders
M60070	Infective myositis, right ankle	Muscle disorders
M60071	Infective myositis, left ankle	Muscle disorders
M60072	Infective myositis, unspecified ankle	Muscle disorders
M60073	Infective myositis, right foot	Muscle disorders
M60074	Infective myositis, left foot	Muscle disorders
M60075	Infective myositis, unspecified foot	Muscle disorders
M60076	Infective myositis, right toe(s)	Muscle disorders
M60077	Infective myositis, left toe(s)	Muscle disorders
M60078	Infective myositis, unspecified toe(s)	Muscle disorders
M6008	Infective myositis, other site	Muscle disorders
M6009	Infective myositis, multiple sites	Muscle disorders
M6010	Interstitial myositis of unspecified site	Muscle disorders
M60111	Interstitial myositis, right shoulder	Muscle disorders
M60112	Interstitial myositis, left shoulder	Muscle disorders

M60119	Interstitial myositis, unspecified shoulder	Muscle disorders
M60121	Interstitial myositis, right upper arm	Muscle disorders
M60122	Interstitial myositis, left upper arm	Muscle disorders
M60129	Interstitial myositis, unspecified upper arm	Muscle disorders
M60131	Interstitial myositis, right forearm	Muscle disorders
M60132	Interstitial myositis, left forearm	Muscle disorders
M60139	Interstitial myositis, unspecified forearm	Muscle disorders
M60141	Interstitial myositis, right hand	Muscle disorders
M60142	Interstitial myositis, left hand	Muscle disorders
M60149	Interstitial myositis, unspecified hand	Muscle disorders
M60151	Interstitial myositis, right thigh	Muscle disorders
M60152	Interstitial myositis, left thigh	Muscle disorders
M60159	Interstitial myositis, unspecified thigh	Muscle disorders
M60161	Interstitial myositis, right lower leg	Muscle disorders
M60162	Interstitial myositis, left lower leg	Muscle disorders
M60169	Interstitial myositis, unspecified lower leg	Muscle disorders
M60171	Interstitial myositis, right ankle and foot	Muscle disorders
M60172	Interstitial myositis, left ankle and foot	Muscle disorders
M60179	Interstitial myositis, unspecified ankle and foot	Muscle disorders
M6018	Interstitial myositis, other site	Muscle disorders
M6019	Interstitial myositis, multiple sites	Muscle disorders
M6080	Other myositis, unspecified site	Muscle disorders
M60811	Other myositis, right shoulder	Muscle disorders
M60812	Other myositis, left shoulder	Muscle disorders
M60819	Other myositis, unspecified shoulder	Muscle disorders
M60821	Other myositis, right upper arm	Muscle disorders
M60822	Other myositis, left upper arm	Muscle disorders
M60829	Other myositis, unspecified upper arm	Muscle disorders
M60831	Other myositis, right forearm	Muscle disorders
M60832	Other myositis, left forearm	Muscle disorders
M60839	Other myositis, unspecified forearm	Muscle disorders
M60841	Other myositis, right hand	Muscle disorders
M60842	Other myositis, left hand	Muscle disorders
M60849	Other myositis, unspecified hand	Muscle disorders
M60851	Other myositis, right thigh	Muscle disorders
M60852	Other myositis, left thigh	Muscle disorders
M60859	Other myositis, unspecified thigh	Muscle disorders
M60861	Other myositis, right lower leg	Muscle disorders
M60862	Other myositis, left lower leg	Muscle disorders
M60869	Other myositis, unspecified lower leg	Muscle disorders
M60871	Other myositis, right ankle and foot	Muscle disorders
M60872	Other myositis, left ankle and foot	Muscle disorders
M60879	Other myositis, unspecified ankle and foot	Muscle disorders
M6088	Other myositis, other site	Muscle disorders
M6089	Other myositis, multiple sites	Muscle disorders
M609	Myositis, unspecified	Muscle disorders
M6100	Myositis ossificans traumatica, unspecified site	Muscle disorders
M61011	Myositis ossificans traumatica, right shoulder	Muscle disorders
M61012	Myositis ossificans traumatica, left shoulder	Muscle disorders
M61019	Myositis ossificans traumatica, unspecified shoulder	Muscle disorders
M61021	Myositis ossificans traumatica, right upper arm	Muscle disorders
M61022	Myositis ossificans traumatica, left upper arm	Muscle disorders
M61029	Myositis ossificans traumatica, unspecified upper arm	Muscle disorders
M61031	Myositis ossificans traumatica, right forearm	Muscle disorders
M61032	Myositis ossificans traumatica, left forearm	Muscle disorders
M61039	Myositis ossificans traumatica, unspecified forearm	Muscle disorders
M61041	Myositis ossificans traumatica, right hand	Muscle disorders
M61042	Myositis ossificans traumatica, left hand	Muscle disorders
M61049	Myositis ossificans traumatica, unspecified hand	Muscle disorders
M61051	Myositis ossificans traumatica, right thigh	Muscle disorders
M61052	Myositis ossificans traumatica, left thigh	Muscle disorders
M61059	Myositis ossificans traumatica, unspecified thigh	Muscle disorders
M61061	Myositis ossificans traumatica, right lower leg	Muscle disorders
M61062	Myositis ossificans traumatica, left lower leg	Muscle disorders
M61069	Myositis ossificans traumatica, unspecified lower leg	Muscle disorders
M61071	Myositis ossificans traumatica, right ankle and foot	Muscle disorders
M61072	Myositis ossificans traumatica, left ankle and foot	Muscle disorders

M61079	Myositis ossificans traumatica, unspecified ankle and foot	Muscle disorders
M6108	Myositis ossificans traumatica, other site	Muscle disorders
M6109	Myositis ossificans traumatica, multiple sites	Muscle disorders
M6110	Myositis ossificans progressiva, unspecified site	Muscle disorders
M61111	Myositis ossificans progressiva, right shoulder	Muscle disorders
M61112	Myositis ossificans progressiva, left shoulder	Muscle disorders
M61119	Myositis ossificans progressiva, unspecified shoulder	Muscle disorders
M61121	Myositis ossificans progressiva, right upper arm	Muscle disorders
M61122	Myositis ossificans progressiva, left upper arm	Muscle disorders
M61129	Myositis ossificans progressiva, unspecified arm	Muscle disorders
M61131	Myositis ossificans progressiva, right forearm	Muscle disorders
M61132	Myositis ossificans progressiva, left forearm	Muscle disorders
M61139	Myositis ossificans progressiva, unspecified forearm	Muscle disorders
M61141	Myositis ossificans progressiva, right hand	Muscle disorders
M61142	Myositis ossificans progressiva, left hand	Muscle disorders
M61143	Myositis ossificans progressiva, unspecified hand	Muscle disorders
M61144	Myositis ossificans progressiva, right finger(s)	Muscle disorders
M61145	Myositis ossificans progressiva, left finger(s)	Muscle disorders
M61146	Myositis ossificans progressiva, unspecified finger(s)	Muscle disorders
M61151	Myositis ossificans progressiva, right thigh	Muscle disorders
M61152	Myositis ossificans progressiva, left thigh	Muscle disorders
M61159	Myositis ossificans progressiva, unspecified thigh	Muscle disorders
M61161	Myositis ossificans progressiva, right lower leg	Muscle disorders
M61162	Myositis ossificans progressiva, left lower leg	Muscle disorders
M61169	Myositis ossificans progressiva, unspecified lower leg	Muscle disorders
M61171	Myositis ossificans progressiva, right ankle	Muscle disorders
M61172	Myositis ossificans progressiva, left ankle	Muscle disorders
M61173	Myositis ossificans progressiva, unspecified ankle	Muscle disorders
M61174	Myositis ossificans progressiva, right foot	Muscle disorders
M61175	Myositis ossificans progressiva, left foot	Muscle disorders
M61176	Myositis ossificans progressiva, unspecified foot	Muscle disorders
M61177	Myositis ossificans progressiva, right toe(s)	Muscle disorders
M61178	Myositis ossificans progressiva, left toe(s)	Muscle disorders
M61179	Myositis ossificans progressiva, unspecified toe(s)	Muscle disorders
M6118	Myositis ossificans progressiva, other site	Muscle disorders
M6119	Myositis ossificans progressiva, multiple sites	Muscle disorders
M6120	Paralytic calcification and ossification of muscle, unspecified site	Muscle disorders
M61211	Paralytic calcification and ossification of muscle, right shoulder	Muscle disorders
M61212	Paralytic calcification and ossification of muscle, left shoulder	Muscle disorders
M61219	Paralytic calcification and ossification of muscle, unspecified shoulder	Muscle disorders
M61221	Paralytic calcification and ossification of muscle, right upper arm	Muscle disorders
M61222	Paralytic calcification and ossification of muscle, left upper arm	Muscle disorders
M61229	Paralytic calcification and ossification of muscle, unspecified upper arm	Muscle disorders
M61231	Paralytic calcification and ossification of muscle, right forearm	Muscle disorders
M61232	Paralytic calcification and ossification of muscle, left forearm	Muscle disorders
M61239	Paralytic calcification and ossification of muscle, unspecified forearm	Muscle disorders
M61241	Paralytic calcification and ossification of muscle, right hand	Muscle disorders
M61242	Paralytic calcification and ossification of muscle, left hand	Muscle disorders
M61249	Paralytic calcification and ossification of muscle, unspecified hand	Muscle disorders
M61251	Paralytic calcification and ossification of muscle, right thigh	Muscle disorders
M61252	Paralytic calcification and ossification of muscle, left thigh	Muscle disorders
M61259	Paralytic calcification and ossification of muscle, unspecified thigh	Muscle disorders
M61261	Paralytic calcification and ossification of muscle, right lower leg	Muscle disorders
M61262	Paralytic calcification and ossification of muscle, left lower leg	Muscle disorders
M61269	Paralytic calcification and ossification of muscle, unspecified lower leg	Muscle disorders
M61271	Paralytic calcification and ossification of muscle, right ankle and foot	Muscle disorders
M61272	Paralytic calcification and ossification of muscle, left ankle and foot	Muscle disorders
M61279	Paralytic calcification and ossification of muscle, unspecified ankle and foot	Muscle disorders
M6128	Paralytic calcification and ossification of muscle, other site	Muscle disorders
M6129	Paralytic calcification and ossification of muscle, multiple sites	Muscle disorders
M6130	Calcification and ossification of muscles associated with burns, unspecified site	Muscle disorders
M61311	Calcification and ossification of muscles associated with burns, right shoulder	Muscle disorders
M61312	Calcification and ossification of muscles associated with burns, left shoulder	Muscle disorders
M61319	Calcification and ossification of muscles associated with burns, unspecified shoulder	Muscle disorders
M61321	Calcification and ossification of muscles associated with burns, right upper arm	Muscle disorders
M61322	Calcification and ossification of muscles associated with burns, left upper arm	Muscle disorders
M61329	Calcification and ossification of muscles associated with burns, unspecified upper arm	Muscle disorders



M61331	Calcification and ossification of muscles associated with burns, right forearm	Muscle disorders
M61332	Calcification and ossification of muscles associated with burns, left forearm	Muscle disorders
M61339	Calcification and ossification of muscles associated with burns, unspecified forearm	Muscle disorders
M61341	Calcification and ossification of muscles associated with burns, right hand	Muscle disorders
M61342	Calcification and ossification of muscles associated with burns, left hand	Muscle disorders
M61349	Calcification and ossification of muscles associated with burns, unspecified hand	Muscle disorders
M61351	Calcification and ossification of muscles associated with burns, right thigh	Muscle disorders
M61352	Calcification and ossification of muscles associated with burns, left thigh	Muscle disorders
M61359	Calcification and ossification of muscles associated with burns, unspecified thigh	Muscle disorders
M61361	Calcification and ossification of muscles associated with burns, right lower leg	Muscle disorders
M61362	Calcification and ossification of muscles associated with burns, left lower leg	Muscle disorders
M61369	Calcification and ossification of muscles associated with burns, unspecified lower leg	Muscle disorders
M61371	Calcification and ossification of muscles associated with burns, right ankle and	Muscle disorders
M61372	Calcification and ossification of muscles associated with burns, left ankle and	Muscle disorders
M61379	Calcification and ossification of muscles associated with burns, unspecified ankle and	Muscle disorders
M6138	Calcification and ossification of muscles associated with burns, other site	Muscle disorders
M6139	Calcification and ossification of muscles associated with burns, multiple sites	Muscle disorders
M6140	Other calcification of muscle, unspecified site	Muscle disorders
M61411	Other calcification of muscle, right shoulder	Muscle disorders
M61412	Other calcification of muscle, left shoulder	Muscle disorders
M61419	Other calcification of muscle, unspecified shoulder	Muscle disorders
M61421	Other calcification of muscle, right upper arm	Muscle disorders
M61422	Other calcification of muscle, left upper arm	Muscle disorders
M61429	Other calcification of muscle, unspecified upper arm	Muscle disorders
M61431	Other calcification of muscle, right forearm	Muscle disorders
M61432	Other calcification of muscle, left forearm	Muscle disorders
M61439	Other calcification of muscle, unspecified forearm	Muscle disorders
M61441	Other calcification of muscle, right hand	Muscle disorders
M61442	Other calcification of muscle, left hand	Muscle disorders
M61449	Other calcification of muscle, unspecified hand	Muscle disorders
M61451	Other calcification of muscle, right thigh	Muscle disorders
M61452	Other calcification of muscle, left thigh	Muscle disorders
M61459	Other calcification of muscle, unspecified thigh	Muscle disorders
M61461	Other calcification of muscle, right lower leg	Muscle disorders
M61462	Other calcification of muscle, left lower leg	Muscle disorders
M61469	Other calcification of muscle, unspecified lower leg	Muscle disorders
M61471	Other calcification of muscle, right ankle and foot	Muscle disorders
M61472	Other calcification of muscle, left ankle and foot	Muscle disorders
M61479	Other calcification of muscle, unspecified ankle and foot	Muscle disorders
M6148	Other calcification of muscle, other site	Muscle disorders
M6149	Other calcification of muscle, multiple sites	Muscle disorders
M6150	Other ossification of muscle, unspecified site	Muscle disorders
M61511	Other ossification of muscle, right shoulder	Muscle disorders
M61512	Other ossification of muscle, left shoulder	Muscle disorders
M61519	Other ossification of muscle, unspecified shoulder	Muscle disorders
M61521	Other ossification of muscle, right upper arm	Muscle disorders
M61522	Other ossification of muscle, left upper arm	Muscle disorders
M61529	Other ossification of muscle, unspecified upper arm	Muscle disorders
M61531	Other ossification of muscle, right forearm	Muscle disorders
M61532	Other ossification of muscle, left forearm	Muscle disorders
M61539	Other ossification of muscle, unspecified forearm	Muscle disorders
M61541	Other ossification of muscle, right hand	Muscle disorders
M61542	Other ossification of muscle, left hand	Muscle disorders
M61549	Other ossification of muscle, unspecified hand	Muscle disorders
M61551	Other ossification of muscle, right thigh	Muscle disorders
M61552	Other ossification of muscle, left thigh	Muscle disorders
M61559	Other ossification of muscle, unspecified thigh	Muscle disorders
M61561	Other ossification of muscle, right lower leg	Muscle disorders
M61562	Other ossification of muscle, left lower leg	Muscle disorders
M61569	Other ossification of muscle, unspecified lower leg	Muscle disorders
M61571	Other ossification of muscle, right ankle and foot	Muscle disorders
M61572	Other ossification of muscle, left ankle and foot	Muscle disorders
M61579	Other ossification of muscle, unspecified ankle and foot	Muscle disorders
M6158	Other ossification of muscle, other site	Muscle disorders
M6159	Other ossification of muscle, multiple sites	Muscle disorders
M619	Calcification and ossification of muscle, unspecified	Muscle disorders
M6200	Separation of muscle (nontraumatic), unspecified site	Muscle disorders

M62011	Separation of muscle (nontraumatic), right shoulder	Muscle disorders
M62012	Separation of muscle (nontraumatic), left shoulder	Muscle disorders
M62019	Separation of muscle (nontraumatic), unspecified shoulder	Muscle disorders
M62021	Separation of muscle (nontraumatic), right upper arm	Muscle disorders
M62022	Separation of muscle (nontraumatic), left upper arm	Muscle disorders
M62029	Separation of muscle (nontraumatic), unspecified upper arm	Muscle disorders
M62031	Separation of muscle (nontraumatic), right forearm	Muscle disorders
M62032	Separation of muscle (nontraumatic), left forearm	Muscle disorders
M62039	Separation of muscle (nontraumatic), unspecified forearm	Muscle disorders
M62041	Separation of muscle (nontraumatic), right hand	Muscle disorders
M62042	Separation of muscle (nontraumatic), left hand	Muscle disorders
M62049	Separation of muscle (nontraumatic), unspecified hand	Muscle disorders
M62051	Separation of muscle (nontraumatic), right thigh	Muscle disorders
M62052	Separation of muscle (nontraumatic), left thigh	Muscle disorders
M62059	Separation of muscle (nontraumatic), unspecified thigh	Muscle disorders
M62061	Separation of muscle (nontraumatic), right lower leg	Muscle disorders
M62062	Separation of muscle (nontraumatic), left lower leg	Muscle disorders
M62069	Separation of muscle (nontraumatic), unspecified lower leg	Muscle disorders
M62071	Separation of muscle (nontraumatic), right ankle and foot	Muscle disorders
M62072	Separation of muscle (nontraumatic), left ankle and foot	Muscle disorders
M62079	Separation of muscle (nontraumatic), unspecified ankle and foot	Muscle disorders
M6208	Separation of muscle (nontraumatic), other site	Muscle disorders
M6210	Other rupture of muscle (nontraumatic), unspecified site	Muscle disorders
M62111	Other rupture of muscle (nontraumatic), right shoulder	Muscle disorders
M62112	Other rupture of muscle (nontraumatic), left shoulder	Muscle disorders
M62119	Other rupture of muscle (nontraumatic), unspecified shoulder	Muscle disorders
M62121	Other rupture of muscle (nontraumatic), right upper arm	Muscle disorders
M62122	Other rupture of muscle (nontraumatic), left upper arm	Muscle disorders
M62129	Other rupture of muscle (nontraumatic), unspecified upper arm	Muscle disorders
M62131	Other rupture of muscle (nontraumatic), right forearm	Muscle disorders
M62132	Other rupture of muscle (nontraumatic), left forearm	Muscle disorders
M62139	Other rupture of muscle (nontraumatic), unspecified forearm	Muscle disorders
M62141	Other rupture of muscle (nontraumatic), right hand	Muscle disorders
M62142	Other rupture of muscle (nontraumatic), left hand	Muscle disorders
M62149	Other rupture of muscle (nontraumatic), unspecified hand	Muscle disorders
M62151	Other rupture of muscle (nontraumatic), right thigh	Muscle disorders
M62152	Other rupture of muscle (nontraumatic), left thigh	Muscle disorders
M62159	Other rupture of muscle (nontraumatic), unspecified thigh	Muscle disorders
M62161	Other rupture of muscle (nontraumatic), right lower leg	Muscle disorders
M62162	Other rupture of muscle (nontraumatic), left lower leg	Muscle disorders
M62169	Other rupture of muscle (nontraumatic), unspecified lower leg	Muscle disorders
M62171	Other rupture of muscle (nontraumatic), right ankle and foot	Muscle disorders
M62172	Other rupture of muscle (nontraumatic), left ankle and foot	Muscle disorders
M62179	Other rupture of muscle (nontraumatic), unspecified ankle and foot	Muscle disorders
M6218	Other rupture of muscle (nontraumatic), other site	Muscle disorders
M6220	Nontraumatic ischemic infarction of muscle, unspecified site	Muscle disorders
M62211	Nontraumatic ischemic infarction of muscle, right shoulder	Muscle disorders
M62212	Nontraumatic ischemic infarction of muscle, left shoulder	Muscle disorders
M62219	Nontraumatic ischemic infarction of muscle, unspecified shoulder	Muscle disorders
M62221	Nontraumatic ischemic infarction of muscle, right upper arm	Muscle disorders
M62222	Nontraumatic ischemic infarction of muscle, left upper arm	Muscle disorders
M62229	Nontraumatic ischemic infarction of muscle, unspecified upper arm	Muscle disorders
M62231	Nontraumatic ischemic infarction of muscle, right forearm	Muscle disorders
M62232	Nontraumatic ischemic infarction of muscle, left forearm	Muscle disorders
M62239	Nontraumatic ischemic infarction of muscle, unspecified forearm	Muscle disorders
M62241	Nontraumatic ischemic infarction of muscle, right hand	Muscle disorders
M62242	Nontraumatic ischemic infarction of muscle, left hand	Muscle disorders
M62249	Nontraumatic ischemic infarction of muscle, unspecified hand	Muscle disorders
M62251	Nontraumatic ischemic infarction of muscle, right thigh	Muscle disorders
M62252	Nontraumatic ischemic infarction of muscle, left thigh	Muscle disorders
M62259	Nontraumatic ischemic infarction of muscle, unspecified thigh	Muscle disorders
M62261	Nontraumatic ischemic infarction of muscle, right lower leg	Muscle disorders
M62262	Nontraumatic ischemic infarction of muscle, left lower leg	Muscle disorders
M62269	Nontraumatic ischemic infarction of muscle, unspecified lower leg	Muscle disorders
M62271	Nontraumatic ischemic infarction of muscle, right ankle and foot	Muscle disorders
M62272	Nontraumatic ischemic infarction of muscle, left ankle and foot	Muscle disorders
M62279	Nontraumatic ischemic infarction of muscle, unspecified ankle and foot	Muscle disorders

M6228	Nontraumatic ischemic infarction of muscle, other site	Muscle disorders
M623	Immobilization syndrome (paraplegic)	Muscle disorders
M6240	Contracture of muscle, unspecified site	Muscle disorders
M62411	Contracture of muscle, right shoulder	Muscle disorders
M62412	Contracture of muscle, left shoulder	Muscle disorders
M62419	Contracture of muscle, unspecified shoulder	Muscle disorders
M62421	Contracture of muscle, right upper arm	Muscle disorders
M62422	Contracture of muscle, left upper arm	Muscle disorders
M62429	Contracture of muscle, unspecified upper arm	Muscle disorders
M62431	Contracture of muscle, right forearm	Muscle disorders
M62432	Contracture of muscle, left forearm	Muscle disorders
M62439	Contracture of muscle, unspecified forearm	Muscle disorders
M62441	Contracture of muscle, right hand	Muscle disorders
M62442	Contracture of muscle, left hand	Muscle disorders
M62449	Contracture of muscle, unspecified hand	Muscle disorders
M62451	Contracture of muscle, right thigh	Muscle disorders
M62452	Contracture of muscle, left thigh	Muscle disorders
M62459	Contracture of muscle, unspecified thigh	Muscle disorders
M62461	Contracture of muscle, right lower leg	Muscle disorders
M62462	Contracture of muscle, left lower leg	Muscle disorders
M62469	Contracture of muscle, unspecified lower leg	Muscle disorders
M62471	Contracture of muscle, right ankle and foot	Muscle disorders
M62472	Contracture of muscle, left ankle and foot	Muscle disorders
M62479	Contracture of muscle, unspecified ankle and foot	Muscle disorders
M6248	Contracture of muscle, other site	Muscle disorders
M6249	Contracture of muscle, multiple sites	Muscle disorders
M6250	Muscle wasting and atrophy, not elsewhere classified, unspecified site	Muscle disorders
M62511	Muscle wasting and atrophy, not elsewhere classified, right shoulder	Muscle disorders
M62512	Muscle wasting and atrophy, not elsewhere classified, left shoulder	Muscle disorders
M62519	Muscle wasting and atrophy, not elsewhere classified, unspecified shoulder	Muscle disorders
M62521	Muscle wasting and atrophy, not elsewhere classified, right upper arm	Muscle disorders
M62522	Muscle wasting and atrophy, not elsewhere classified, left upper arm	Muscle disorders
M62529	Muscle wasting and atrophy, not elsewhere classified, unspecified upper arm	Muscle disorders
M62531	Muscle wasting and atrophy, not elsewhere classified, right forearm	Muscle disorders
M62532	Muscle wasting and atrophy, not elsewhere classified, left forearm	Muscle disorders
M62539	Muscle wasting and atrophy, not elsewhere classified, unspecified forearm	Muscle disorders
M62541	Muscle wasting and atrophy, not elsewhere classified, right hand	Muscle disorders
M62542	Muscle wasting and atrophy, not elsewhere classified, left hand	Muscle disorders
M62549	Muscle wasting and atrophy, not elsewhere classified, unspecified hand	Muscle disorders
M62551	Muscle wasting and atrophy, not elsewhere classified, right thigh	Muscle disorders
M62552	Muscle wasting and atrophy, not elsewhere classified, left thigh	Muscle disorders
M62559	Muscle wasting and atrophy, not elsewhere classified, unspecified thigh	Muscle disorders
M62561	Muscle wasting and atrophy, not elsewhere classified, right lower leg	Muscle disorders
M62562	Muscle wasting and atrophy, not elsewhere classified, left lower leg	Muscle disorders
M62569	Muscle wasting and atrophy, not elsewhere classified, unspecified lower leg	Muscle disorders
M62571	Muscle wasting and atrophy, not elsewhere classified, right ankle and foot	Muscle disorders
M62572	Muscle wasting and atrophy, not elsewhere classified, left ankle and foot	Muscle disorders
M62579	Muscle wasting and atrophy, not elsewhere classified, unspecified ankle and foot	Muscle disorders
M6258	Muscle wasting and atrophy, not elsewhere classified, other site	Muscle disorders
M6259	Muscle wasting and atrophy, not elsewhere classified, multiple sites	Muscle disorders
M6281	Muscle weakness (generalized)	Muscle disorders
M6282	Rhabdomyolysis	Muscle disorders
M62831	Muscle spasm of calf	Muscle disorders
M62838	Other muscle spasm	Muscle disorders
M6284	Sarcopenia	Muscle disorders
M6289	Other specified disorders of muscle	Muscle disorders
M629	Disorder of muscle, unspecified	Muscle disorders
M6380	Disorders of muscle in diseases classified elsewhere, unspecified site	Muscle disorders
M63811	Disorders of muscle in diseases classified elsewhere, right shoulder	Muscle disorders
M63812	Disorders of muscle in diseases classified elsewhere, left shoulder	Muscle disorders
M63819	Disorders of muscle in diseases classified elsewhere, unspecified shoulder	Muscle disorders
M63821	Disorders of muscle in diseases classified elsewhere, right upper arm	Muscle disorders
M63822	Disorders of muscle in diseases classified elsewhere, left upper arm	Muscle disorders
M63829	Disorders of muscle in diseases classified elsewhere, unspecified upper arm	Muscle disorders
M63831	Disorders of muscle in diseases classified elsewhere, right forearm	Muscle disorders
M63832	Disorders of muscle in diseases classified elsewhere, left forearm	Muscle disorders
M63839	Disorders of muscle in diseases classified elsewhere, unspecified forearm	Muscle disorders

M63841	Disorders of muscle in diseases classified elsewhere, right hand	Muscle disorders
M63842	Disorders of muscle in diseases classified elsewhere, left hand	Muscle disorders
M63849	Disorders of muscle in diseases classified elsewhere, unspecified hand	Muscle disorders
M63851	Disorders of muscle in diseases classified elsewhere, right thigh	Muscle disorders
M63852	Disorders of muscle in diseases classified elsewhere, left thigh	Muscle disorders
M63859	Disorders of muscle in diseases classified elsewhere, unspecified thigh	Muscle disorders
M63861	Disorders of muscle in diseases classified elsewhere, right lower leg	Muscle disorders
M63862	Disorders of muscle in diseases classified elsewhere, left lower leg	Muscle disorders
M63869	Disorders of muscle in diseases classified elsewhere, unspecified lower leg	Muscle disorders
M63871	Disorders of muscle in diseases classified elsewhere, right ankle and foot	Muscle disorders
M63872	Disorders of muscle in diseases classified elsewhere, left ankle and foot	Muscle disorders
M63879	Disorders of muscle in diseases classified elsewhere, unspecified ankle and foot	Muscle disorders
M6388	Disorders of muscle in diseases classified elsewhere, other site	Muscle disorders
M6389	Disorders of muscle in diseases classified elsewhere, multiple sites	Muscle disorders
<b>Renal system disorders</b>		
N170	Acute kidney failure with tubular necrosis	Renal failure
N171	Acute kidney failure with acute cortical necrosis	Renal failure
N172	Acute kidney failure with medullary necrosis	Renal failure
N178	Other acute kidney failure	Renal failure
N179	Acute kidney failure, unspecified	Renal failure
N19	Unspecified kidney failure	Renal failure
N181	Chronic kidney disease, stage 1	Chronic Kidney Disease
N182	Chronic kidney disease, stage 2 (mild)	Chronic Kidney Disease
N183	Chronic kidney disease, stage 3 (moderate)	Chronic Kidney Disease
N1830	Chronic kidney disease, stage 3 unspecified	Chronic Kidney Disease
N1831	Chronic kidney disease, stage 3a	Chronic Kidney Disease
N1832	Chronic kidney disease, stage 3b	Chronic Kidney Disease
N184	Chronic kidney disease, stage 4 (severe)	Chronic Kidney Disease
N185	Chronic kidney disease, stage 5	Chronic Kidney Disease
N186	End stage renal disease	Chronic Kidney Disease
N189	Chronic kidney disease, unspecified	Chronic Kidney Disease
R880	Cloudy (hemodialysis) (peritoneal) dialysis effluent	Chronic Kidney Disease
<b>Gastro-intestinal system disorders</b>		
Other	specified and unspecified gastrointestinal disorders	Gastrointestinal and esophageal
K580	Irritable bowel syndrome with diarrhea	Gastrointestinal and esophageal
K581	Irritable bowel syndrome with constipation	Gastrointestinal and esophageal
K582	Mixed irritable bowel syndrome	Gastrointestinal and esophageal
K588	Other irritable bowel syndrome	Gastrointestinal and esophageal
K589	Irritable bowel syndrome without diarrhea	Gastrointestinal and esophageal
K5900	Constipation, unspecified	Gastrointestinal and esophageal
K5901	Slow transit constipation	Gastrointestinal and esophageal
K5902	Outlet dysfunction constipation	Gastrointestinal and esophageal
K5903	Drug induced constipation	Gastrointestinal and esophageal
K5904	Chronic idiopathic constipation	Gastrointestinal and esophageal
K5909	Other constipation	Gastrointestinal and esophageal
K591	Functional diarrhea	Gastrointestinal and esophageal
K592	Neurogenic bowel, not elsewhere classified	Gastrointestinal and esophageal
K598	Other specified functional intestinal disorders	Gastrointestinal and esophageal
K5989	Other specified functional intestinal disorders	Gastrointestinal and esophageal
K599	Functional intestinal disorder, unspecified	Gastrointestinal and esophageal
K929	Disease of digestive system, unspecified	Gastrointestinal and esophageal
K200	Eosinophilic esophagitis	Gastrointestinal and esophageal
K208	Other esophagitis	Gastrointestinal and esophageal
K2080	Other esophagitis without bleeding	Gastrointestinal and esophageal
K2081	Other esophagitis with bleeding	Gastrointestinal and esophageal
K209	Esophagitis, unspecified	Gastrointestinal and esophageal
K2090	Esophagitis, unspecified without bleeding	Gastrointestinal and esophageal
K2091	Esophagitis, unspecified with bleeding	Gastrointestinal and esophageal
K210	Gastro-esophageal reflux disease with esophagitis	Gastrointestinal and esophageal
K2100	Gastro-esophageal reflux disease with esophagitis, without bleeding	Gastrointestinal and esophageal
K2101	Gastro-esophageal reflux disease with esophagitis, with bleeding	Gastrointestinal and esophageal
K219	Gastro-esophageal reflux disease without esophagitis	Gastrointestinal and esophageal
K220	Achalasia of cardia	Gastrointestinal and esophageal
K2210	Ulcer of esophagus without bleeding	Gastrointestinal and esophageal
K2211	Ulcer of esophagus with bleeding	Gastrointestinal and esophageal
K222	Esophageal obstruction	Gastrointestinal and esophageal
K223	Perforation of esophagus	Gastrointestinal and esophageal

K224	Dyskinesia of esophagus	Gastrointestinal and esophageal
K225	Diverticulum of esophagus, acquired	Gastrointestinal and esophageal
K226	Gastro-esophageal laceration-hemorrhage syndrome	Gastrointestinal and esophageal
K228	Other specified diseases of esophagus	Gastrointestinal and esophageal
K2289	Other specified disease of esophagus	Gastrointestinal and esophageal
K229	Disease of esophagus, unspecified	Gastrointestinal and esophageal
K23	Disorders of esophagus in diseases classified elsewhere	Gastrointestinal and esophageal
<b>Neurological disorders</b>		
G933	Postviral fatigue syndrome	Neurological conditions
F05	Delirium or Encephalopathy	Neurological conditions
R40.0	Delirium or Encephalopathy	Neurological conditions
R41	Delirium or Encephalopathy	Neurological conditions
R44	Delirium or Encephalopathy	Neurological conditions
F01	Dementia	Neurological conditions
F02	Dementia	Neurological conditions
F03	Dementia	Neurological conditions
G31	Dementia	Neurological conditions
A85	Encephalitis	Neurological conditions
A86	Encephalitis	Neurological conditions
G04	Encephalitis	Neurological conditions
G05	Encephalitis	Neurological conditions
R29	Encephalitis	Neurological conditions
R26	Ataxia / Trouble walking	Neurological conditions
R27	Ataxia / Trouble walking	Neurological conditions
G26	Ataxia / Trouble walking	Neurological conditions
G50	Peripheral Nerve Disorders	Neurological conditions
G51	Peripheral Nerve Disorders	Neurological conditions
G52	Peripheral Nerve Disorders	Neurological conditions
G53	Peripheral Nerve Disorders	Neurological conditions
G54	Peripheral Nerve Disorders	Neurological conditions
G55	Peripheral Nerve Disorders	Neurological conditions
G56	Peripheral Nerve Disorders	Neurological conditions
G57	Peripheral Nerve Disorders	Neurological conditions
G58	Peripheral Nerve Disorders	Neurological conditions
G59	Peripheral Nerve Disorders	Neurological conditions
G61	Peripheral Nerve Disorders	Neurological conditions
G62	Peripheral Nerve Disorders	Neurological conditions
G64	Peripheral Nerve Disorders	Neurological conditions
G65	Peripheral Nerve Disorders	Neurological conditions
R438	Other disturbances of smell and taste	Smell and taste disturbances
R439	Unspecified disturbances of smell and taste	Smell and taste disturbances
R43	Disturbances of smell and taste (All sub-codes)	Smell and taste disturbances
G40	Epilepsy and recurrent seizures	Seizures
H53	Visual disturbances	Ophthalmologic conditions
H54	Visual impairment including blindness (binocular or monocular)	Ophthalmologic conditions
G21	Secondary parkinsonism	Parkinsonism
G24	Dystonia	Parkinsonism
G25	Other extrapyramidal and movement disorders	Parkinsonism
G90	Disorders of autonomic nervous system	Autonomic disorders
G43	Migraine	Headache
G44	Other headache syndromes	Headache
R51	Headache	Headache
G933	Postviral fatigue syndrome	Neurological conditions
<b>Skin and subcutaneous system disorders</b>		
L209	Atopic dermatitis	Skin disorders
L309	Eczema	Skin disorders
L501	Urticaria	Skin disorders
L508	Other Urticaria	Skin disorders
B001	Herpes viral vesicular dermatitis	Skin disorders
B09	Unspecified viral infection characterized by skin and mucous membrane lesions	Skin disorders
R21	ash and other nonspecific skin eruption	Skin disorders
R23	Cyanosis	Skin disorders
T691XXA	chilblains	Skin disorders
L63	Alopecia areata	Alopecia
L65	Other nonscarring hair loss	Alopecia
<b>Endocrine system disorders</b>		
E1010	Type 1 diabetes mellitus with ketoacidosis without coma	Type 1 diabetes



E1011	Type 1 diabetes mellitus with ketoacidosis with coma	Type 1 diabetes
E1021	Type 1 diabetes mellitus with diabetic nephropathy	Type 1 diabetes
E1022	Type 1 diabetes mellitus with diabetic chronic kidney disease	Type 1 diabetes
E1029	Type 1 diabetes mellitus with other diabetic kidney complication	Type 1 diabetes
E10311	Type 1 diabetes mellitus with unspecified diabetic retinopathy with macular edema	Type 1 diabetes
E10319	Type 1 diabetes mellitus with unspecified diabetic retinopathy without macular edema	Type 1 diabetes
E10321	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular	Type 1 diabetes
E103211	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular	Type 1 diabetes
E103212	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular	Type 1 diabetes
E103213	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular	Type 1 diabetes
E103219	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular	Type 1 diabetes
E10329	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular	Type 1 diabetes
E103291	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular	Type 1 diabetes
E103292	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular	Type 1 diabetes
E103293	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular	Type 1 diabetes
E103299	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular	Type 1 diabetes
E10331	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular	Type 1 diabetes
E103311	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular	Type 1 diabetes
E103312	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular	Type 1 diabetes
E103313	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular	Type 1 diabetes
E103319	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular	Type 1 diabetes
E10339	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular	Type 1 diabetes
E103391	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular	Type 1 diabetes
E103392	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular	Type 1 diabetes
E103393	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular	Type 1 diabetes
E103399	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular	Type 1 diabetes
E10341	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular	Type 1 diabetes
E103411	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular	Type 1 diabetes
E103412	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular	Type 1 diabetes
E103413	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular	Type 1 diabetes
E103419	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular	Type 1 diabetes
E10349	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular	Type 1 diabetes
E103491	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular	Type 1 diabetes
E103492	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular	Type 1 diabetes
E103493	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular	Type 1 diabetes
E103499	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular	Type 1 diabetes
E10351	Type 1 diabetes mellitus with proliferative diabetic retinopathy with macular edema	Type 1 diabetes
E103511	Type 1 diabetes mellitus with proliferative diabetic retinopathy with macular edema,	Type 1 diabetes
E103512	Type 1 diabetes mellitus with proliferative diabetic retinopathy with macular edema,	Type 1 diabetes
E103513	Type 1 diabetes mellitus with proliferative diabetic retinopathy with macular edema,	Type 1 diabetes
E103519	Type 1 diabetes mellitus with proliferative diabetic retinopathy with macular edema,	Type 1 diabetes
E103521	Type 1 diabetes mellitus with proliferative diabetic retinopathy with traction retinal	Type 1 diabetes
E103522	Type 1 diabetes mellitus with proliferative diabetic retinopathy with traction retinal	Type 1 diabetes
E103523	Type 1 diabetes mellitus with proliferative diabetic retinopathy with traction retinal	Type 1 diabetes
E103529	Type 1 diabetes mellitus with proliferative diabetic retinopathy with traction retinal	Type 1 diabetes
E103531	Type 1 diabetes mellitus with proliferative diabetic retinopathy with traction retinal	Type 1 diabetes
E103532	Type 1 diabetes mellitus with proliferative diabetic retinopathy with traction retinal	Type 1 diabetes
E103533	Type 1 diabetes mellitus with proliferative diabetic retinopathy with traction retinal	Type 1 diabetes
E103539	Type 1 diabetes mellitus with proliferative diabetic retinopathy with traction retinal	Type 1 diabetes
E103541	Type 1 diabetes mellitus with proliferative diabetic retinopathy with combined traction	Type 1 diabetes
E103542	Type 1 diabetes mellitus with proliferative diabetic retinopathy with combined traction	Type 1 diabetes
E103543	Type 1 diabetes mellitus with proliferative diabetic retinopathy with combined traction	Type 1 diabetes
E103549	Type 1 diabetes mellitus with proliferative diabetic retinopathy with combined traction	Type 1 diabetes
E103551	Type 1 diabetes mellitus with stable proliferative diabetic retinopathy, right eye	Type 1 diabetes
E103552	Type 1 diabetes mellitus with stable proliferative diabetic retinopathy, left eye	Type 1 diabetes
E103553	Type 1 diabetes mellitus with stable proliferative diabetic retinopathy, bilateral	Type 1 diabetes
E103559	Type 1 diabetes mellitus with stable proliferative diabetic retinopathy, unspecified eye	Type 1 diabetes
E10359	Type 1 diabetes mellitus with proliferative diabetic retinopathy without macular edema	Type 1 diabetes
E103591	Type 1 diabetes mellitus with proliferative diabetic retinopathy without macular edema,	Type 1 diabetes
E103592	Type 1 diabetes mellitus with proliferative diabetic retinopathy without macular edema,	Type 1 diabetes
E103593	Type 1 diabetes mellitus with proliferative diabetic retinopathy without macular edema,	Type 1 diabetes
E103599	Type 1 diabetes mellitus with proliferative diabetic retinopathy without macular edema,	Type 1 diabetes
E1036	Type 1 diabetes mellitus with diabetic cataract	Type 1 diabetes
E1037X1	Type 1 diabetes mellitus with diabetic macular edema, resolved following treatment,	Type 1 diabetes
E1037X2	Type 1 diabetes mellitus with diabetic macular edema, resolved following treatment,	Type 1 diabetes
E1037X3	Type 1 diabetes mellitus with diabetic macular edema, resolved following treatment,	Type 1 diabetes
E1037X9	Type 1 diabetes mellitus with diabetic macular edema, resolved following treatment,	Type 1 diabetes



E1039	Type 1 diabetes mellitus with other diabetic ophthalmic complication	Type 1 diabetes
E1040	Type 1 diabetes mellitus with diabetic neuropathy, unspecified	Type 1 diabetes
E1041	Type 1 diabetes mellitus with diabetic mononeuropathy	Type 1 diabetes
E1042	Type 1 diabetes mellitus with diabetic polyneuropathy	Type 1 diabetes
E1043	Type 1 diabetes mellitus with diabetic autonomic (poly)neuropathy	Type 1 diabetes
E1044	Type 1 diabetes mellitus with diabetic amyotrophy	Type 1 diabetes
E1049	Type 1 diabetes mellitus with other diabetic neurological complication	Type 1 diabetes
E1051	Type 1 diabetes mellitus with diabetic peripheral angiopathy without gangrene	Type 1 diabetes
E1052	Type 1 diabetes mellitus with diabetic peripheral angiopathy with gangrene	Type 1 diabetes
E1059	Type 1 diabetes mellitus with other circulatory complications	Type 1 diabetes
E10610	Type 1 diabetes mellitus with diabetic neuropathic arthropathy	Type 1 diabetes
E10618	Type 1 diabetes mellitus with other diabetic arthropathy	Type 1 diabetes
E10620	Type 1 diabetes mellitus with diabetic dermatitis	Type 1 diabetes
E10621	Type 1 diabetes mellitus with foot ulcer	Type 1 diabetes
E10622	Type 1 diabetes mellitus with other skin ulcer	Type 1 diabetes
E10628	Type 1 diabetes mellitus with other skin complications	Type 1 diabetes
E10630	Type 1 diabetes mellitus with periodontal disease	Type 1 diabetes
E10638	Type 1 diabetes mellitus with other oral complications	Type 1 diabetes
E10641	Type 1 diabetes mellitus with hypoglycemia with coma	Type 1 diabetes
E10649	Type 1 diabetes mellitus with hypoglycemia without coma	Type 1 diabetes
E1065	Type 1 diabetes mellitus with hyperglycemia	Type 1 diabetes
E1069	Type 1 diabetes mellitus with other specified complication	Type 1 diabetes
E108	Type 1 diabetes mellitus with unspecified complications	Type 1 diabetes
E109	Type 1 diabetes mellitus without complications	Type 1 diabetes
E1100	Type 2 diabetes mellitus with hyperosmolarity without nonketotic hyperglycemic-hyperosmolar coma (NKHHC)	Type 2 diabetes
E1101	Type 2 diabetes mellitus with hyperosmolarity with coma	Type 2 diabetes
E1110	Type 2 diabetes mellitus with ketoacidosis without coma	Type 2 diabetes
E1111	Type 2 diabetes mellitus with ketoacidosis with coma	Type 2 diabetes
E1121	Type 2 diabetes mellitus with diabetic nephropathy	Type 2 diabetes
E1122	Type 2 diabetes mellitus with diabetic chronic kidney disease	Type 2 diabetes
E1129	Type 2 diabetes mellitus with other diabetic kidney complication	Type 2 diabetes
E11311	Type 2 diabetes mellitus with unspecified diabetic retinopathy with macular edema	Type 2 diabetes
E11319	Type 2 diabetes mellitus with unspecified diabetic retinopathy without macular edema	Type 2 diabetes
E11321	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E113211	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E113212	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E113213	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E113219	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E11329	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113291	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113292	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113293	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113299	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E11331	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E113311	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E113312	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E113313	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E113319	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E11339	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113391	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113392	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113393	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113399	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E11341	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E113411	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E113412	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E113413	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E113419	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E11349	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113491	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113492	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113493	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113499	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E11351	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema	Type 2 diabetes
E113511	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema,	Type 2 diabetes
E113512	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema,	Type 2 diabetes

E113513	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema,	Type 2 diabetes
E113519	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema,	Type 2 diabetes
E113521	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal	Type 2 diabetes
E113522	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal	Type 2 diabetes
E113523	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal	Type 2 diabetes
E113529	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal	Type 2 diabetes
E113531	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal	Type 2 diabetes
E113532	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal	Type 2 diabetes
E113533	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal	Type 2 diabetes
E113539	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal	Type 2 diabetes
E113541	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction	Type 2 diabetes
E113542	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction	Type 2 diabetes
E113543	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction	Type 2 diabetes
E113549	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction	Type 2 diabetes
E113551	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy, right eye	Type 2 diabetes
E113552	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy, left eye	Type 2 diabetes
E113553	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy, bilateral	Type 2 diabetes
E113559	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy, unspecified eye	Type 2 diabetes
E11359	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema	Type 2 diabetes
E113591	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema,	Type 2 diabetes
E113592	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema,	Type 2 diabetes
E113593	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema,	Type 2 diabetes
E113599	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema,	Type 2 diabetes
E1136	Type 2 diabetes mellitus with diabetic cataract	Type 2 diabetes
E1137X1	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment,	Type 2 diabetes
E1137X2	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment,	Type 2 diabetes
E1137X3	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment,	Type 2 diabetes
E1137X9	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment,	Type 2 diabetes
E1139	Type 2 diabetes mellitus with other diabetic ophthalmic complication	Type 2 diabetes
E1140	Type 2 diabetes mellitus with diabetic neuropathy, unspecified	Type 2 diabetes
E1141	Type 2 diabetes mellitus with diabetic mononeuropathy	Type 2 diabetes
E1142	Type 2 diabetes mellitus with diabetic polyneuropathy	Type 2 diabetes
E1143	Type 2 diabetes mellitus with diabetic autonomic (poly)neuropathy	Type 2 diabetes
E1144	Type 2 diabetes mellitus with diabetic amyotrophy	Type 2 diabetes
E1149	Type 2 diabetes mellitus with other diabetic neurological complication	Type 2 diabetes
Other	specified and unspecified circulatory disease	Type 2 diabetes
E1151	Type 2 diabetes mellitus with diabetic peripheral angiopathy without gangrene	Type 2 diabetes
E1152	Type 2 diabetes mellitus with diabetic peripheral angiopathy with gangrene	Type 2 diabetes
E1159	Type 2 diabetes mellitus with other circulatory complications	Type 2 diabetes
E11610	Type 2 diabetes mellitus with diabetic neuropathic arthropathy	Type 2 diabetes
E11618	Type 2 diabetes mellitus with other diabetic arthropathy	Type 2 diabetes
E11620	Type 2 diabetes mellitus with diabetic dermatitis	Type 2 diabetes
E11621	Type 2 diabetes mellitus with foot ulcer	Type 2 diabetes
E11622	Type 2 diabetes mellitus with other skin ulcer	Type 2 diabetes
E11628	Type 2 diabetes mellitus with other skin complications	Type 2 diabetes
E11630	Type 2 diabetes mellitus with periodontal disease	Type 2 diabetes
E11638	Type 2 diabetes mellitus with other oral complications	Type 2 diabetes
E11641	Type 2 diabetes mellitus with hypoglycemia with coma	Type 2 diabetes
E11649	Type 2 diabetes mellitus with hypoglycemia without coma	Type 2 diabetes
E1165	Type 2 diabetes mellitus with hyperglycemia	Type 2 diabetes
E1169	Type 2 diabetes mellitus with other specified complication	Type 2 diabetes
E118	Type 2 diabetes mellitus with unspecified complications	Type 2 diabetes
E119	Type 2 diabetes mellitus without complications	Type 2 diabetes
E113292	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113293	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113299	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E11331	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E113311	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E113312	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E113313	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E113319	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E11339	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113391	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113392	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113393	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113399	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E11341	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular	Type 2 diabetes

E113411	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E113412	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E113413	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E113419	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular	Type 2 diabetes
E11349	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113491	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113492	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113493	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E113499	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular	Type 2 diabetes
E11351	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema	Type 2 diabetes
E113511	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema,	Type 2 diabetes
E113512	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema,	Type 2 diabetes
E113513	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema,	Type 2 diabetes
E113519	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema,	Type 2 diabetes
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E113549	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction	Type 2 diabetes
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E1137X2	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment,	Type 2 diabetes
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E113522	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal	Type 2 diabetes
E113523	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal	Type 2 diabetes
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E113532	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal	Type 2 diabetes
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E113593	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema,	Type 2 diabetes
E113599	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema,	Type 2 diabetes
E1136	Type 2 diabetes mellitus with diabetic cataract	Type 2 diabetes
E1137X1	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment,	Type 2 diabetes
E1137X2	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment,	Type 2 diabetes
E1137X3	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment,	Type 2 diabetes
E1137X9	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment,	Type 2 diabetes
E1139	Type 2 diabetes mellitus with other diabetic ophthalmic complication	Type 2 diabetes
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E1141	Type 2 diabetes mellitus with diabetic mononeuropathy	Type 2 diabetes
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E1165	Type 2 diabetes mellitus with hyperglycemia	Type 2 diabetes
E1169	Type 2 diabetes mellitus with other specified complication	Type 2 diabetes
E118	Type 2 diabetes mellitus with unspecified complications	Type 2 diabetes
E119	Type 2 diabetes mellitus without complications	Type 2 diabetes
<b>Mental and behavioral disorders</b>		
F064	Anxiety disorder due to known physiological condition	Anxiety and fear-related
F4000	Agoraphobia, unspecified	Anxiety and fear-related
F4001	Agoraphobia with panic disorder	Anxiety and fear-related
F4002	Agoraphobia without panic disorder	Anxiety and fear-related
F4010	Social phobia, unspecified	Anxiety and fear-related
F4011	Social phobia, generalized	Anxiety and fear-related
F40228	Other natural environment type phobia	Anxiety and fear-related
F40230	Fear of blood	Anxiety and fear-related
F40231	Fear of injections and transfusions	Anxiety and fear-related
F40232	Fear of other medical care	Anxiety and fear-related
F40233	Fear of injury	Anxiety and fear-related
F40240	Claustrophobia	Anxiety and fear-related
F40248	Other situational type phobia	Anxiety and fear-related
F408	Other phobic anxiety disorders	Anxiety and fear-related
F409	Phobic anxiety disorder, unspecified	Anxiety and fear-related
F410	Panic disorder [episodic paroxysmal anxiety]	Anxiety and fear-related



F411	Generalized anxiety disorder	Anxiety and fear-related
F413	Other mixed anxiety disorders	Anxiety and fear-related
F418	Other specified anxiety disorders	Anxiety and fear-related
F419	Anxiety disorder, unspecified	Anxiety and fear-related
F930	Separation anxiety disorder of childhood	Anxiety and fear-related
F431	PTSD	Anxiety and fear-related
F304	Manic episode in full remission	Mood disorders
F3170	Bipolar disorder, currently in remission, most recent episode unspecified	Mood disorders
F3172	Bipolar disorder, in full remission, most recent episode hypomanic	Mood disorders
F3174	Bipolar disorder, in full remission, most recent episode manic	Mood disorders
F3176	Bipolar disorder, in full remission, most recent episode depressed	Mood disorders
F3178	Bipolar disorder, in full remission, most recent episode mixed	Mood disorders
F325	Major depressive disorder, single episode, in full remission	Mood disorders
F3340	Major depressive disorder, recurrent, in remission, unspecified	Mood disorders
F3342	Major depressive disorder, recurrent, in full remission	Mood disorders
Other	mental conditions and symptoms	Mood disorders
R450	Nervousness	Mood disorders
R451	Restlessness and agitation	Mood disorders
R452	Unhappiness	Mood disorders
R453	Demoralization and apathy	Mood disorders
R454	Irritability and anger	Mood disorders
R455	Hostility	Mood disorders
R456	Violent behavior	Mood disorders
R457	State of emotional shock and stress, unspecified	Mood disorders
R4581	Low self-esteem	Mood disorders
R4582	Worries	Mood disorders
R4583	Excessive crying of child, adolescent or adult	Mood disorders
R4584	Anhedonia	Mood disorders
R45850	Homicidal ideations	Mood disorders
R4586	Emotional lability	Mood disorders
R4587	Impulsiveness	Mood disorders
R4589	Other symptoms and signs involving emotional state	Mood disorders
R460	Very low level of personal hygiene	Mood disorders
R461	Bizarre personal appearance	Mood disorders
R462	Strange and inexplicable behavior	Mood disorders
R463	Overactivity	Mood disorders
R464	Slowness and poor responsiveness	Mood disorders
R465	Suspiciousness and marked evasiveness	Mood disorders
R466	Undue concern and preoccupation with stressful events	Mood disorders
R467	Verbosity and circumstantial detail obscuring reason for contact	Mood disorders
R4681	Obsessive-compulsive behavior	Mood disorders
R4689	Other symptoms and signs involving appearance and behavior	Mood disorders
Other	specified and unspecified mood disorders	Mood disorders
F0630	Mood disorder due to known physiological condition, unspecified	Mood disorders
F348	Other persistent mood [affective] disorders	Mood disorders
F3481	Disruptive mood dysregulation disorder	Mood disorders
F3489	Other specified persistent mood disorders	Mood disorders
F349	Persistent mood [affective] disorder, unspecified	Mood disorders
F39	Unspecified mood [affective] disorder	Mood disorders
F32	depressive episode	Mood disorders
F33	major depressive disorder	Mood disorders
F34	persistent mood disorder	Mood disorders
G4700	Insomnia, unspecified	Sleep disorders
G4701	Insomnia due to medical condition	Sleep disorders
G4709	Other insomnia	Sleep disorders
G4710	Hypersomnia, unspecified	Sleep disorders
G4711	Idiopathic hypersomnia with long sleep time	Sleep disorders
G4712	Idiopathic hypersomnia without long sleep time	Sleep disorders
G4713	Recurrent hypersomnia	Sleep disorders
G4714	Hypersomnia due to medical condition	Sleep disorders
G4719	Other hypersomnia	Sleep disorders
G4720	Circadian rhythm sleep disorder, unspecified type	Sleep disorders
G4721	Circadian rhythm sleep disorder, delayed sleep phase type	Sleep disorders
G4722	Circadian rhythm sleep disorder, advanced sleep phase type	Sleep disorders
G4723	Circadian rhythm sleep disorder, irregular sleep wake type	Sleep disorders
G4724	Circadian rhythm sleep disorder, free running type	Sleep disorders
G4725	Circadian rhythm sleep disorder, jet lag type	Sleep disorders

G4726	Circadian rhythm sleep disorder, shift work type	Sleep disorders
G4727	Circadian rhythm sleep disorder in conditions classified elsewhere	Sleep disorders
G4729	Other circadian rhythm sleep disorder	Sleep disorders
G4730	Sleep apnea, unspecified	Sleep disorders
G4731	Primary central sleep apnea	Sleep disorders
G4732	High altitude periodic breathing	Sleep disorders
G4733	Obstructive sleep apnea (adult) (pediatric)	Sleep disorders
G4734	Idiopathic sleep related nonobstructive alveolar hypoventilation	Sleep disorders
G4735	Congenital central alveolar hypoventilation syndrome	Sleep disorders
G4736	Sleep related hypoventilation in conditions classified elsewhere	Sleep disorders
G4737	Central sleep apnea in conditions classified elsewhere	Sleep disorders
G4739	Other sleep apnea	Sleep disorders
G47411	Narcolepsy with cataplexy	Sleep disorders
G47419	Narcolepsy without cataplexy	Sleep disorders
G47421	Narcolepsy in conditions classified elsewhere with cataplexy	Sleep disorders
G47429	Narcolepsy in conditions classified elsewhere without cataplexy	Sleep disorders
G4750	Parasomnia, unspecified	Sleep disorders
G4751	Confusional arousals	Sleep disorders
G4752	REM sleep behavior disorder	Sleep disorders
G4753	Recurrent isolated sleep paralysis	Sleep disorders
G4754	Parasomnia in conditions classified elsewhere	Sleep disorders
G4759	Other parasomnia	Sleep disorders
G4761	Periodic limb movement disorder	Sleep disorders
G4762	Sleep related leg cramps	Sleep disorders
G4763	Sleep related bruxism	Sleep disorders
G4769	Other sleep related movement disorders	Sleep disorders
G478	Other sleep disorders	Sleep disorders
G479	Sleep disorder, unspecified	Sleep disorders
R063	Periodic breathing	Sleep disorders
F1011	Alcohol abuse, in remission	substance use disorders
F1021	Alcohol dependence, in remission	substance use disorders
F1111	Opioid abuse, in remission	substance use disorders
F1121	Opioid dependence, in remission	substance use disorders
F1211	Cannabis abuse, in remission	substance use disorders
F1221	Cannabis dependence, in remission	substance use disorders
F1311	Sedative, hypnotic or anxiolytic abuse, in remission	substance use disorders
F1321	Sedative, hypnotic or anxiolytic dependence, in remission	substance use disorders
F1411	Cocaine abuse, in remission	substance use disorders
F1421	Cocaine dependence, in remission	substance use disorders
F1511	Other stimulant abuse, in remission	substance use disorders
F1521	Other stimulant dependence, in remission	substance use disorders
F1611	Hallucinogen abuse, in remission	substance use disorders
F1621	Hallucinogen dependence, in remission	substance use disorders
F17201	Nicotine dependence, unspecified, in remission	substance use disorders
F17211	Nicotine dependence, cigarettes, in remission	substance use disorders
F17221	Nicotine dependence, chewing tobacco, in remission	substance use disorders
F17291	Nicotine dependence, other tobacco product, in remission	substance use disorders
F1811	Inhalant abuse, in remission	substance use disorders
F1821	Inhalant dependence, in remission	substance use disorders
F1910	Other psychoactive substance abuse, uncomplicated	substance use disorders
F1911	Other psychoactive substance abuse, in remission	substance use disorders
F19120	Other psychoactive substance abuse with intoxication, uncomplicated	substance use disorders
F19121	Other psychoactive substance abuse with intoxication delirium	substance use disorders
F19122	Other psychoactive substance abuse with intoxication with perceptual disturbances	substance use disorders
F19129	Other psychoactive substance abuse with intoxication, unspecified	substance use disorders
F19130	Other psychoactive substance abuse with withdrawal, uncomplicated	substance use disorders
F19131	Other psychoactive substance abuse with withdrawal delirium	substance use disorders
F19132	Other psychoactive substance abuse with withdrawal with perceptual disturbance	substance use disorders
F19139	Other psychoactive substance abuse with withdrawal, unspecified	substance use disorders
F1914	Other psychoactive substance abuse with psychoactive substance-induced mood disorder	substance use disorders
F1916	Other psychoactive substance abuse with psychoactive substance-induced persisting amnesic disorder	substance use disorders
F1917	Other psychoactive substance abuse with psychoactive substance-induced persisting dementia	substance use disorders
F19181	Other psychoactive substance abuse with psychoactive substance-induced sexual dysfunction	substance use disorders
F19182	Other psychoactive substance abuse with psychoactive substance-induced sleep disorder	substance use disorders
F19188	Other psychoactive substance abuse with other psychoactive substance-induced disorder	substance use disorders
F1919	Other psychoactive substance abuse with unspecified psychoactive substance-induced disorder	substance use disorders



F1920	Other psychoactive substance dependence, uncomplicated	substance use disorders
F1921	Other psychoactive substance dependence, in remission	substance use disorders
F19220	Other psychoactive substance dependence with intoxication, uncomplicated	substance use disorders
F19221	Other psychoactive substance dependence with intoxication delirium	substance use disorders
F19222	Other psychoactive substance dependence with intoxication with perceptual disturbance	substance use disorders
F19229	Other psychoactive substance dependence with intoxication, unspecified	substance use disorders
F19230	Other psychoactive substance dependence with withdrawal, uncomplicated	substance use disorders
F19231	Other psychoactive substance dependence with withdrawal delirium	substance use disorders
F19232	Other psychoactive substance dependence with withdrawal with perceptual disturbance	substance use disorders
F19239	Other psychoactive substance dependence with withdrawal, unspecified	substance use disorders
F1924	Other psychoactive substance dependence with psychoactive substance-induced mood disorder	substance use disorders
F1926	Other psychoactive substance dependence with psychoactive substance-induced persisting amnesic disorder	substance use disorders
F1927	Other psychoactive substance dependence with psychoactive substance-induced persisting dementia	substance use disorders
F19281	Other psychoactive substance dependence with psychoactive substance-induced sexual dysfunction	substance use disorders
F19282	Other psychoactive substance dependence with psychoactive substance-induced sleep disorder	substance use disorders
F19288	Other psychoactive substance dependence with other psychoactive substance-induced disorder	substance use disorders
F1929	Other psychoactive substance dependence with unspecified psychoactive substance-induced disorder	substance use disorders
F1990	Other psychoactive substance use, unspecified, uncomplicated	substance use disorders
F19920	Other psychoactive substance use, unspecified with intoxication, uncomplicated	substance use disorders
F19921	Other psychoactive substance use, unspecified with intoxication with delirium	substance use disorders
F19922	Other psychoactive substance use, unspecified with intoxication with perceptual disturbance	substance use disorders
F19929	Other psychoactive substance use, unspecified with intoxication, unspecified	substance use disorders
F19930	Other psychoactive substance use, unspecified with withdrawal, uncomplicated	substance use disorders
F19931	Other psychoactive substance use, unspecified with withdrawal delirium	substance use disorders
F19932	Other psychoactive substance use, unspecified with withdrawal with perceptual disturbance	substance use disorders
F19939	Other psychoactive substance use, unspecified with withdrawal, unspecified	substance use disorders
F1994	Other psychoactive substance use, unspecified with psychoactive substance-induced mood disorder	substance use disorders
F1996	Other psychoactive substance use, unspecified with psychoactive substance-induced persisting amnesic disorder	substance use disorders
F1997	Other psychoactive substance use, unspecified with psychoactive substance-induced persisting dementia	substance use disorders
F19981	Other psychoactive substance use, unspecified with psychoactive substance-induced sexual dysfunction	substance use disorders
F19982	Other psychoactive substance use, unspecified with psychoactive substance-induced sleep disorder	substance use disorders
F19988	Other psychoactive substance use, unspecified with other psychoactive substance-induced disorder	substance use disorders
F1999	Other psychoactive substance use, unspecified with unspecified psychoactive substance-induced disorder	substance use disorders

**Table S2: Cohort retention and frequency of post-acute sequelae managed in any clinical setting.**

Outcome		Participants, n (%)			
		Within 31-90d		Within 91-180d	
		COVID-19 N=72,745	Influenza N=18,395	COVID-19 N=71,238	Influenza N=17,990
Death/disenrollment before PAS observed					
	Cumulatively before start of follow-up period <sup>1</sup>	1,993 (2.7% of 74,738)	395 (2.1% of 18,790)	3,500 (4.7% of 74,738)	800 (4.3% of 18,790)
	Deaths/disenrollments occurring during follow-up period <sup>2</sup>	973 (1.3)	310 (1.7)	1,108 (0.6)	248 (1.4)
PAS—by category	Any	32,878 (45.2)	7,162 (38.9)	37,615 (52.8)	7,916 (44.0)
	Cardiopulmonary	14,614 (20.0)	2,839 (15.4)	17,134 (23.9)	2,923 (16.1)
	Hemolytic	2,320 (3.2)	423 (2.3)	2,681 (3.7)	377 (2.1)
	Respiratory	10,076 (13.8)	2,573 (13.9)	12,130 (16.9)	2,738 (15.1)
	Musculoskeletal	9,063 (12.4)	1,730 (9.3)	11,793 (16.4)	2,218 (12.3)
	Renal	4,466 (6.1)	806 (4.4)	5,074 (7.1)	787 (4.3)
	Gastrointestinal	4,719 (6.4)	1,030 (5.6)	5,804 (9.1)	1,075 (5.9)
	Neurological	6,538 (8.9)	1,301 (7.1)	8,453 (11.9)	1,492 (8.2)
	Skin	1,800 (2.5)	443 (2.4)	2,616 (3.6)	592 (3.3)
	Endocrine	9,706 (13.3)	1,843 (10.0)	11,161 (15.6)	1,966 (10.9)
	Mental health	9,284 (12.7)	2,185 (11.8)	11,150 (15.5)	2,368 (13.1)
PAS—by clinical setting	Any setting	32,878 (45.2)	7,162 (38.9)	37,615 (52.8)	7,916 (44.0)
	Ambulatory or higher-acuity setting	27,082 (37.1)	5,723 (31.0)	32,361 (45.4)	6,526 (36.2)
	Emergency department or higher-acuity setting	9,121 (12.4)	2,067 (11.2)	11,771 (16.5)	2,565 (14.2)
	Inpatient setting	2,078 (2.8)	335 (1.8)	2,226 (3.1)	376 (2.1)

PAS: post-acute sequelae.

<sup>1</sup>Figures indicate the number of all otherwise-eligible COVID-19 and influenza cases (included in Table 1) who died or disenrolled before the beginning of each follow-up period. Totals represented in column headings indicate the number of individuals who remained alive and enrolled at 31 days and 91 days after index.

<sup>2</sup>Figures indicate the number of COVID-19 and influenza cases who died or disenrolled during the indicated follow-up periods, calculated as a proportion of the total of all individuals who were retained in follow-up at 31 days and 91 days after index (column heading totals).

**Table S3: Cumulative incidence of post-acute sequelae as new-onset conditions or exacerbations of existing conditions, diagnosed in any clinical setting.**

Outcome		Cumulative incidence per 100 persons during follow-up period, by index infection <sup>1</sup>			
		Within 31-90d		Within 91-180d	
		COVID-19	Influenza	COVID-19	Influenza
PAS—exacerbation <sup>2</sup>	Cardiopulmonary	38.41	39.02	45.54	40.01
	Hemolytic	24.46	29.70	29.84	23.08
	Respiratory	21.97	22.77	26.92	24.32
	Musculoskeletal	19.82	16.63	25.02	20.41
	Renal	42.63	48.75	49.73	46.95
	Gastrointestinal	17.81	18.90	21.83	18.82
	Neurological	21.15	19.24	26.97	21.14
	Skin	6.76	7.20	9.14	8.39
	Endocrine	51.81	54.18	60.66	57.78
	Mental health	30.66	32.28	36.16	33.56
PAS—new onset <sup>3</sup>	Cardiopulmonary	4.20	3.24	5.53	3.89
	Hemolytic	0.94	0.60	1.09	0.81
	Respiratory	7.34	6.96	9.12	7.90
	Musculoskeletal	6.59	5.16	9.82	7.57
	Renal	0.80	0.48	1.05	0.66
	Gastrointestinal	2.92	2.58	3.87	3.05
	Neurological	3.86	3.33	5.56	4.33
	Skin	1.80	1.75	2.80	2.58
	Endocrine	0.68	0.49	0.94	0.76
	Mental health	3.50	3.35	5.09	4.59

PAS: post-acute sequelae.

<sup>1</sup>We present unadjusted cumulative incidence of each PAS outcome according to individuals' history of diagnosis or lack of diagnosis within each category.

<sup>2</sup>Analyses of exacerbation outcomes are limited to individuals with a history of any preceding diagnosis (prior to their index infection) with conditions included in the indicated PAS category.

<sup>3</sup>Analyses of new-onset PAS outcomes are limited to individuals without a history of any preceding diagnosis (prior to their index infection) with conditions included in the indicated PAS category

**Table S4: Adjusted hazard ratios of PAS outcomes, subset by infecting virus lineage or period.**

Characteristic	Stratum	Adjusted hazards ratio (95% CI), COVID-19 cases compared to influenza cases, according to severity of index episode <sup>1</sup>			
		Within 31-90 days		Within 91-180 days	
		Any severity	Inpatient managed	Any severity	Inpatient managed
Season	Season 1 (2022-23)	1.04 (0.98, 1.10)	1.30 (1.03, 1.65)	1.01 (0.95, 1.06)	1.18 (0.96, 1.45)
	Season 2 (2023-24)	1.02 (0.92, 1.13)	1.33 (0.96, 1.84)	1.03 (0.93, 1.14)	1.56 (1.14, 2.14)
Influenza comparator	Influenza A virus	1.04 (0.98, 1.09)	1.30 (1.06, 1.58)	1.02 (0.98, 1.07)	1.24 (1.03, 1.49)
	Influenza B virus	1.09 (0.80, 1.47)	1.75 (0.44, 6.98)	0.87 (0.66, 1.15)	1.24 (0.47, 3.29)
SARS-CoV-2 lineage (by variant era)	BA.4/BA.5	1.04 (0.96, 1.13)	1.30 (0.91, 1.85)	1.09 (1.01, 1.17)	1.16 (0.85, 1.57)
	XBB/XBB.1.5	1.05 (0.98, 1.13)	1.34 (1.04, 1.73)	0.98 (0.92, 1.04)	1.32 (1.05, 1.65)
	BA.2.86/JN.1	1.01 (0.95, 1.06)	1.26 (0.99, 1.61)	1.06 (1.00, 1.12)	0.97 (0.73, 1.27)

PAS: Post acute sequelae; CI: Confidence interval.

<sup>1</sup>Estimates are computed as adjusted hazards ratios, comparing times to PAS diagnoses among COVID-19 cases versus influenza cases, via doubly-robust Cox proportional hazards models weighted to account for individuals' inverse probability of infection with their identified virus and the inverse of their probability of retention through each 30-day period after the index date. Covariates used in weighting models are included in the analysis model. We use the sandwich variance estimator to account for repeated observations of individuals across multiple 30-day periods.