

# Incidence and risk factors for mortality and end-stage renal disease in people with type 2 diabetes and diabetic kidney disease: a population-based cohort study in the UK

Antonio González-Pérez <sup>1,2</sup> Maria Saez,<sup>1,2</sup> David Vizcaya,<sup>3</sup> Marcus Lind,<sup>4</sup> Luis Garcia Rodriguez<sup>1</sup>

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<sup>1</sup>Spanish Centre for Pharmacoepidemiologic Research (CEIFE), Madrid, Spain

<sup>2</sup>Andalusian Bioinformatics Research Centre (CAEBI), Seville, Spain

<sup>3</sup>Epidemiology, Bayer Hispania, Barcelona, Spain

<sup>4</sup>Institute of Medicine, University of Gothenburg, Uddevalla, Sweden

**Correspondence to**  
Dr Antonio González-Pérez;  
agonzalez@ceife.es

## ABSTRACT

**Introduction** We aimed to determine the incidence of, and risk factors for all-cause/cardiovascular disease (CVD) mortality, and end-stage renal disease (ESRD) among people with type 2 diabetes with/without diabetic kidney disease (DKD) in the UK general population.

**Research design and methods** We undertook a population-based cohort study using primary care UK electronic health records. We followed 8413 people with type 2 diabetes and DKD and a matched comparison cohort of people with type 2 diabetes without DKD. Risk factors for all-cause/CVD mortality (using both cohorts) and ESRD (DKD cohort only) were evaluated by estimating HRs with 95% CIs using Cox regression.

**Results** In the DKD cohort (mean age 66.7 years, 62.4% male), incidence rates per 1000 person-years were 50.3 (all-cause mortality), 8.0 (CVD mortality) and 6.9 (ESRD). HRs (95% CIs; DKD vs comparison cohort) were 1.49 (1.35 to 1.64) for all-cause mortality and 1.60 (1.24 to 2.05) for CVD mortality. In general, higher all-cause mortality risks were seen with older age, underweight (body mass index <20 kg/m<sup>2</sup>), reduced renal function, and cardiovascular/liver disease, and lower risks were seen with being female or overweight. In the DKD cohort, higher risks of ESRD were seen with reduced renal function at baseline, high material deprivation, cancer and non-insulin glucose-lowering drugs, and a lower risk was seen with overweight ( $\geq 25 \text{ kg/m}^2$ ).

**Conclusions** Annually, one death will occur among every 20 people with type 2 diabetes and DKD. The identified risk factors in this study will help identify people with type 2 diabetes at most risk of death and progression of kidney disease, and help to direct effective management strategies.

## INTRODUCTION

The global prevalence of diabetes continues to increase with projections of a rise from 9.3% in 2019 to 10.9% by 2045, largely driven by ageing populations and lifestyle changes.<sup>1</sup> About 30%–40% of people with diabetes will develop diabetic kidney disease (DKD)<sup>2,3</sup>—kidney disease caused by diabetes itself, and

## SIGNIFICANCE OF THIS STUDY

### WHAT IS ALREADY KNOWN ABOUT THIS SUBJECT?

→ Reductions in the proportion of people with diabetic kidney disease (DKD) progressing to end-stage renal disease (ESRD) have been small, and mortality among people with DKD remains strikingly high.

### WHAT ARE THE NEW FINDINGS?

→ In people with type 2 diabetes and DKD, reduced renal function, high material deprivation, cancer and non-insulin glucose-lowering drugs were associated with a higher ESRD risk.  
→ Being overweight could confer a lower ESRD risk, although this result should be interpreted with caution.  
→ Our results highlight the importance of screening for the presence of DKD in primary care.

### HOW MIGHT THESE RESULTS CHANGE THE FOCUS OF RESEARCH OR CLINICAL PRACTICE?

→ The identified risk factors in this study will help identify people with type 2 diabetes at most risk of death and progression of kidney disease and help to direct effective management strategies.  
→ Reduction of all-cause mortality observed with the use of glucagon-like peptide-1 receptor agonists should be further investigated in randomized controlled trials.

the leading cause of overall chronic kidney disease (CKD).<sup>4,5</sup> In addition, about 30% of people with type 2 diabetes will progress to end-stage renal disease (ESRD),<sup>6</sup> and renal replacement therapy among these persons estimated to account for 3%–5% of national European healthcare budgets.<sup>7</sup>

Cardiovascular (CV) complications are a major cause of mortality in people with diabetes, and those with DKD have a particularly high risk of these complications.



Ten-year cumulative all-cause mortality in people with diabetes and CKD has been estimated to be 31.1%, compared with 11.5% in people with diabetes but without CKD, and 7.7% in people without either condition.<sup>8</sup> There is mounting evidence that people with DKD face an increased risk of death,<sup>9</sup> which does not seem to depend on the DKD subphenotype.<sup>10</sup> While last two decades have seen a significant decline in the development of CV disease (CVD) and associated death among people with diabetes, reductions in progression to ESRD have been much smaller.<sup>11</sup> Moreover, because of the high prevalence of diabetes, the burden of both diabetes-related CVD and renal complications remains high,<sup>12</sup> and despite the effectiveness of current DKD management strategies, mortality among people with DKD remains strikingly high.<sup>13</sup> Among the literature on this topic, relatively few studies have focused on the incidence and risk factors of major clinical outcomes specifically among the DKD population. There is therefore a need to better understand the epidemiology of CV/renal outcomes and mortality among this high-risk group of people with diabetes. We aimed to determine the incidence of, and risk factors for all-cause and CV mortality, and development of stage 5 CKD/ESRD in a population-based cohort study of people with type 2 diabetes with/without DKD.

## RESEARCH DESIGN AND METHODS

### Study design and data source

We conducted a population-based cohort study using data from the IQVIA Medical Research Data UK (IMRD-UK), formerly The Health Improvement Network. This study builds on previously published work, and information on the IMRD-UK, the source population, inclusion criteria, DKD/CKD definitions and protocol approval can be found elsewhere.<sup>14</sup> Briefly, between January 1, 2002 and December 31, 2014, 114 056 individuals without CKD and with newly diagnosed diabetes were followed and incident cases of CKD and DKD (defined using the Kidney Disease Outcomes Quality Initiative (KDOQI) clinical criteria)<sup>15</sup> and CKD were identified. Thus, individuals with DKD included those with a specific DKD diagnostic code recorded in the database, those with at least two albumin-to-creatinine ratio (ACR) measurements greater than 300 mg/g (recorded more than 90 days apart), and also those with CKD (two or more measurements of estimated glomerular filtration rate (eGFR) below 60 mL/min/1.73 m<sup>2</sup> more than 90 days apart) with evidence of proteinuria (ACR greater than 30 mg/g, albuminuria greater than 20 mg/L, or proteinuria diagnostic code). In this current study, we followed up the incident cases DKD with type 2 diabetes and a matched comparison cohort of people with diabetes without DKD to determine the incidence of, and risk factors, for all-cause/CV mortality, and followed the DKD cohort separately for development of stage 5 CKD/ESRD.

### DKD and non-DKD comparison cohort

The study entry date for this present study was the date of DKD onset. To establish a comparison cohort of people with type 2 diabetes but without DKD, we matched each member of the DKD cohort 1:1 to a randomly selected individual free of DKD on the date of diabetes diagnosis, and of the same sex, age, type of diabetes and year of diabetes onset. Once selected, people in the comparison cohort entered the study on the same date as their matched partner. As the sequential random sampling process to select individuals in the comparison cohort was performed without replacement, individuals in a matched pair were no longer eligible to become part of a future matched pair. This method avoided selection bias that can be introduced when using information on future events to obtain cohorts, although it resulted in a smaller cohort than would have been identified otherwise. After this process, there were 8416 members of the DKD cohort matched to an equal number of individuals in the comparison cohort; 10 individuals in total were <18 years of age.

### Follow-up to mortality outcomes

We followed up the DKD and comparison cohorts from study entry until death or the end of follow-up (December 31, 2015), whichever came first. Deaths due to CVD were ascertained by entries for CVD as the reported cause of death or, if this was missing, by recorded entries for at least one of the following in the 90 days before the date of death (in the absence of a record of cancer in the year before the date of death): ischemic heart disease, cardiac surgery, heart failure, and cerebrovascular disease. For these people, we subsequently manually reviewed their electronic primary care record to confirm whether their death was CV related or non-CV related.

### Follow-up to identify stage 5 CKD/ESRD

In a separate follow-up of the DKD cohort, we identified those with a coded entry for stage 5 CKD/ESRD during their period of observation, that is, follow-up ended at the date of stage 5 CKD/ESRD, death or the end of the study period, whichever came first. After excluding people already classified as stage 5 CKD/ESRD on the date of first DKD diagnosis (ie, prevalent cases), 9175 people remained eligible for this follow-up. We defined stage 5 CKD as a recorded eGFR of <15 mL/min/1.73 m<sup>2</sup>, and ESRD as a coded entry of dialysis or kidney transplant.

### Covariates

We extracted information from the database on person demographics (including the Townsend material deprivation score),<sup>16</sup> comorbidities, lifestyle factors, healthcare use and medication use. Details of these variables have been described previously.<sup>14</sup> For this present study, we determined comorbidities (including renal function, glycemic control and lifestyle factors) anytime before study entry using the most recent value/status for the latter. Codes used to identify comorbidities can be found

in online supplemental tables 1–11. Healthcare use (general practitioner (GP) visits, referrals to secondary care, and hospitalizations) and medication use (including antidiabetic drugs) were determined from prescriptions issued in the year before study entry.

### Statistical analyses

Crude incidence rates of all-cause mortality/CV mortality were calculated for the DKD and comparison cohorts by dividing the number of deaths/CV deaths by the respective total person-years follow-up. Crude incidence rates of stage 5 CKD/ESRD were calculated similarly for the DKD cohort. Incidence rates were stratified by age (<65 years and ≥65 years) and sex. Associations between having DKD and all-cause mortality/CV mortality were estimated by calculating HRs with 95% CIs using multivariable Cox proportional hazard regression adjusted for confounders. Associations between other person characteristics, and all-cause mortality/CV mortality were also investigated. In the analysis of CV mortality and stage 5/ESRD, we used both Cox proportional hazard regression and Fine and Gray regression.<sup>17</sup> The latter enables the estimation of subdistribution HRs accounting for competing risks from causes other than the cause being analyzed (ie, accounting for non-CV deaths in the CV mortality analysis, and accounting for all-cause death in the stage 5 CKD/ESRD analysis).

## RESULTS

### All-cause mortality

Baseline characteristics of the DKD and comparison are shown in [table 1](#) for the cohort combined, and in online supplemental table 12 for the cohorts separately. The mean age of both cohorts was 66.7 years, and 62.4% were male. A total of 2266 people died during follow-up: 1465 in the DKD cohort over a mean follow-up of 3.5 years, and 801 in the comparison cohort over a mean follow-up of 3.4 years. The crude all-cause mortality rate in the DKD cohort was almost double the rate in the comparison cohort at start of follow-up (50.3 vs 28.4 per 1000 person-years). The corresponding crude HR (DKD vs comparison cohort) of 1.77 (95% CI: 1.62 to 1.93) was slightly attenuated after adjusting for confounders; adjusted HR 1.49 (95% CI: 1.35 to 1.64). Older age was strongly related to all-cause mortality; the mortality rate was 2.9 per 1000 person-years in people aged <40 years, increasing to 17.3 per 1000 person-years (for 50–64 years), and 91.4 per 1000 person-years (for 75–89 years). Compared with people aged 40–49 years, the risk of death was increased twofold in those aged 50–64 years, fourfold in those aged 65–74 years, and eightfold in those aged 75–89 years. Other variables strongly associated with a higher risk of all-cause mortality were smoking, being underweight (body mass index (BMI) <20 kg/m<sup>2</sup>), CVD, cerebrovascular disease, pancreatic disease, liver disorders, eGFR <45 mL/min/1.73 m<sup>2</sup>, use of mineralocorticoid receptor antagonists (MRAs) in the year before study

entry, and a high number of GP visits/at least one hospitalization in the year before study entry. We also found clear evidence that being female and being overweight were associated with a lower risk of all-cause mortality.

As shown in [table 2](#), the higher risk of all-cause mortality associated with having DKD was broadly similar among people aged <65 years and ≥65 years, and among males and females—the point estimates being higher among the younger age group and females. Reductions in all-cause mortality were also seen with use of glucagon-like peptide-1 (GLP-1) receptor agonists (a 50% lower risk of death, adjusted HR 0.51, 95% CI: 0.27 to 0.95), and metformin (adjusted HR 0.90, 95% CI: 0.83 to 0.99), while insulin was associated with a higher risk of death (adjusted HR 1.37, 95% CI: 1.15 to 1.63) (online supplemental table 13).

### CV mortality

Of the 2266 people who died during follow-up, 336 died from CVD (233 in the DKD cohort and 103 in the comparison cohort). The crude CV mortality rate in the DKD cohort was more than double the rate in the comparison cohort (8.0 vs 3.7 per 1000 person-years). Associations between person characteristics (DKD and comparison cohort combined) and CV mortality are shown in [table 3](#). The DKD cohort had a 60% higher risk of CV mortality compared with the comparison cohort when using either the Cox regression model (adjusted HR 1.60, 95% CI: 1.24 to 2.05) or the Fine and Gray model (adjusted HR 1.56, 95% CI: 1.21 to 2.00). Older age, a high level of material deprivation (Townsend index), hypertension, atrial fibrillation, cerebrovascular disease, reduced renal function (eGFR <60 mL/min/1.73 m<sup>2</sup>), and a high level of GP visits/use of MRA in the year before DKD diagnosis were also strongly associated with higher risks of CV mortality. We found moderate evidence for a higher risk of CV mortality among people with glycemic control at >8% during some point in the year before study entry, for heart failure, and for chronic obstructive pulmonary disease.

### Stage 5 CKD/ESRD among people with DKD

Among 9175 people with type 2 diabetes and DKD without stage 5 CKD/ESRD at study entry, 213 developed stage 5 CKD/ESRD during follow-up; a crude incidence rate of 6.93 per 1000 person-years. Associations between person characteristics and risk of ESRD are shown in [table 4](#) and online supplemental table 14. We found strong evidence that higher level of material deprivation, cancer, reduced renal function (<60 mL/min/1.73 m<sup>2</sup>), a high level of GP visits, and use of oral antidiabetic drug use in the year before DKD diagnosis were associated with higher risks of developing stage 5 CKD/ESRD. Our results provided statistical evidence that being overweight was associated with a lower risk of developing stage 5 CKD/ESRD, although significance was not reached in the Fine and Gray analysis for those with a BMI of ≥30 kg/m<sup>2</sup>. Further, subdividing individuals

**Table 1** HRs (95% CIs) for the association between DKD, and other person characteristics, and risk of all-cause mortality among people with type 2 diabetes

Variable	N	Deaths	Person-years	Mortality rate per 1000 person-years	HR* (95% CI)	P value
Subcohort						
Comparison	8416	801	28222	28.4	1.0 (reference)	
DKD	8416	1465	29128	50.3	1.49 (1.35 to 1.64)	<0.01
Age (years)						
<40	282	3	1038	2.9	0.36 (0.11 to 1.18)	0.09
40–49	1240	32	4708	6.8	1.0 (reference)	
50–64	5012	317	18326	17.3	2.29 (1.59 to 3.31)	<0.01
65–74	5624	667	19631	34.0	4.02 (2.79 to 5.80)	<0.01
75–89	4674	1247	13646	91.4	8.30 (5.73 to 12.01)	<0.01
Sex						
Male	10502	1408	35478	39.7	1.0 (reference)	
Female	6330	858	21871	39.2	0.84 (0.77 to 0.92)	<0.01
Smoking						
Non-smoker	5434	536	19914	26.9	1.0 (reference)	
Smoker	2204	292	7487	39.0	1.62 (1.39 to 1.88)	<0.01
Ex-smoker	7450	1039	28048	37.0	1.07 (0.95 to 1.19)	0.26
Missing	1744	399	1901	209.9	7.14 (6.22 to 8.20)	<0.01
Alcohol (units/week)						
Non-drinker	3686	554	12341	44.9	1.0 (reference)	
1–2	5528	676	18116	37.3	0.96 (0.85 to 1.08)	0.47
3–15	4198	537	14702	36.5	1.00 (0.89 to 1.14)	0.95
16–24	900	95	3211	29.6	0.89 (0.71 to 1.12)	0.33
≥25	1077	138	3719	37.1	1.16 (0.95 to 1.41)	0.14
Missing	1443	266	5261	50.6	1.21 (1.04 to 1.41)	0.01
BMI (kg/m <sup>2</sup> )						
<20	271	112	730	153.4	1.60 (1.30 to 1.98)	<0.01
20–24	2266	492	7282	67.6	1.0 (reference)	
25–29	5622	749	19643	38.1	0.71 (0.63 to 0.80)	<0.01
≥30	8560	873	29330	29.8	0.72 (0.64 to 0.81)	<0.01
Missing	113	40	364	109.8	1.79 (1.29 to 2.49)	<0.01
Townsend index (quintile)						
1st (least deprivation)	3396	412	11523	35.8	1.0 (reference)	
2nd	3446	463	11578	40.0	1.03 (0.90 to 1.17)	0.70
3rd	3549	481	12191	39.5	1.08 (0.94 to 1.23)	0.27
4th	3415	501	11797	42.5	1.10 (0.96 to 1.26)	0.16
5th (most deprivation)	2572	355	8836	40.2	1.07 (0.93 to 1.24)	0.35
Missing	454	54	1424	37.9	0.94 (0.71 to 1.26)	0.69
Glycemic control quality†						
Always ≤8%	10619	1462	36119	40.5	1.0 (reference)	
At some point >8%	4359	478	13999	34.2	1.06 (0.95 to 1.18)	0.30
Missing	1854	326	7232	45.1	1.14 (1.01 to 1.30)	0.04
Comorbidities						
Hypertension	11563	1639	39180	41.8	1.02 (0.92 to 1.13)	0.68

Continued

**Table 1** Continued

Variable	N	Deaths	Person-years	Mortality rate per 1000 person-years	HR* (95% CI)	P value
Hyperlipemia	5598	717	19176	37.4	0.90 (0.82 to 0.99)	0.03
Heart failure	944	303	2573	117.8	1.33 (1.15 to 1.54)	<0.01
IHD	3455	693	11383	60.9	1.18 (1.07 to 1.30)	<0.01
Atrial fibrillation	1607	446	4632	96.3	1.24 (1.10 to 1.40)	<0.01
Cerebrovascular disease	1598	399	4857	82.2	1.35 (1.21 to 1.51)	<0.01
COPD	1466	356	4150	85.8	1.68 (1.49 to 1.89)	<0.01
Peptic ulcer disease	1286	242	4022	60.2	1.10 (0.96 to 1.26)	0.17
Pancreatic disease	283	60	877	68.4	1.30 (1.01 to 1.69)	0.04
Liver disorders	734	111	2074	53.5	1.36 (1.12 to 1.66)	<0.01
Cancer	2584	595	7384	80.6	1.61 (1.46 to 1.78)	<0.01
GP visits†						
<12	3619	343	13698	25.0	1.0 (reference)	
12–23	7930	930	27879	33.4	1.21 (1.06 to 1.37)	<0.01
24–35	3337	524	10655	49.2	1.27 (1.09 to 1.47)	<0.01
≥36	1946	469	5117	91.7	1.81 (1.53 to 2.15)	<0.01
Referrals to secondary care†						
None	2282	312	9292	33.6	1.0 (reference)	
1–6	10079	1216	35216	34.5	0.94 (0.83 to 1.07)	0.39
≥7	4471	738	12842	57.5	0.98 (0.84 to 1.15)	0.83
≥1 hospitalization†	3176	627	9311	67.3	1.23 (1.10 to 1.36)	<0.01
Lowest eGFR (mL/min/1.73 m <sup>2</sup> )†						
≥90	3354	161	10862	14.8	1.0 (reference)	
60–89	7687	870	26338	33.0	1.09 (0.91 to 1.30)	0.36
45–59	2962	620	10889	56.9	1.20 (0.99 to 1.46)	0.06
30–44	932	303	2993	101.2	1.62 (1.31 to 2.00)	<0.01
15–29	263	99	714	138.6	2.12 (1.62 to 2.78)	<0.01
<15	47	16	136	117.8	2.02 (1.19 to 3.42)	0.01
Missing	1587	197	5418	36.4	1.20 (0.96 to 1.50)	0.11
Medication use†						
ACEI/ARB	11494	1607	39075	41.1	0.95 (0.86 to 1.06)	0.37
MRA	493	148	1189	124.4	1.35 (1.11 to 1.63)	<0.01

\*Adjusted for all other variables in the table.

†In the year before study entry.

ACEI, ACE inhibitor; ARB, angiotensin receptor blocker; BMI, body mass index; COPD, chronic obstructive pulmonary disease; DKD, diabetic kidney disease; eGFR, estimated glomerular filtration rate; GP, general practitioner; IHD, ischemic heart disease; MRA, mineralocorticoid receptor antagonist.

in this BMI category did not reveal any particular trend (online supplemental table 15). Associations between BMI category and stage 5 CKD/ESRD did not seem to differ between the sexes (online supplemental tables 16 and 17) and remained virtually unchanged after further adjustment for history of anemia (online supplemental table 18). The largest effect size for development of stage 5 CKD/ESRD was renal function <60 mL/min/1.73 m<sup>2</sup>: adjusted HRs (95% CIs) using Cox proportional hazard regression modeling were 5.46 (2.52 to 11.84) for eGFR

45–59 mL/min/1.73 m<sup>2</sup>, 8.06 (3.55 to 18.29) for eGFR 30–44 mL/min/1.73 m<sup>2</sup>, and 25.82 (11.09 to 60.11) for eGFR 15–29 mL/min/1.73 m<sup>2</sup>. Time between diabetes diagnosis and DKD diagnosis was not found to be associated with the risk of stage 5 CKD/ESRD.

## DISCUSSION

In this large population-based study, we found that the risk of death among people with type 2 diabetes and DKD

**Table 2** All-cause mortality rates per 1000 person-years among people with type 2 diabetes in the DKD and comparison cohorts, and associated HRs (95% CIs; DKD vs comparison)

Subgroup	N	Deaths	Person-years	Mortality rate per 1000 person-years	Adjusted HR* (95% CI)	P value
Age <65 years						
Matched comparison cohort	3267	103	1905	8.65	1.0 (reference)	
DKD cohort	3267	249	12168	20.46	1.83 (1.41 to 2.38)	<0.01
Age ≥65 years						
Matched comparison cohort	5149	698	16317	42.78	1.0 (reference)	
DKD cohort	5149	1216	16960	71.70	1.44 (1.30 to 1.60)	<0.01
Male						
Matched comparison cohort	5251	503	17391	28.92	1.0 (reference)	
DKD cohort	5251	905	18088	50.03	1.39 (1.23 to 1.57)	<0.01
Female						
Matched cohort subcohort	3165	298	10831	27.51	1.0 (reference)	
DKD cohort	3165	560	11040	50.73	1.68 (1.44 to 1.97)	<0.01

\*Adjusted for all the variables in table 1.

DKD, diabetic kidney disease.

remains extremely high, with 1 death among every 20 people each year. This mortality rate was 50% higher than the rate among people with type 2 diabetes without DKD at the start of follow-up after adjusting for other factors and was not significantly different between the sexes; the excess of mortality was slightly greater in younger age groups. Strong evidence was also found for a 60% higher rate of CV death among people with type 2 diabetes and DKD compared with those without DKD.

Other population-based studies have similarly shown that DKD confers a substantially higher mortality risk among people with diabetes,<sup>8 9 18 19</sup> and the annual mortality rate of 64.1 per 1000 per year individuals seen in our study is similar to that reported by Ang *et al*<sup>19</sup> among over 3000 people with DKD in Singapore. Reduced renal function at baseline was an independent risk factor for both CV mortality and ESRD, consistent with previous findings for CV mortality<sup>20–22</sup> and ESRD<sup>20</sup> among people with diabetes<sup>20 21 23 24</sup> or specifically with DKD.<sup>9</sup> We did not find reduced renal function to be associated with increased all-cause mortality as reported by others.<sup>9 20–24</sup> In line with reports from among general populations,<sup>25 26</sup> we found high material deprivation to be associated with elevated risks of CVD mortality and ESRD in our type 2 diabetes cohort, yet no association was seen between material deprivation and all-cause mortality. Several factors previously reported to be independently associated with higher risks of all-cause mortality were confirmed in our study, including older age,<sup>9 23 24</sup> smoking,<sup>23 24 27</sup> CVD risk factors,<sup>23</sup> cerebrovascular disease,<sup>23</sup> being underweight,<sup>24</sup> pancreatic disease,<sup>28</sup> and liver disorders.<sup>29</sup> Similarly, we confirmed previous reports that being female<sup>24</sup> or being overweight<sup>27</sup> was associated with lower risk of death. Age and other traditional CVD risk factors were also associated with a higher risk of CV mortality, while cancer was

associated with elevated ESRD risk. We found no evidence for associations between smoking or hyperlipidemia and DKD, and other findings on this topic have been mixed.<sup>30</sup> We found that among patients with DKD, being overweight was associated with slower progression to ESRD, and that this was seen for both sexes and across BMI categories. However, this finding should be interpreted with caution because the general health status of these overweight patients with diabetes and compromised renal function might have been quite different from those who were not overweight. Under these circumstances, adjustment for baseline factors might not have been able to fully account for these differences. The results of the Fine and Gray analysis, with decreasing statistical significance and magnitude of the association, seem to confirm this. Although quality of glycemic control was not associated with either all-cause/CV mortality or ESRD, use of glucagon-like peptide-1 (GLP-1) agonists was associated with a 50% reduced risk of death.

Our population-based sample of people with DKD and a matched non-DKD comparison cohort from a data source representative of the UK population means our findings have good generalizability. The large sample size enabled calculation of precise incidence rates and relative risk estimates, although less powered for ESRD analyses. We explored of a wide range of potential risk factors for mortality and ESRD, including demographics, comorbidities, medications, healthcare use and lifestyle factors. Our study also has its limitations. First, some people may have been missed from inclusion in the DKD cohort because we identified DKD using KDOQI clinical criteria from recorded test results performed during routine clinical practice, yet not everyone with diabetes will necessarily have been tested. Also, KDOQI criteria for DKD identification has its shortcomings because kidney



Variable	CV deaths	Incidence rate per 1000 person-years	HR* (95% CI)	P value	SHR* (95% CI)	P value
Subcohort						
Matched comparison	103	3.65	1.0 (reference)		1.0 (reference)	
DKD	233	8.00	1.60 (1.24 to 2.05)	<0.01	1.56 (1.21 to 2.00)	<0.01
Age (years)						
<40	0	-	-	-	-	-
40–49	4	0.85	1.0 (reference)		1.0 (reference)	
50–64	48	2.62	2.29 (0.82 to 6.42)	0.12	2.18 (0.78 to 6.05)	0.14
65–74	102	5.20	3.68 (1.31 to 10.30)	0.01	3.32 (1.19 to 9.24)	0.02
75–89	182	13.34	7.78 (2.75 to 21.99)	<0.01	6.24 (2.26 to 17.23)	<0.01
Sex						
Male	213	6.00	1.0 (reference)		1.0 (reference)	
Female	123	5.62	0.89 (0.69 to 1.13)	0.33	0.91 (0.71 to 1.15)	0.42
Smoking						
Non-smoker	88	4.42	1.0 (reference)		1.0 (reference)	
Smoker	38	5.08	1.31 (0.88 to 1.96)	0.19	1.18 (0.79 to 1.77)	0.42
Ex-smoker	164	5.85	0.95 (0.72 to 1.25)	0.72	0.98 (0.74 to 1.30)	0.89
Missing	46	24.20	4.98 (3.40 to 7.30)	<0.01	2.14 (1.47 to 3.13)	<0.01
Alcohol (units/week)						
Non-drinker	72	5.83	1.0 (reference)		1.0 (reference)	
1–2	108	5.96	1.09 (0.80 to 1.48)	0.59	1.11 (0.82 to 1.52)	0.50
3–15	89	6.05	1.25 (0.90 to 1.73)	0.19	1.22 (0.87 to 1.70)	0.25
16–24	16	4.98	1.12 (0.64 to 1.97)	0.69	1.13 (0.63 to 2.01)	0.69
≥25	19	5.11	1.18 (0.69 to 2.00)	0.54	1.13 (0.66 to 1.93)	0.65
Missing	32	6.08	1.18 (0.77 to 1.80)	0.44	1.14 (0.74 to 1.76)	0.56
BMI (kg/m <sup>2</sup> )						
<20	10	13.70	1.55 (0.77 to 3.09)	0.22	1.37 (0.67 to 2.82)	0.39
20–24	48	6.59	1.0 (reference)		1.0 (reference)	
25–29	121	6.16	1.09 (0.78 to 1.54)	0.61	1.20 (0.85 to 1.70)	0.30
≥30	153	5.22	1.13 (0.80 to 1.59)	0.49	1.25 (0.88 to 1.78)	0.22
Missing	4	10.98	1.84 (0.65 to 5.19)	0.25	1.47 (0.50 to 4.39)	0.48
Townsend index						
1st quintile (least deprivation)	51	4.43	1.0 (reference)		1.0 (reference)	
2nd quintile	71	6.13	1.28 (0.89 to 1.83)	0.19	1.28 (0.89 to 1.84)	0.19
3rd quintile	74	6.07	1.32 (0.92 to 1.89)	0.13	1.30 (0.90 to 1.88)	0.16
4th quintile	73	6.19	1.31 (0.91 to 1.89)	0.15	1.32 (0.92 to 1.91)	0.13
5th quintile (most deprivation)	61	6.90	1.48 (1.01 to 2.18)	0.04	1.50 (1.02 to 2.21)	0.04
Missing	6	4.21	0.84 (0.36 to 1.98)	0.69	0.84 (0.35 to 1.97)	0.68
Glycemic control quality†						
Always ≤8%	216	5.98	1.0 (reference)		1.0 (reference)	
At some point >8%	85	6.07	1.27 (0.98 to 1.65)	0.07	1.24 (0.95 to 1.62)	0.11
Missing	35	4.84	0.86 (0.59 to 1.26)	0.44	0.87 (0.59 to 1.27)	0.47

Continued

**Table 3** Continued

Variable	CV deaths	Incidence rate per 1000 person-years	HR* (95% CI)	P value	SHR* (95% CI)	P value
Comorbidities						
Hypertension	266	6.79	1.36 (1.02 to 1.81)	0.03	1.36 (1.03 to 1.81)	0.03
Hyperlipemia	120	6.26	1.00 (0.79 to 1.25)	0.97	1.02 (0.81 to 1.29)	0.86
Heart failure	68	26.43	1.56 (1.11 to 2.19)	0.01	1.46 (1.00 to 2.14)	0.05
IHD	124	10.89	1.30 (1.02 to 1.65)	0.04	1.26 (0.97 to 1.62)	0.08
Atrial fibrillation	100	21.59	1.85 (1.40 to 2.45)	<0.01	1.79 (1.33 to 2.41)	<0.01
Cerebrovascular disease	69	14.21	1.55 (1.18 to 2.05)	<0.01	1.51 (1.14 to 2.00)	<0.01
COPD	52	12.53	1.54 (1.13 to 2.11)	0.01	1.26 (0.91 to 1.74)	0.17
Peptic ulcer disease	37	9.20	1.06 (0.75 to 1.51)	0.73	1.08 (0.75 to 1.55)	0.70
Pancreatic disease	9	10.26	1.31 (0.66 to 2.58)	0.44	1.31 (0.64 to 2.70)	0.46
Liver disorders	12	5.79	0.90 (0.50 to 1.62)	0.73	0.83 (0.46 to 1.51)	0.55
Cancer	66	8.94	1.15 (0.87 to 1.52)	0.32	1.02 (0.76 to 1.36)	0.92
GP visits†						
<12	40	2.92	1.0 (reference)		1.0 (reference)	
12–23	135	4.84	1.40 (0.98 to 2.01)	0.07	1.35 (0.95 to 1.93)	0.10
24–35	82	7.70	1.54 (1.02 to 2.31)	0.04	1.52 (1.00 to 2.29)	0.05
≥36	79	15.44	2.20 (1.40 to 3.47)	<0.01	1.80 (1.12 to 2.89)	0.01
Referrals to secondary care†						
None	43	4.63	1.0 (reference)		1.0 (reference)	
1–6	191	5.42	1.03 (0.73 to 1.44)	0.88	1.03 (0.73 to 1.45)	0.87
≥7	102	7.94	0.83 (0.55 to 1.25)	0.38	0.83 (0.55 to 1.26)	0.38
>1 hospitalization†	94	10.10	1.23 (0.94 to 1.61)	0.14	1.14 (0.86 to 1.52)	0.35
Lowest eGFR (mL/min/1.73 m <sup>2</sup> )†						
≥90	16	1.47	1.0 (reference)		1.0 (reference)	
60–89	130	4.94	1.57 (0.91 to 2.72)	0.10	1.62 (0.93 to 2.83)	0.09
45–59	104	9.55	1.81 (1.02 to 3.20)	0.04	1.91 (1.07 to 3.42)	0.03
30–44	46	15.37	2.07 (1.11 to 3.87)	0.02	1.99 (1.04 to 3.80)	0.04
15–29	14	19.59	2.63 (1.22 to 5.65)	0.01	2.10 (0.93 to 4.72)	0.07
<15	0	0	–		–	
Missing	26	4.80	1.81 (0.94 to 3.49)	0.08	1.80 (0.93 to 3.49)	0.08
Medication use†						
ACEI/ARB	253	6.47	0.88 (0.67 to 1.16)	0.36	0.88 (0.67 to 1.16)	0.36
MRA	39	32.79	2.10 (1.40 to 3.13)	<0.01	2.07 (1.33 to 3.22)	<0.01

\*Adjusted for all the other variables in the table.

†In the year before study entry.

ACEI, ACE inhibitor; ARB, angiotensin receptor blocker; BMI, body mass index; COPD, chronic obstructive pulmonary disease; CV, cardiovascular; DKD, diabetic kidney disease; eGFR, estimated glomerular filtration rate; GP, general practitioner; IHD, ischemic heart disease; MRA, mineralocorticoid receptor antagonist; SHR, subdistribution HR.

biopsy is the gold standard for differentiating DKD from other kidney disease in diabetes. Results of kidney biopsy are, if available, rarely recorded in primary care records. Additionally, evidence from the UK Prospective Diabetes Study that up to 40% of people with type 2 diabetes and reduced eGFR never develop albuminuria<sup>31</sup> suggests that our operational definition of DKD may have missed some

patients. Second, CV deaths are likely to have been underestimated because cause of death was not recorded in the majority (>80%) of cases. Some studies have reported that CVD accounts for half of all deaths among people with type 2 diabetes,<sup>32</sup> who are more disproportionately affected by CVD than people without diabetes.<sup>33</sup> Third, although the majority of people with type 2 diabetes will

**Table 4** Incidence rates of stage 5 CKD/ESRD per 1000 person-years among the DKD cohort, and HRs (95% CIs) for associations between person characteristics and risk of stage 5 CKD/ESRD

Variable	N	Incidence rate per 1000 person-years	Person-years	Stage 5 CKD/ESRD	HR* (95% CI)	SHR* (95% CI)
Age (years)						
<40	158	0	594	0	–	–
40–49	635	4.16	2402	10	1.0 (reference)	1.0 (reference)
50–64	2597	5.10	9404	48	0.77 (0.38 to 1.56)	0.76 (0.36 to 1.61)
65–74	3028	7.71	10502	81	0.88 (0.43 to 1.80)	0.82 (0.38 to 1.79)
75–89	2757	9.45	7827	74	0.84 (0.40 to 1.79)	0.68 (0.30 to 1.54)
Sex						
Male	5744	6.80	19114	130	1.0 (reference)	1.0 (reference)
Female	3431	7.15	11614	83	0.85 (0.63 to 1.16)	0.90 (0.66 to 1.23)
BMI (kg/m <sup>2</sup> )						
<20	148	17.75	394	7	1.49 (0.65 to 3.41)	1.41 (0.64 to 3.13)
20–24	1195	11.62	3614	42	1.0 (reference)	1.0 (reference)
25–29	2941	5.90	10005	59	0.58 (0.39 to 0.88)	0.61 (0.40 to 0.93)
≥30	4835	6.30	16511	104	0.64 (0.44 to 0.95)	0.68 (0.46 to 1.00)
Missing	56	4.92	203	1	0.34 (0.05 to 2.57)	0.32 (0.05 to 2.05)
Townsend index (quintile)						
1st (least deprivation)	1672	4.76	5464	26	1.0 (reference)	1.0 (reference)
2nd	1844	6.62	6044	40	1.33 (0.81 to 2.20)	1.34 (0.81 to 2.20)
3rd	1891	6.55	6415	42	1.49 (0.91 to 2.44)	1.43 (0.87 to 2.36)
4th	1961	8.68	6682	58	1.95 (1.22 to 3.12)	1.88 (1.18 to 2.99)
5th (most deprivation)	1545	7.60	5265	40	1.76 (1.06 to 2.93)	1.71 (1.03 to 2.84)
Missing	262	8.15	859	7	1.79 (0.77 to 4.19)	1.84 (0.80 to 4.23)
Glycemic control quality†						
Always ≤8%	5634	6.80	18819	128	1.0 (reference)	1.0 (reference)
At some point >8%	2933	6.51	9371	61	1.07 (0.76 to 1.50)	1.05 (0.76 to 1.47)
Missing	608	9.46	2538	24	1.30 (0.82 to 2.07)	1.21 (0.75 to 1.95)
Comorbidities						
Hypertension	6609	7.49	22155	166	1.21 (0.85 to 1.72)	1.22 (0.86 to 1.74)
Hyperlipemia	3154	5.74	10623	61	0.76 (0.56 to 1.03)	0.77 (0.57 to 1.04)
Heart failure	691	14.30	1818	26	1.50 (0.93 to 2.44)	1.38 (0.86 to 2.20)
IHD	2105	9.03	6753	61	1.17 (0.84 to 1.62)	1.14 (0.82 to 1.59)
Cancer	1539	13.76	4287	59	1.99 (1.45 to 2.73)	1.75 (1.27 to 2.42)
Lowest eGFR (mL/min/1.73 m <sup>2</sup> )†						
≥90	1594	1.51	5281	8	1.0 (reference)	1.0 (reference)
60–89	3390	3.57	11205	40	2.19 (1.00 to 4.79)	2.22 (0.98 to 5.02)
45–59	2314	9.76	8404	82	5.46 (2.52 to 11.84)	5.59 (2.47 to 12.63)
30–44	796	15.68	2487	39	8.06 (3.55 to 18.29)	7.74 (3.30 to 18.16)
15–29	224	47.41	612	29	25.82 (11.09 to 60.11)	23.30 (9.47 to 57.31)
<15	0	0	0	0	–	–
Missing	857	5.48	2740	15	3.92 (1.61 to 9.54)	3.88 (1.55 to 9.70)
GP visits†						
<12	1615	3.51	5986	21	1.0 (reference)	1.0 (reference)
12–23	4085	6.07	14509	88	1.55 (0.95 to 2.53)	1.54 (0.95 to 2.51)
24–35	2067	9.09	6491	59	1.97 (1.15 to 3.38)	1.90 (1.10 to 3.28)
≥36	1408	12.03	3742	45	2.23 (1.22 to 4.09)	1.95 (1.02 to 3.72)
Referrals to secondary care†						

Continued

**Table 4** Continued

Variable	N	Incidence rate per 1000 person-years	Person-years	Stage 5 CKD/ESRD	HR* (95% CI)	SHR* (95% CI)
None	1121	7.50	4536	34	1.0 (reference)	1.0 (reference)
1–6	5252	5.93	18221	108	0.77 (0.51 to 1.15)	0.75 (0.50 to 1.14)
≥7	2802	8.91	7971	71	0.75 (0.46 to 1.21)	0.72 (0.43 to 1.20)
>1 hospitalization†	1940	10.21	5678	58	1.13 (0.80 to 1.59)	1.09 (0.76 to 1.56)
Antidiabetic medication†						
None	1719	5.42	6088	33	1.0 (reference)	1.0 (reference)
1 class of non-insulin glucose-lowering medication	3394	7.64	11525	88	1.80 (1.20 to 2.72)	1.82 (1.20 to 2.75)
2 classes of non-insulin glucose-lowering medication	2475	6.74	8460	57	1.66 (1.04 to 2.63)	1.72 (1.07 to 2.76)
>2 classes of non-insulin glucose-lowering medication	896	6.36	2673	17	2.10 (1.11 to 3.98)	2.14 (1.14 to 4.02)
Insulin	691	9.08	1982	18	2.00 (1.06 to 3.75)	1.96 (1.07 to 3.60)
Other medication†						
ACEI/ARB	6978	7.28	23635	172	1.06 (0.73 to 1.53)	1.12 (0.77 to 1.62)
MRA	370	13.75	873	12	0.94 (0.49 to 1.81)	0.85 (0.43 to 1.65)
Time from diabetes diagnosis to DKD (years)						
0–1	285	7.13	1263	9	1.0 (reference)	1.0 (reference)
1–2	811	7.00	3428	24	0.86 (0.40 to 1.89)	0.89 (0.41 to 1.96)
2–3	1029	8.19	4520	37	0.92 (0.43 to 1.95)	0.96 (0.46 to 2.02)
3–4	1117	7.46	4559	34	0.77 (0.36 to 1.66)	0.75 (0.35 to 1.58)
4–5	1060	6.57	4110	27	0.66 (0.30 to 1.45)	0.64 (0.29 to 1.42)
>5	4873	6.38	12847	82	0.66 (0.31 to 1.38)	0.61 (0.30 to 1.25)

\*Adjusted for all the other variables in the table.

†In the year before study entry.

ACEI, ACE inhibitor; ARB, angiotensin receptor blocker; BMI, body mass index; CKD, chronic kidney disease; DKD, diabetic kidney disease; eGFR, estimated glomerular filtration rate; ESRD, end-stage renal disease; GP, general practitioner; IHD, ischemic heart disease; MRA, mineralocorticoid receptor antagonist; SHR, subdistribution HR.

have their renal function assessed regularly, the likely inclusion of some without consistent renal function testing would have led to some misclassification of renal function at baseline and during follow-up. Fourth, drug use was determined at the start of follow-up, and while this avoids finding spurious associations between chronic medication and survival when drug use is determined around the date of death, drug use may change during follow-up. Glycosylated hemoglobin measurements may also have changed during follow-up. Finally, we were unable to explore ethnicity, family history, physical activity or dietary intake as potential risk factors as this information is not generally recorded in the database.

CVD is the main competing cause of death to ESRD among people with diabetes, thereby highlighting the need for treatments that prevent both adverse CV events and DKD progression. So far, the cornerstone of treatment for DKD management and the prevention of CVD mortality has been control of traditional CVD risk factors, using established therapies such as ACE inhibitors and

angiotensin receptor blockers that reduce progression of the disease through lowering blood pressure.<sup>34–36</sup> More recently, two glucose-lowering therapies—sodium-glucose transport protein 2 (SGLT2) inhibitors and GLP-1 receptor agonists—have been shown to reduce both CVD risk (mainly heart failure) and DKD progression. Currently, evidence is stronger for SGLT2 as a cardiorenal reducing class of drugs, including among people with reduced renal function.<sup>37</sup> We were unable to perform a meaningful analysis of SGLT2 inhibitors because relatively few people used these drugs during the current follow-up period. MRAs are another class of drugs being investigated as a possible treatment for DKD. There is some evidence that they decrease the risk of CV events and sudden death in people with reduced eGFR<sup>38</sup> and might therefore have similar beneficial effects in people with DKD. In our study, however, use of MRAs was associated with a twofold higher risk of CV mortality, and a 35% increased risk of all-cause mortality, and no association was seen with ESRD risk. MRAs with



greater selectivity and receptor affinity to those used in practice are currently being investigated for their effects on reducing clinically important CV and renal outcomes in people with DKD.<sup>39</sup>

Our results strongly support continued focus and support to people with type 2 diabetes and DKD in optimizing treatment in clinical practice and continual review of guidelines. The prevalence of DKD is expected<sup>40</sup> to increase alongside increasing prevalence of diabetes,<sup>40</sup> and use of renal replacement therapy is projected to increase dramatically, with an estimated 4.3 million<sup>41</sup> people needing this treatment worldwide by 2030.<sup>41</sup> Considering the high mortality rates among people with DKD, the condition remains a growing public health problem, and there is an explicit need for newer effective treatments to improve cardiorenal outcomes in these people. The independent risk factors for mortality and ESRD identified in this study will help identify people with type 2 diabetes at most risk of death and progression of kidney disease and help to direct effective management strategies.

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#### ORCID iD

Antonio González-Pérez <http://orcid.org/0000-0001-9771-5982>

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**Supplementary Table 1.** Read codes used to identify hypertension.

Read Code	Description
6146200	Hypertension induced by oral contraceptive pill
662..12	Hypertension monitoring
6627.00	Good hypertension control
6628.00	Poor hypertension control
6629.00	Hypertension:follow-up default
662F.00	Hypertension treatm. started
662G.00	Hypertensive treatm.changed
662H.00	Hypertension treatm.stopped
662O.00	On treatment for hypertension
662P.00	Hypertension monitoring
662b.00	Moderate hypertension control
662c.00	Hypertension six month review
662d.00	Hypertension annual review
8CR4.00	Hypertension clinical management plan
8I3N.00	Hypertension treatment refused
9N03.00	Seen in hypertension clinic
9N1y200	Seen in hypertension clinic
9N4L.00	DNA - Did not attend hypertension clinic
9OI1.00	Attends hypertension monitor.
9OI2.00	Refuses hypertension monitor.
9OI4.00	Hypertens.monitor.1st letter
9OI5.00	Hypertens.monitor 2nd letter
9OI6.00	Hypertens.monitor 3rd letter
9OI7.00	Hypertens.monitor verbal inv.
9OI8.00	Hypertens.monitor phone invite
9OI9.00	Hypertens.monitor deleted
9OIA.00	Hypertension monitor.chck done
9OIA.11	Hypertension monitored
9OIZ.00	Hypertens.monitoring admin.NOS
G2...00	Hypertensive disease
G2...11	BP - hypertensive disease
G20..00	Essential hypertension
G20..11	High blood pressure
G200.00	Malignant essential hypertension
G201.00	Benign essential hypertension
G202.00	Systolic hypertension
G20z.00	Essential hypertension NOS
G20z.11	Hypertension NOS
G21..00	Hypertensive heart disease
G210.00	Malignant hypertensive heart disease
G210000	Malignant hypertensive heart disease without CCF
G210100	Malignant hypertensive heart disease with CCF
G210z00	Malignant hypertensive heart disease NOS

<b>Read Code</b>	<b>Description</b>
G211.00	Benign hypertensive heart disease
G211000	Benign hypertensive heart disease without CCF
G211100	Benign hypertensive heart disease with CCF
G21z00	Benign hypertensive heart disease NOS
G21z.00	Hypertensive heart disease NOS
G21z000	Hypertensive heart disease NOS without CCF
G21z011	Cardiomegaly - hypertensive
G21z100	Hypertensive heart disease NOS with CCF
G21zz00	Hypertensive heart disease NOS
G22..00	Hypertensive renal disease
G220.00	Malignant hypertensive renal disease
G221.00	Benign hypertensive renal disease
G222.00	Hypertensive renal disease with renal failure
G22z.00	Hypertensive renal disease NOS
G22z.11	Renal hypertension
G23..00	Hypertensive heart and renal disease
G230.00	Malignant hypertensive heart and renal disease
G231.00	Benign hypertensive heart and renal disease
G232.00	Hypertensive heart&renal dis wth (congestive) heart failure
G233.00	Hypertensive heart and renal disease with renal failure
G23z.00	Hypertensive heart and renal disease NOS
G24..00	Secondary hypertension
G240.00	Secondary malignant hypertension
G240000	Secondary malignant renovascular hypertension
G240z00	Secondary malignant hypertension NOS
G241.00	Secondary benign hypertension
G241000	Secondary benign renovascular hypertension
G241z00	Secondary benign hypertension NOS
G244.00	Hypertension secondary to endocrine disorders
G24z.00	Secondary hypertension NOS
G24z000	Secondary renovascular hypertension NOS
G24z100	Hypertension secondary to drug
G24zz00	Secondary hypertension NOS
G2y..00	Other specified hypertensive disease
G2z..00	Hypertensive disease NOS
G672.11	Hypertensive crisis
Gyu2.00	[X]Hypertensive diseases
Gyu2000	[X]Other secondary hypertension
Gyu2100	[X]Hypertension secondary to other renal disorders

**Supplementary Table 2.** Read codes used to identify hyperlipidaemia.

Read Code	Description
1442.00	H/O: raised blood lipids
44O4.00	Serum lipids high
44O6.00	Lipids abnormal
44P3.00	Serum cholesterol raised
44P4.00	Serum cholesterol very high
44Q3.00	Serum triglycerides raised
8B28.00	Lipid lowering therapy
8BAG000	Cholesterol reduction programme - invited
8BAG100	Cholesterol reduction program - attended
8BAG200	Cholesterol reduction program - declined
8CA4700	Patient advised re low cholesterol diet
8HT1.00	Referral to lipid clinic
9N0I.00	Seen in lipid clinic
9N0J.00	Seen in cholesterol clinic
C320000	Familial hypercholesterolaemia
C320.00	Pure hypercholesterolaemia
C32..00	Disorders of lipoid metabolism
C320100	Hyperbetalipoproteinaemia
C320.11	Familial hypercholesterolaemia
C320.12	Fredrickson type IIa lipidaemia
C320.13	Low density lipoproteinaemia
C320200	Hyperlipidaemia, group A
C320300	Low-density-lipoprotein-type (LDL) hyperlipoproteinaemia
C320400	Fredrickson's hyperlipoproteinaemia, type IIa
C320y00	Other specified pure hypercholesterolaemia
C320z00	Pure hypercholesterolaemia NOS
C321.00	Pure hyperglyceridaemia
C321.11	Fredrickson type IV lipidaemia
C321.12	Very low density lipoprotinaemia
C32..11	Disorder of cholesterol metabolism
C322.00	Mixed hyperlipidaemia
C322.11	Fredrickson type IIb lipidaemia
C322.12	Fredrickson type III lipidaemia
C322.13	Xanthoma tuberosum
C323.00	Hyperchylomicronaemia
C323.11	Burger - Grute syndrome
C323.12	Fredrickson type I lipaemia
C323.13	Fredrickson type V lipaemia
C324.00	Hyperlipidaemia NOS
Cyu8D00	[X]Other hyperlipidaemia
ZV65317	[V]Dietary surveillance in hypercholesterolaemia
13B3.00	Low cholesterol diet

**Supplementary Table 3.** Read codes used to identify heart failure.

Read Code	Description
14A6.00	H/O: heart failure
14AM.00	H/O: Heart failure in last year
1O1..00	Heart failure confirmed
388D.00	New York Heart Assoc classification heart failure symptoms
662f.00	New York Heart Association classification - class I
662g.00	New York Heart Association classification - class II
662h.00	New York Heart Association classification - class III
662i.00	New York Heart Association classification - class IV
662p.00	Heart failure 6 month review
662T.00	Congestive heart failure monitoring
662W.00	Heart failure annual review
679X.00	Heart failure education
67D4.00	Heart failure information given to patient
8B29.00	Cardiac failure therapy
8CL3.00	Heart failure care plan discussed with patient
8H2S.00	Admit heart failure emergency
8HBE.00	Heart failure follow-up
8Hg8.00	Discharge from practice nurse heart failure clinic
8HHb.00	Referral to heart failure nurse
8HHz.00	Referral to heart failure exercise programme
8Hk0.00	Referred to heart failure education group
8HTL.00	Referral to heart failure clinic
9N0k.00	Seen in heart failure clinic
9N2p.00	Seen by community heart failure nurse
9N4s.00	Did not attend practice nurse heart failure clinic
9N6T.00	Referred by heart failure nurse specialist
9Or..00	Heart failure monitoring administration
9Or0.00	Heart failure review completed
9Or1.00	Heart failure monitoring telephone invite
9Or2.00	Heart failure monitoring verbal invite
9Or3.00	Heart failure monitoring first letter
9Or4.00	Heart failure monitoring second letter
9Or5.00	Heart failure monitoring third letter
G232.00	Hypertensive heart&renal dis wth (congestive) heart failure
G234.00	Hyperten heart&renal dis+both(congestv)heart and renal fail
G1yz100	Rheumatic left ventricular failure
G5y4z00	Post cardiac operation heart failure NOS
G5yy900	Left ventricular systolic dysfunction
G5yyA00	Left ventricular diastolic dysfunction
L09y200	Cardiac failure following abortive pregnancy
Q48y100	Congenital cardiac failure
Q490.00	Neonatal cardiac failure
SP08400	Heart transplant failure and rejection

Read Code	Description
SP08500	Heart-lung transplant failure and rejection
SP11100	Cardiac insufficiency as a complication of care
SP11111	Heart failure as a complication of care

**Supplementary Table 4.** Read codes used to identify atrial fibrillation.

Read Code	Description
14AN.00	H/O: atrial fibrillation
14AR.00	History of atrial flutter
212R.00	Atrial fibrillation resolved
3272.00	ECG: atrial fibrillation
3273.00	ECG: atrial flutter
3274.00	ECG: paroxysmal atrial tachy.
662S.00	Atrial fibrillation monitoring
6A9..00	Atrial fibrillation annual review
7936A00	Implant intravenous pacemaker for atrial fibrillation
793M100	Perc transluminal ablation of atrial wall for atrial flutter
793M300	Perc translum ablat conduct sys heart for atrial flutter NEC
8CMW200	Atrial fibrillation care pathway
8HTy.00	Referral to atrial fibrillation clinic
8OAD.00	Provision of written information about atrial fibrillation
9Os..00	Atrial fibrillation monitoring administration
9Os0.00	Atrial fibrillation monitoring first letter
9Os1.00	Atrial fibrillation monitoring second letter
9Os2.00	Atrial fibrillation monitoring third letter
9Os3.00	Atrial fibrillation monitoring verbal invite
9Os4.00	Atrial fibrillation monitoring telephone invite
9hF..00	Exception reporting: atrial fibrillation quality indicators
9hF0.00	Except from atr fib quality indicators: Patient unsuitable
9hF1.00	Excepted from atrial fibrillation qual indic: Inform dissent
G570.00	Paroxysmal supraventricular tachycardia
G570000	Paroxysmal atrial tachycardia
G573.00	Atrial fibrillation and flutter
G573000	Atrial fibrillation
G573100	Atrial flutter
G573200	Paroxysmal atrial fibrillation
G573300	Non-rheumatic atrial fibrillation
G573400	Permanent atrial fibrillation
G573500	Persistent atrial fibrillation
G573600	Paroxysmal atrial flutter
G573700	Chronic atrial fibrillation
G573800	Typical atrial flutter
G573900	Atypical atrial flutter
G573z00	Atrial fibrillation and flutter NOS

**Supplementary Table 5.** Read codes used to identify ischaemic heart disease.

Read Code	Description
14A3.00	H/O: myocardial infarct <60
14A4.00	H/O: myocardial infarct >60
14A5.00	H/O: angina pectoris
14AJ.00	H/O: Angina in last year
14AL.00	H/O: Treatment for ischaemic heart disease
322..00	ECG: myocardial ischaemia
3222.00	ECG: shows myocardial ischaemia
322Z.00	ECG: myocardial ischaemia NOS
3232.00	ECG: old myocardial infarction
3235.00	ECG: subendocardial infarct
323Z.00	ECG: myocardial infarct NOS
3889.00	Euroscore for angina
388E.00	Canadian Cardiovascular Society classification of angina
388F.00	Cardiovascular Limitations and Symptoms Profile angina score
662K.00	Angina control
662K000	Angina control - good
662K100	Angina control - poor
662K200	Angina control - improving
662K300	Angina control - worsening
662Kz00	Angina control NOS
68B2.00	Ischaemic heart disease screen
790H300	Revascularisation of wall of heart
792..00	Coronary artery operations
792..11	Coronary artery bypass graft operations
7920.00	Saphenous vein graft replacement of coronary artery
7920.11	Saphenous vein graft bypass of coronary artery
7920000	Saphenous vein graft replacement of one coronary artery
7920100	Saphenous vein graft replacement of two coronary arteries
7920200	Saphenous vein graft replacement of three coronary arteries
7920300	Saphenous vein graft replacement of four+ coronary arteries
7920y00	Saphenous vein graft replacement of coronary artery OS
7920z00	Saphenous vein graft replacement coronary artery NOS
7921.00	Other autograft replacement of coronary artery
7921.11	Other autograft bypass of coronary artery
7921000	Autograft replacement of one coronary artery NEC
7921100	Autograft replacement of two coronary arteries NEC
7921200	Autograft replacement of three coronary arteries NEC
7921300	Autograft replacement of four or more coronary arteries NEC
7921y00	Other autograft replacement of coronary artery OS
7921z00	Other autograft replacement of coronary artery NOS
7922.00	Allograft replacement of coronary artery
7922.11	Allograft bypass of coronary artery
7922000	Allograft replacement of one coronary artery

Read Code	Description
7922100	Allograft replacement of two coronary arteries
7922200	Allograft replacement of three coronary arteries
7922300	Allograft replacement of four or more coronary arteries
7922y00	Other specified allograft replacement of coronary artery
7922z00	Allograft replacement of coronary artery NOS
7923.00	Prosthetic replacement of coronary artery
7923.11	Prosthetic bypass of coronary artery
7923000	Prosthetic replacement of one coronary artery
7923100	Prosthetic replacement of two coronary arteries
7923200	Prosthetic replacement of three coronary arteries
7923300	Prosthetic replacement of four or more coronary arteries
7923y00	Other specified prosthetic replacement of coronary artery
7923z00	Prosthetic replacement of coronary artery NOS
7924.00	Revision of bypass for coronary artery
7924000	Revision of bypass for one coronary artery
7924100	Revision of bypass for two coronary arteries
7924200	Revision of bypass for three coronary arteries
7924300	Revision of bypass for four or more coronary arteries
7924400	Revision of connection of thoracic artery to coronary artery
7924y00	Other specified revision of bypass for coronary artery
7924z00	Revision of bypass for coronary artery NOS
7925.00	Connection of mammary artery to coronary artery
7925.11	Creation of bypass from mammary artery to coronary artery
7925000	Double anastomosis of mammary arteries to coronary arteries
7925100	Double implant of mammary arteries into coronary arteries
7925200	Single anast mammary art to left ant descend coronary art
7925300	Single anastomosis of mammary artery to coronary artery NEC
7925400	Single implantation of mammary artery into coronary artery
7925y00	Connection of mammary artery to coronary artery OS
7925z00	Connection of mammary artery to coronary artery NOS
7926.00	Connection of other thoracic artery to coronary artery
7926000	Double anastom thoracic arteries to coronary arteries NEC
7926100	Double implant thoracic arteries into coronary arteries NEC
7926200	Single anastomosis of thoracic artery to coronary artery NEC
7926300	Single implantation thoracic artery into coronary artery NEC
7926y00	Connection of other thoracic artery to coronary artery OS
7926z00	Connection of other thoracic artery to coronary artery NOS
7927.00	Other open operations on coronary artery
7927000	Repair of arteriovenous fistula of coronary artery
7927100	Repair of aneurysm of coronary artery
7927200	Transection of muscle bridge of coronary artery
7927300	Transposition of coronary artery NEC
7927400	Exploration of coronary artery
7927500	Open angioplasty of coronary artery
7927y00	Other specified other open operation on coronary artery

Read Code	Description
7927z00	Other open operation on coronary artery NOS
7928.00	Transluminal balloon angioplasty of coronary artery
7928.11	Percutaneous balloon coronary angioplasty
7928000	Percut transluminal balloon angioplasty one coronary artery
7928100	Percut transluminal balloon angioplasty mult coronary arteries
7928200	Percut transluminal balloon angioplasty bypass graft coronary a
7928y00	Transluminal balloon angioplasty of coronary artery OS
7928z00	Transluminal balloon angioplasty of coronary artery NOS
7929.00	Other therapeutic transluminal operations on coronary artery
7929000	Percutaneous transluminal laser coronary angioplasty
7929100	Percut transluminal coronary thrombolysis with streptokinase
7929111	Percut transluminal coronary thrombolytic therapy- streptokinase
7929200	Percut transluminal inject therap subst to coronary artery NEC
7929300	Rotary blade coronary angioplasty
7929400	Insertion of coronary artery stent
7929y00	Other therapeutic transluminal op on coronary artery OS
7929z00	Other therapeutic transluminal op on coronary artery NOS
792B.00	Repair of coronary artery NEC
792B000	Endarterectomy of coronary artery NEC
792By00	Other specified repair of coronary artery
792Bz00	Repair of coronary artery NOS
792C.00	Other replacement of coronary artery
792C000	Replacement of coronary arteries using multiple methods
792Cy00	Other specified replacement of coronary artery
792Cz00	Replacement of coronary artery NOS
792D.00	Other bypass of coronary artery
792Dy00	Other specified other bypass of coronary artery
792Dz00	Other bypass of coronary artery NOS
792y.00	Other specified operations on coronary artery
792z.00	Coronary artery operations NOS
889A.00	Diab mellit insulin-glucose infus acute myocardial infarct
88A8.00	Thrombolytic therapy
8B27.00	Antiangular therapy
G5y2.00	Cardiovascular arteriosclerosis unspecified
Gyu3000	[X]Other forms of angina pectoris
Gyu3100	[X]Other current complications following acute myocard infarct
Gyu3200	[X]Other forms of acute ischaemic heart disease
Gyu3300	[X]Other forms of chronic ischaemic heart disease
Gyu3400	[X]Acute transmural myocardial infarction of unspecif site
Q494.00	Transient myocardial ischaemia of newborn
SP00300	Mechanical complication of coronary bypass
ZR37.00	Canadian Cardiovascular Society classification of angina
ZR3P.00	CLASP angina score
ZR3P.11	CLASP angina score
ZRB1.00	Euroscore for angina

<b>Read Code</b>	<b>Description</b>
ZV45700	[V]Presence of aortocoronary bypass graft
ZV45800	[V]Presence of coronary angioplasty implant and graft
ZV45K00	[V]Presence of coronary artery bypass graft
ZV45K11	[V]Presence of coronary artery bypass graft - CABG
ZV45L00	[V]Status following coronary angioplasty NOS
G3...00	Ischaemic heart disease
G3...11	Arteriosclerotic heart disease
G3...12	Atherosclerotic heart disease
G3...13	IHD - Ischaemic heart disease
G30..00	Acute myocardial infarction
G30..11	Attack - heart
G30..12	Coronary thrombosis
G30..13	Cardiac rupture following myocardial infarction (MI)
G30..14	Heart attack
G30..15	MI - acute myocardial infarction
G30..16	Thrombosis - coronary
G30..17	Silent myocardial infarction
G300.00	Acute anterolateral infarction
G301.00	Other specified anterior myocardial infarction
G301000	Acute anteroapical infarction
G301100	Acute anteroseptal infarction
G301z00	Anterior myocardial infarction NOS
G302.00	Acute inferolateral infarction
G303.00	Acute inferoposterior infarction
G304.00	Posterior myocardial infarction NOS
G305.00	Lateral myocardial infarction NOS
G306.00	True posterior myocardial infarction
G307.00	Acute subendocardial infarction
G307000	Acute non-Q wave infarction
G307100	Acute non-ST segment elevation myocardial infarction
G308.00	Inferior myocardial infarction NOS
G309.00	Acute Q-wave infarct
G30A.00	Mural thrombosis
G30B.00	Acute posterolateral myocardial infarction
G30X.00	Acute transmural myocardial infarction of unspecif site
G30X000	Acute ST segment elevation myocardial infarction
G30y.00	Other acute myocardial infarction
G30y000	Acute atrial infarction
G30y100	Acute papillary muscle infarction
G30y200	Acute septal infarction
G30yz00	Other acute myocardial infarction NOS
G30z.00	Acute myocardial infarction NOS
G31..00	Other acute and subacute ischaemic heart disease
G310.00	Postmyocardial infarction syndrome
G310.11	Dressler's syndrome

<b>Read Code</b>	<b>Description</b>
G311.00	Preinfarction syndrome
G311.11	Crescendo angina
G311.12	Impending infarction
G311.13	Unstable angina
G311.14	Angina at rest
G311000	Myocardial infarction aborted
G311011	MI - myocardial infarction aborted
G311100	Unstable angina
G311200	Angina at rest
G311300	Refractory angina
G311400	Worsening angina
G311500	Acute coronary syndrome
G311z00	Preinfarction syndrome NOS
G312.00	Coronary thrombosis not resulting in myocardial infarction
G31y.00	Other acute and subacute ischaemic heart disease
G31y000	Acute coronary insufficiency
G31y100	Microinfarction of heart
G31y200	Subendocardial ischaemia
G31y300	Transient myocardial ischaemia
G31yz00	Other acute and subacute ischaemic heart disease NOS
G32..00	Old myocardial infarction
G32..11	Healed myocardial infarction
G32..12	Personal history of myocardial infarction
G33..00	Angina pectoris
G330.00	Angina decubitus
G330000	Nocturnal angina
G330z00	Angina decubitus NOS
G331.00	Prinzmetal's angina
G331.11	Variant angina pectoris
G332.00	Coronary artery spasm
G33z.00	Angina pectoris NOS
G33z000	Status anginosus
G33z100	Stenocardia
G33z200	Syncope anginosa
G33z300	Angina on effort
G33z400	Ischaemic chest pain
G33z500	Post infarct angina
G33z600	New onset angina
G33z700	Stable angina
G33zz00	Angina pectoris NOS
G34..00	Other chronic ischaemic heart disease
G340.00	Coronary atherosclerosis
G340.11	Triple vessel disease of the heart
G340.12	Coronary artery disease
G340000	Single coronary vessel disease

<b>Read Code</b>	<b>Description</b>
G340100	Double coronary vessel disease
G341.00	Aneurysm of heart
G341.11	Cardiac aneurysm
G341000	Ventricular cardiac aneurysm
G341100	Other cardiac wall aneurysm
G341111	Mural cardiac aneurysm
G341200	Aneurysm of coronary vessels
G341300	Acquired atrioventricular fistula of heart
G341z00	Aneurysm of heart NOS
G342.00	Atherosclerotic cardiovascular disease
G343.00	Ischaemic cardiomyopathy
G344.00	Silent myocardial ischaemia
G34y.00	Other specified chronic ischaemic heart disease
G34y000	Chronic coronary insufficiency
G34y100	Chronic myocardial ischaemia
G34yz00	Other specified chronic ischaemic heart disease NOS
G34z.00	Other chronic ischaemic heart disease NOS
G34z000	Asymptomatic coronary heart disease
G35..00	Subsequent myocardial infarction
G350.00	Subsequent myocardial infarction of anterior wall
G351.00	Subsequent myocardial infarction of inferior wall
G353.00	Subsequent myocardial infarction of other sites
G35X.00	Subsequent myocardial infarction of unspecified site
G36..00	Certain current complication follow acute myocardial infarct
G360.00	Haemopericardium/current comp folow acut myocard infarct
G361.00	Atrial septal defect/curr comp folow acut myocardal infarct
G362.00	Ventricular septal defect/curr comp fol acut myocardial infarctn
G363.00	Rupture cardiac wall w/out haemopericard/cur comp fol ac MI
G364.00	Rupture chordae tendinae/curr comp fol acute myocard infarct
G365.00	Rupture papillary muscle/curr comp fol acute myocard infarct
G366.00	Thrombosis atrium,auric append&vent/curr comp foll acute MI
G37..00	Cardiac syndrome X
G38..00	Postoperative myocardial infarction
G380.00	Postoperative transmural myocardial infarction anterior wall
G381.00	Postoperative transmural myocardial infarction inferior wall
G382.00	Postoperative transmural myocardial infarction other sites
G383.00	Postoperative transmural myocardial infarction unspc site
G384.00	Postoperative subendocardial myocardial infarction
G38z.00	Postoperative myocardial infarction, unspecified
G39..00	Coronary microvascular disease
G3y..00	Other specified ischaemic heart disease
G3z..00	Ischaemic heart disease NOS

**Supplementary Table 6.** Read codes used to identify cerebrovascular disease.

<b>Read Code</b>	<b>Description</b>
1477.00	H/O: cerebrovascular disease
14A7.12	H/O: stroke
14AF.00	H/O sub-arachnoid haemorrhage
A270300	Listerial cerebral arteritis
F11x200	Cerebral degeneration due to cerebrovascular disease
F285.00	Cerebral oedema
F404500	Intra-ocular haemorrhage
Gyu6.00	[X]Cerebrovascular diseases
Gyu6000	[X]Subarachnoid haemorrhage from other intracranial arteries
Gyu6100	[X]Other subarachnoid haemorrhage
Gyu6200	[X]Other intracerebral haemorrhage
Gyu6400	[X]Other cerebral infarction
Gyu6500	[X]Occlusion and stenosis of other precerebral arteries
Gyu6700	[X]Other specified cerebrovascular diseases
Gyu6800	[X]Cerebral arteritis in infectious and parasitic diseases
Gyu6900	[X]Cerebral arteritis in other diseases CE
Gyu6A00	[X]Other cerebrovascular disorders in diseases CE
Gyu6B00	[X]Sequelae of other nontraumatic intracranial haemorrhage
Gyu6D00	[X]Sequelae/other + unspecified cerebrovascular diseases
Gyu6E00	[X]Subarachnoid haemorrh from intracranial artery, unspecif
Gyu6F00	[X]Intracerebral haemorrhage in hemisphere, unspecified
Gyu6G00	[X]Cereb infarct due unsp occlus/stenos precerebr arteries
L417.00	Obstetric cerebral venous thrombosis
L417000	Cerebral venous thrombosis in pregnancy
L417100	Cerebral venous thrombosis in the puerperium
L440.11	CVA - cerebrovascular accident in the puerperium
Q200.00	Subdural and cerebral haemorrhage due to birth trauma
Q200000	Cerebral haemorrhage unspecified, due to birth trauma
Q200011	Intracerebral haemorrhage in fetus or newborn
Q200012	Intracranial haemorrhage in fetus or newborn
Q200700	Cerebral haemorrhage due to birth injury
Q200y00	Subdural or cerebral haemorrhage due to birth trauma OS
Q200z00	Subdural or cerebral haemorrhage due to birth trauma NOS
Q208.00	Cerebral oedema due to birth injury
Q313100	Perinatal lung intra-alveolar haemorrhage
Q412.00	Perinatal subarachnoid haemorrhage
Q412000	Subarachnoid haemorrhage due to birth injury
Q417.00	Intracranial nontraumatic haemorrhage of fetus and newborn
Q417000	Intracerebral (nontraumatic) haemorrhage of fet and newborn
Q488.00	Neonatal cerebral ischaemia
Qyu5F00	[X]Intracranial nontraumatic haemorrhage fetus newborn unsp
S62..00	Cerebral haemorrhage following injury
S62..12	Subarachnoid haemorrhage following injury

<b>Read Code</b>	<b>Description</b>
S62..14	Traumatic cerebral haemorrhage
S620.00	Closed traumatic subarachnoid haemorrhage
S621.00	Open traumatic subarachnoid haemorrhage
S627.00	Traumatic subarachnoid haemorrhage
S62z.00	Cerebral haemorrhage following injury NOS
S63..00	Other cerebral haemorrhage following injury
S63z.00	Other cerebral haemorrhage following injury NOS
S642.00	Traumatic cerebral oedema
S642000	Traumatic cerebral oedema without open intracranial wound
S642100	Traumatic cerebral oedema with open intracranial wound
ZV12512	[V]Personal history of cerebrovascular accident (CVA)
14A7.00	H/O: CVA/stroke
14A7.11	H/O: CVA
Gyu6300	[X]Cerebrl infarctn due/unspcf occlusn or sten/cerebrl artrs
Gyu6600	[X]Occlusion and stenosis of other cerebral arteries
Fyu5500	[X]Other transnt cerebral ischaemic attacks+related syndroms
14AK.00	H/O: Stroke in last year
662e.00	Stroke/CVA annual review
662e.11	Stroke annual review
662M.00	Stroke monitoring
662M100	Stroke 6 month review
662M200	Stroke initial post discharge review
Gyu6C00	[X]Sequelae of stroke,not specfd as h'morrhage or infarction
L440.12	Stroke in the puerperium
ZV12511	[V]Personal history of stroke
7004100	Evacuation of haematoma from temporal lobe of brain
7004200	Evacuation of haematoma from cerebellum
7004300	Evacuation of intracerebral haematoma NEC
7008200	Aspiration of haematoma of brain tissue
7A24400	Open embolectomy of cerebral artery
7A24500	Open embolectomy of circle of Willis
7A24600	Open embolisation of cerebral artery
7A24700	Open embolisation of circle of Willis
7A25000	Percutaneous transluminal embolisation of cerebral artery
7A25100	Percutaneous transluminal embolisation of circle of Willis
7A25200	Embolisation of cerebral artery NEC
7A25300	Embolisation of circle of Willis NEC
8HBJ.00	Stroke / transient ischaemic attack referral
8HTQ.00	Referral to stroke clinic
ZLEP.00	Discharge from stroke serv
9Om..00	Stroke/transient ischaemic attack monitoring administration
9Om0.00	Stroke/transient ischaemic attack monitoring first letter
9Om1.00	Stroke/transient ischaemic attack monitoring second letter
9Om2.00	Stroke/transient ischaemic attack monitoring third letter
9Om3.00	Stroke/transient ischaemic attack monitoring verbal invitati

<b>Read Code</b>	<b>Description</b>
9Om4.00	Stroke/transient ischaemic attack monitoring telephone invte
G6...00	Cerebrovascular disease
G60..00	Subarachnoid haemorrhage
G600.00	Ruptured berry aneurysm
G601.00	Subarachnoid haemorrhage from carotid siphon and bifurcation
G602.00	Subarachnoid haemorrhage from middle cerebral artery
G603.00	Subarachnoid haemorrhage from anterior communicating artery
G604.00	Subarachnoid haemorrhage from posterior communicating artery
G605.00	Subarachnoid haemorrhage from basilar artery
G606.00	Subarachnoid haemorrhage from vertebral artery
G60X.00	Subarachnoid haemorrh from intracranial artery, unspecif
G60z.00	Subarachnoid haemorrhage NOS
G61..00	Intracerebral haemorrhage
G61..11	CVA - cerebrovascular accid due to intracerebral haemorrhage
G61..12	Stroke due to intracerebral haemorrhage
G610.00	Cortical haemorrhage
G611.00	Internal capsule haemorrhage
G612.00	Basal nucleus haemorrhage
G613.00	Cerebellar haemorrhage
G614.00	Pontine haemorrhage
G615.00	Bulbar haemorrhage
G616.00	External capsule haemorrhage
G617.00	Intracerebral haemorrhage, intraventricular
G618.00	Intracerebral haemorrhage, multiple localized
G619.00	Lobar cerebral haemorrhage
G61X.00	Intracerebral haemorrhage in hemisphere, unspecified
G61X000	Left sided intracerebral haemorrhage, unspecified
G61X100	Right sided intracerebral haemorrhage, unspecified
G61z.00	Intracerebral haemorrhage NOS
G62..00	Other and unspecified intracranial haemorrhage
G620.00	Extradural haemorrhage - nontraumatic
G621.00	Subdural haemorrhage - nontraumatic
G622.00	Subdural haematoma - nontraumatic
G623.00	Subdural haemorrhage NOS
G62z.00	Intracranial haemorrhage NOS
G63..00	Precerebral arterial occlusion
G63..11	Infarction - precerebral
G63..12	Stenosis of precerebral arteries
G630.00	Basilar artery occlusion
G631.00	Carotid artery occlusion
G631.11	Stenosis, carotid artery
G631.12	Thrombosis, carotid artery
G632.00	Vertebral artery occlusion
G633.00	Multiple and bilateral precerebral arterial occlusion
G634.00	Carotid artery stenosis

<b>Read Code</b>	<b>Description</b>
G63y.00	Other precerebral artery occlusion
G63y000	Cerebral infarct due to thrombosis of precerebral arteries
G63y100	Cerebral infarction due to embolism of precerebral arteries
G63z.00	Precerebral artery occlusion NOS
G64..00	Cerebral arterial occlusion
G64..11	CVA - cerebral artery occlusion
G64..12	Infarction - cerebral
G64..13	Stroke due to cerebral arterial occlusion
G640.00	Cerebral thrombosis
G640000	Cerebral infarction due to thrombosis of cerebral arteries
G641.00	Cerebral embolism
G641.11	Cerebral embolus
G641000	Cerebral infarction due to embolism of cerebral arteries
G64z.00	Cerebral infarction NOS
G64z.11	Brainstem infarction NOS
G64z.12	Cerebellar infarction
G64z000	Brainstem infarction
G64z100	Wallenberg syndrome
G64z111	Lateral medullary syndrome
G64z200	Left sided cerebral infarction
G64z300	Right sided cerebral infarction
G64z400	Infarction of basal ganglia
G65..00	Transient cerebral ischaemia
G65..11	Drop attack
G65..12	Transient ischaemic attack
G65..13	Vertebro-basilar insufficiency
G650.00	Basilar artery syndrome
G650.11	Insufficiency - basilar artery
G651.00	Vertebral artery syndrome
G651000	Vertebro-basilar artery syndrome
G652.00	Subclavian steal syndrome
G653.00	Carotid artery syndrome hemispheric
G654.00	Multiple and bilateral precerebral artery syndromes
G655.00	Transient global amnesia
G656.00	Vertebrobasilar insufficiency
G657.00	Carotid territory transient ischaemic attack
G65y.00	Other transient cerebral ischaemia
G65z.00	Transient cerebral ischaemia NOS
G65z000	Impending cerebral ischaemia
G65z100	Intermittent cerebral ischaemia
G65zz00	Transient cerebral ischaemia NOS
G66..00	Stroke and cerebrovascular accident unspecified
G66..11	CVA unspecified
G66..12	Stroke unspecified
G66..13	CVA - Cerebrovascular accident unspecified

<b>Read Code</b>	<b>Description</b>
G660.00	Middle cerebral artery syndrome
G661.00	Anterior cerebral artery syndrome
G662.00	Posterior cerebral artery syndrome
G663.00	Brain stem stroke syndrome
G664.00	Cerebellar stroke syndrome
G665.00	Pure motor lacunar syndrome
G666.00	Pure sensory lacunar syndrome
G667.00	Left sided CVA
G668.00	Right sided CVA
G669.00	Cerebral palsy, not congenital or infantile, acute
G67..00	Other cerebrovascular disease
G670.00	Cerebral atherosclerosis
G670.11	Precerebral atherosclerosis
G671.00	Generalised ischaemic cerebrovascular disease NOS
G671000	Acute cerebrovascular insufficiency NOS
G671100	Chronic cerebral ischaemia
G671z00	Generalised ischaemic cerebrovascular disease NOS
G672.00	Hypertensive encephalopathy
G672.11	Hypertensive crisis
G673.00	Cerebral aneurysm, nonruptured
G673000	Dissection of cerebral arteries, nonruptured
G673100	Carotico-cavernous sinus fistula
G673200	Carotid artery dissection
G673300	Vertebral artery dissection
G674.00	Cerebral arteritis
G674000	Cerebral amyloid angiopathy
G675.00	Moyamoya disease
G676.00	Nonpyogenic venous sinus thrombosis
G676000	Cereb infarct due cerebral venous thrombosis, nonpyogenic
G677.00	Occlusion/stenosis cerebral arts not result cerebral infarct
G677000	Occlusion and stenosis of middle cerebral artery
G677100	Occlusion and stenosis of anterior cerebral artery
G677200	Occlusion and stenosis of posterior cerebral artery
G677300	Occlusion and stenosis of cerebellar arteries
G677400	Occlusion+stenosis of multiple and bilat cerebral arteries
G678.00	Cereb autosom dominant arteriop subcort infarcts leukoenceph
G679.00	Small vessel cerebrovascular disease
G67A.00	Cerebral vein thrombosis
G67B.00	Reversible cerebral vasoconstriction syndrome
G67B.11	Call-Fleming syndrome
G67y.00	Other cerebrovascular disease OS
G67z.00	Other cerebrovascular disease NOS
G68..00	Late effects of cerebrovascular disease
G680.00	Sequelae of subarachnoid haemorrhage
G681.00	Sequelae of intracerebral haemorrhage

Read Code	Description
G682.00	Sequelae of other nontraumatic intracranial haemorrhage
G683.00	Sequelae of cerebral infarction
G68W.00	Sequelae/other + unspecified cerebrovascular diseases
G68X.00	Sequelae of stroke,not specfd as h'morrhage or infarction
G6W..00	Cereb infarct due unsp occlus/stenos precerebr arteries
G6X..00	Cerebrl infarctn due/unspcf occlusn or sten/cerebrl artrs
G6y..00	Other specified cerebrovascular disease
G6z..00	Cerebrovascular disease NOS

**Supplementary Table 7.** Read codes used to identify liver disorders.

<b>Read Code</b>	<b>Description</b>
7L1f.00	Compensation for liver failure
7L1fy00	Other specified compensation for liver failure
7L1fz00	Compensation for liver failure NOS
G820.00	Budd - Chiari syndrome (hepatic vein thrombosis)
J60..00	Acute and subacute liver necrosis
J600.00	Acute necrosis of liver
J600000	Acute hepatic failure
J600011	Acute liver failure
J600100	Acute hepatitis - noninfective
J600200	Acute yellow atrophy
J600z00	Acute necrosis of liver NOS
J601.00	Subacute necrosis of liver
J635000	Toxic liver disease with cholestasis
J601000	Subacute hepatic failure
J601100	Subacute hepatitis - noninfective
J601200	Subacute yellow atrophy
J601z00	Subacute necrosis of liver NOS
J60z.00	Acute and subacute liver necrosis NOS
J613000	Alcoholic hepatic failure
J61y100	Non-alcoholic fatty liver
J61y200	Hepatosplenomegaly
J622.00	Hepatic coma
J625.00	[X] Hepatic failure
J625.11	[X] Liver failure
J62y.11	Hepatic failure NOS
J62y.12	Liver failure NOS
J62y.13	Hepatic failure
J634.00	Hepatic infarction
J635200	Toxic liver disease with acute hepatitis
J635700	Acute hepatic failure due to drugs
J636.00	Central haemorrhagic necrosis of liver
J637.00	Hepatic veno-occlusive disease
J63y.00	Other specified liver disorder
J63y000	Hepatoptosis
J63yz00	Other specified liver disorder NOS
J63z.00	Liver disorder NOS
L09y000	Acute liver necrosis following abortive pregnancy
SP08600	Liver transplant failure and rejection
SP14200	Hepatic failure as a complication of care
SP14211	Liver failure as a complication of care

Read Code	Description
A704z00	Other specified viral hepatitis with hepatic coma NOS
A705000	Viral hepatitis C without mention of hepatic coma
AC8y100	Capillaria hepatica
G72yA00	Aneurysm of hepatic artery
G74y900	Embolism and thrombosis of the hepatic artery
J57yJ00	Hepatic flexure syndrome
J622.11	Encephalopathy - hepatic
J635100	Toxic liver disease with hepatic necrosis
SP14300	Hepatorenal syndrome as a complication of care
R091000	[D]Liver enlargement
25G..11	O/E - hepatomegaly
7805400	Hepatopexy
7805411	Binnie hepatopexy
A900.15	Congenital syphilitic hepatomegaly
PB6y100	Congenital hepatomegaly
R091.00	[D]Hepatomegaly
R091z00	[D]Hepatomegaly NOS
C374300	Rotor syndrome
Q433900	Neonatal jaundice with Rotor's syndrome
C374.00	Disorders of bilirubin excretion
C374000	Crigler - Najjar syndrome
C374100	Dubin - Johnson syndrome
C374200	Gilbert's syndrome
C374300	Rotor syndrome
C374y00	Other specified congenital hyperbilirubinaemia
C374z00	Congenital hyperbilirubinaemia NOS
Cyu8J00	[X]Other bilirubin metabolism disorders
Cyu8T00	[X]Disorder of bilirubin metabolism, unspecified
Q433y11	Neonatal jaundice - deficiency enzyme for bilirubin conjug.
Q436100	Transient neonatal hyperbilirubinaemia
Q437000	Bilirubin encephalopathy
C350012	Pigmentary cirrhosis of liver
D012400	Folate-deficiency anaemia due to liver disorders
G852200	Oesophageal varices in cirrhosis of the liver
G852300	Oesophageal varices in alcoholic cirrhosis of the liver
J6...00	Liver, biliary, pancreas + gastrointestinal diseases NEC
J61..00	Cirrhosis and chronic liver disease
J610.00	Alcoholic fatty liver
J612.00	Alcoholic cirrhosis of liver
J612000	Alcoholic fibrosis and sclerosis of liver
J613.00	Alcoholic liver damage unspecified
J615111	Postnecrotic cirrhosis of liver

Read Code	Description
J615z11	Macronodular cirrhosis of liver
J615z12	Cryptogenic cirrhosis of liver
J615z13	Cirrhosis of liver NOS
J61y.00	Other non-alcoholic chronic liver disease
J61y000	Chronic yellow liver atrophy
J61y700	Steatosis of liver
J61yz00	Other non-alcoholic chronic liver disease NOS
J61z.00	Chronic liver disease NOS
J62..00	Liver abscess and sequelae of chronic liver disease
J620.00	Liver abscess - excluding amoebic liver abscess
J620000	Liver abscess due to portal pyaemia
J620100	Liver abscess due to cholangitis
J620300	Liver abscess via umbilicus
J620400	Liver abscess due to direct extension
J620z00	Liver abscess NOS
J62y.00	Other sequelae of chronic liver disease
J62z.00	Liver abscess and chronic liver disease causing sequelae NOS
J63..00	Other liver disorders
J630.00	Chronic passive liver congestion
J635.00	Toxic liver disease
J635000	Toxic liver disease with cholestasis
J635600	Toxic liver disease with fibrosis and cirrhosis of liver
J635X00	Toxic liver disease, unspecified
J63y200	Liver cyst
Jyu7.00	[X]Diseases of the liver
Jyu7000	[X]Toxic liver disease with other disorders of liver
Jyu7100	[X]Other and unspecified cirrhosis of liver
Jyu7200	[X]Other specified inflammatory liver diseases
Jyu7300	[X]Other specified diseases of liver
Jyu7400	[X]Liver disorders in infectious and parasitic diseases CE
Jyu7500	[X]Liver disorders in other diseases classified elsewhere
Jyu7600	[X]Toxic liver disease, unspecified
J612.11	Florid cirrhosis
J612.12	Laennec's cirrhosis
A053.00	Amoebic liver abscess
A17y400	Tuberculosis of liver
A392200	Actinomycosis of liver
A953.00	Syphilis of liver
AB31.11	Coccidiomycosis liver
AB4z600	Histoplasmosis liver
AB50300	Blastomycosis liver
AB65300	Cryptococcosis liver

Read Code	Description
AC10.11	Cat liver fluke infection
AC11.11	Chinese liver fluke disease
AC13.11	Liver flukes NOS
AC13.12	Sheep liver fluke infection
AC20.00	Liver echinococcus granulosus
AC25.00	Liver echinococcus multilocularis
AC2y.00	Liver echinococcus unspecified
C310313	Glycogenesis, type 3
AyuG400	[X]Echinococcosis, unspecified, of liver
C310412	Andersen's disease
C310300	Glycogenesis of liver and muscle
C310311	Glycogenesis of liver and muscle
C310311	Glycogenesis of liver and muscle
J612.12	Laennec's cirrhosis
J600100	Acute hepatitis - noninfective
J601100	Subacute hepatitis - noninfective
J611.00	Acute alcoholic hepatitis
J614.00	Chronic hepatitis
J614000	Chronic persistent hepatitis
J614100	Chronic active hepatitis
J614111	Autoimmune chronic active hepatitis
J614200	Chronic aggressive hepatitis
J614300	Recurrent hepatitis
J614400	Chronic lobular hepatitis
J614y00	Chronic hepatitis unspecified
J614z00	Chronic hepatitis NOS
J617.00	Alcoholic hepatitis
J617000	Chronic alcoholic hepatitis
J631.00	Hepatitis in viral diseases EC
J631000	Hepatitis in coxsackie virus
J631100	Hepatitis in cytomegalic inclusion virus
J631200	Hepatitis in infectious mononucleosis
J631300	Hepatitis in mumps
J631400	Hepatitis in yellow fever
J631500	Hepatitis in other viral disease
J631600	Hepatitis + adenovirus
J631z00	Hepatitis in viral diseases EC NOS
J632.00	Hepatitis in other infectious diseases EC
J632000	Hepatitis in malaria
J632100	Hepatitis in late syphilis
J632200	Hepatitis in secondary syphilis
J632300	Hepatitis in toxoplasmosis

Read Code	Description
J632z00	Hepatitis in infectious diseases EC NOS
J633.00	Hepatitis unspecified
J633000	Toxic hepatitis
J633z00	Hepatitis unspecified NOS
J635200	Toxic liver disease with acute hepatitis
J635300	Toxic liver disease with chronic persistent hepatitis
J635400	Toxic liver disease with chronic lobular hepatitis
J635500	Toxic liver disease with chronic active hepatitis
J63B.00	Autoimmune hepatitis
J63X.00	Granulomatous hepatitis, not elsewhere classified
J63y100	Nonspecific reactive hepatitis
Jyu7700	[X]Granulomatous hepatitis, not elsewhere classified
L176500	Viral hepatitis comp pregnancy, childbirth & the puerperium
A70..00	Viral hepatitis
A700.00	Viral hepatitis A with coma
A701.00	Viral (infectious) hepatitis A
A701.11	Infective hepatitis
A702.00	Viral hepatitis B with coma
A703.00	Viral (serum) hepatitis B
A704.00	Other specified viral hepatitis with coma
A704000	Viral hepatitis C with coma
A704z00	Other specified viral hepatitis with hepatic coma NOS
A705.00	Other specified viral hepatitis without coma
A705000	Viral hepatitis C without mention of hepatic coma
A705100	Acute delta-(super)infection of hepatitis B carrier
A705200	Acute hepatitis E
A705400	Hepatitis non A non B
A705z00	Other specified viral hepatitis without mention of coma NOS
A706.00	Unspecified viral hepatitis with coma
A707.00	Chronic viral hepatitis
A707000	Chronic viral hepatitis B with delta-agent
A707100	Chronic viral hepatitis B without delta-agent
A707200	Chronic viral hepatitis C
A707X00	Chronic viral hepatitis, unspecified
A70z.00	Unspecified viral hepatitis
A70z000	Hepatitis C
A72x000	Mumps hepatitis
A785200	Cytomegaloviral hepatitis
A916100	Secondary syphilitic hepatitis
A98yy11	Gonococcal hepatitis
9kZ..11	Hepatitis B screening positive
9kX..00	Hepatitis status 6 months post treatment - enhanced serv adm

Read Code	Description
9kX..11	Hepatitis status 6 months post treatment
9kZ..00	Hepatitis B screening positive - enhanced services admin
9kV..11	Hepatitis C screening positive
9kV..00	Hepatitis C screening positive - enhanced services admin
9kR..00	Chronic hepatitis annual review - enhanced services admin
9kR..11	Chronic hepatitis annual review
7Q05300	RSV treatment and Hepatitis C treatment drugs band 1
7Q05200	Hepatitis B treatment drugs band 1
65V3.11	Hepatitis notification
141E.00	History of hepatitis B
2J23.00	Hepatitis A - current infection
9kV..00	Hepatitis C screening positive - enhanced services admin
J635000	Toxic liver disease with cholestasis
L18A000	Cholestasis of pregnancy
ZC2CH00	Dietary advice for hepatic disorder
J61y600	Hepatic fibrosis with hepatic sclerosis
J63A.00	Hepatic granulomas in sarcoidosis
C310400	Glycogenosis with hepatic cirrhosis
C32y511	Hepatic familial steatosis
G820.11	Hepatic vein thrombosis
J639.00	Hepatic granulomas in berylliosis
C32y500	Steatosis
J615z15	Hepatic fibrosis
J61y400	Hepatic fibrosis
J620200	Liver abscess via hepatic artery
J61y500	Hepatic sclerosis
M290400	Chloasma hepaticum
PB61500	Congenital absence of hepatic ducts
PB61511	Agenesis of hepatic ducts
PB61600	Atresia of hepatic ducts
PB62.11	Congenital hepatic cyst
PB6yy00	Other congenital anomaly of hepatic or bile ducts
Q48yz11	Congenital hepatic fibrosis
SB21100	Hepatic vein injury
SB22200	Hepatic artery injury

**Supplementary Table 8.** Read codes used to identify pancreatic disorders.

Read Code	Description
44C4100	Serum amylase (pancreatic) abnormal
A723.00	Mumps pancreatitis
A785100	Cytomegaloviral pancreatitis
B80z000	Carcinoma in situ of pancreas
B905100	Neoplasm of uncertain behaviour of pancreas
BB5B.00	[M]Pancreatic adenomas and carcinomas
BB5Bz00	[M]Pancreatic adenoma or carcinoma NOS
BBLK.00	[M]Pancreatoblastoma
C11..00	Other disorders of pancreatic internal secretion
Cyu3.00	[X]Other disord of glucose regn & pancreatic intern secretn
J6y..00	Liver, biliary, pancreas + gastrointestinal diseases OS
J6z..00	Liver, biliary, pancreas + gastrointestinal diseases NOS
Jyu8.00	[X]Disorders of the gallbladder, biliary tract and pancreas
Jyu8400	[X]Other chronic pancreatitis
Jyu8500	[X]Other specified diseases of pancreas
Jyu8700	[X]Disorders of pancreas in diseases classified elsewhere
PB70.00	Congenital absence of pancreas
PB7..00	Anomalies of pancreas
PB71.00	Agenesis of pancreas
PB72.00	Hypoplasia of pancreas
PB73.00	Accessory pancreas
PB74.00	Annular pancreas
PB75.00	Ectopic pancreas
PB76.00	Pancreatic heterotopia
PB77.00	Pancreatic cyst, congenital
PB7y.00	Other specified anomalies of pancreas
PB7z.00	Anomalies of pancreas NOS
Pyu5F00	[X]Other congen malformation of pancreas & pancreatic duct
R14A.00	[D]Abnormal pancreatic function test
ZC2CK00	Dietary advice for pancreatic disorder
782..12	Pancreas endoscopic operations
7823z11	Pancreatectomy NEC
7827000	Sphincteroplasty bile duct & pancreatic duct duodenal appr
7827200	Sphincteroplasty pancreatic duct using duodenal approach NEC
7828000	Sphincterotomy of bile duct & pancreatic duct duodenal appr
7828200	Sphincterotomy of pancreatic duct duodenal approach NEC
782F000	Endosc retrograde insertion tubal prosth to pancreatic duct
782F.00	Therapeutic endoscopic retrograde pancreatic duct operations
782F100	Endoscopic retrograde renewal pancreatic duct tubal prosthes
782F200	Endoscopic retrograde removal calculus from pancreatic duct
782F300	Endoscopic retrograde drainage of lesion of pancreas
782F400	Endoscopic retrograde dilation of pancreatic duct

Read Code	Description
782Fy00	Therapeutic endoscopic retrograde op on pancreatic duct OS
782Fz00	Therapeutic endoscopic retrograde op on pancreatic duct NOS
782J000	Endoscopic retrograde pancreatography+biopsy lesion pancreas
7830000	Transplantation of pancreas and duodenum
7830.00	Transplantation of pancreas
783..00	Pancreas operations
7830100	Transplantation of whole pancreas
7830200	Transplantation of tail of pancreas
7830400	Renewal of transplanted pancreatic tissue
7830y00	Other specified transplantation of pancreas
7830z00	Transplantation of pancreas NOS
7831000	Total pancreatectomy and excision of surrounding tissue
7831.00	Total excision of pancreas
7831100	Total pancreatectomy NEC
7831.11	Total pancreatectomy
7831200	Excision of transplanted pancreas
7831y00	Other specified total excision of pancreas
7831z00	Total excision of pancreas NOS
7832000	Pancreaticoduodenectomy and excision of surrounding tissue
7832011	Childs pancreaticoduodenectomy
7832.00	Excision of head of pancreas
7832100	Pancreaticoduodenectomy and resection of antrum of stomach
7832111	Rodney pancreaticoduodenectomy
7832112	Smith pancreaticoduodenectomy
7832113	Whipple pancreaticoduodenectomy
7832.11	Pancreatectomy, head of pancreas
7832200	Pancreaticoduodenectomy NEC
7832y00	Other specified excision of head of pancreas
7832z00	Excision of head of pancreas NOS
7833000	Subtotal pancreatectomy
7833.00	Other partial excision of pancreas
7833011	Childs distal subtotal pancreatectomy
7833012	Rodney-Smith dist subtotal pancreatectomy
7833100	Left pancreatectomy and drainage of pancreatic duct
7833.11	Other partial excision of head of pancreas
7833.12	Partial pancreatectomy NEC
7833200	Left pancreatectomy NEC
7833300	Excision of tail of pancreas and drainage of pancreatic duct
7833400	Excision of tail of pancreas NEC
7833500	Pancreatectomy NEC
7833y00	Other specified other partial excision of pancreas
7833z00	Other partial excision of pancreas NOS
7834000	Excision of lesion of islet of Langerhans
7834100	Excision of lesion of pancreas NEC

Read Code	Description
7834200	Destruction of lesion of pancreas
7834y00	Other specified extirpation of lesion of pancreas
7834z00	Extirpation of lesion of pancreas NOS
7835000	Anastomosis of pancreatic duct to stomach
7835.00	Connection of pancreatic duct
7835100	Anastomosis of pancreatic duct to duodenum
7835.11	Anastomosis of pancreatic duct
7835.12	Roux-en-y pancreaticojejunostomy
7835200	Anastomosis of pancreatic duct to transposed jejunum
7835211	Pancreaticojejunostomy
7835212	Peustow pancreaticojejunostomy
7835300	Anastomosis of pancreatic duct to jejunum NEC
7835400	Revision of anastomosis of pancreatic duct
7835500	Closure of anastomosis of pancreatic duct
7835y00	Other specified connection of pancreatic duct
7835z00	Connection of pancreatic duct NOS
7836000	Drainage of pancreatic duct
7836.00	Other open operations on pancreatic duct
7836100	Open removal of calculus from pancreatic duct
7836200	Insertion of T tube into pancreatic duct
7836300	Open insertion of tubal prosthesis into pancreatic duct
7836400	Open dilation of pancreatic duct
7836500	Repair of pancreatic duct
7836y00	Other specified other open operation on pancreatic duct
7836z00	Other open operation on pancreatic duct NOS
7837000	Open cystogastrotomy of pancreas
7837.00	Open drainage of lesion of pancreas
7837100	Drainage of cyst of pancreas into transposed jejunum
7837.11	Open drainage of cyst of pancreas
7837200	Drainage of cyst of pancreas into jejunum NEC
7837300	Drainage of cyst of pancreas NEC
7837y00	Other specified open drainage of lesion of pancreas
7837z00	Open drainage of lesion of pancreas NOS
7838000	Division of annular pancreas
7838.00	Incision of pancreas
7838y00	Other specified incision of pancreas
7838z00	Incision of pancreas NOS
783A000	Open biopsy of lesion of pancreas
783A.00	Other open operations on pancreas
783A100	Suture of pancreas
783Ay00	Other specified other open operation on pancreas
783Az00	Other open operation on pancreas NOS
783B000	Percut drain pancreas lesion+insert cystogastrost tube NEC
783B.00	Therapeutic percutaneous operations on pancreas

<b>Read Code</b>	<b>Description</b>
783B100	Percutaneous drain pancreas lesion+insert temp ext drain HFQ
783B.11	Therapeutic percutaneous drainage of pancreas operations
783B200	Percutaneous drainage of lesion of pancreas NEC
783B300	Percutaneous aspiration of lesion of pancreas
783By00	Therapeutic percutaneous operation on pancreas OS
783Bz00	Therapeutic percutaneous operation on pancreas NOS
783C100	Percutaneous puncture of pancreatic duct and pancreatography
783C200	Needle biopsy of pancreas
783y.00	Other specified operations on pancreas
783z.00	Pancreas operations NOS
D201612	Pancytopenia with pancreatitis
ZV42y12	[V]Pancreas transplanted
ZL1GO00	Under care of pancreatic surgeon
ZL5GF00	Referral to pancreatic surgeon
ZL9GN00	Seen by pancreatic surgeon
B173.00	Malignant neoplasm of pancreatic duct
B17y000	Malignant neoplasm of ectopic pancreatic tissue
B716300	Benign neoplasm of pancreatic duct
C10L000	Fibrocalculous pancreatopathy without complication
C10L.00	Fibrocalculous pancreatopathy
C11y.00	Other specified disorders of pancreatic internal secretio
R104300	[D]Amylase, serum level raised
R104400	[D]Lipase, serum level raised
14CH.00	History of chronic pancreatitis
J671.00	Chronic pancreatitis
J671000	Alcohol-induced chronic pancreatitis
J671100	Gallstone chronic pancreatitis

**Supplementary Table 9.** Read codes used to identify cancer.

<b>Read Code</b>	<b>Description</b>
142..00	H/O: malignant neoplasm (*)
142..11	H/O: cancer
142..13	H/O: malignancy
1425000	H/O Malignant melanoma
1429.00	H/O: * leukaemia
142A.00	H/O: * other lymph/haematopoi.
14P7.00	H/O: chemotherapy
1O0..00	Cancer confirmed
4M2..00	Lymphoma staging system
4M22.00	Lymphoma stage III
4M23.00	Lymphoma stage IV
5149.00	Radiotherapy-tumour palliation
59...00	External radiotherapy
5971.00	Extern.beam+intern.radiotherap
5974.00	Ext.beam-surgery+chemotherapy
5975.00	Ext.beam + chemotherapy
5A...00	Other nuclear therapy
5A...11	Radiotherapy - internal
5A1..00	Internal metabolic radiotherap
5A11.00	Thyroid gland ablat - irradiat
5A12.00	Thyroid tumour/metast irradiat
5A13.00	Bone marrow suppres.-irradiat.
5A14.00	Polycythaemia irradiation
5A15.00	Bone tumour/metast.irradiat.
5A16.00	Radioactive drug therapy
5A16.12	Iodine 131 radiotherapy
5A17.00	Combined internal radiotherapy
5A1Z.00	Internal metabolic radioth.NOS
5A2..00	Intern.radioth-unsealed source
5A21.00	Radioth.: infuse - skull/brain
5A22.00	Radioth.: infuse - head/neck
5A23.00	Radioth.:infuse-pleural cavity
5A24.00	Radioth.:infuse-periton cavity
5A25.00	Radioth:endolymphatic infusion
5A26.00	Radioth:infuse-urinary bladder
5A27.00	Radioth.: infuse organ cavity
5A28.00	Radioth.: infiltrate tissue
5A2Z.00	Intern. unsealed radioth. NOS
5A3..00	Intern.radioth-permanent seeds
5A31.00	Radioth:seeds into hypophysis
5A32.00	Radioth.: seeds into brain
5A33.00	Radioth.: seeds into cavity
5A3Z.00	Radioth.: permanent seeds NOS

<b>Read Code</b>	<b>Description</b>
5A4..00	Radioth.: temporary implant
5A4..11	Radium needles
5A41.00	Radioth.: temp. brain implant
5A42.00	Radioth:temp.head/neck implant
5A43.00	Radioth.: temp. tongue implant
5A44.00	Radioth.: temp. thorax implant
5A45.00	Radioth.: temp. abdom. implant
5A46.00	Radioth.: temp. pelvic implant
5A47.00	Radioth.: temp. limb implant
5A48.00	Radioth:temp.lymphatic implant
5A4Z.00	Radioth.:temporary implant NOS
5A5..00	Preload cavity radioth.-sealed
5A51.00	Preload radioth.- orbit
5A52.00	Preload radioth.-paranas sinus
5A53.00	Preload radioth.- nose
5A54.00	Preload radioth.- mouth
5A55.00	Preload radioth.- ear
5A56.00	Preload radioth.- upper GIT
5A57.00	Preload radioth.- resp.organs
5A58.00	Preload radioth-female genital
5A59.00	Preload radioth-urinary system
5A5A.00	Preload radioth.- rectum
5A5B.00	Preload radioth.- OP cavity
5A5Z.00	Preload cavity radioth. NOS
5A6..00	Afterloading cavity radiother.
5A61.00	Afterload radioth.- head
5A62.00	Afterload radioth.- upper GIT
5A63.00	Afterload radioth.-resp.system
5A64.00	Afterload radioth.-fem.genital
5A65.00	Afterload radioth.-urinary
5A66.00	Afterload radioth.- rectum
5A67.00	Afterload radioth.- OP cavity
5A6Z.00	Afterload cavity radioth. NOS
5A7..00	Radiomimetic chemotherapy
5A71.00	Radio-chemo:local infiltration
5A72.00	Radio-chemo.: to stop spread
5A73.00	Radio-chemo.: oral route
5A74.00	Radio-chemo.: I-V route
5A75.00	Radio-chem.:for immunosuppres.
5A76.00	Radio-chem.:local artery
5A77.00	Radio-chem.: into cavity
5A7Z.00	Radio-chemotherapy NOS
5A8Z.00	Other radiotherapy NOS
5AZ..00	Other nuclear therapy NOS
7046200	Intrathecal chemotherapy

<b>Read Code</b>	<b>Description</b>
7130500	Radical mastectomy including axillary lymph nodes
7130512	Radical mastectomy
7D02300	Vulvectomy and block dissection of inguinal lymph nodes
7D02311	Bassett vulvectomy & block dissection inguin lymph nodes
7H60.00	Block dissection of lymph nodes
7H60000	Block dissection of cervical lymph nodes
7H60100	Block dissection of axillary lymph nodes
7H60200	Block dissection of mediastinal lymph nodes
7H60300	Block dissection of paraaortic lymph nodes
7H60400	Block dissection of inguinal lymph nodes
7H60500	Functional block dissection of cervical lymph nodes
7H60600	Supra hyoid block dissection of cervical lymph nodes
7H60800	Radical neck dissection of cervical lymph nodes
7H60y00	Other specified block dissection of lymph nodes
7H60z00	Block dissection of lymph nodes NOS
7H62.00	Excision or biopsy of lymph node
7H62000	Excision or biopsy of scalene lymph node
7H62100	Excision or biopsy of cervical lymph node NEC
7H62200	Excision or biopsy of axillary lymph node
7H62300	Excision or biopsy of mediastinal lymph node
7H62400	Excision or biopsy of paraaortic lymph node
7H62500	Excision or biopsy of porta hepatis lymph node
7H62600	Excision or biopsy of inguinal lymph node
7H62700	Excision or biopsy of pelvic lymph node
7H62800	Excision or biopsy of obturator lymph node
7H62900	Supraclavicular lymph node biopsy
7H62911	Sentinel lymph node biopsy
7H62912	Signal lymph node biopsy
7H62y00	Other specified excision or biopsy of lymph node
7H62z00	Excision or biopsy of lymph node NOS
7L10200	Continuous infusion of chemotherapy
7L16100	Intravenous chemotherapy
7L18200	Intramuscular chemotherapy
7L19300	Subcutaneous chemotherapy
7M37100	Radiotherapy NEC
8BA5.00	Oral chemotherapy
8BAD.00	Chemotherapy
8BAD000	Cancer chemotherapy
8BAV.00	Cancer care review
8HB7.00	Chemotherapy follow-up
8HHt.00	Fast track cancer referral
8HKD.00	Oncology D.V. requested
8HLD.00	Oncology D.V. done
8HMD.00	Listed for Oncology admission

<b>Read Code</b>	<b>Description</b>
8Hn0.00	Fast track referral for suspected skin cancer
8Hn1.00	Fast track referral for suspected gynaecological cancer
8Hn2.00	Fast track referral for suspected breast cancer
8Hn4.00	Fast track referral for suspected colorectal cancer
8Hn5.00	Fast track referral for suspected urological cancer
8Hn7.00	Fast track referral for suspected lung cancer
8Hn9.00	Fast track referral for suspected upper GI cancer
8HnB.00	Fast track referral for suspected head and neck cancer
9N09.00	Seen in oncology clinic
9N0D.00	Seen in radiotherapy clinic
9N1y800	Seen in oncology clinic
9Np..00	Seen in fast track suspected cancer clinic
9Np2.00	Seen in fast track suspected breast cancer clinic
9Np6.00	Seen in fast track suspected head and neck cancer clinic
9Np7.00	Seen in fast track suspected colorectal cancer clinic
9Np8.00	Seen in fast track suspected lung cancer clinic
9OkC.00	Patient on regional cancer register
9b9I.00	Medical oncology
9bB0.00	Clinical oncology
A788W00	HIV disease resulting in unspecified malignant neoplasm
A789500	HIV disease resulting in Kaposi's sarcoma
A789600	HIV disease resulting in Burkitt's lymphoma
A789700	HIV dis resulting oth types of non-Hodgkin's lymphoma
AyuC600	[X]HIV disease resulting in other non-Hodgkin's lymphoma
AyuC900	[X]HIV disease resulting in unspecified malignant neoplasm
B....00	Neoplasms
B....11	Cancers
B0...00	Malignant neoplasm of lip, oral cavity and pharynx
B0...11	Carcinoma of lip, oral cavity and pharynx
B00..00	Malignant neoplasm of lip
B00..11	Carcinoma of lip
B000.00	Malignant neoplasm of upper lip, vermillion border
B000000	Malignant neoplasm of upper lip, external
B000100	Malignant neoplasm of upper lip, lipstick area
B000z00	Malignant neoplasm of upper lip, vermillion border NOS
B001.00	Malignant neoplasm of lower lip, vermillion border
B001000	Malignant neoplasm of lower lip, external
B001100	Malignant neoplasm of lower lip, lipstick area
B001z00	Malignant neoplasm of lower lip, vermillion border NOS
B002.00	Malignant neoplasm of upper lip, inner aspect
B002000	Malignant neoplasm of upper lip, buccal aspect
B002100	Malignant neoplasm of upper lip, frenulum
B002200	Malignant neoplasm of upper lip, mucosa
B002300	Malignant neoplasm of upper lip, oral aspect
B002z00	Malignant neoplasm of upper lip, inner aspect NOS

<b>Read Code</b>	<b>Description</b>
B003.00	Malignant neoplasm of lower lip, inner aspect
B003000	Malignant neoplasm of lower lip, buccal aspect
B003100	Malignant neoplasm of lower lip, frenulum
B003200	Malignant neoplasm of lower lip, mucosa
B003300	Malignant neoplasm of lower lip, oral aspect
B003z00	Malignant neoplasm of lower lip, inner aspect NOS
B004.00	Malignant neoplasm of lip unspecified, inner aspect
B004000	Malignant neoplasm of lip unspecified, buccal aspect
B004100	Malignant neoplasm of lip unspecified, frenulum
B004200	Malignant neoplasm of lip unspecified, mucosa
B004300	Malignant neoplasm of lip, oral aspect
B004z00	Malignant neoplasm of lip, inner aspect NOS
B005.00	Malignant neoplasm of commissure of lip
B006.00	Malignant neoplasm of overlapping lesion of lip
B007.00	Malignant neoplasm of lip, unspecified
B00y.00	Malignant neoplasm of other sites of lip
B00z.00	Malignant neoplasm of vermillion border of lip unspecified
B00z000	Malignant neoplasm of lip, unspecified, external
B00z100	Malignant neoplasm of lip, unspecified, lipstick area
B00zz00	Malignant neoplasm of lip, vermillion border NOS
B01..00	Malignant neoplasm of tongue
B010.00	Malignant neoplasm of base of tongue
B010.11	Malignant neoplasm of posterior third of tongue
B010000	Malignant neoplasm of base of tongue dorsal surface
B010z00	Malignant neoplasm of fixed part of tongue NOS
B011.00	Malignant neoplasm of dorsal surface of tongue
B011000	Malignant neoplasm of anterior 2/3 of tongue dorsal surface
B011100	Malignant neoplasm of midline of tongue
B011z00	Malignant neoplasm of dorsum of tongue NOS
B012.00	Malignant neoplasm of tongue, tip and lateral border
B013.00	Malignant neoplasm of ventral surface of tongue
B013000	Malignant neoplasm of anterior 2/3 of tongue ventral surface
B013100	Malignant neoplasm of frenulum linguae
B013z00	Malignant neoplasm of ventral tongue surface NOS
B014.00	Malignant neoplasm of anterior 2/3 of tongue unspecified
B015.00	Malignant neoplasm of tongue, junctional zone
B016.00	Malignant neoplasm of lingual tonsil
B017.00	Malignant overlapping lesion of tongue
B01y.00	Malignant neoplasm of other sites of tongue
B01z.00	Malignant neoplasm of tongue NOS
B02..00	Malignant neoplasm of major salivary glands
B020.00	Malignant neoplasm of parotid gland
B021.00	Malignant neoplasm of submandibular gland
B022.00	Malignant neoplasm of sublingual gland

<b>Read Code</b>	<b>Description</b>
B023.00	Malignant neoplasm, overlapping lesion of major saliv gland
B02y.00	Malignant neoplasm of other major salivary glands
B02z.00	Malignant neoplasm of major salivary gland NOS
B03..00	Malignant neoplasm of gum
B030.00	Malignant neoplasm of upper gum
B031.00	Malignant neoplasm of lower gum
B03y.00	Malignant neoplasm of other sites of gum
B03z.00	Malignant neoplasm of gum NOS
B04..00	Malignant neoplasm of floor of mouth
B040.00	Malignant neoplasm of anterior portion of floor of mouth
B041.00	Malignant neoplasm of lateral portion of floor of mouth
B042.00	Malignant neoplasm, overlapping lesion of floor of mouth
B04y.00	Malignant neoplasm of other sites of floor of mouth
B04z.00	Malignant neoplasm of floor of mouth NOS
B05..00	Malignant neoplasm of other and unspecified parts of mouth
B050.00	Malignant neoplasm of cheek mucosa
B050.11	Malignant neoplasm of buccal mucosa
B051.00	Malignant neoplasm of vestibule of mouth
B051000	Malignant neoplasm of upper buccal sulcus
B051100	Malignant neoplasm of lower buccal sulcus
B051200	Malignant neoplasm of upper labial sulcus
B051300	Malignant neoplasm of lower labial sulcus
B051z00	Malignant neoplasm of vestibule of mouth NOS
B052.00	Malignant neoplasm of hard palate
B053.00	Malignant neoplasm of soft palate
B054.00	Malignant neoplasm of uvula
B055.00	Malignant neoplasm of palate unspecified
B055000	Malignant neoplasm of junction of hard and soft palate
B055100	Malignant neoplasm of roof of mouth
B055z00	Malignant neoplasm of palate NOS
B056.00	Malignant neoplasm of retromolar area
B057.00	Overlapping lesion of other and unspecified parts of mouth
B05y.00	Malignant neoplasm of other specified mouth parts
B05z.00	Malignant neoplasm of mouth NOS
B05z000	Kaposi's sarcoma of palate
B06..00	Malignant neoplasm of oropharynx
B060.00	Malignant neoplasm of tonsil
B060000	Malignant neoplasm of faucial tonsil
B060100	Malignant neoplasm of palatine tonsil
B060200	Malignant neoplasm of overlapping lesion of tonsil
B060z00	Malignant neoplasm tonsil NOS
B061.00	Malignant neoplasm of tonsillar fossa
B062.00	Malignant neoplasm of tonsillar pillar
B062000	Malignant neoplasm of faucial pillar

<b>Read Code</b>	<b>Description</b>
B062100	Malignant neoplasm of glossopalatine fold
B062200	Malignant neoplasm of palatoglossal arch
B062300	Malignant neoplasm of palatopharyngeal arch
B062z00	Malignant neoplasm of tonsillar fossa NOS
B063.00	Malignant neoplasm of vallecula
B064.00	Malignant neoplasm of anterior epiglottis
B064000	Malignant neoplasm of epiglottis, free border
B064100	Malignant neoplasm of glossoepiglottic fold
B064z00	Malignant neoplasm of anterior epiglottis NOS
B065.00	Malignant neoplasm of junctional region of epiglottis
B066.00	Malignant neoplasm of lateral wall of oropharynx
B067.00	Malignant neoplasm of posterior wall of oropharynx
B06y.00	Malignant neoplasm of oropharynx, other specified sites
B06y000	Malignant neoplasm of branchial cleft
B06yz00	Malignant neoplasm of other specified site of oropharynx NOS
B06z.00	Malignant neoplasm of oropharynx NOS
B07..00	Malignant neoplasm of nasopharynx
B070.00	Malignant neoplasm of roof of nasopharynx
B071.00	Malignant neoplasm of posterior wall of nasopharynx
B071000	Malignant neoplasm of adenoid
B071100	Malignant neoplasm of pharyngeal tonsil
B071z00	Malignant neoplasm of posterior wall of nasopharynx NOS
B072.00	Malignant neoplasm of lateral wall of nasopharynx
B072000	Malignant neoplasm of pharyngeal recess
B072100	Malignant neoplasm of opening of auditory tube
B072z00	Malignant neoplasm of lateral wall of nasopharynx NOS
B073.00	Malignant neoplasm of anterior wall of nasopharynx
B073000	Malignant neoplasm of floor of nasopharynx
B073100	Malignant neoplasm of nasopharyngeal soft palate surface
B073200	Malignant neoplasm posterior margin nasal septum and choanae
B073z00	Malignant neoplasm of anterior wall of nasopharynx NOS
B074.00	Malignant neoplasm, overlapping lesion of nasopharynx
B07y.00	Malignant neoplasm of other specified site of nasopharynx
B07z.00	Malignant neoplasm of nasopharynx NOS
B08..00	Malignant neoplasm of hypopharynx
B080.00	Malignant neoplasm of postcricoid region
B081.00	Malignant neoplasm of pyriform sinus
B082.00	Malignant neoplasm aryepiglottic fold, hypopharyngeal aspect
B083.00	Malignant neoplasm of posterior pharynx
B084.00	Malignant neoplasm, overlapping lesion of hypopharynx
B08y.00	Malignant neoplasm of other specified hypopharyngeal site
B08z.00	Malignant neoplasm of hypopharynx NOS
B0z..00	Malig neop other/ill-defined sites lip, oral cavity, pharynx

<b>Read Code</b>	<b>Description</b>
B0z0.00	Malignant neoplasm of pharynx unspecified
B0z1.00	Malignant neoplasm of Waldeyer's ring
B0z2.00	Malignant neoplasm of laryngopharynx
B0zy.00	Malignant neoplasm of other sites lip, oral cavity, pharynx
B0zz.00	Malignant neoplasm of lip, oral cavity and pharynx NOS
B1...00	Malignant neoplasm of digestive organs and peritoneum
B1...11	Carcinoma of digestive organs and peritoneum
B10..00	Malignant neoplasm of oesophagus
B100.00	Malignant neoplasm of cervical oesophagus
B101.00	Malignant neoplasm of thoracic oesophagus
B102.00	Malignant neoplasm of abdominal oesophagus
B103.00	Malignant neoplasm of upper third of oesophagus
B104.00	Malignant neoplasm of middle third of oesophagus
B105.00	Malignant neoplasm of lower third of oesophagus
B106.00	Malignant neoplasm, overlapping lesion of oesophagus
B107.00	Siewert type I adenocarcinoma
B10y.00	Malignant neoplasm of other specified part of oesophagus
B10z.00	Malignant neoplasm of oesophagus NOS
B10z.11	Oesophageal cancer
B11..00	Malignant neoplasm of stomach
B11..11	Gastric neoplasm
B110.00	Malignant neoplasm of cardia of stomach
B110000	Malignant neoplasm of cardiac orifice of stomach
B110100	Malignant neoplasm of cardio-oesophageal junction of stomach
B110111	Malignant neoplasm of gastro-oesophageal junction
B110z00	Malignant neoplasm of cardia of stomach NOS
B111.00	Malignant neoplasm of pylorus of stomach
B111000	Malignant neoplasm of prepylorus of stomach
B111100	Malignant neoplasm of pyloric canal of stomach
B111z00	Malignant neoplasm of pylorus of stomach NOS
B112.00	Malignant neoplasm of pyloric antrum of stomach
B113.00	Malignant neoplasm of fundus of stomach
B114.00	Malignant neoplasm of body of stomach
B115.00	Malignant neoplasm of lesser curve of stomach unspecified
B116.00	Malignant neoplasm of greater curve of stomach unspecified
B117.00	Malignant neoplasm, overlapping lesion of stomach
B118.00	Siewert type II adenocarcinoma
B119.00	Siewert type III adenocarcinoma
B11y.00	Malignant neoplasm of other specified site of stomach
B11y000	Malignant neoplasm of anterior wall of stomach NEC
B11y100	Malignant neoplasm of posterior wall of stomach NEC
B11yz00	Malignant neoplasm of other specified site of stomach NOS
B11z.00	Malignant neoplasm of stomach NOS
B12..00	Malignant neoplasm of small intestine and duodenum

<b>Read Code</b>	<b>Description</b>
B120.00	Malignant neoplasm of duodenum
B121.00	Malignant neoplasm of jejunum
B122.00	Malignant neoplasm of ileum
B123.00	Malignant neoplasm of Meckel's diverticulum
B124.00	Malignant neoplasm, overlapping lesion of small intestine
B12y.00	Malignant neoplasm of other specified site small intestine
B12z.00	Malignant neoplasm of small intestine NOS
B13..00	Malignant neoplasm of colon
B130.00	Malignant neoplasm of hepatic flexure of colon
B131.00	Malignant neoplasm of transverse colon
B132.00	Malignant neoplasm of descending colon
B133.00	Malignant neoplasm of sigmoid colon
B134.00	Malignant neoplasm of caecum
B134.11	Carcinoma of caecum
B135.00	Malignant neoplasm of appendix
B136.00	Malignant neoplasm of ascending colon
B137.00	Malignant neoplasm of splenic flexure of colon
B138.00	Malignant neoplasm, overlapping lesion of colon
B139.00	Hereditary nonpolyposis colon cancer
B13y.00	Malignant neoplasm of other specified sites of colon
B13z.00	Malignant neoplasm of colon NOS
B13z.11	Colonic cancer
B14..00	Malignant neoplasm of rectum, rectosigmoid junction and anus
B140.00	Malignant neoplasm of rectosigmoid junction
B141.00	Malignant neoplasm of rectum
B141.11	Carcinoma of rectum
B141.12	Rectal carcinoma
B142.00	Malignant neoplasm of anal canal
B142.11	Anal carcinoma
B142000	Malignant neoplasm of cloacogenic zone
B143.00	Malignant neoplasm of anus unspecified
B14y.00	Malig neop other site rectum, rectosigmoid junction and anus
B14z.00	Malignant neoplasm rectum,rectosigmoid junction and anus NOS
B15..00	Malignant neoplasm of liver and intrahepatic bile ducts
B150.00	Primary malignant neoplasm of liver
B150000	Primary carcinoma of liver
B150100	Hepatoblastoma of liver
B150200	Primary angiosarcoma of liver
B150300	Hepatocellular carcinoma
B150z00	Primary malignant neoplasm of liver NOS
B151.00	Malignant neoplasm of intrahepatic bile ducts
B151000	Malignant neoplasm of interlobular bile ducts
B151100	Malignant neoplasm of interlobular biliary canals

<b>Read Code</b>	<b>Description</b>
B151200	Malignant neoplasm of intrahepatic biliary passages
B151300	Malignant neoplasm of intrahepatic canaliculi
B151400	Malignant neoplasm of intrahepatic gall duct
B151z00	Malignant neoplasm of intrahepatic bile ducts NOS
B152.00	Malignant neoplasm of liver unspecified
B153.00	Secondary malignant neoplasm of liver
B15z.00	Malignant neoplasm of liver and intrahepatic bile ducts NOS
B16..00	Malignant neoplasm gallbladder and extrahepatic bile ducts
B160.00	Malignant neoplasm of gallbladder
B160.11	Carcinoma gallbladder
B161.00	Malignant neoplasm of extrahepatic bile ducts
B161000	Malignant neoplasm of cystic duct
B161100	Malignant neoplasm of hepatic duct
B161200	Malignant neoplasm of common bile duct
B161211	Carcinoma common bile duct
B161300	Malignant neoplasm of sphincter of Oddi
B161z00	Malignant neoplasm of extrahepatic bile ducts NOS
B162.00	Malignant neoplasm of ampulla of Vater
B163.00	Malignant neoplasm, overlapping lesion of biliary tract
B16y.00	Malignant neoplasm other gallbladder/extrahepatic bile duct
B16z.00	Malignant neoplasm gallbladder/extrahepatic bile ducts NOS
B17..00	Malignant neoplasm of pancreas
B170.00	Malignant neoplasm of head of pancreas
B171.00	Malignant neoplasm of body of pancreas
B172.00	Malignant neoplasm of tail of pancreas
B173.00	Malignant neoplasm of pancreatic duct
B174.00	Malignant neoplasm of Islets of Langerhans
B175.00	Malignant neoplasm, overlapping lesion of pancreas
B176.00	Somatostatinoma of pancreas
B17y.00	Malignant neoplasm of other specified sites of pancreas
B17y000	Malignant neoplasm of ectopic pancreatic tissue
B17yz00	Malignant neoplasm of specified site of pancreas NOS
B17z.00	Malignant neoplasm of pancreas NOS
B18..00	Malignant neoplasm of retroperitoneum and peritoneum
B180.00	Malignant neoplasm of retroperitoneum
B180000	Malignant neoplasm of periadrenal tissue
B180100	Malignant neoplasm of perinephric tissue
B180200	Malignant neoplasm of retrocaecal tissue
B180z00	Malignant neoplasm of retroperitoneum NOS
B181.00	Mesothelioma of peritoneum
B182.00	Overlapping malign lesion of retroperitoneum and peritoneum
B18y.00	Malignant neoplasm of specified parts of peritoneum
B18y000	Malignant neoplasm of mesocolon

<b>Read Code</b>	<b>Description</b>
B18y100	Malignant neoplasm of mesocaecum
B18y200	Malignant neoplasm of mesorectum
B18y300	Malignant neoplasm of omentum
B18y400	Malignant neoplasm of parietal peritoneum
B18y500	Malignant neoplasm of pelvic peritoneum
B18y600	Malignant neoplasm of the pouch of Douglas
B18y700	Malignant neoplasm of mesentery
B18yz00	Malignant neoplasm of specified parts of peritoneum NOS
B18z.00	Malignant neoplasm of retroperitoneum and peritoneum NOS
B1z..00	Malig neop oth/ill-defined sites digestive tract/peritoneum
B1z0.00	Malignant neoplasm of intestinal tract, part unspecified
B1z0.11	Cancer of bowel
B1z1.00	Malignant neoplasm of spleen NEC
B1z1000	Angiosarcoma of spleen
B1z1100	Fibrosarcoma of spleen
B1z1z00	Malignant neoplasm of spleen NOS
B1z2.00	Malignant neoplasm, overlapping lesion of digestive system
B1zy.00	Malignant neoplasm other spec digestive tract and peritoneum
B1zz.00	Malignant neoplasm of digestive tract and peritoneum NOS
B2...00	Malig neop of respiratory tract and intrathoracic organs
B2...11	Carcinoma of respiratory tract and intrathoracic organs
B20..00	Malig neop nasal cavities, middle ear and accessory sinuses
B200.00	Malignant neoplasm of nasal cavities
B200000	Malignant neoplasm of cartilage of nose
B200100	Malignant neoplasm of nasal conchae
B200200	Malignant neoplasm of septum of nose
B200300	Malignant neoplasm of vestibule of nose
B200z00	Malignant neoplasm of nasal cavities NOS
B201.00	Malig neop auditory tube, middle ear and mastoid air cells
B201000	Malignant neoplasm of auditory (Eustachian) tube
B201100	Malignant neoplasm of tympanic cavity
B201200	Malignant neoplasm of tympanic antrum
B201300	Malignant neoplasm of mastoid air cells
B201z00	Malig neop auditory tube, middle ear, mastoid air cells NOS
B202.00	Malignant neoplasm of maxillary sinus
B203.00	Malignant neoplasm of ethmoid sinus
B204.00	Malignant neoplasm of frontal sinus
B205.00	Malignant neoplasm of sphenoidal sinus
B206.00	Malignant neoplasm, overlapping lesion of accessory sinuses
B20y.00	Malig neop other site nasal cavity, middle ear and sinuses
B20z.00	Malignant neoplasm of accessory sinus NOS
B21..00	Malignant neoplasm of larynx
B210.00	Malignant neoplasm of glottis

<b>Read Code</b>	<b>Description</b>
B211.00	Malignant neoplasm of supraglottis
B212.00	Malignant neoplasm of subglottis
B213.00	Malignant neoplasm of laryngeal cartilage
B213000	Malignant neoplasm of arytenoid cartilage
B213100	Malignant neoplasm of cricoid cartilage
B213200	Malignant neoplasm of cuneiform cartilage
B213300	Malignant neoplasm of thyroid cartilage
B213z00	Malignant neoplasm of laryngeal cartilage NOS
B214.00	Malignant neoplasm, overlapping lesion of larynx
B215.00	Malignant neoplasm of epiglottis NOS
B21y.00	Malignant neoplasm of larynx, other specified site
B21z.00	Malignant neoplasm of larynx NOS
B22.00	Malignant neoplasm of trachea, bronchus and lung
B220.00	Malignant neoplasm of trachea
B220000	Malignant neoplasm of cartilage of trachea
B220100	Malignant neoplasm of mucosa of trachea
B220z00	Malignant neoplasm of trachea NOS
B221.00	Malignant neoplasm of main bronchus
B221000	Malignant neoplasm of carina of bronchus
B221100	Malignant neoplasm of hilus of lung
B221z00	Malignant neoplasm of main bronchus NOS
B222.00	Malignant neoplasm of upper lobe, bronchus or lung
B222.11	Pancoast's syndrome
B222000	Malignant neoplasm of upper lobe bronchus
B222100	Malignant neoplasm of upper lobe of lung
B222z00	Malignant neoplasm of upper lobe, bronchus or lung NOS
B223.00	Malignant neoplasm of middle lobe, bronchus or lung
B223000	Malignant neoplasm of middle lobe bronchus
B223100	Malignant neoplasm of middle lobe of lung
B223z00	Malignant neoplasm of middle lobe, bronchus or lung NOS
B224.00	Malignant neoplasm of lower lobe, bronchus or lung
B224000	Malignant neoplasm of lower lobe bronchus
B224100	Malignant neoplasm of lower lobe of lung
B224z00	Malignant neoplasm of lower lobe, bronchus or lung NOS
B225.00	Malignant neoplasm of overlapping lesion of bronchus & lung
B226.00	Mesothelioma
B22y.00	Malignant neoplasm of other sites of bronchus or lung
B22z.00	Malignant neoplasm of bronchus or lung NOS
B22z.11	Lung cancer
B23..00	Malignant neoplasm of pleura
B230.00	Malignant neoplasm of parietal pleura
B231.00	Malignant neoplasm of visceral pleura
B232.00	Mesothelioma of pleura
B23y.00	Malignant neoplasm of other specified pleura

<b>Read Code</b>	<b>Description</b>
B23z.00	Malignant neoplasm of pleura NOS
B24..00	Malignant neoplasm of thymus, heart and mediastinum
B240.00	Malignant neoplasm of thymus
B241.00	Malignant neoplasm of heart
B241000	Malignant neoplasm of endocardium
B241100	Malignant neoplasm of epicardium
B241200	Malignant neoplasm of myocardium
B241300	Malignant neoplasm of pericardium
B241400	Mesothelioma of pericardium
B241z00	Malignant neoplasm of heart NOS
B242.00	Malignant neoplasm of anterior mediastinum
B243.00	Malignant neoplasm of posterior mediastinum
B24X.00	Malignant neoplasm of mediastinum, part unspecified
B24y.00	Malig neop of other site of heart, thymus and mediastinum
B24z.00	Malignant neoplasm of heart, thymus and mediastinum NOS
B25..00	Malig neo, overlapping lesion of heart, mediastinum & pleura
B26..00	Malignant neoplasm, overlap lesion of resp & intrathor orgs
B2z..00	Malig neop other/ill-defined sites resp/intrathoracic organs
B2z0.00	Malig neop of upper respiratory tract, part unspecified
B2zy.00	Malignant neoplasm of other site of respiratory tract
B2zz.00	Malignant neoplasm of respiratory tract NOS
B3...00	Malig neop of bone, connective tissue, skin and breast
B3...11	Carcinoma of bone, connective tissue, skin and breast
B3...12	Sarcoma of bone and connective tissue
B30..00	Malignant neoplasm of bone and articular cartilage
B30..11	Chondroma
B30..12	Osteoma
B300.00	Malignant neoplasm of bones of skull and face
B300000	Malignant neoplasm of ethmoid bone
B300100	Malignant neoplasm of frontal bone
B300200	Malignant neoplasm of malar bone
B300300	Malignant neoplasm of nasal bone
B300400	Malignant neoplasm of occipital bone
B300500	Malignant neoplasm of orbital bone
B300600	Malignant neoplasm of parietal bone
B300700	Malignant neoplasm of sphenoid bone
B300800	Malignant neoplasm of temporal bone
B300900	Malignant neoplasm of zygomatic bone
B300A00	Malignant neoplasm of maxilla
B300B00	Malignant neoplasm of turbinate
B300C00	Malignant neoplasm of vomer
B300z00	Malignant neoplasm of bones of skull and face NOS
B301.00	Malignant neoplasm of mandible
B302.00	Malignant neoplasm of vertebral column

<b>Read Code</b>	<b>Description</b>
B302000	Malignant neoplasm of cervical vertebra
B302100	Malignant neoplasm of thoracic vertebra
B302200	Malignant neoplasm of lumbar vertebra
B302z00	Malignant neoplasm of vertebral column NOS
B303.00	Malignant neoplasm of ribs, sternum and clavicle
B303000	Malignant neoplasm of rib
B303100	Malignant neoplasm of sternum
B303200	Malignant neoplasm of clavicle
B303300	Malignant neoplasm of costal cartilage
B303400	Malignant neoplasm of costo-vertebral joint
B303500	Malignant neoplasm of xiphoid process
B303z00	Malignant neoplasm of rib, sternum and clavicle NOS
B304.00	Malignant neoplasm of scapula and long bones of upper arm
B304000	Malignant neoplasm of scapula
B304100	Malignant neoplasm of acromion
B304200	Malignant neoplasm of humerus
B304300	Malignant neoplasm of radius
B304400	Malignant neoplasm of ulna
B304z00	Malig neop of scapula and long bones of upper arm NOS
B305.00	Malignant neoplasm of hand bones
B305.11	Malignant neoplasm of carpal bones
B305.12	Malignant neoplasm of metacarpal bones
B305000	Malignant neoplasm of carpal bone - scaphoid
B305100	Malignant neoplasm of carpal bone - lunate
B305200	Malignant neoplasm of carpal bone - triquetrum
B305300	Malignant neoplasm of carpal bone - pisiform
B305400	Malignant neoplasm of carpal bone - trapezium
B305500	Malignant neoplasm of carpal bone - trapezoid
B305600	Malignant neoplasm of carpal bone - capitate
B305700	Malignant neoplasm of carpal bone - hamate
B305800	Malignant neoplasm of first metacarpal bone
B305900	Malignant neoplasm of second metacarpal bone
B305A00	Malignant neoplasm of third metacarpal bone
B305B00	Malignant neoplasm of fourth metacarpal bone
B305C00	Malignant neoplasm of fifth metacarpal bone
B305D00	Malignant neoplasm of phalanges of hand
B305z00	Malignant neoplasm of hand bones NOS
B306.00	Malignant neoplasm of pelvic bones, sacrum and coccyx
B306000	Malignant neoplasm of ilium
B306100	Malignant neoplasm of ischium
B306200	Malignant neoplasm of pubis
B306300	Malignant neoplasm of sacral vertebra
B306400	Malignant neoplasm of coccygeal vertebra
B306500	Malignant sacral teratoma
B306z00	Malignant neoplasm of pelvis, sacrum or coccyx NOS

<b>Read Code</b>	<b>Description</b>
B307.00	Malignant neoplasm of long bones of leg
B307000	Malignant neoplasm of femur
B307100	Malignant neoplasm of fibula
B307200	Malignant neoplasm of tibia
B307z00	Malignant neoplasm of long bones of leg NOS
B308.00	Malignant neoplasm of short bones of leg
B308.11	Malignant neoplasm of metatarsal bones of foot
B308000	Malignant neoplasm of patella
B308100	Malignant neoplasm of talus
B308200	Malignant neoplasm of calcaneum
B308300	Malignant neoplasm of medial cuneiform
B308400	Malignant neoplasm of intermediate cuneiform
B308500	Malignant neoplasm of lateral cuneiform
B308600	Malignant neoplasm of cuboid
B308700	Malignant neoplasm of navicular
B308800	Malignant neoplasm of first metatarsal bone
B308900	Malignant neoplasm of second metatarsal bone
B308A00	Malignant neoplasm of third metatarsal bone
B308B00	Malignant neoplasm of fourth metatarsal bone
B308C00	Malignant neoplasm of fifth metatarsal bone
B308D00	Malignant neoplasm of phalanges of foot
B308z00	Malignant neoplasm of short bones of leg NOS
B309.00	Malignant neoplasm, overlap les bone and artic cart of limbs
B30W.00	Malignant neoplasm/overlap lesion/bone+articulr cartilage
B30X.00	Malignant neoplasm/bones+articular cartilage/limb,unspfd
B30z.00	Malignant neoplasm of bone and articular cartilage NOS
B30z000	Osteosarcoma
B31..00	Malignant neoplasm of connective and other soft tissue
B310.00	Malig neop of connective and soft tissue head, face and neck
B310000	Malignant neoplasm of soft tissue of head
B310100	Malignant neoplasm of soft tissue of face
B310200	Malignant neoplasm of soft tissue of neck
B310300	Malignant neoplasm of cartilage of ear
B310400	Malignant neoplasm of tarsus of eyelid
B310500	Malignant neoplasm soft tissues of cervical spine
B310z00	Malig neop connective and soft tissue head, face, neck NOS
B311.00	Malig neop connective and soft tissue upper limb/shoulder
B311000	Malignant neoplasm of connective and soft tissue of shoulder
B311100	Malignant neoplasm of connective and soft tissue, upper arm
B311200	Malignant neoplasm of connective and soft tissue of fore-arm
B311300	Malignant neoplasm of connective and soft tissue of hand
B311400	Malignant neoplasm of connective and soft tissue of finger

<b>Read Code</b>	<b>Description</b>
B311500	Malignant neoplasm of connective and soft tissue of thumb
B311z00	Malig neop connective soft tissue upper limb/shoulder NOS
B312.00	Malig neop of connective and soft tissue of hip and leg
B312000	Malignant neoplasm of connective and soft tissue of hip
B312100	Malig neop of connective and soft tissue thigh and upper leg
B312200	Malig neop connective and soft tissue of popliteal space
B312300	Malig neop of connective and soft tissue of lower leg
B312400	Malignant neoplasm of connective and soft tissue of foot
B312500	Malignant neoplasm of connective and soft tissue of toe
B312600	Malig neop of connective and soft tissue of great toe
B312z00	Malig neop connective and soft tissue hip and leg NOS
B313.00	Malignant neoplasm of connective and soft tissue of thorax
B313000	Malignant neoplasm of connective and soft tissue of axilla
B313100	Malignant neoplasm of diaphragm
B313200	Malignant neoplasm of great vessels
B313300	Malig neoplasm of connective and soft tissues of thor spine
B313z00	Malig neop of connective and soft tissue of thorax NOS
B314.00	Malignant neoplasm of connective and soft tissue of abdomen
B314000	Malig neop of connective and soft tissue of abdominal wall
B314100	Malig neoplasm of connective and soft tissues of lumb spine
B314z00	Malig neop of connective and soft tissue of abdomen NOS
B315.00	Malignant neoplasm of connective and soft tissue of pelvis
B315000	Malignant neoplasm of connective and soft tissue of buttock
B315100	Malig neop of connective and soft tissue of inguinal region
B315200	Malignant neoplasm of connective and soft tissue of perineum
B315300	Malig neopl of connective and soft tissue - sacrum or coccyx
B315z00	Malig neop of connective and soft tissue of pelvis NOS
B316.00	Malig neop of connective and soft tissue trunk unspecified
B317.00	Malignant neoplasm, overlap lesion connective & soft tissue
B31y.00	Malig neop connective and soft tissue other specified site
B31z.00	Malignant neoplasm of connective and soft tissue, site NOS
B31z000	Kaposi's sarcoma of soft tissue
B32.00	Malignant melanoma of skin
B320.00	Malignant melanoma of lip
B321.00	Malignant melanoma of eyelid including canthus
B322.00	Malignant melanoma of ear and external auricular canal
B322000	Malignant melanoma of auricle (ear)
B322100	Malignant melanoma of external auditory meatus
B322z00	Malignant melanoma of ear and external auricular canal NOS
B323.00	Malignant melanoma of other and unspecified parts of face
B323000	Malignant melanoma of external surface of cheek
B323100	Malignant melanoma of chin

<b>Read Code</b>	<b>Description</b>
B323200	Malignant melanoma of eyebrow
B323300	Malignant melanoma of forehead
B323400	Malignant melanoma of external surface of nose
B323500	Malignant melanoma of temple
B323z00	Malignant melanoma of face NOS
B324.00	Malignant melanoma of scalp and neck
B324000	Malignant melanoma of scalp
B324100	Malignant melanoma of neck
B324z00	Malignant melanoma of scalp and neck NOS
B325.00	Malignant melanoma of trunk (excluding scrotum)
B325000	Malignant melanoma of axilla
B325100	Malignant melanoma of breast
B325200	Malignant melanoma of buttock
B325300	Malignant melanoma of groin
B325400	Malignant melanoma of perianal skin
B325500	Malignant melanoma of perineum
B325600	Malignant melanoma of umbilicus
B325700	Malignant melanoma of back
B325800	Malignant melanoma of chest wall
B325z00	Malignant melanoma of trunk, excluding scrotum, NOS
B326.00	Malignant melanoma of upper limb and shoulder
B326000	Malignant melanoma of shoulder
B326100	Malignant melanoma of upper arm
B326200	Malignant melanoma of fore-arm
B326300	Malignant melanoma of hand
B326400	Malignant melanoma of finger
B326500	Malignant melanoma of thumb
B326z00	Malignant melanoma of upper limb or shoulder NOS
B327.00	Malignant melanoma of lower limb and hip
B327000	Malignant melanoma of hip
B327100	Malignant melanoma of thigh
B327200	Malignant melanoma of knee
B327300	Malignant melanoma of popliteal fossa area
B327400	Malignant melanoma of lower leg
B327500	Malignant melanoma of ankle
B327600	Malignant melanoma of heel
B327700	Malignant melanoma of foot
B327800	Malignant melanoma of toe
B327900	Malignant melanoma of great toe
B327z00	Malignant melanoma of lower limb or hip NOS
B328.00	Malignant melanoma stage IA
B329.00	Malignant melanoma stage IB
B32A.00	Malignant melanoma stage IIA
B32B.00	Malignant melanoma stage IIB
B32C.00	Malignant melanoma stage IIC

<b>Read Code</b>	<b>Description</b>
B32D.00	Malignant melanoma stage IIIA
B32E.00	Malignant melanoma stage IIIB
B32F.00	Malignant melanoma stage IIIC
B32G.00	Malignant melanoma stage IV M1a
B32H.00	Malignant melanoma stage IV M1b
B32J.00	Malignant melanoma stage IV M1c
B32y.00	Malignant melanoma of other specified skin site
B32y000	Overlapping malignant melanoma of skin
B32z.00	Malignant melanoma of skin NOS
B33..00	Other malignant neoplasm of skin
B33..14	Malignant neoplasm of sebaceous gland
B33..15	Malignant neoplasm of sweat gland
B330.00	Malignant neoplasm of skin of lip
B331.00	Malignant neoplasm of eyelid including canthus
B331000	Malignant neoplasm of canthus
B331100	Malignant neoplasm of upper eyelid
B331200	Malignant neoplasm of lower eyelid
B332.00	Malignant neoplasm skin of ear and external auricular canal
B332000	Malignant neoplasm of skin of auricle (ear)
B332100	Malignant neoplasm of skin of external auditory meatus
B332200	Malignant neoplasm of pinna NEC
B332z00	Malig neop skin of ear and external auricular canal NOS
B333.00	Malignant neoplasm skin of other and unspecified parts face
B333000	Malignant neoplasm of skin of cheek, external
B333100	Malignant neoplasm of skin of chin
B333200	Malignant neoplasm of skin of eyebrow
B333300	Malignant neoplasm of skin of forehead
B333400	Malignant neoplasm of skin of nose (external)
B333500	Malignant neoplasm of skin of temple
B333z00	Malignant neoplasm skin other and unspec part of face NOS
B334.00	Malignant neoplasm of scalp and skin of neck
B334000	Malignant neoplasm of scalp
B334100	Malignant neoplasm of skin of neck
B334z00	Malignant neoplasm of scalp or skin of neck NOS
B335.00	Malignant neoplasm of skin of trunk, excluding scrotum
B335000	Malignant neoplasm of skin of axillary fold
B335100	Malignant neoplasm of skin of chest, excluding breast
B335200	Malignant neoplasm of skin of breast
B335300	Malignant neoplasm of skin of abdominal wall
B335400	Malignant neoplasm of skin of umbilicus
B335500	Malignant neoplasm of skin of groin
B335600	Malignant neoplasm of skin of perineum
B335700	Malignant neoplasm of skin of back
B335800	Malignant neoplasm of skin of buttock
B335900	Malignant neoplasm of perianal skin

<b>Read Code</b>	<b>Description</b>
B335A00	Malignant neoplasm of skin of scapular region
B335z00	Malignant neoplasm of skin of trunk, excluding scrotum, NOS
B336.00	Malignant neoplasm of skin of upper limb and shoulder
B336000	Malignant neoplasm of skin of shoulder
B336100	Malignant neoplasm of skin of upper arm
B336200	Malignant neoplasm of skin of fore-arm
B336300	Malignant neoplasm of skin of hand
B336400	Malignant neoplasm of skin of finger
B336500	Malignant neoplasm of skin of thumb
B336z00	Malignant neoplasm of skin of upper limb or shoulder NOS
B337.00	Malignant neoplasm of skin of lower limb and hip
B337000	Malignant neoplasm of skin of hip
B337100	Malignant neoplasm of skin of thigh
B337200	Malignant neoplasm of skin of knee
B337300	Malignant neoplasm of skin of popliteal fossa area
B337400	Malignant neoplasm of skin of lower leg
B337500	Malignant neoplasm of skin of ankle
B337600	Malignant neoplasm of skin of heel
B337700	Malignant neoplasm of skin of foot
B337800	Malignant neoplasm of skin of toe
B337900	Malignant neoplasm of skin of great toe
B337z00	Malignant neoplasm of skin of lower limb or hip NOS
B338.00	Squamous cell carcinoma of skin
B339.00	Dermatofibrosarcoma protuberans
B33A.00	Stewart-Treves syndrome
B33X.00	Malignant neoplasm overlapping lesion of skin
B33y.00	Malignant neoplasm of other specified skin sites
B33z.00	Malignant neoplasm of skin NOS
B33z.11	Squamous cell carcinoma of skin NOS
B33z000	Kaposi's sarcoma of skin
B34..00	Malignant neoplasm of female breast
B34..11	Ca female breast
B340.00	Malignant neoplasm of nipple and areola of female breast
B340000	Malignant neoplasm of nipple of female breast
B340100	Malignant neoplasm of areola of female breast
B340z00	Malignant neoplasm of nipple or areola of female breast NOS
B341.00	Malignant neoplasm of central part of female breast
B342.00	Malignant neoplasm of upper-inner quadrant of female breast
B343.00	Malignant neoplasm of lower-inner quadrant of female breast
B344.00	Malignant neoplasm of upper-outer quadrant of female breast
B345.00	Malignant neoplasm of lower-outer quadrant of female breast

<b>Read Code</b>	<b>Description</b>
B346.00	Malignant neoplasm of axillary tail of female breast
B347.00	Malignant neoplasm, overlapping lesion of breast
B34y.00	Malignant neoplasm of other site of female breast
B34y000	Malignant neoplasm of ectopic site of female breast
B34yz00	Malignant neoplasm of other site of female breast NOS
B34z.00	Malignant neoplasm of female breast NOS
B35..00	Malignant neoplasm of male breast
B350.00	Malignant neoplasm of nipple and areola of male breast
B350000	Malignant neoplasm of nipple of male breast
B350100	Malignant neoplasm of areola of male breast
B350z00	Malignant neoplasm of nipple or areola of male breast NOS
B35z.00	Malignant neoplasm of other site of male breast
B35z000	Malignant neoplasm of ectopic site of male breast
B35zz00	Malignant neoplasm of male breast NOS
B36..00	Local recurrence of malignant tumour of breast
B3y..00	Malig neop of bone, connective tissue, skin and breast OS
B3z..00	Malig neop of bone, connective tissue, skin and breast NOS
B4...00	Malignant neoplasm of genitourinary organ
B4...11	Carcinoma of genitourinary organ
B40..00	Malignant neoplasm of uterus, part unspecified
B41..00	Malignant neoplasm of cervix uteri
B41..11	Cervical carcinoma (uterus)
B410.00	Malignant neoplasm of endocervix
B410000	Malignant neoplasm of endocervical canal
B410100	Malignant neoplasm of endocervical gland
B410z00	Malignant neoplasm of endocervix NOS
B411.00	Malignant neoplasm of exocervix
B412.00	Malignant neoplasm, overlapping lesion of cervix uteri
B41y.00	Malignant neoplasm of other site of cervix
B41y000	Malignant neoplasm of cervical stump
B41y100	Malignant neoplasm of squamocolumnar junction of cervix
B41yz00	Malignant neoplasm of other site of cervix NOS
B41z.00	Malignant neoplasm of cervix uteri NOS
B42..00	Malignant neoplasm of placenta
B420.00	Choriocarcinoma
B43..00	Malignant neoplasm of body of uterus
B430.00	Malignant neoplasm of corpus uteri, excluding isthmus
B430000	Malignant neoplasm of cornu of corpus uteri
B430100	Malignant neoplasm of fundus of corpus uteri
B430200	Malignant neoplasm of endometrium of corpus uteri
B430211	Malignant neoplasm of endometrium
B430300	Malignant neoplasm of myometrium of corpus uteri
B430z00	Malignant neoplasm of corpus uteri NOS
B431.00	Malignant neoplasm of isthmus of uterine body
B431000	Malignant neoplasm of lower uterine segment

<b>Read Code</b>	<b>Description</b>
B431z00	Malignant neoplasm of isthmus of uterine body NOS
B432.00	Malignant neoplasm of overlapping lesion of corpus uteri
B43y.00	Malignant neoplasm of other site of uterine body
B43z.00	Malignant neoplasm of body of uterus NOS
B44..00	Malignant neoplasm of ovary and other uterine adnexa
B440.00	Malignant neoplasm of ovary
B440.11	Cancer of ovary
B441.00	Malignant neoplasm of fallopian tube
B442.00	Malignant neoplasm of broad ligament
B443.00	Malignant neoplasm of parametrium
B444.00	Malignant neoplasm of round ligament
B44y.00	Malignant neoplasm of other site of uterine adnexa
B44z.00	Malignant neoplasm of uterine adnexa NOS
B45..00	Malig neop of other and unspecified female genital organs
B450.00	Malignant neoplasm of vagina
B450000	Malignant neoplasm of Gartner's duct
B450100	Malignant neoplasm of vaginal vault
B450z00	Malignant neoplasm of vagina NOS
B451.00	Malignant neoplasm of labia majora
B451000	Malignant neoplasm of greater vestibular (Bartholin's) gland
B451z00	Malignant neoplasm of labia majora NOS
B452.00	Malignant neoplasm of labia minora
B453.00	Malignant neoplasm of clitoris
B454.00	Malignant neoplasm of vulva unspecified
B454.11	Primary vulval cancer
B45X.00	Malignant neoplasm/overlapping lesion/feml genital organs
B45y.00	Malignant neoplasm of other specified female genital organ
B45y000	Malignant neoplasm of overlapping lesion of vulva
B45z.00	Malignant neoplasm of female genital organ NOS
B46..00	Malignant neoplasm of prostate
B47..00	Malignant neoplasm of testis
B470.00	Malignant neoplasm of undescended testis
B470000	Malignant neoplasm of ectopic testis
B470100	Malignant neoplasm of retained testis
B470200	Seminoma of undescended testis
B470300	Teratoma of undescended testis
B470z00	Malignant neoplasm of undescended testis NOS
B471.00	Malignant neoplasm of descended testis
B471000	Seminoma of descended testis
B471100	Teratoma of descended testis
B471z00	Malignant neoplasm of descended testis NOS
B47z.00	Malignant neoplasm of testis NOS
B47z.11	Seminoma of testis
B47z.12	Teratoma of testis
B48..00	Malignant neoplasm of penis and other male genital organs

<b>Read Code</b>	<b>Description</b>
B480.00	Malignant neoplasm of prepuce (foreskin)
B481.00	Malignant neoplasm of glans penis
B482.00	Malignant neoplasm of body of penis
B483.00	Malignant neoplasm of penis, part unspecified
B484.00	Malignant neoplasm of epididymis
B485.00	Malignant neoplasm of spermatic cord
B486.00	Malignant neoplasm of scrotum
B487.00	Malignant neoplasm, overlapping lesion of penis
B48y.00	Malignant neoplasm of other male genital organ
B48y000	Malignant neoplasm of seminal vesicle
B48y100	Malignant neoplasm of tunica vaginalis
B48y200	Malignant neoplasm, overlapping lesion male genital orgs
B48yz00	Malignant neoplasm of other male genital organ NOS
B48z.00	Malignant neoplasm of penis and other male genital organ NOS
B49..00	Malignant neoplasm of urinary bladder
B490.00	Malignant neoplasm of trigone of urinary bladder
B491.00	Malignant neoplasm of dome of urinary bladder
B492.00	Malignant neoplasm of lateral wall of urinary bladder
B493.00	Malignant neoplasm of anterior wall of urinary bladder
B494.00	Malignant neoplasm of posterior wall of urinary bladder
B495.00	Malignant neoplasm of bladder neck
B496.00	Malignant neoplasm of ureteric orifice
B497.00	Malignant neoplasm of urachus
B498.00	Local recurrence of malignant tumour of urinary bladder
B49y.00	Malignant neoplasm of other site of urinary bladder
B49y000	Malignant neoplasm, overlapping lesion of bladder
B49z.00	Malignant neoplasm of urinary bladder NOS
B4A..00	Malig neop of kidney and other unspecified urinary organs
B4A..11	Renal malignant neoplasm
B4A0.00	Malignant neoplasm of kidney parenchyma
B4A0000	Hypernephroma
B4A1.00	Malignant neoplasm of renal pelvis
B4A1000	Malignant neoplasm of renal calyces
B4A1100	Malignant neoplasm of ureteropelvic junction
B4A1z00	Malignant neoplasm of renal pelvis NOS
B4A2.00	Malignant neoplasm of ureter
B4A3.00	Malignant neoplasm of urethra
B4A4.00	Malignant neoplasm of paraurethral glands
B4Ay.00	Malignant neoplasm of other urinary organs
B4Ay000	Malignant neoplasm of overlapping lesion of urinary organs
B4Az.00	Malignant neoplasm of kidney or urinary organs NOS
B4y..00	Malignant neoplasm of genitourinary organ OS
B4z..00	Malignant neoplasm of genitourinary organ NOS
B5...00	Malignant neoplasm of other and unspecified sites

<b>Read Code</b>	<b>Description</b>
B5...11	Carcinoma of other and unspecified sites
B50..00	Malignant neoplasm of eye
B500.00	Malig neop eyeball excl conjunctiva, cornea, retina, choroid
B500000	Malignant neoplasm of ciliary body
B500100	Malignant neoplasm of iris
B500200	Malignant neoplasm of crystalline lens
B500300	Malignant neoplasm of sclera
B500z00	Malignant neoplasm of eyeball NOS
B501.00	Malignant neoplasm of orbit
B501000	Malignant neoplasm of connective tissue of orbit
B501100	Malignant neoplasm of extraocular muscle of orbit
B501z00	Malignant neoplasm of orbit NOS
B502.00	Malignant neoplasm of lacrimal gland
B503.00	Malignant neoplasm of conjunctiva
B504.00	Malignant neoplasm of cornea
B505.00	Malignant neoplasm of retina
B506.00	Malignant neoplasm of choroid
B507.00	Malignant neoplasm of lacrimal duct
B507000	Malignant neoplasm of lacrimal sac
B507100	Malignant neoplasm of nasolacrimal duct
B507z00	Malignant neoplasm of lacrimal duct NOS
B508.00	Malignant neoplasm, overlapping lesion of eye and adnexa
B509.00	Malignant melanoma of eye
B50y.00	Malignant neoplasm of other specified site of eye
B50z.00	Malignant neoplasm of eye NOS
B51..00	Malignant neoplasm of brain
B51..11	Cerebral tumour - malignant
B510.00	Malignant neoplasm cerebrum (excluding lobes and ventricles)
B510000	Malignant neoplasm of basal ganglia
B510100	Malignant neoplasm of cerebral cortex
B510200	Malignant neoplasm of corpus striatum
B510300	Malignant neoplasm of globus pallidus
B510400	Malignant neoplasm of hypothalamus
B510500	Malignant neoplasm of thalamus
B510z00	Malignant neoplasm of cerebrum NOS
B511.00	Malignant neoplasm of frontal lobe
B512.00	Malignant neoplasm of temporal lobe
B512000	Malignant neoplasm of hippocampus
B512100	Malignant neoplasm of uncus
B512z00	Malignant neoplasm of temporal lobe NOS
B513.00	Malignant neoplasm of parietal lobe
B514.00	Malignant neoplasm of occipital lobe
B515.00	Malignant neoplasm of cerebral ventricles
B515000	Malignant neoplasm of choroid plexus

<b>Read Code</b>	<b>Description</b>
B515100	Malignant neoplasm of floor of cerebral ventricle
B515z00	Malignant neoplasm of cerebral ventricle NOS
B516.00	Malignant neoplasm of cerebellum
B517.00	Malignant neoplasm of brain stem
B517000	Malignant neoplasm of cerebral peduncle
B517100	Malignant neoplasm of medulla oblongata
B517200	Malignant neoplasm of midbrain
B517300	Malignant neoplasm of pons
B517z00	Malignant neoplasm of brain stem NOS
B51y.00	Malignant neoplasm of other parts of brain
B51y000	Malignant neoplasm of corpus callosum
B51y100	Malignant neoplasm of tapetum
B51y200	Malignant neoplasm, overlapping lesion of brain
B51yz00	Malignant neoplasm of other part of brain NOS
B51z.00	Malignant neoplasm of brain NOS
B52..00	Malig neop of other and unspecified parts of nervous system
B520.00	Malignant neoplasm of cranial nerves
B520000	Malignant neoplasm of olfactory bulb
B520100	Malignant neoplasm of optic nerve
B520200	Malignant neoplasm of acoustic nerve
B520z00	Malignant neoplasm of cranial nerves NOS
B521.00	Malignant neoplasm of cerebral meninges
B521000	Malignant neoplasm of cerebral dura mater
B521100	Malignant neoplasm of cerebral arachnoid mater
B521200	Malignant neoplasm of cerebral pia mater
B521z00	Malignant neoplasm of cerebral meninges NOS
B522.00	Malignant neoplasm of spinal cord
B523.00	Malignant neoplasm of spinal meninges
B523000	Malignant neoplasm of spinal dura mater
B523100	Malignant neoplasm of spinal arachnoid mater
B523200	Malignant neoplasm of spinal pia mater
B523z00	Malignant neoplasm of spinal meninges NOS
B524.00	Malig neopl peripheral nerves and autonomic nervous system
B524000	Malignant neoplasm of peripheral nerves of head, face & neck
B524100	Malignant neoplasm of peripheral nerve,upp limb,incl should
B524200	Malignant neoplasm of peripheral nerve of low limb, incl hip
B524300	Malignant neoplasm of peripheral nerve of thorax
B524400	Malignant neoplasm of peripheral nerve of abdomen
B524500	Malignant neoplasm of peripheral nerve of pelvis
B524600	Malignant neoplasm,overlap lesion periph nerve & auton ns
B524W00	Mal neoplasm/periph nerves+autonomic nervous system,unspc
B524X00	Malignant neoplasm/peripheral nerves of trunk,unspecified

<b>Read Code</b>	<b>Description</b>
B525.00	Malignant neoplasm of cauda equina
B52W.00	Malig neopl, overlap lesion brain & other part of CNS
B52X.00	Malignant neoplasm of meninges, unspecified
B52y.00	Malignant neoplasm of other specified part of nervous system
B52z.00	Malignant neoplasm of nervous system NOS
B53..00	Malignant neoplasm of thyroid gland
B54..00	Malig neop of other endocrine glands and related structures
B540.00	Malignant neoplasm of adrenal gland
B540.11	Phaeochromocytoma
B540000	Malignant neoplasm of adrenal cortex
B540100	Malignant neoplasm of adrenal medulla
B540z00	Malignant neoplasm of adrenal gland NOS
B541.00	Malignant neoplasm of parathyroid gland
B542.00	Malignant neoplasm pituitary gland and craniopharyngeal duct
B542000	Malignant neoplasm of pituitary gland
B542100	Malignant neoplasm of craniopharyngeal duct
B542z00	Malig neop pituitary gland or craniopharyngeal duct NOS
B543.00	Malignant neoplasm of pineal gland
B544.00	Malignant neoplasm of carotid body
B545.00	Malignant neoplasm of aortic body and other paraganglia
B545000	Malignant neoplasm of glomus jugulare
B545100	Malignant neoplasm of aortic body
B545200	Malignant neoplasm of coccygeal body
B545z00	Malignant neoplasm of aortic body or paraganglia NOS
B546.00	Neuroblastoma
B54X.00	Malignant neoplasm-pluriglandular involvement,unspecified
B54y.00	Malignant neoplasm of other specified endocrine gland
B54z.00	Malig neop of endocrine gland or related structure NOS
B55..00	Malignant neoplasm of other and ill-defined sites
B550.00	Malignant neoplasm of head, neck and face
B550000	Malignant neoplasm of head NOS
B550100	Malignant neoplasm of cheek NOS
B550200	Malignant neoplasm of nose NOS
B550300	Malignant neoplasm of jaw NOS
B550400	Malignant neoplasm of neck NOS
B550500	Malignant neoplasm of supraclavicular fossa NOS
B550z00	Malignant neoplasm of head, neck and face NOS
B551.00	Malignant neoplasm of thorax
B551000	Malignant neoplasm of axilla NOS
B551100	Malignant neoplasm of chest wall NOS
B551200	Malignant neoplasm of intrathoracic site NOS
B551z00	Malignant neoplasm of thorax NOS
B552.00	Malignant neoplasm of abdomen
B553.00	Malignant neoplasm of pelvis

<b>Read Code</b>	<b>Description</b>
B553000	Malignant neoplasm of inguinal region NOS
B553100	Malignant neoplasm of presacral region
B553200	Malignant neoplasm of sacrococcygeal region
B553z00	Malignant neoplasm of pelvis NOS
B554.00	Malignant neoplasm of upper limb NOS
B555.00	Malignant neoplasm of lower limb NOS
B55y.00	Malignant neoplasm of other specified sites
B55y000	Malignant neoplasm of back NOS
B55y100	Malignant neoplasm of trunk NOS
B55y200	Malignant neoplasm of flank NOS
B55yz00	Malignant neoplasm of specified site NOS
B55z.00	Malignant neoplasm of other and ill defined site NOS
B56.00	Secondary and unspecified malignant neoplasm of lymph nodes
B56..11	Lymph node metastases
B560.00	Secondary and unspec malig neop lymph nodes head/face/neck
B560000	Secondary and unspec malig neop of superficial parotid LN
B560100	Secondary and unspec malignant neoplasm mastoid lymph nodes
B560200	Secondary and unspec malig neop superficial cervical LN
B560300	Secondary and unspec malignant neoplasm occipital lymph node
B560400	Secondary and unspec malig neop deep parotid lymph nodes
B560500	Secondary and unspec malig neop submandibular lymph nodes
B560600	Secondary and unspec malig neop of facial lymph nodes
B560700	Secondary and unspec malig neop submental lymph nodes
B560800	Secondary and unspec malig neop anterior cervical LN
B560900	Secondary and unspec malig neop deep cervical LN
B560z00	Secondary unspec malig neop lymph nodes head/face/neck NOS
B561.00	Secondary and unspec malig neop intrathoracic lymph nodes
B561000	Secondary and unspec malig neop internal mammary lymph nodes
B561100	Secondary and unspec malig neop intercostal lymph nodes
B561200	Secondary and unspec malig neop diaphragmatic lymph nodes
B561300	Secondary and unspec malig neop ant mediastinal lymph nodes
B561400	Secondary and unspec malig neop post mediastinal lymph nodes
B561500	Secondary and unspec malig neop paratracheal lymph nodes
B561600	Secondary and unspec malig neop superfic tracheobronchial LN
B561700	Secondary and unspec malig neop inferior tracheobronchial LN

<b>Read Code</b>	<b>Description</b>
B561800	Secondary and unspec malig neop bronchopulmonary lymph nodes
B561900	Secondary and unspec malig neop pulmonary lymph nodes
B561z00	Secondary and unspec malig neop intrathoracic LN NOS
B562.00	Secondary and unspec malig neop intra-abdominal lymph nodes
B562000	Secondary and unspec malig neop coeliac lymph nodes
B562100	Secondary and unspec malig neop superficial mesenteric LN
B562200	Secondary and unspec malig neop inferior mesenteric LN
B562300	Secondary and unspec malig neop common iliac lymph nodes
B562400	Secondary and unspec malig neop external iliac lymph nodes
B562z00	Secondary and unspec malig neop intra-abdominal LN NOS
B563.00	Secondary and unspec malig neop axilla and upper limb LN
B563000	Secondary and unspec malig neop axillary lymph nodes
B563100	Secondary and unspec malig neop supratrochlear lymph nodes
B563200	Secondary and unspec malig neop infraclavicular lymph nodes
B563300	Secondary and unspec malig neop pectoral lymph nodes
B563z00	Secondary and unspec malig neop axilla and upper limb LN NOS
B564.00	Secondary and unspec malig neop inguinal and lower limb LN
B564000	Secondary and unspec malig neop superficial inguinal LN
B564100	Secondary and unspec malig neop deep inguinal lymph nodes
B564200	Secondary and unspec malig neop popliteal lymph nodes
B564z00	Secondary and unspec malig neop of inguinal and leg LN NOS
B565.00	Secondary and unspec malig neop intrapelvic lymph nodes
B565000	Secondary and unspec malig neop internal iliac lymph nodes
B565100	Secondary and unspec malig neop inferior epigastric LN
B565200	Secondary and unspec malig neop circumflex iliac LN
B565300	Secondary and unspec malig neop sacral lymph nodes
B565400	Secondary and unspec malig neop obturator lymph nodes
B565z00	Secondary and unspec malig neop intrapelvic LN NOS
B56y.00	Secondary and unspec malig neop lymph nodes multiple sites
B56z.00	Secondary and unspec malig neop lymph nodes NOS
B57..00	Secondary malig neop of respiratory and digestive systems
B57..11	Metastases of respiratory and/or digestive systems
B57..12	Secondary carcinoma of respiratory and/or digestive systems
B570.00	Secondary malignant neoplasm of lung
B571.00	Secondary malignant neoplasm of mediastinum
B572.00	Secondary malignant neoplasm of pleura

<b>Read Code</b>	<b>Description</b>
B573.00	Secondary malignant neoplasm of other respiratory organs
B574.00	Secondary malignant neoplasm of small intestine and duodenum
B574000	Secondary malignant neoplasm of duodenum
B574100	Secondary malignant neoplasm of jejunum
B574200	Secondary malignant neoplasm of ileum
B574z00	Secondary malig neop of small intestine or duodenum NOS
B575.00	Secondary malignant neoplasm of large intestine and rectum
B575000	Secondary malignant neoplasm of colon
B575100	Secondary malignant neoplasm of rectum
B575z00	Secondary malig neop of large intestine or rectum NOS
B576.00	Secondary malig neop of retroperitoneum and peritoneum
B576000	Secondary malignant neoplasm of retroperitoneum
B576100	Secondary malignant neoplasm of peritoneum
B576200	Malignant ascites
B576z00	Secondary malig neop of retroperitoneum or peritoneum NOS
B577.00	Secondary malignant neoplasm of liver
B577.11	Liver metastases
B577000	Secondary malignant neoplasm of liver intrahepatic bile duct
B57y.00	Secondary malignant neoplasm of other digestive organ
B57z.00	Secondary malig neop of respiratory or digestive system NOS
B58..00	Secondary malignant neoplasm of other specified sites
B58..11	Secondary carcinoma of other specified sites
B580.00	Secondary malignant neoplasm of kidney
B581.00	Secondary malignant neoplasm of other urinary organs
B581000	Secondary malignant neoplasm of ureter
B581100	Secondary malignant neoplasm of bladder
B581200	Secondary malignant neoplasm of urethra
B581z00	Secondary malignant neoplasm of other urinary organ NOS
B582.00	Secondary malignant neoplasm of skin
B582000	Secondary malignant neoplasm of skin of head
B582100	Secondary malignant neoplasm of skin of face
B582200	Secondary malignant neoplasm of skin of neck
B582300	Secondary malignant neoplasm of skin of trunk
B582400	Secondary malignant neoplasm of skin of shoulder and arm
B582500	Secondary malignant neoplasm of skin of hip and leg
B582600	Secondary malignant neoplasm of skin of breast
B582z00	Secondary malignant neoplasm of skin NOS
B583.00	Secondary malignant neoplasm of brain and spinal cord
B583000	Secondary malignant neoplasm of brain
B583100	Secondary malignant neoplasm of spinal cord
B583200	Cerebral metastasis
B583z00	Secondary malignant neoplasm of brain or spinal cord NOS

<b>Read Code</b>	<b>Description</b>
B584.00	Secondary malignant neoplasm of other part of nervous system
B585.00	Secondary malignant neoplasm of bone and bone marrow
B585000	Pathological fracture due to metastatic bone disease
B586.00	Secondary malignant neoplasm of ovary
B587.00	Secondary malignant neoplasm of adrenal gland
B58y.00	Secondary malignant neoplasm of other specified sites
B58y000	Secondary malignant neoplasm of breast
B58y100	Secondary malignant neoplasm of uterus
B58y200	Secondary malignant neoplasm of cervix uteri
B58y211	Secondary cancer of the cervix
B58y300	Secondary malignant neoplasm of vagina
B58y400	Secondary malignant neoplasm of vulva
B58y411	Secondary cancer of the vulva
B58y500	Secondary malignant neoplasm of prostate
B58y600	Secondary malignant neoplasm of testis
B58y700	Secondary malignant neoplasm of penis
B58y800	Secondary malignant neoplasm of epididymis and vas deferens
B58y900	Secondary malignant neoplasm of tongue
B58yz00	Secondary malignant neoplasm of other specified site NOS
B58z.00	Secondary malignant neoplasm of other specified site NOS
B59..00	Malignant neoplasm of unspecified site
B590.00	Disseminated malignancy NOS
B590.11	Carcinomatosis
B591.00	Other malignant neoplasm NOS
B592.00	Malignant neoplasms of independent (primary) multiple sites
B592X00	Kaposi's sarcoma of multiple organs
B593.00	Primary malignant neoplasm of unknown site
B594.00	Secondary malignant neoplasm of unknown site
B595.00	Malignant tumour of unknown origin
B59z.00	Malignant neoplasm of unspecified site NOS
B59zX00	Kaposi's sarcoma, unspecified
B5y..00	Malignant neoplasm of other and unspecified site OS
B5z..00	Malignant neoplasm of other and unspecified site NOS
B6...00	Malignant neoplasm of lymphatic and haemopoietic tissue
B6...11	Malignant neoplasm of histiocytic tissue
B60..00	Lymphosarcoma and reticulosarcoma
B600.00	Reticulosarcoma
B600000	Reticulosarcoma of unspecified site
B600100	Reticulosarcoma of lymph nodes of head, face and neck
B600200	Reticulosarcoma of intrathoracic lymph nodes
B600300	Reticulosarcoma of intra-abdominal lymph nodes
B600400	Reticulosarcoma of lymph nodes of axilla and upper limb
B600500	Reticulosarcoma of lymph nodes of inguinal region and leg

<b>Read Code</b>	<b>Description</b>
B600600	Reticulosarcoma of intrapelvic lymph nodes
B600700	Reticulosarcoma of spleen
B600800	Reticulosarcoma of lymph nodes of multiple sites
B600z00	Reticulosarcoma NOS
B601..00	Lymphosarcoma
B601000	Lymphosarcoma of unspecified site
B601100	Lymphosarcoma of lymph nodes of head, face and neck
B601200	Lymphosarcoma of intrathoracic lymph nodes
B601300	Lymphosarcoma of intra-abdominal lymph nodes
B601400	Lymphosarcoma of lymph nodes of axilla and upper limb
B601500	Lymphosarcoma of lymph nodes of inguinal region and leg
B601600	Lymphosarcoma of intrapelvic lymph nodes
B601700	Lymphosarcoma of spleen
B601800	Lymphosarcoma of lymph nodes of multiple sites
B601z00	Lymphosarcoma NOS
B602..00	Burkitt's lymphoma
B602000	Burkitt's lymphoma of unspecified site
B602100	Burkitt's lymphoma of lymph nodes of head, face and neck
B602200	Burkitt's lymphoma of intrathoracic lymph nodes
B602300	Burkitt's lymphoma of intra-abdominal lymph nodes
B602400	Burkitt's lymphoma of lymph nodes of axilla and upper limb
B602500	Burkitt's lymphoma of lymph nodes of inguinal region and leg
B602600	Burkitt's lymphoma of intrapelvic lymph nodes
B602700	Burkitt's lymphoma of spleen
B602800	Burkitt's lymphoma of lymph nodes of multiple sites
B602z00	Burkitt's lymphoma NOS
B60y..00	Other specified reticulosarcoma or lymphosarcoma
B60z..00	Reticulosarcoma or lymphosarcoma NOS
B61..00	Hodgkin's disease
B61..11	Hodgkin lymphoma
B610..00	Hodgkin's paragranuloma
B610000	Hodgkin's paragranuloma of unspecified site
B610100	Hodgkin's paragranuloma of lymph nodes of head, face, neck
B610200	Hodgkin's paragranuloma of intrathoracic lymph nodes
B610300	Hodgkin's paragranuloma of intra-abdominal lymph nodes
B610400	Hodgkin's paragranuloma of lymph nodes of axilla and arm
B610500	Hodgkin's paragranuloma lymph nodes inguinal region and leg
B610600	Hodgkin's paragranuloma of intrapelvic lymph nodes
B610700	Hodgkin's paragranuloma of spleen
B610800	Hodgkin's paragranuloma of lymph nodes of multiple sites
B610z00	Hodgkin's paragranuloma NOS
B611..00	Hodgkin's granuloma
B611000	Hodgkin's granuloma of unspecified site

<b>Read Code</b>	<b>Description</b>
B611100	Hodgkin's granuloma of lymph nodes of head, face and neck
B611200	Hodgkin's granuloma of intrathoracic lymph nodes
B611300	Hodgkin's granuloma of intra-abdominal lymph nodes
B611400	Hodgkin's granuloma of lymph nodes of axilla and upper limb
B611500	Hodgkin's granuloma lymph nodes of inguinal region and leg
B611600	Hodgkin's granuloma of intrapelvic lymph nodes
B611700	Hodgkin's granuloma of spleen
B611800	Hodgkin's granuloma of lymph nodes of multiple sites
B611z00	Hodgkin's granuloma NOS
B612.00	Hodgkin's sarcoma
B612000	Hodgkin's sarcoma of unspecified site
B612100	Hodgkin's sarcoma of lymph nodes of head, face and neck
B612200	Hodgkin's sarcoma of intrathoracic lymph nodes
B612300	Hodgkin's sarcoma of intra-abdominal lymph nodes
B612400	Hodgkin's sarcoma of lymph nodes of axilla and upper limb
B612500	Hodgkin's sarcoma of lymph nodes of inguinal region and leg
B612600	Hodgkin's sarcoma of intrapelvic lymph nodes
B612700	Hodgkin's sarcoma of spleen
B612800	Hodgkin's sarcoma of lymph nodes of multiple sites
B612z00	Hodgkin's sarcoma NOS
B613.00	Hodgkin's disease, lymphocytic-histiocytic predominance
B613.11	Hodgkin lymphoma, lymphocyte-rch
B613000	Hodgkin's, lymphocytic-histiocytic predominance unspec site
B613100	Hodgkin's, lymphocytic-histiocytic pred of head, face, neck
B613200	Hodgkin's, lymphocytic-histiocytic pred intrathoracic nodes
B613300	Hodgkin's, lymphocytic-histiocytic pred intra-abdominal node
B613400	Hodgkin's, lymphocytic-histiocytic pred axilla and arm
B613500	Hodgkin's, lymphocytic-histiocytic pred inguinal and leg
B613600	Hodgkin's, lymphocytic-histiocytic pred intrapelvic nodes
B613700	Hodgkin's, lymphocytic-histiocytic predominance of spleen
B613800	Hodgkin's, lymphocytic-histiocytic pred of multiple sites
B613z00	Hodgkin's, lymphocytic-histiocytic predominance NOS
B614.00	Hodgkin's disease, nodular sclerosis
B614000	Hodgkin's disease, nodular sclerosis of unspecified site
B614100	Hodgkin's nodular sclerosis of head, face and neck
B614200	Hodgkin's nodular sclerosis of intrathoracic lymph nodes
B614300	Hodgkin's nodular sclerosis of intra-abdominal lymph nodes
B614400	Hodgkin's nodular sclerosis of lymph nodes of axilla and arm
B614500	Hodgkin's nodular sclerosis of inguinal region and leg
B614600	Hodgkin's nodular sclerosis of intrapelvic lymph nodes
B614700	Hodgkin's disease, nodular sclerosis of spleen

<b>Read Code</b>	<b>Description</b>
B614800	Hodgkin's nodular sclerosis of lymph nodes of multiple sites
B614z00	Hodgkin's disease, nodular sclerosis NOS
B615.00	Hodgkin's disease, mixed cellularity
B615000	Hodgkin's disease, mixed cellularity of unspecified site
B615100	Hodgkin's mixed cellularity of lymph nodes head, face, neck
B615200	Hodgkin's mixed cellularity of intrathoracic lymph nodes
B615300	Hodgkin's mixed cellularity of intra-abdominal lymph nodes
B615400	Hodgkin's mixed cellularity of lymph nodes of axilla and arm
B615500	Hodgkin's mixed cellularity of lymph nodes inguinal and leg
B615600	Hodgkin's mixed cellularity of intrapelvic lymph nodes
B615700	Hodgkin's disease, mixed cellularity of spleen
B615800	Hodgkin's mixed cellularity of lymph nodes of multiple sites
B615z00	Hodgkin's disease, mixed cellularity NOS
B616.00	Hodgkin's disease, lymphocytic depletion
B616000	Hodgkin's lymphocytic depletion of unspecified site
B616100	Hodgkin's lymphocytic depletion of head, face and neck
B616200	Hodgkin's lymphocytic depletion of intrathoracic lymph nodes
B616300	Hodgkin's lymphocytic depletion intra-abdominal lymph nodes
B616400	Hodgkin's lymphocytic depletion lymph nodes axilla and arm
B616500	Hodgkin's lymphocytic depletion lymph nodes inguinal and leg
B616600	Hodgkin's lymphocytic depletion of intrapelvic lymph nodes
B616700	Hodgkin's disease, lymphocytic depletion of spleen
B616800	Hodgkin's lymphocytic depletion lymph nodes multiple sites
B616z00	Hodgkin's disease, lymphocytic depletion NOS
B617.00	Nodular lymphocyte predominant Hodgkin lymphoma
B618.00	Nodular sclerosis classical Hodgkin lymphoma
B619.00	Mixed cellularity classical Hodgkin lymphoma
B61A.00	Lymphocyte depleted classical Hodgkin lymphoma
B61B.00	Lymphocyte-rich classical Hodgkin lymphoma
B61C.00	Other classical Hodgkin lymphoma
B61z.00	Hodgkin's disease NOS
B61z.11	Hodgkin lymphoma NOS
B61z000	Hodgkin's disease NOS, unspecified site
B61z100	Hodgkin's disease NOS of lymph nodes of head, face and neck
B61z200	Hodgkin's disease NOS of intrathoracic lymph nodes
B61z300	Hodgkin's disease NOS of intra-abdominal lymph nodes
B61z400	Hodgkin's disease NOS of lymph nodes of axilla and arm
B61z500	Hodgkin's disease NOS of lymph nodes inguinal region and leg
B61z600	Hodgkin's disease NOS of intrapelvic lymph nodes
B61z700	Hodgkin's disease NOS of spleen

<b>Read Code</b>	<b>Description</b>
B61z800	Hodgkin's disease NOS of lymph nodes of multiple sites
B61zz00	Hodgkin's disease NOS
B62.00	Other malignant neoplasm of lymphoid and histiocytic tissue
B620.00	Nodular lymphoma (Brill - Symmers disease)
B620.11	Reticulosarcoma - follicular or nodular
B620000	Nodular lymphoma of unspecified site
B620100	Nodular lymphoma of lymph nodes of head, face and neck
B620200	Nodular lymphoma of intrathoracic lymph nodes
B620300	Nodular lymphoma of intra-abdominal lymph nodes
B620400	Nodular lymphoma of lymph nodes of axilla and upper limb
B620500	Nodular lymphoma of lymph nodes of inguinal region and leg
B620600	Nodular lymphoma of intrapelvic lymph nodes
B620700	Nodular lymphoma of spleen
B620800	Nodular lymphoma of lymph nodes of multiple sites
B620z00	Nodular lymphoma NOS
B621.00	Mycosis fungoides
B621000	Mycosis fungoides of unspecified site
B621100	Mycosis fungoides of the lymph nodes of head, face and neck
B621200	Mycosis fungoides of intrathoracic lymph nodes
B621300	Mycosis fungoides of intra-abdominal lymph nodes
B621400	Mycosis fungoides of lymph nodes of axilla and upper limb
B621500	Mycosis fungoides of lymph nodes of inguinal region and leg
B621600	Mycosis fungoides of intrapelvic lymph nodes
B621700	Mycosis fungoides of spleen
B621800	Mycosis fungoides of lymph nodes of multiple sites
B621z00	Mycosis fungoides NOS
B622.00	Sezary's disease
B622.11	Sezary disease
B622000	Sezary's disease of unspecified site
B622100	Sezary's disease of lymph nodes of head, face and neck
B622200	Sezary's disease of intrathoracic lymph nodes
B622300	Sezary's disease of intra-abdominal lymph nodes
B622400	Sezary's disease of lymph nodes of axilla and upper limb
B622500	Sezary's disease of lymph nodes of inguinal region and leg
B622600	Sezary's disease of intrapelvic lymph nodes
B622700	Sezary's disease of spleen
B622800	Sezary's disease of lymph nodes of multiple sites
B622z00	Sezary's disease NOS
B623.00	Malignant histiocytosis
B623000	Malignant histiocytosis of unspecified site
B623100	Malignant histiocytosis of lymph nodes head, face and neck
B623200	Malignant histiocytosis of intrathoracic lymph nodes

<b>Read Code</b>	<b>Description</b>
B623300	Malignant histiocytosis of intra-abdominal lymph nodes
B623400	Malignant histiocytosis of lymph nodes of axilla and arm
B623500	Malignant histiocytosis of lymph nodes inguinal and leg
B623600	Malignant histiocytosis of intrapelvic lymph nodes
B623700	Malignant histiocytosis of spleen
B623800	Malignant histiocytosis of lymph nodes of multiple sites
B623z00	Malignant histiocytosis NOS
B624.00	Leukaemic reticuloendotheliosis
B624.11	Leukaemic reticuloendotheliosis
B624.12	Hairy cell leukaemia
B624000	Leukaemic reticuloendotheliosis of unspecified sites
B624100	Leukaemic reticuloend of lymph nodes of head, face and neck
B624200	Leukaemic reticuloendotheliosis of intrathoracic lymph nodes
B624300	Leukaemic reticuloend of intra-abdominal lymph nodes
B624400	Leukaemic reticuloend of lymph nodes of axilla and arm
B624500	Leukaemic reticuloend of lymph nodes inguinal region and leg
B624600	Leukaemic reticuloendotheliosis of intrapelvic lymph nodes
B624700	Leukaemic reticuloendotheliosis of spleen
B624800	Leukaemic reticuloend of lymph nodes of multiple sites
B624z00	Leukaemic reticuloendotheliosis NOS
B625.00	Letterer-Siwe disease
B625.11	Histiocytosis X (acute, progressive)
B625000	Letterer-Siwe disease of unspecified sites
B625100	Letterer-Siwe disease of lymph nodes of head, face and neck
B625200	Letterer-Siwe disease of intrathoracic lymph nodes
B625300	Letterer-Siwe disease of intra-abdominal lymph nodes
B625400	Letterer-Siwe disease of lymph nodes of axilla and arm
B625500	Letterer-Siwe disease of lymph nodes inguinal region and leg
B625600	Letterer-Siwe disease of intrapelvic lymph nodes
B625700	Letterer-Siwe disease of spleen
B625800	Letterer-Siwe disease of lymph nodes of multiple sites
B625z00	Letterer-Siwe disease NOS
B626.00	Malignant mast cell tumours
B626000	Mast cell malignancy of unspecified site
B626100	Mast cell malignancy of lymph nodes of head, face and neck
B626200	Mast cell malignancy of intrathoracic lymph nodes
B626300	Mast cell malignancy of intra-abdominal lymph nodes
B626400	Mast cell malignancy of lymph nodes of axilla and upper limb
B626500	Mast cell malignancy of lymph nodes inguinal region and leg
B626600	Mast cell malignancy of intrapelvic lymph nodes

<b>Read Code</b>	<b>Description</b>
B626700	Mast cell malignancy of spleen
B626800	Mast cell malignancy of lymph nodes of multiple sites
B626z00	Malignant mast cell tumour NOS
B627.00	Non - Hodgkin's lymphoma
B627.11	Non-Hodgkin lymphoma
B627000	Follicular non-Hodgkin's small cleaved cell lymphoma
B627100	Follicular non-Hodg mixed sml cleavd & lge cell lymphoma
B627200	Follicular non-Hodgkin's large cell lymphoma
B627300	Diffuse non-Hodgkin's small cell (diffuse) lymphoma
B627400	Diffuse non-Hodgkin's small cleaved cell (diffuse) lymphoma
B627500	Diffuse non-Hodgkin mixed sml & lge cell (diffuse) lymphoma
B627600	Diffuse non-Hodgkin's immunoblastic (diffuse) lymphoma
B627700	Diffuse non-Hodgkin's lymphoblastic (diffuse) lymphoma
B627800	Diffuse non-Hodgkin's lymphoma undifferentiated (diffuse)
B627900	Mucosa-associated lymphoma
B627911	Maltoma
B627A00	Diffuse non-Hodgkin's large cell lymphoma
B627B00	Other types of follicular non-Hodgkin's lymphoma
B627C00	Follicular non-Hodgkin's lymphoma
B627C11	Follicular lymphoma NOS
B627D00	Diffuse non-Hodgkin's centroblastic lymphoma
B627E00	Diffuse large B-cell lymphoma
B627F00	Extranod marg zone B-cell lymphom mucosa-assoc lymphoid tiss
B627G00	Mediastinal (thymic) large B-cell lymphoma
B627W00	Unspecified B-cell non-Hodgkin's lymphoma
B627X00	Diffuse non-Hodgkin's lymphoma, unspecified
B628.00	Follicular lymphoma
B628000	Follicular lymphoma grade 1
B628100	Follicular lymphoma grade 2
B628200	Follicular lymphoma grade 3
B628300	Follicular lymphoma grade 3a
B628400	Follicular lymphoma grade 3b
B628500	Diffuse follicle centre lymphoma
B628600	Cutaneous follicle centre lymphoma
B628700	Other types of follicular lymphoma
B629.00	Multifocal multisystemic dissem Langerhans-cell histiocytosi
B62A.00	Sarcoma of dendritic cells
B62B.00	Multifocal and unisystemic Langerhans-cell histiocytosis
B62C.00	Unifocal Langerhans-cell histiocytosis
B62D.00	Histiocytic sarcoma
B62E.00	T/NK-cell lymphoma
B62E000	Mature T/NK-cell lymphoma

<b>Read Code</b>	<b>Description</b>
B62E100	Anaplastic large cell lymphoma, ALK-positive
B62E200	Anaplastic large cell lymphoma, ALK-negative
B62E300	Cutaneous T-cell lymphoma
B62E400	Extranodal NK/T-cell lymphoma, nasal type
B62E500	Hepatosplenic T-cell lymphoma
B62E600	Enteropathy-associated T-cell lymphoma
B62E611	Enteropathy-type (intestinal) T-cell lymphoma
B62E700	Subcutaneous panniculitic T-cell lymphoma
B62E711	Subcutaneous panniculitis-like T-cell lymphoma
B62E800	Blastic NK-cell lymphoma
B62E900	Angioimmunoblastic T-cell lymphoma
B62EA00	Primary cutaneous CD30-positive T-cell proliferations
B62Ew00	Other mature T/NK-cell lymphoma
B62F.00	Nonfollicular lymphoma
B62F.11	Non-follicular lymphoma
B62F000	Small cell B-cell lymphoma
B62F100	Mantle cell lymphoma
B62F200	Lymphoblastic (diffuse) lymphoma
B62Fy00	Other non-follicular lymphoma
B62x.00	Malignant lymphoma otherwise specified
B62x000	T-zone lymphoma
B62x100	Lymphoepithelioid lymphoma
B62x200	Peripheral T-cell lymphoma
B62x300	Malignant reticuloendotheliosis
B62x400	Malignant reticulositis
B62x500	Malignant immunoproliferative small intestinal disease
B62x600	True histiocytic lymphoma
B62xX00	Oth and unspecif peripheral & cutaneous T-cell lymphomas
B62y.00	Malignant lymphoma NOS
B62y000	Malignant lymphoma NOS of unspecified site
B62y100	Malignant lymphoma NOS of lymph nodes of head, face and neck
B62y200	Malignant lymphoma NOS of intrathoracic lymph nodes
B62y300	Malignant lymphoma NOS of intra-abdominal lymph nodes
B62y400	Malignant lymphoma NOS of lymph nodes of axilla and arm
B62y500	Malignant lymphoma NOS of lymph node inguinal region and leg
B62y600	Malignant lymphoma NOS of intrapelvic lymph nodes
B62y700	Malignant lymphoma NOS of spleen
B62y800	Malignant lymphoma NOS of lymph nodes of multiple sites
B62yz00	Malignant lymphoma NOS
B62z.00	Malignant neoplasms of lymphoid and histiocytic tissue NOS
B62z000	Unspec malig neop lymphoid/histiocytic of unspecified site
B62z100	Unspec malig neop lymphoid/histiocytic lymph node head/neck

<b>Read Code</b>	<b>Description</b>
B62z200	Unspec malig neop lymphoid/histiocytic of intrathoracic node
B62z300	Unspec malig neop lymphoid/histiocytic intra-abdominal nodes
B62z400	Unspec malig neop lymphoid/histiocytic lymph node axilla/arm
B62z500	Unspec malig neop lymphoid/histiocytic nodes inguinal/leg
B62z600	Unspec malig neop lymphoid/histiocytic of intrapelvic nodes
B62z700	Unspec malig neop lymphoid/histiocytic of spleen
B62z800	Unspec malig neop lymphoid/histiocytic of multiple sites
B62zz00	Lymphoid and histiocytic malignancy NOS
B62zz11	Immunoproliferative neoplasm
B63..00	Multiple myeloma and immunoproliferative neoplasms
B630.00	Multiple myeloma
B630.11	Kahler's disease
B630.12	Myelomatosis
B630000	Malignant plasma cell neoplasm, extramedullary plasmacytoma
B630011	Extramedullary plasmacytoma
B630100	Solitary myeloma
B630200	Plasmacytoma NOS
B630300	Lambda light chain myeloma
B630400	Solitary plasmacytoma
B631.00	Plasma cell leukaemia
B63y.00	Other immunoproliferative neoplasms
B63z.00	Immunoproliferative neoplasm or myeloma NOS
B64..00	Lymphoid leukaemia
B64..11	Lymphatic leukaemia
B640.00	Acute lymphoid leukaemia
B640000	B-cell acute lymphoblastic leukaemia
B640011	Mature B-cell leukaemia Burkitt-type
B641.00	Chronic lymphoid leukaemia
B641.11	Chronic lymphatic leukaemia
B641000	B-cell chronic lymphocytic leukaemia
B641011	Chronic lymphocytic leukaemia of B-cell type
B641100	Clinical stage A chronic lymphocytic leukaemia
B641200	Clinical stage B chronic lymphocytic leukaemia
B641300	Clinical stage C chronic lymphocytic leukaemia
B642.00	Subacute lymphoid leukaemia
B64y.00	Other lymphoid leukaemia
B64y000	Aleukaemic lymphoid leukaemia
B64y100	Prolymphocytic leukaemia
B64y200	Adult T-cell leukaemia
B64y300	B-cell prolymphocytic leukaemia
B64y311	Prolymphocytic leukaemia of B-cell type
B64y400	T-cell prolymphocytic leukaemia

<b>Read Code</b>	<b>Description</b>
B64y411	Prolymphocytic leukaemia of T-cell type
B64y500	Adult T-cell lymphoma/leukaemia (HTLV-1-associated)
B64yz00	Other lymphoid leukaemia NOS
B64z.00	Lymphoid leukaemia NOS
B65..00	Myeloid leukaemia
B650.00	Acute myeloid leukaemia
B650000	Acute myeloid leukaemia with 11q23 abnormality
B650100	Acute myeloid leukaemia with multilineage dysplasia
B651.00	Chronic myeloid leukaemia
B651.11	Chronic granulocytic leukaemia
B651000	Chronic eosinophilic leukaemia
B651100	Chronic myeloid leukaemia, BCR/ABL positive
B651200	Chronic neutrophilic leukaemia
B651300	Atypical chronic myeloid leukaemia, BCR/ABL negative
B651z00	Chronic myeloid leukaemia NOS
B652.00	Subacute myeloid leukaemia
B653.00	Myeloid sarcoma
B653000	Chloroma
B653100	Granulocytic sarcoma
B653z00	Myeloid sarcoma NOS
B654.00	Acute myeloblastic leukaemia
B65y.00	Other myeloid leukaemia
B65y000	Aleukaemic myeloid leukaemia
B65y100	Acute promyelocytic leukaemia
B65yz00	Other myeloid leukaemia NOS
B65z.00	Myeloid leukaemia NOS
B66..00	Monocytic leukaemia
B66..11	Histiocytic leukaemia
B66..12	Monoblastic leukaemia
B660.00	Acute monocytic leukaemia
B661.00	Chronic monocytic leukaemia
B662.00	Subacute monocytic leukaemia
B663.00	Acute monoblastic leukaemia
B66y.00	Other monocytic leukaemia
B66y000	Aleukaemic monocytic leukaemia
B66yz00	Other monocytic leukaemia NOS
B66z.00	Monocytic leukaemia NOS
B67..00	Other specified leukaemia
B670.00	Acute erythraemia and erythroleukaemia
B670.11	Di Guglielmo's disease
B671.00	Chronic erythraemia
B671.11	Heilmeyer - Schoner disease
B672.00	Megakaryocytic leukaemia
B672.11	Thrombocytic leukaemia
B673.00	Mast cell leukaemia

<b>Read Code</b>	<b>Description</b>
B674.00	Acute panmyelosis
B67y.00	Other and unspecified leukaemia
B67y000	Lymphosarcoma cell leukaemia
B67yz00	Other and unspecified leukaemia NOS
B67z.00	Other specified leukaemia NOS
B68..00	Leukaemia of unspecified cell type
B680.00	Acute leukaemia NOS
B681.00	Chronic leukaemia NOS
B682.00	Subacute leukaemia NOS
B68y.00	Other leukaemia of unspecified cell type
B68z.00	Leukaemia NOS
B69..00	Myelomonocytic leukaemia
B690.00	Acute myelomonocytic leukaemia
B691.00	Chronic myelomonocytic leukaemia
B692.00	Subacute myelomonocytic leukaemia
B693.00	Juvenile myelomonocytic leukaemia
B6y..00	Malignant neoplasm lymphatic or haematopoietic tissue OS
B6y0.00	Myeloproliferative disorder
B6y0.11	Myeloproliferative disease
B6y1.00	Myelosclerosis with myeloid metaplasia
B6y1.11	Megakaryocytic myelosclerosis
B6y1.12	Osteomyelofibrosis
B6z..00	Malignant neoplasm lymphatic or haematopoietic tissue NOS
B6z0.00	Kaposi's sarcoma of lymph nodes
B7z..00	Benign neoplasm of other and unspecified site
B7z0.00	Benign neoplasm of lymph nodes
B8...00	Carcinoma in situ
B8...12	Erythroplasia
B8...13	Queyrat's erythroplasia
B80..00	Carcinoma in situ of digestive organs
B80..11	Ca-in-situ of G.I. tract
B800.00	Carcinoma in situ of lip, oral cavity and pharynx
B800.11	Carcinoma in situ of oral cavity
B800.12	Carcinoma in situ of pharynx
B800000	Carcinoma in situ of lip
B800100	Carcinoma in situ of tongue
B800200	Carcinoma in situ of salivary glands
B800300	Carcinoma in situ of gums
B800400	Carcinoma in situ of floor of mouth
B800500	Carcinoma in situ of cheek
B800600	Carcinoma in situ of palate
B800700	Carcinoma in situ of nasopharynx
B800800	Carcinoma in situ of oropharynx
B800900	Carcinoma in situ of hypopharynx

<b>Read Code</b>	<b>Description</b>
B800z00	Carcinoma in situ of lip, oral cavity and pharynx NOS
B801.00	Carcinoma in situ of oesophagus
B801000	Carcinoma in situ of upper 1/3 oesophagus
B801100	Carcinoma in situ of middle 1/3 oesophagus
B801200	Carcinoma in situ of lower 1/3 oesophagus
B801z00	Carcinoma in situ of oesophagus NOS
B802.00	Carcinoma in situ of stomach
B802000	Carcinoma in situ of cardia of stomach
B802100	Carcinoma in situ of fundus of stomach
B802200	Carcinoma in situ of body of stomach
B802300	Carcinoma in situ of pyloric antrum
B802400	Carcinoma in situ of pyloric canal
B802z00	Carcinoma in situ of stomach NOS
B803.00	Carcinoma in situ of colon
B803000	Carcinoma in situ of hepatic flexure of colon
B803100	Carcinoma in situ of transverse colon
B803200	Carcinoma in situ of descending colon
B803300	Carcinoma in situ of sigmoid colon
B803400	Carcinoma in situ of caecum
B803500	Carcinoma in situ of appendix
B803600	Carcinoma in situ of ascending colon
B803700	Carcinoma in situ of splenic flexure of colon
B803800	High grade dysplasia of colon
B803z00	Carcinoma in situ of colon NOS
B804.00	Carcinoma in situ of rectum and rectosigmoid junction
B804000	Carcinoma in situ of rectosigmoid junction
B804100	Carcinoma in situ of rectum
B804z00	Carcinoma in situ of rectum or rectosigmoid junction NOS
B805.00	Carcinoma in situ of anal canal
B805000	Anal intraepithelial neoplasia grade III
B806.00	Carcinoma in situ of anus NOS
B807.00	Carcinoma in situ of other and unspecified small intestine
B807000	Carcinoma in situ of duodenum
B807100	Carcinoma in situ of jejunum
B807200	Carcinoma in situ of ileum
B807300	Carcinoma in situ of Meckel's diverticulum
B807z00	Carcinoma in situ other and unspecified small intestine NOS
B808.00	Carcinoma in situ of liver and biliary system
B808.11	Carcinoma in situ of biliary system
B808000	Carcinoma in situ of liver
B808100	Carcinoma in situ of intrahepatic bile ducts
B808200	Carcinoma in situ of hepatic duct
B808300	Carcinoma in situ of gall bladder
B808400	Carcinoma in situ of cystic duct
B808500	Carcinoma in situ of common bile duct

<b>Read Code</b>	<b>Description</b>
B808600	Carcinoma in situ of ampulla of Vater
B808700	Carcinoma in situ of sphincter of Oddi
B808z00	Carcinoma in situ of liver or biliary system NOS
B80z.00	Carcinoma in situ of other and unspecified digestive organs
B80z000	Carcinoma in situ of pancreas
B80z100	Carcinoma in situ of spleen
B80zz00	Carcinoma in situ of digestive organs NOS
B81..00	Carcinoma in situ of respiratory system
B810.00	Carcinoma in situ of larynx
B810000	Carcinoma in situ of thyroid cartilage
B810100	Carcinoma in situ of cricoid cartilage
B810200	Carcinoma in situ of epiglottis
B810300	Carcinoma in situ of arytenoid cartilage
B810400	Carcinoma in situ of corniculate cartilage
B810500	Carcinoma in situ of cuneiform cartilage
B810600	Carcinoma in situ of aryepiglottic fold
B810700	Carcinoma in situ of vestibular fold
B810800	Carcinoma in situ of vocal fold - glottis
B810811	Carcinoma in situ of glottis
B810z00	Carcinoma in situ of larynx NOS
B811.00	Carcinoma in situ of trachea
B812.00	Carcinoma in situ of bronchus and lung
B812000	Carcinoma in situ of carina of bronchus
B812100	Carcinoma in situ of main bronchus
B812200	Carcinoma in situ of upper lobe bronchus and lung
B812300	Carcinoma in situ of middle lobe bronchus and lung
B812400	Carcinoma in situ of lower lobe bronchus and lung
B812z00	Carcinoma in situ of bronchus or lung NOS
B81y.00	Carcinoma in situ of other specified part respiratory system
B81y.11	Carcinoma in situ of nasal sinuses
B81y000	Carcinoma in situ of pleura
B81y100	Carcinoma in situ of nasal cavity
B81y200	Carcinoma in situ of tympanic cavity
B81y300	Carcinoma in situ of tympanic antrum
B81y400	Carcinoma in situ of Eustachian tube
B81y500	Carcinoma in situ of mastoid air cells
B81y600	Carcinoma in situ of maxillary sinus
B81y700	Carcinoma in situ of ethmoidal sinus
B81y800	Carcinoma in situ of frontal sinus
B81y900	Carcinoma in situ of sphenoidal sinus
B81yz00	Carcinoma in situ of specified parts respiratory system NOS
B81z.00	Carcinoma in situ of respiratory organ NOS
B82..00	Carcinoma in situ of skin
B820.00	Carcinoma in situ of skin of lip
B821.00	Carcinoma in situ of skin of eyelid including canthus

<b>Read Code</b>	<b>Description</b>
B822.00	Carcinoma in situ skin of ear and external auricular canal
B822.11	Carcinoma in situ of ear
B822000	Carcinoma in situ of skin of auricle
B822100	Carcinoma in situ of skin of external auricular canal
B822z00	Carcinoma in situ skin of ear/external auricular canal NOS
B823.00	Carcinoma in situ of skin of other parts of face
B823000	Carcinoma in situ of skin of forehead skin
B823100	Carcinoma in situ of skin of eyebrow
B823300	Carcinoma in situ of skin of cheek
B823400	Carcinoma in situ of skin of nose
B823500	Carcinoma in situ of skin of temple
B823600	Carcinoma in situ of skin of jaw
B823z00	Carcinoma in situ of skin of other parts of face NOS
B824.00	Carcinoma in situ of scalp and skin of neck
B824000	Carcinoma in situ of scalp
B824100	Carcinoma in situ of skin of neck
B824z00	Carcinoma in situ of scalp or skin of neck NOS
B825.00	Carcinoma in situ of skin of trunk, excluding scrotum
B825000	Carcinoma in situ of skin of breast
B825100	Carcinoma in situ of skin of chest wall NOS
B825200	Carcinoma in situ of skin of axilla
B825300	Carcinoma in situ of skin of back
B825400	Carcinoma in situ of skin of abdominal wall
B825500	Carcinoma in situ of skin of groin
B825600	Carcinoma in situ of skin of perineum
B825700	Carcinoma in situ of skin of buttock
B825800	Carcinoma in situ of perianal skin
B825z00	Carcinoma in situ of skin of trunk NOS
B826.00	Carcinoma in situ of skin of upper limb and shoulder
B826000	Carcinoma in situ of skin of shoulder
B826100	Carcinoma in situ of skin of upper arm
B826200	Carcinoma in situ of skin of lower arm
B826300	Carcinoma in situ of skin of hand
B826z00	Carcinoma in situ of skin of upper limb or shoulder NOS
B827.00	Carcinoma in situ of skin of lower limb and hip
B827.11	Carcinoma in situ of skin of leg
B827000	Carcinoma in situ of skin of hip
B827100	Carcinoma in situ of skin of thigh
B827200	Carcinoma in situ of skin of knee
B827300	Carcinoma in situ of skin of lower leg
B827400	Carcinoma in situ of skin of foot
B827z00	Carcinoma in situ of skin of lower limb or hip NOS
B828.00	Melanoma in situ of skin
B828000	Melanoma in situ of lip
B828100	Melanoma in situ of eyelid, including canthus

<b>Read Code</b>	<b>Description</b>
B828200	Melanoma in situ of ear and external auricular canal
B828300	Melanoma in situ of scalp and neck
B828400	Melanoma in situ of trunk
B828500	Melanoma in situ of upper limb, including shoulder
B828600	Melanoma in situ of lower limb, including hip
B828700	Melanoma in situ of scalp
B828800	Melanoma in situ of back of hand
B828900	Melanoma in situ of back
B828W00	Melanoma in situ, unspecified
B828X00	Melanoma in situ of other and unspecified parts of face
B82y.00	Carcinoma in situ of other specified sites of skin
B82z.00	Carcinoma in situ of skin NOS
B83.00	Carcinoma in situ of breast and genitourinary system
B830.00	Carcinoma in situ of breast
B830000	Lobular carcinoma in situ of breast
B830100	Intraductal carcinoma in situ of breast
B831.00	Carcinoma in situ of cervix uteri
B831.11	CIN III - carcinoma in situ of cervix
B831.12	Cervical intraepithelial neoplasia
B831.13	Cervical intraepithelial neoplasia grade III
B831000	Carcinoma in situ of endocervix
B831100	Carcinoma in situ of exocervix
B832.00	Carcinoma in situ of other and unspecified parts of uterus
B832.11	Carcinoma in situ of body of uterus
B832000	Carcinoma in situ of endometrium
B833.00	Carcinoma in situ other and unspecified female genital organ
B833000	Carcinoma in situ of ovary
B833100	Carcinoma in situ of fallopian tube
B833200	Carcinoma in situ of vagina
B833300	Carcinoma in situ of vulva
B833311	Vulval intraepithelial neoplasia
B833400	Vulval intraepithel neop grd 1
B833500	Vulval intraepithel neop grd 2
B833600	Vulval intraepithel neop grd 3
B833700	Vaginal intraepithelial neoplasia grade 1
B833800	Vaginal intraepithelial neoplasia grade 2
B833900	Vaginal intraepithelial neoplasia grade 3
B833z00	Carcinoma in situ of female genital organs NOS
B834.00	Carcinoma in situ of prostate
B834000	High grade prostatic intraepithelial neoplasia
B834100	Prostatic intraepithelial neoplasia
B835.00	Carcinoma in situ of penis
B836.00	Carcinoma in situ other and unspecified male genital organs
B836000	Carcinoma in situ of testis

<b>Read Code</b>	<b>Description</b>
B836100	Carcinoma in situ of epididymis
B836200	Carcinoma in situ of spermatic cord
B836300	Carcinoma in situ of scrotum
B836z00	Carcinoma in situ of male genital organs NOS
B837.00	Carcinoma in situ of bladder
B83z.00	Carcinoma in situ of urinary organs NOS
B8y..00	Carcinoma in situ of other and unspecified sites
B8y0.00	Carcinoma in situ of eye
B8yy.00	Carcinoma in situ of other specified site
B8yy000	Carcinoma in situ of thyroid gland
B8yy100	Carcinoma in situ of adrenal gland
B8yy200	Carcinoma in situ of parathyroid gland
B8yy300	Carcinoma in situ of pituitary gland
B8yyz00	Carcinoma in situ of other specified site NOS
B8z..00	Carcinoma in situ NOS
B9...00	Neoplasms of uncertain behaviour
B90..00	Neop uncertain behaviour of digestive and respiratory system
B900.00	Neoplasm of uncertain behaviour of major salivary glands
B900000	Neoplasm of uncertain behaviour of parotid gland
B900011	Mixed parotid tumour
B900100	Neoplasm of uncertain behaviour of sublingual gland
B900200	Neoplasm of uncertain behaviour of submandibular gland
B900z00	Neoplasm of uncertain behaviour of major salivary gland NOS
B901.00	Neop of uncertain behaviour of lip, oral cavity and pharynx
B901.11	Neoplasm of uncertain behaviour of oral cavity
B901.12	Neoplasm of uncertain behaviour of pharynx
B901000	Neoplasm of uncertain behaviour of lip
B901100	Neoplasm of uncertain behaviour of tongue
B901200	Neoplasm of uncertain behaviour of minor salivary gland
B901300	Neoplasm of uncertain behaviour of gums
B901400	Neoplasm of uncertain behaviour of floor of mouth
B901500	Neoplasm of uncertain behaviour of cheek
B901600	Neoplasm of uncertain behaviour of palate
B901700	Neoplasm of uncertain behaviour of nasopharynx
B901800	Neoplasm of uncertain behaviour of oropharynx
B901900	Neoplasm of uncertain behaviour of hypopharynx
B901z00	Neop of uncertain behaviour lip, oral cavity and pharynx NOS
B902.00	Neop of uncertain behaviour stomach, intestines and rectum
B902000	Neoplasm of uncertain behaviour of stomach
B902100	Neoplasm of uncertain behaviour of duodenum
B902200	Neoplasm of uncertain behaviour of jejunum
B902300	Neoplasm of uncertain behaviour of ileum
B902400	Neoplasm of uncertain behaviour of colon

<b>Read Code</b>	<b>Description</b>
B902500	Neoplasm of uncertain behaviour of rectum
B902600	Neoplasm of uncertain or unknown behaviour of appendix
B902z00	Neop of uncertain behaviour stomach, intestine or rectum NOS
B903.00	Neoplasm of uncertain behaviour of liver and biliary passage
B903.11	Neoplasm of uncertain behaviour of biliary system
B903000	Neoplasm of uncertain behaviour of liver
B903100	Neoplasm of uncertain behaviour of intra-hepatic bile ducts
B903200	Neoplasm of uncertain behaviour of hepatic duct
B903300	Neoplasm of uncertain behaviour of gall bladder
B903400	Neoplasm of uncertain behaviour of cystic duct
B903500	Neoplasm of uncertain behaviour of common bile duct
B903600	Neoplasm of uncertain behaviour of ampulla of Vater
B903700	Neoplasm of uncertain behaviour of sphincter of Oddi
B903z00	Neop of uncertain behaviour of liver or biliary passages NOS
B904.00	Neop of uncertain behaviour retroperitoneum and peritoneum
B904000	Neoplasm of uncertain behaviour of retroperitoneum
B904100	Neoplasm of uncertain behaviour of peritoneum
B904z00	Neop uncertain behaviour retroperitoneum or peritoneum NOS
B905.00	Neop of uncertain behaviour other and unspec digestive organ
B905000	Neoplasm of uncertain behaviour of oesophagus
B905100	Neoplasm of uncertain behaviour of pancreas
B905200	Neoplasm of uncertain behaviour of anal canal and sphincter
B905300	Neoplasm of uncertain behaviour of spleen
B905400	Gastrointestinal stromal tumour
B905z00	Neop uncertain behaviour other unspec digestive organ NOS
B906.00	Neoplasm of uncertain behaviour of larynx
B906000	Neoplasm of uncertain behaviour of thyroid cartilage
B906100	Neoplasm of uncertain behaviour of cricoid cartilage
B906200	Neoplasm of uncertain behaviour of epiglottis
B906300	Neoplasm of uncertain behaviour of arytenoid cartilage
B906400	Neoplasm of uncertain behaviour of corniculate cartilage
B906500	Neoplasm of uncertain behaviour of cuneiform cartilage
B906600	Neoplasm of uncertain behaviour of arypeiglottic fold
B906700	Neoplasm of uncertain behaviour of vestibular fold
B906800	Neoplasm of uncertain behaviour of vocal cord
B906z00	Neoplasm of uncertain behaviour of larynx NOS
B907.00	Neoplasm of uncertain behaviour trachea, bronchus and lung
B907000	Neoplasm of uncertain behaviour of trachea
B907100	Neoplasm of uncertain behaviour of bronchus

<b>Read Code</b>	<b>Description</b>
B907200	Neoplasm of uncertain behaviour of lung
B907z00	Neop of uncertain behaviour of trachea, bronchus or lung NOS
B908.00	Neop of uncertain behaviour pleura, thymus and mediastinum
B908000	Neoplasm of uncertain behaviour of pleura
B908100	Neoplasm of uncertain behaviour of thymus
B908200	Neoplasm of uncertain behaviour of mediastinum
B90z.00	Neoplasm of uncertain behaviour of respiratory organs OS/NOS
B90z000	Neoplasm of uncertain behaviour of nasal cavity
B90z100	Neoplasm of uncertain behaviour of tympanic cavity
B90z200	Neoplasm of uncertain behaviour of tympanic antrum
B90z300	Neoplasm of uncertain behaviour of eustachian tube
B90z400	Neoplasm of uncertain behaviour of mastoid air cells
B90z500	Neoplasm of uncertain behaviour of maxillary sinus
B90z600	Neoplasm of uncertain behaviour of ethmoidal sinus
B90z700	Neoplasm of uncertain behaviour of frontal sinus
B90z800	Neoplasm of uncertain behaviour of sphenoidal sinus
B90zz00	Neop uncertain behaviour digestive or respiratory system NOS
B91..00	Neoplasm of uncertain behaviour of genitourinary organs
B910.00	Neoplasm of uncertain behaviour of uterus
B911.00	Neoplasm of uncertain behaviour of placenta
B911000	Malignant hydatidiform mole
B911011	Choriadenoma (destruens)
B911012	Invasive mole - placenta
B911013	Choriocarcinoma
B911100	Epithelioid trophoblastic tumour
B911z00	Uncertain neoplasm of placenta NOS
B912.00	Neoplasm of uncertain behaviour of ovary
B913.00	Neoplasm of uncertain behaviour other female genital organs
B913000	Neoplasm of uncertain behaviour of vagina
B913100	Neoplasm of uncertain behaviour of vulva
B913z00	Neoplasm of uncertain behaviour of female genital organs NOS
B914.00	Neoplasm of uncertain behaviour of testis
B915.00	Neoplasm of uncertain behaviour of prostate
B916.00	Neoplasm of uncertain behaviour of other male genital organs
B916000	Neoplasm of uncertain behaviour of penis
B916100	Neoplasm of uncertain behaviour of epididymis
B916200	Neoplasm of uncertain behaviour of scrotum
B916z00	Neoplasm of uncertain behaviour of male genital organs NOS
B917.00	Neoplasm of uncertain behaviour of bladder

<b>Read Code</b>	<b>Description</b>
B917.12	Transitional cell papilloma of bladder
B917000	Bladder polyp
B91z.00	Neoplasm of uncertain behaviour of urinary organs OS/NOS
B91z.11	Neoplasm of uncertain behaviour of urinary organ NOS
B91z000	Uncertain neoplasm urethra
B91z100	Neoplasm of uncertain behaviour of kidney
B91z111	Renal neoplasm of uncertain behaviour
B91z200	Uncertain neoplasm ureter
B91z300	Neoplasm of uncertain or unknown behaviour of renal pelvis
B91zz00	Uncertain neoplasm of urinary organ NOS
B92..00	Neop of uncertain behaviour of endocrine and nervous system
B92..11	Neoplasm of uncertain behaviour of nervous system
B920.00	Neop uncertain behaviour pituitary and craniopharyngeal duct
B920000	Neoplasm of uncertain behaviour of pituitary gland
B920100	Neoplasm of uncertain behaviour of craniopharyngeal duct
B920z00	Neop uncertain behaviour pituitary and craniopharyngeal NOS
B921.00	Neoplasm of uncertain behaviour of pineal gland
B922.00	Neoplasm of uncertain behaviour of adrenal gland
B923.00	Neoplasm of uncertain behaviour of paraganglia
B923000	Neoplasm of uncertain behaviour of carotid body
B923100	Neoplasm of uncertain behaviour of glomus jugulare
B923200	Neoplasm of uncertain behaviour of aortic body
B923300	Neoplasm of uncertain behaviour of coccygeal body
B923z00	Neoplasm of uncertain behaviour of paraganglia NOS
B924.00	Neoplasm of uncertain behaviour other/unsp. endocrine glands
B924000	Neoplasm of uncertain behaviour of thyroid gland
B924100	Neoplasm of uncertain behaviour of parathyroid gland
B924z00	Neoplasm of uncertain behaviour of endocrine gland NOS
B925.00	Neoplasm of uncertain behaviour of brain and spinal cord
B925000	Neoplasm of uncertain behaviour of brain
B925100	Neoplasm of uncertain behaviour of spinal cord
B925200	Neoplasm of uncertain or unknown behav brain, supratentorial
B925300	Neoplasm uncert / unkn behav brain, infratentorial
B925z00	Neoplasm of uncertain behaviour of brain or spinal cord NOS
B926.00	Neoplasm of uncertain behaviour of meninges
B926000	Neoplasm of uncertain behaviour of cerebral meninges
B926100	Neoplasm of uncertain behaviour of spinal meninges
B926z00	Neoplasm of uncertain behaviour of meninges NOS
B927.00	Neurofibromatosis - Von Recklinghausen's disease
B927.11	Von Recklinghausen's disease

<b>Read Code</b>	<b>Description</b>
B927.12	Neurofibromatosis type 1
B928.00	Neopl uncert/unkn behav of periph nerves & autonom nerv sys
B929.00	Neurofibromatosis type 2
B92z.00	Neoplasm of uncertain behaviour of nervous system OS/NOS
B92z000	Neoplasm of uncertain behaviour of cranial nerves
B92zz00	Neoplasm of uncertain behaviour of nervous system NOS
B93..00	Neop uncertain behaviour other and unspc sites and tissues
B930.00	Neop of uncertain behaviour of bone and articular cartilage
B930000	Neoplasm of uncertain behaviour of bone
B930100	Neoplasm of uncertain behaviour of articular cartilage
B930z00	Neop uncertain behaviour of bone or articular cartilage NOS
B931.00	Neop of uncertain behaviour connective and other soft tissue
B932.00	Neoplasm of uncertain behaviour of skin
B933.00	Neoplasm of uncertain behaviour of breast
B933.11	Cystosarcoma phyllodes
B934.00	Polycythaemia vera
B934.11	Polycythaemia rubra vera
B934.12	Primary polycythaemia
B935.00	Neoplasm of uncertain behaviour of histiocytic and mast cell
B935.11	Histiocytic tumour NOS
B935.12	Mastocytoma NOS
B936.00	Neoplasm of uncertain behaviour of plasma cells
B936.11	Myeloma - solitary
B936.12	Plasmacytoma NOS
B937.00	Neop uncertain behaviour other lymphatic/haematopoietic tiss
B937.11	Neoplasm of uncertain behaviour of blood
B937.12	Idiopathic thrombocythaemia
B937.13	Megakaryocytic myelosclerosis
B937.14	Myelodysplasia
B937000	Refractory anaemia without sideroblasts, so stated
B937100	Refractory anaemia with sideroblasts
B937200	Refractory anaemia with excess of blasts
B937300	Refractory anaemia with excess of blasts with transformation
B937W00	Myelodysplastic syndrome, unspecified
B937W11	Myelodysplasia
B93X.00	Neo/uncertn+unknwn behav/lymph,h'matopetc+rel tiss,unspcf
BA...00	Unspecified nature neoplasm
BA0..00	Neoplasm of unspecified nature
BA00.00	Neoplasm of unspecified nature of digestive system
BA01.00	Neoplasm of unspecified nature of respiratory system

<b>Read Code</b>	<b>Description</b>
BA02.00	Neoplasm of unspecified nature of bone, skin and soft tissue
BA02000	Neoplasm of unspecified nature of bone
BA02100	Neoplasm of unspecified nature of soft tissue
BA02200	Neoplasm of unspecified nature of skin
BA02z00	Neoplasm of unspec nature of bone, skin or soft tissue NOS
BA03.00	Neoplasm of unspecified nature of breast
BA04.00	Neoplasm of unspecified nature of bladder
BA05.00	Neoplasm of unspecified nature of other genitourinary organs
BA06.00	Neoplasm of unspecified nature of brain
BA07.00	Neop unspec nature of endocrine glands, other nervous system
BA0y.00	Neoplasm of unspecified nature of other specified sites
BA0z.00	Neoplasm of unspecified nature NOS
BB01.00	[M]Neoplasm, uncertain whether benign or malignant
BB02.00	[M]Neoplasm, malignant
BB03.00	[M]Neoplasm, metastatic
BB03.11	[M]Secondary neoplasm
BB03.12	[M]Tumour embolus
BB03.13	[M]Tumour embolism
BB04.00	[M]Neoplasm, malig, uncertain whether primary or metastatic
BB06.00	[M]Tumour cells, uncertain whether benign or malignant
BB07.00	[M]Tumour cells, malignant
BB08.00	[M]Malignant tumour, small cell type
BB09.00	[M]Malignant tumour, giant cell type
BB0A.00	[M]Malignant tumour, fusiform cell type
BB11.11	[M]Intraepithelial carcinoma NOS
BB12.00	[M]Carcinoma NOS
BB13.00	[M]Carcinoma, metastatic, NOS
BB13.11	[M]Secondary carcinoma
BB14.00	[M]Carcinomatosis
BB16.00	[M]Epithelioma, malignant
BB17.00	[M]Large cell carcinoma NOS
BB18.00	[M]Carcinoma, undifferentiated type, NOS
BB19.00	[M]Carcinoma, anaplastic type, NOS
BB1A.00	[M]Pleomorphic carcinoma
BB1B.00	[M]Giant cell and spindle cell carcinoma
BB1C.00	[M]Giant cell carcinoma
BB1D.00	[M]Spindle cell carcinoma
BB1E.00	[M]Pseudosarcomatous carcinoma
BB1F.00	[M]Polygonal cell carcinoma
BB1G.00	[M]Spheroidal cell carcinoma
BB1H.00	[M]Tumourlet
BB1J.00	[M]Small cell carcinoma NOS
BB1J.11	[M]Reserve cell carcinoma

<b>Read Code</b>	<b>Description</b>
BB1J.12	[M]Round cell carcinoma
BB1K.00	[M]Oat cell carcinoma
BB1L.00	[M]Small cell carcinoma, fusiform cell type
BB1M.00	[M]Small cell carcinoma, intermediate cell
BB1N.00	[M]Small cell-large cell carcinoma
BB1P.00	[M]Non-small cell carcinoma
BB1z.00	[M]Unspecified epithelial neoplasm
BB2..12	[M]Squamous cell neoplasms
BB2A.00	[M]Squamous cell carcinoma NOS
BB2B.00	[M]Squamous cell carcinoma, metastatic NOS
BB2C.00	[M]Squamous cell carcinoma, keratinising type NOS
BB2D.00	[M]Squamous cell carcinoma, large cell, non-keratinising
BB2E.00	[M]Squamous cell carcinoma, small cell, non-keratinising
BB2F.00	[M]Squamous cell carcinoma, spindle cell type
BB2J.00	[M]Squamous cell carcinoma, microinvasive
BB2N.00	[M]Intraepit neop,grade III,of cervix, vulva and vagina
BB37.00	[M]Intraepidermal epithelioma of Jadassohn
BB4..00	[M]Transitional cell papillomas and carcinomas
BB40.00	[M]Transitional cell papilloma NOS
BB41.00	[M]Urothelial papilloma
BB41.11	[M]Urinary bladder papilloma
BB42.00	[M]Transitional cell carcinoma in situ
BB43.00	[M]Transitional cell carcinoma NOS
BB43.11	[M]Urothelial carcinoma
BB44.00	[M]Schneiderian papilloma
BB45.00	[M]Transitional cell papilloma, inverted type
BB46.00	[M]Schneiderian carcinoma
BB47.00	[M]Transitional cell carcinoma, spindle cell type
BB48.00	[M]Basaloid carcinoma
BB49.00	[M]Cloacogenic carcinoma
BB4A.00	[M]Papillary transitional cell carcinoma
BB4B.00	[M]Grade 1 (Stage pTa) papillary urothelial/transit cell ca
BB4C.00	[M]Grade 2 (Stage pTa) papillary urothelial/transit cell ca
BB4D.00	[M]Grade 3 (Stage pTa) papillary urothelial/transit cell ca
BB4z.00	[M]Transitional cell papilloma or carcinoma NOS
BB5..00	[M]Adenomas and adenocarcinomas
BB5..11	[M]Adenocarcinomas
BB51.00	[M]Adenocarcinoma in situ
BB51000	[M]Adenocarcinoma in situ in villous adenoma
BB51100	[M]Adenocarcinoma in situ in tubulovillous adenoma
BB52.00	[M]Adenocarcinoma NOS
BB52000	[M]Adenocarcinoma in tubulovillous adenoma
BB53.00	[M]Adenocarcinoma, metastatic, NOS
BB54.00	[M]Scirrhous adenocarcinoma
BB55.00	[M]Linitis plastica

<b>Read Code</b>	<b>Description</b>
BB56.00	[M]Superficial spreading adenocarcinoma
BB57.00	[M]Adenocarcinoma, intestinal type
BB58.00	[M]Carcinoma, diffuse type
BB5B.00	[M]Pancreatic adenomas and carcinomas
BB5B300	[M]Insulinoma, malignant
BB5B311	[M]Beta-cell tumour, malignant
BB5B500	[M]Glucagonoma, malignant
BB5B511	[M]Alpha-cell tumour,malignant
BB5B600	[M]Mixed islet cell and exocrine adenocarcinoma
BB5Bz00	[M]Pancreatic adenoma or carcinoma NOS
BB5C.00	[M]Gastrinoma and carcinomas
BB5C000	[M]Gastrinoma NOS
BB5C011	[M]G cell tumour NOS
BB5C100	[M]Gastrinoma, malignant
BB5C111	[M]G cell tumour, malignant
BB5Cz00	[M]Gastrinoma or carcinoma NOS
BB5D.00	[M]Hepatobiliary tract adenomas and carcinomas
BB5D.11	[M]Biliary tract adenomas and adenocarcinomas
BB5D000	[M]Bile duct adenoma
BB5D011	[M]Cholangioma
BB5D100	[M]Cholangiocarcinoma
BB5D111	[M]Bile duct carcinoma
BB5D200	[M]Bile duct cystadenoma
BB5D300	[M]Bile duct cystadenocarcinoma
BB5D400	[M]Liver cell adenoma
BB5D411	[M]Hepatocellular adenoma
BB5D412	[M]Hepatoma, benign
BB5D500	[M]Hepatocellular carcinoma NOS
BB5D511	[M]Hepatoma NOS
BB5D512	[M]Hepatoma, malignant
BB5D513	[M]Liver cell carcinoma
BB5D600	[M]Hepatocholangioma, benign
BB5D700	[M]Combined hepatocellular carcinoma and cholangiocarcinoma
BB5D711	[M]Hepatocellular carcinoma
BB5D800	[M]Hepatocellular carcinoma, fibrolamellar
BB5Dz00	[M]Hepatobiliary adenoma or carcinoma NOS
BB5F.00	[M]Trabecular adenocarcinoma
BB5J.00	[M]Adenoid cystic carcinoma
BB5J.11	[M]Cylindroid adenocarcinoma
BB5K.00	[M]Cribriform carcinoma
BB5L.00	[M]Adenomatous and adenocarcinomatous polyps
BB5L100	[M]Adenocarcinoma in adenomatous polyp
BB5L200	[M]Adenocarcinoma in situ in adenomatous polyp
BB5L300	[M]Adenocarcinoma in multiple adenomatous polyps

<b>Read Code</b>	<b>Description</b>
BB5Lz00	[M]Adenomatous or adenocarcinomatous polyp NOS
BB5M.00	[M]Tubular adenomas and adenocarcinomas
BB5Mz00	[M]Tubular adenoma or adenocarcinoma NOS
BB5N.00	[M]Adenomatous and adenocarcinomatous polyps of colon
BB5N.11	[M]Adenoma or or adenocarcinoma in polyposis coli
BB5N100	[M]Adenocarcinoma in adenomatous polposis coli
BB5Nz00	[M]Adenomatous or adenocarcinomatous polyps of the colon NOS
BB5P.00	[M]Solid carcinoma NOS
BB5Q.00	[M]Carcinoma simplex
BB5S.00	[M]Respiratory tract adenomas and adenocarcinomas
BB5S200	[M]Bronchiolo-alveolar adenocarcinoma
BB5S211	[M]Alveolar cell carcinoma
BB5S212	[M]Bronchiolar carcinoma
BB5S400	[M]Alveolar adenocarcinoma
BB5Sz00	[M]Respiratory tract adenoma or adenocarcinoma NOS
BB5T.00	[M]Papillary adenomas and adenocarcinomas
BB5T100	[M]Papillary adenocarcinoma NOS
BB5Tz00	[M]Papillary adenoma or adenocarcinoma NOS
BB5U.00	[M]Villous adenomas and adenocarcinomas
BB5U100	[M]Adenocarcinoma in villous adenoma
BB5U200	[M]Villous adenocarcinoma
BB5Uz00	[M]Villous adenoma or adenocarcinoma NOS
BB5V.00	[M]Pituitary adenomas and carcinomas
BB5V100	[M]Chromophobe carcinoma
BB5V300	[M]Acidophil carcinoma
BB5V311	[M]Eosinophil carcinoma
BB5V500	[M]Mixed acidophil-basophil carcinoma
BB5V700	[M]Basophil carcinoma
BB5V711	[M]Mucoïd cell carcinoma
BB5Vz00	[M]Pituitary adenoma or carcinoma NOS
BB5W.00	[M]Oxyphilic adenomas and adenocarcinomas
BB5W100	[M]Oxyphilic adenocarcinoma
BB5W111	[M]Hurthle cell adenocarcinoma
BB5W112	[M]Oncoytic adenocarcinoma
BB5Wz00	[M]Oxyphilic adenoma or adenocarcinoma NOS
BB5X.00	[M]Clear cell adenomas and adenocarcinomas
BB5X100	[M]Clear cell adenocarcinoma NOS
BB5Xz00	[M]Clear cell adenoma or adenocarcinoma NOS
BB5Y.00	[M]Hypernephroid tumour
BB5Z.00	[M]Clear cell adenofibroma
BB5a.00	[M]Renal adenoma and carcinoma
BB5a000	[M]Renal cell carcinoma
BB5a011	[M]Grawitz tumour
BB5a012	[M]Hypernephroma

<b>Read Code</b>	<b>Description</b>
BB5a100	[M]Juxtaglomerular tumour
BB5a111	[M]Reninoma
BB5az00	[M]Renal adenoma or carcinoma NOS
BB5b.00	[M]Granular cell carcinoma
BB5c.00	[M]Parathyroid adenomas and adenocarcinomas
BB5c200	[M]Water-clear cell adenocarcinoma
BB5cz00	[M]Parathyroid adenoma or adenocarcinoma NOS
BB5d.00	[M]Mixed cell adenoma and adenocarcinoma
BB5d100	[M]Mixed cell adenocarcinoma
BB5dz00	[M]Mixed cell adenoma or adenocarcinoma NOS
BB5f.00	[M]Thyroid adenoma and adenocarcinoma
BB5f100	[M]Follicular adenocarcinoma NOS
BB5f111	[M]Follicular carcinoma
BB5f200	[M]Follicular adenocarcinoma, well differentiated type
BB5f300	[M]Follicular adenocarcinoma, trabecular type
BB5f600	[M]Papillary and follicular adenocarcinoma
BB5f700	[M]Nonencapsulated sclerosing carcinoma
BB5fz00	[M]Thyroid adenoma or adenocarcinoma NOS
BB5h100	[M]Adrenal cortical carcinoma
BB5hz00	[M]Adrenal cortical tumours NOS
BB5j.00	[M]Endometrioid adenomas and carcinomas
BB5j100	[M]Endometrioid adenoma, borderline malignancy
BB5j200	[M]Endometrioid carcinoma
BB5j400	[M]Endometrioid adenofibroma, borderline malignancy
BB5j500	[M]Endometrioid adenofibroma, malignant
BB5jz00	[M]Endometrioid adenoma or carcinoma NOS
BB5y.00	[M]Adenoma and adenocarcinoma OS
BB60.00	[M]Skin appendage adenoma and carcinoma
BB60100	[M]Skin appendage carcinoma
BB60z00	[M]Skin appendage adenoma or carcinoma NOS
BB62.00	[M]Apocrine adenoma and adenocarcinomas
BB62100	[M]Apocrine adenocarcinoma
BB69.00	[M]Sebaceous adenoma and adenocarcinoma
BB69100	[M]Sebaceous adenocarcinoma
BB69z00	[M]Sebaceous adenoma or adenocarcinoma NOS
BB6A.00	[M]Ceruminous adenoma and adenocarcinoma
BB6A100	[M]Ceruminous adenocarcinoma
BB6Az00	[M]Ceruminous adenoma or adenocarcinoma NOS
BB71.00	[M]Mucoepidermoid carcinoma
BB80.00	[M]Cystadenoma and carcinoma
BB80100	[M]Cystadenocarcinoma NOS
BB80200	[M]Borderline mucinous cystadenoma of the ovary
BB80z00	[M]Cystadenoma or carcinoma NOS
BB81.00	[M]Ovarian cystic, mucinous and serous neoplasms
BB81.11	[M]Ovarian cystadenoma or carcinoma

<b>Read Code</b>	<b>Description</b>
BB81.12	[M]Ovarian mucinous tumour
BB81.13	[M]Ovarian papillary tumour
BB81.14	[M]Ovarian serous tumour
BB81100	[M]Serous cystadenoma, borderline malignancy
BB81200	[M]Serous cystadenocarcinoma, NOS
BB81400	[M]Papillary cystadenoma, borderline malignancy
BB81500	[M]Papillary cystadenocarcinoma, NOS
BB81E00	[M]Mucinous cystadenocarcinoma NOS
BB81E11	[M]Pseudomucinous adenocarcinoma
BB85100	[M]Metastatic signet ring cell carcinoma
BB9..00	[M]Ductal, lobular and medullary neoplasms
BB90.00	[M]Intraductal carcinoma, noninfiltrating NOS
BB91.00	[M]Infiltrating duct carcinoma
BB91.11	[M]Duct carcinoma NOS
BB91000	[M]Intraductal papillary adenocarcinoma with invasion
BB91100	[M]Infiltrating duct and lobular carcinoma
BB92.00	[M]Comedocarcinoma, noninfiltrating
BB93.00	[M]Comedocarcinoma NOS
BB94.00	[M]Juvenile breast carcinoma
BB94.11	[M]Secretory breast carcinoma
BB95.00	[M]Intraductal papilloma
BB95.11	[M]Duct adenoma NOS
BB95.12	[M]Ductal papilloma
BB96.00	[M]Noninfiltrating intraductal papillary adenocarcinoma
BB97.00	[M]Intracystic papillary adenoma
BB98.00	[M]Noninfiltrating intracystic carcinoma
BB99.00	[M]Intraductal papillomatosis NOS
BB9A.00	[M]Subareolar duct papillomatosis
BB9B.00	[M]Medullary carcinoma NOS
BB9B.11	[M]C cell carcinoma
BB9B.12	[M]Parafollicular cell carcinoma
BB9C.00	[M]Medullary carcinoma with amyloid stroma
BB9C.11	[M]Solid carcinoma with amyloid stroma
BB9D.00	[M]Medullary carcinoma with lymphoid stroma
BB9E.00	[M]Lobular carcinoma in situ
BB9E000	[M]Intraductal carcinoma and lobular carcinoma in situ
BB9F.00	[M]Lobular carcinoma NOS
BB9G.00	[M]Infiltrating ductular carcinoma
BB9H.00	[M]Inflammatory carcinoma
BB9J.11	[M]Paget's disease, breast
BB9K.00	[M]Paget's disease and infiltrating breast duct carcinoma
BB9K000	[M]Paget's disease and intraductal carcinoma of breast
BB9L.00	[M]Paget's disease, extramammary, exc Paget's disease bone
BB9M.00	[M]Intracystic carcinoma NOS
BB9z.00	[M]Ductal, lobular or medullary neoplasm NOS

<b>Read Code</b>	<b>Description</b>
BBA..00	[M]Acinar cell neoplasms
BBA1.00	[M]Acinar cell tumour
BBA2.00	[M]Acinar cell carcinoma
BBAz.00	[M]Acinar cell neoplasm NOS
BBB..00	[M]Complex epithelial neoplasms
BBB0.00	[M]Adenosquamous carcinoma
BBB2.00	[M]Adenocarcinoma with squamous metaplasia
BBB2.11	[M]Adenoacanthoma
BBB3.00	[M]Adenocarcinoma with cartilaginous and osseous metaplasia
BBB4.00	[M]Adenocarcinoma with spindle cell metaplasia
BBB5.00	[M]Adenocarcinoma with apocrine metaplasia
BBB6.00	[M]Thymoma
BBB6100	[M]Thymoma, malignant
BBB6z00	[M]Thymoma NOS
BBB7.00	[M]Epithelial-myoepithelial carcinoma
BBBz.00	[M]Complex epithelial neoplasm NOS
BBC..00	[M]Specialised gonadal neoplasms
BBC0.00	[M]Sex cord-stromal tumour
BBC0.11	[M]Gonadal stromal tumour
BBC0.12	[M]Ovarian stromal tumour
BBC0.13	[M]Testicular stromal tumour
BBC0000	[M]Sex cord tumour with annular tubules
BBC1.00	[M]Thecal cell neoplasms
BBC1000	[M]Thecoma NOS
BBC1100	[M]Theca cell carcinoma
BBC1200	[M]Thecoma, luteinized
BBC1z00	[M]Thecal cell neoplasm NOS
BBC2.00	[M]Luteoma NOS
BBC2.11	[M]Luteinoma
BBC3.00	[M]Granulosa cell tumour NOS
BBC3000	[M]Juvenile granulosa cell tumour
BBC4.00	[M]Granulosa cell tumour, malignant
BBC5.00	[M]Granulosa cell-theca cell tumour
BBC6.00	[M]Androblastoma
BBC6000	[M]Androblastoma, benign
BBC6100	[M]Androblastoma, malignant
BBC6111	[M]Arrhenoblastoma, malignant
BBC6z00	[M]Androblastoma NOS
BBC6z11	[M]Arrhenoblastoma NOS
BBC7.00	[M]Sertoli-Leydig cell tumour
BBC8.00	[M]Gynandroblastoma
BBC9.00	[M]Tubular androblastoma NOS
BBC9.13	[M]Sertoli cell tumour
BBCA.00	[M]Sertoli cell carcinoma

<b>Read Code</b>	<b>Description</b>
BBCB.00	[M]Tubular androblastoma with lipid storage
BBCB.11	[M]Sertoli cell tumour with lipid storage
BBCC.00	[M]Leydig cell tumour
BBCC100	[M]Leydig cell tumour, malignant
BBCC111	[M]Interstitial cell tumour, malignant
BBCCz00	[M]Leydig cell tumour NOS
BBCCz11	[M]Interstitial cell tumour NOS
BBCD.00	[M]Hilar cell tumour
BBCE.00	[M]Lipid cell tumour of ovary
BBCE.11	[M]Masculinovblastoma
BBCF.00	[M]Adrenal rest tumour
BBCG.00	[M]Sclerosing stromal tumour
BBCz.00	[M]Specialised gonadal neoplasm NOS
BBD..00	[M]Paragangliomas and glomus tumours
BBD0.00	[M]Paraganglioma NOS
BBD1.00	[M]Paraganglioma, malignant
BBD2.00	[M]Sympathetic paraganglioma
BBD3.00	[M]Parasympathetic paraganglioma
BBD4.00	[M]Glomus jugulare tumour
BBD4.11	[M]Jugular paraganglioma
BBD5.00	[M]Aortic body tumour
BBD6.00	[M]Carotid body tumour
BBD7.00	[M]Extra-adrenal paraganglioma, NOS
BBD7.11	[M]Chemodectoma
BBD8.00	[M]Extra-adrenal paraganglioma, malignant
BBD9.00	[M]Phaeochromocytoma NOS
BBD9.11	[M]Chromaffin paraganglioma
BBD9.12	[M]Chromaffin tumour
BBD9.13	[M]Chromaffinoma
BBDA.00	[M]Phaeochromocytoma, malignant
BBDA.11	[M]Phaeochromoblastoma
BBDB.00	[M]Glomangiosarcoma
BBDB.11	[M]Glomoid sarcoma
BBDC.00	[M]Glomus tumour
BBDD.00	[M]Glomangioma
BBDE.00	[M]Gangliocytic paraganglioma
BBDF.00	[M]Glomangiomyoma
BBDz.00	[M]Paraganglioma or glomus tumour NOS
BBE..00	[M]Naevi and melanomas
BBE1.00	[M]Malignant melanoma NOS
BBE1.11	[M]Melanocarcinoma
BBE1.12	[M]Melanoma NOS
BBE1.13	[M]Melanosarcoma NOS
BBE1.14	[M]Naevocarcinoma
BBE1000	[M]Malignant melanoma, regressing

<b>Read Code</b>	<b>Description</b>
BBE1100	[M]Desmoplastic melanoma, malignant
BBE2.00	[M]Nodular melanoma
BBE3.00	[M]Balloon cell naevus
BBE4.00	[M]Balloon cell melanoma
BBE5.00	[M]Halo naevus
BBE8.11	[M]Melanocytoma of eyeball
BBEA.00	[M]Amelanotic melanoma
BBEC.00	[M]Malignant melanoma in junctional naevus
BBED.00	[M]Precancerous melanosis NOS
BBEE.00	[M]Malignant melanoma in precancerous melanosis
BBEF.00	[M]Hutchinson's melanotic freckle
BBEF.11	[M]Lentigo maligna
BBEG.00	[M]Malignant melanoma in Hutchinson's melanotic freckle
BBEG.11	[M]Lentigo maligna melanoma
BBEG000	[M]Acral lentiginous melanoma, malignant
BBEH.00	[M]Superficial spreading melanoma
BBEM.00	[M]Malignant melanoma in giant pigmented naevus
BBEN.11	[M]Juvenile melanoma
BBEP.00	[M]Epithelioid cell melanoma
BBEQ.00	[M]Spindle cell melanoma NOS
BBER.00	[M]Spindle cell melanoma, type A
BBES.00	[M]Spindle cell melanoma, type B
BBET.00	[M]Mixed epithelioid and spindle melanoma
BBEX.00	[M]Melanoma in situ
BBEz.00	[M]Naevi or melanoma NOS
BBF..00	[M]Soft tissue tumours and sarcomas NOS
BBF1.00	[M]Sarcoma NOS
BBF2.00	[M]Sarcomatosis NOS
BBF3.00	[M]Spindle cell sarcoma
BBF4.00	[M]Giant cell sarcoma (except of bone)
BBF4.11	[M]Pleomorphic cell sarcoma
BBF5.00	[M]Small cell sarcoma
BBF5.11	[M]Round cell sarcoma
BBF6.00	[M]Epithelioid cell sarcoma
BBFz.00	[M]Soft tissue tumour or sarcoma NOS
BBG1.00	[M]Fibrosarcoma NOS
BBG3.00	[M]Fibromyxosarcoma
BBG5.00	[M]Periosteal fibrosarcoma
BBG7.00	[M]Fascial fibrosarcoma
BBG8.00	[M]Infantile fibrosarcoma
BBG8.11	[M]Congenital fibrosarcoma
BBGJ.00	[M]Fibroxanthoma, malignant
BBGJ.11	[M]Fibroxanthosarcoma
BBGM.00	[M]Dermatofibrosarcoma NOS
BBH1.00	[M]Myxosarcoma

<b>Read Code</b>	<b>Description</b>
BBJ1.00	[M]Liposarcoma NOS
BBJ1.11	[M]Fibroliposarcoma
BBJ3.00	[M]Liposarcoma, well differentiated type
BBJ5.11	[M]Embryonal liposarcoma
BBJ5.12	[M]Myxoliposarcoma
BBJ6.00	[M]Round cell liposarcoma
BBJ7.00	[M]Pleomorphic liposarcoma
BBJ8.00	[M]Mixed type liposarcoma
BBJB100	[M]Angiomyoliposarcoma
BBJH.00	[M]Dedifferentiated liposarcoma
BBJz.00	[M]Lipomatous neoplasms NOS
BBK0200	[M]Leiomyosarcoma NOS
BBK0400	[M]Epithelioid leiomyosarcoma
BBK1100	[M]Angiomyosarcoma
BBK2100	[M]Myosarcoma
BBK2z00	[M]Myoma or myosarcoma NOS
BBK3.00	[M]Rhabdomyomatous neoplasms
BBK3100	[M]Rhabdomyosarcoma NOS
BBK3200	[M]Pleomorphic rhabdomyosarcoma
BBK3300	[M]Mixed cell rhabdomyosarcoma
BBK3600	[M]Embryonal rhabdomyosarcoma
BBK3611	[M]Sarcoma botryoides
BBK3700	[M]Alveolar rhabdomyosarcoma
BBL0.00	[M]Endometrial stromal sarcoma
BBL4.00	[M]Mixed tumour, malignant, NOS
BBL7.00	[M]Mixed and stromal renal neoplasms
BBL7000	[M]Mesoblastic nephroma
BBL8.00	[M]Hepatoblastoma
BBLC.00	[M]Mesenchymomas
BBLC100	[M]Mesenchymoma, malignant
BBLCz00	[M]Mesenchymoma NOS
BBLD.00	[M]Embryonal sarcoma
BBLE.00	[M]Adenosarcoma
BBLF.00	[M]Endometrial stromal nodule
BBLG.00	[M]Carcinoma in pleomorphic adenoma
BBLH.00	[M]Rhabdoid sarcoma
BBLJ.00	[M]Clear cell sarcoma of kidney
BBLK.00	[M]Pancreatoblastoma
BBLM.00	[M]Pulmonary blastoma
BBLz.00	[M]Complex mixed or stromal neoplasm NOS
BBM..00	[M]Fibroepithelial neoplasms
BBM0.00	[M]Brenner tumours
BBM0000	[M]Brenner tumour, borderline malignancy
BBM0100	[M]Brenner tumour, malignant
BBM0z00	[M]Brenner tumour NOS

<b>Read Code</b>	<b>Description</b>
BBM8.00	[M]Cystosarcoma phyllodes NOS
BBM9.00	[M]Cystosarcoma phyllodes, malignant
BBN1.00	[M]Synovial sarcoma NOS
BBN2.00	[M]Synovial sarcoma, spindle cell type
BBN3.00	[M]Synovial sarcoma, epithelioid cell type
BBN4.00	[M]Synovial sarcoma, biphasic type
BBN5.00	[M]Clear cell sarcoma of tendons and aponeuroses
BBNz.00	[M]Synovial neoplasm NOS
BBP..00	[M]Mesothelial neoplasms
BBP1.00	[M]Mesothelioma, malignant
BBP3.00	[M]Fibrous mesothelioma, malignant
BBP5.00	[M]Epithelioid mesothelioma, malignant
BBP7.00	[M]Mesothelioma, biphasic type, malignant
BBP8.00	[M]Adenomatoid tumour NOS
BBP9.00	[M]Cystic mesothelioma
BBPX.00	[M]Mesothelioma, unspecified
BBPz.00	[M]Mesothelial neoplasm NOS
BBQ..00	[M]Germ cell neoplasms
BBQ0.00	[M]Dysgerminoma
BBQ1.00	[M]Seminomas
BBQ1000	[M]Seminoma, anaplastic type
BBQ1100	[M]Spermatocytic seminoma
BBQ1z00	[M]Seminoma NOS
BBQ2.00	[M]Germinoma
BBQ3.00	[M]Embryonal carcinoma NOS
BBQ4.00	[M]Endodermal sinus tumour
BBQ4.11	[M]Infantile embryonal carcinoma
BBQ4.12	[M]Orchioblastoma
BBQ4.13	[M]Polyvesicular vitelline tumour
BBQ4.14	[M]Yolk sac tumour
BBQ5.00	[M]Polyembryoma
BBQ5.11	[M]Polyembryonal embryonal carcinoma
BBQ6.00	[M]Gonadoblastoma
BBQ7200	[M]Teratoma, malignant, NOS
BBQ7211	[M]Embryonal teratoma
BBQ7212	[M]Immature teratoma
BBQ7213	[M]Teratoblastoma, malignant
BBQ7300	[M]Teratocarcinoma
BBQ7400	[M]Malignant teratoma, undifferentiated type
BBQ7500	[M]Malignant teratoma, intermediate type
BBQ7z00	[M]Teratoma NOS
BBQ9.00	[M]Dermoid cyst with malignant transformation
BBQA.00	[M]Strumal neoplasms
BBQA000	[M]Struma ovarii NOS
BBQA100	[M]Struma ovarii, malignant

<b>Read Code</b>	<b>Description</b>
BBQA200	[M]Strumal carcinoid
BBQAz00	[M]Strumal neoplasm NOS
BBQB.00	[M]Mixed germ cell tumour
BBQz.00	[M]Germ cell neoplasm NOS
BBR1.00	[M]Invasive hydatidiform mole
BBR1.11	[M]Chorioadenoma
BBR1.12	[M]Chorioadenoma destruens
BBR1.13	[M]Invasive mole NOS
BBR2.00	[M]Choriocarcinoma
BBR2.11	[M]Chorioepithelioma
BBR3.00	[M]Choriocarcinoma combined with teratoma
BBR4.00	[M]Malignant teratoma, trophoblastic
BBR6.00	[M]Placental site trophoblastic tumour
BBR7.00	[M]Classical hydatidiform mole
BBR8.00	[M]Complete hydatidiform mole
BBRz.00	[M]Trophoblastic neoplasm NOS
BBS..00	[M]Mesonephromas
BBS1.00	[M]Mesonephric tumour
BBS2.00	[M]Mesonephroma, malignant
BBS2.11	[M]Wolffian duct carcinoma
BBS3.00	[M]Endosalpingioma
BBSz.00	[M]Mesonephroma NOS
BBT0.12	[M]Chorioangioma
BBT1.00	[M]Haemangiosarcoma
BBT1.11	[M]Angiosarcoma
BBT2.00	[M]Cavernous haemangioma
BBT5.00	[M]Kupffer cell sarcoma
BBT7.00	[M]Haemangioendothelioma
BBT7100	[M]Haemangioendothelioma, malignant
BBT7z00	[M]Haemangioendothelioma NOS
BBT7z11	[M]Angioendothelioma
BBTA.00	[M]Kaposi's sarcoma
BBTA.11	[M]Multiple haemorrhagic sarcoma
BBTD100	[M]Haemangiopericytoma NOS
BBTD200	[M]Haemangiopericytoma, malignant
BBTDz00	[M]Haemangiopericytic neoplasm NOS
BBTF.00	[M]Haemangioblastoma
BBTF.11	[M]Angioblastoma
BBTG.00	[M]Epithelioid haemangioma
BBTH.00	[M]Histiocytoid haemangioma
BBTJ.00	[M]Epithelioid haemangioendothelioma NOS
BBTK.00	[M]Epithelioid haemangioendothelioma, malignant
BBTL.00	[M]Intravascular bronchial alveolar tumour
BBTz.00	[M]Blood vessel tumour NOS
BBU..00	[M]Lymphatic vessel tumours

<b>Read Code</b>	<b>Description</b>
BBU..11	[M]Lymphangiomatous tumours
BBU0.00	[M]Lymphangioma NOS
BBU1.00	[M]Lymphangiosarcoma
BBU2.00	[M]Capillary lymphangioma
BBU3.00	[M]Cavernous lymphangioma
BBU4.00	[M]Cystic lymphangioma
BBU5.00	[M]Lymphangiomyoma
BBU6.00	[M]Lymphangiomyomatosis
BBU7.00	[M]Haemolymphangioma
BBUz.00	[M]Lymphatic vessel tumour NOS
BBV..00	[M]Osteomas and osteosarcomas
BBV..11	[M]Juxtacortical osteogenic sarcoma
BBV..12	[M]Parosteal osteosarcoma
BBV..13	[M]Periosteal osteogenic sarcoma
BBV0.00	[M]Osteoma NOS
BBV1.00	[M]Osteosarcoma NOS
BBV1.11	[M]Osteoblastic sarcoma
BBV1.12	[M]Osteochondrosarcoma
BBV1.13	[M]Osteogenic sarcoma NOS
BBV2.00	[M]Chondroblastic osteosarcoma
BBV3.00	[M]Fibroblastic osteosarcoma
BBV3.11	[M]Osteofibrosarcoma
BBV4.00	[M]Telangiectatic osteosarcoma
BBV5.00	[M]Osteosarcoma in Paget's disease of bone
BBV6.00	[M]Juxtacortical osteosarcoma
BBV7.00	[M]Osteoid osteoma NOS
BBV8.00	[M]Osteoblastoma
BBV8.11	[M]Giant osteoid osteoma
BBV9.00	[M]Myxoid chondrosarcoma
BBVA.00	[M] Small cell osteosarcoma
BBVz.00	[M]Osteoma or osteosarcoma NOS
BBW4.00	[M]Chondrosarcoma NOS
BBW4.11	[M]Fibrochondrosarcoma
BBW6.00	[M]Juxtacortical chondrosarcoma
BBW7.00	[M]Chondroblastoma NOS
BBW7.11	[M]Chondromatous giant cell tumour
BBW7.12	[M]Codman's tumour
BBW8.00	[M]Chondroblastoma, malignant
BBW9.00	[M]Mesenchymal chondrosarcoma
BBWA.00	[M]Chondromyxoid fibroma
BBWz.00	[M]Chondromatous neoplasm NOS
BBX..00	[M]Giant cell tumours
BBX0.00	[M]Giant cell tumour of bone NOS
BBX0.11	[M]Osteoclastoma
BBX1.00	[M]Giant cell tumour of bone, malignant

<b>Read Code</b>	<b>Description</b>
BBX1.11	[M]Giant cell bone sarcoma
BBX1.12	[M]Osteoclastoma, malignant
BBX2.00	[M]Giant cell tumour of soft parts NOS
BBX3.00	[M]Malignant giant cell tumour of soft parts
BBXz.00	[M]Giant cell tumour NOS
BBY..00	[M]Miscellaneous bone tumours
BBY0.00	[M]Ewing's sarcoma
BBY0.11	[M]Endothelial bone sarcoma
BBY1.00	[M]Adamantinoma of long bones
BBY1.11	[M]Tibial adamantinoma
BBZ2.00	[M]Odontogenic tumour, malignant
BBZ2.11	[M]Intraosseous carcinoma
BBZC.00	[M]Ameloblastic odontosarcoma
BBZD.11	[M]Adenoameloblastoma
BBZG.00	[M]Ameloblastoma, malignant
BBZG.11	[M]Adamantinoma, malignant
BBZN.00	[M]Ameloblastic fibrosarcoma
BBZN.11	[M]Odontogenic fibrosarcoma
BBA0.00	[M]Craniopharyngioma
BBA0.11	[M]Rathke's pouch tumour
BBA1.00	[M]Pinealoma
BBA2.00	[M]Pineocytoma
BBA3.00	[M]Pineoblastoma
BBA4.00	[M]Melanotic neuroectodermal tumour
BBA4.11	[M]Melanoameloblastoma
BBA4.12	[M]Melanotic progonoma
BBA4.13	[M]Retinal angle tumour
BBA5.00	[M]Chordoma
BBaz.00	[M]Miscellaneous tumour NOS
BBb..00	[M]Gliomas
BBb0.00	[M]Glioma, malignant
BBb0.11	[M]Glioma NOS
BBb0.12	[M]Gliosarcoma
BBb1.00	[M]Gliomatosis cerebri
BBb2.00	[M]Mixed glioma
BBb2.11	[M]Mixed glioma
BBb3.00	[M]Subependymal glioma
BBb3.11	[M]Subependymal astrocytoma NOS
BBb3.12	[M]Subependymal astrocytoma NOS
BBb3.13	[M]Subependymoma
BBb4.00	[M]Subependymal giant cell astrocytoma
BBb5.00	[M]Choroid plexus papilloma NOS
BBb6.00	[M]Choroid plexus papilloma, malignant
BBb7.00	[M]Ependymoma NOS
BBb8.00	[M]Ependymoma, anaplastic type

<b>Read Code</b>	<b>Description</b>
BBb8.11	[M]Ependymoblastoma
BBb9.00	[M]Papillary ependymoma
BBbA.00	[M]Myxopapillary ependymoma
BBbB.00	[M]Astrocytoma NOS
BBbB.11	[M]Astrocytic glioma
BBbB.12	[M]Astroganglioma
BBbC.00	[M]Astrocytoma, anaplastic type
BBbD.00	[M]Protoplasmic astrocytoma
BBbE.00	[M]Gemistocytic astrocytoma
BBbE.11	[M]Gemistocytoma
BBbF.00	[M]Fibrillary astrocytoma
BBbG.00	[M]Pilocytic astrocytoma
BBbG.11	[M]Juvenile astrocytoma
BBbG.12	[M]Piloid astrocytoma
BBbH.00	[M]Spongioblastoma NOS
BBbJ.00	[M]Spongioblastoma polare
BBbK.00	[M]Astroblastoma
BBbL.00	[M]Glioblastoma NOS
BBbL.11	[M]Glioblastoma multiforme
BBbL.12	[M]Spongioblastoma multiforme
BBbM.00	[M]Giant cell glioblastoma
BBbN.00	[M]Glioblastoma with sarcomatous component
BBbP.00	[M]Primitive polar spongioblastoma
BBbQ.00	[M]Oligodendrogloma NOS
BBbR.00	[M]Oligodendrogloma, anaplastic type
BBbS.00	[M]Oligodendroblastoma
BBbT.00	[M]Medulloblastoma NOS
BBbU.00	[M]Desmoplastic medulloblastoma
BBbV.00	[M]Medullomyoblastoma
BBbW.00	[M]Cerebellar sarcoma NOS
BBbX.00	[M]Monstrocellular sarcoma
BBbZ.00	[M]Pleomorphic xanthoastrocytoma
BBba.00	[M]Primitive neuroectodermal tumour
BBba000	[M]Peripheral neuroectodermal tumour
BBbz.00	[M]Glioma NOS
BBc..00	[M]Neuroepitheliomatous neoplasms
BBc0.00	[M]Ganglioneuromatous neoplasms
BBc0000	[M]Ganglioneuroma
BBc0011	[M]Gangliocytoma
BBc0100	[M]Ganglioneuroblastoma
BBc0200	[M]Ganglioneuromatosis
BBc0z00	[M]Ganglioneuromatous neoplasm NOS
BBc1.00	[M]Neuroblastoma NOS
BBc1.11	[M]Sympathicoblastoma
BBc1.12	[M]Sympathicogonioma

<b>Read Code</b>	<b>Description</b>
BBc1.13	[M]Sympathogonioma
BBc2.00	[M]Medulloepithelioma NOS
BBc2.11	[M]Diktyoma
BBc3.00	[M]Teratoid medulloepithelioma
BBc4.00	[M]Neuroepithelioma NOS
BBc5.00	[M]Spongioneuroblastoma
BBc6.00	[M]Ganglioglioma
BBc6.11	[M]Glioneuroma
BBc7.00	[M]Neurocytoma
BBc7.11	[M]Neuroastrocytoma
BBc8.00	[M]Pacinian tumour
BBc9.00	[M]Retinoblastomas
BBc9000	[M]Retinoblastoma, differentiated type
BBc9100	[M]Retinoblastoma, undifferentiated type
BBc9z00	[M]Retinoblastoma NOS
BBcA.00	[M]Olfactory neurogenic tumour
BBcB.00	[M]Aesthesioneurocytoma
BBcC.00	[M]Aesthesioneuroblastoma
BBcC.11	[M]Olfactory neuroblastoma
BBcD.00	[M]Aesthesioneuroepithelioma
BBcD.11	[M]Olfactory neuroepithelioma
BBcz.00	[M]Neuroepitheliomatous neoplasm NOS
BBd..00	[M]Meningiomas
BBd0.00	[M]Meningioma NOS
BBd1.00	[M]Meningiomatosis NOS
BBd1.11	[M]Diffuse meningiomatosis
BBd1.12	[M]Multiple meningiomatosis
BBd2.00	[M]Meningioma, malignant
BBd2.11	[M]Leptomeningeal sarcoma
BBd2.12	[M]Meningothelial sarcoma
BBd3.00	[M]Meningotheliomatous meningioma
BBd3.11	[M]Endotheliomatous meningioma
BBd3.12	[M]Syncytial meningioma
BBd4.00	[M]Fibrous meningioma
BBd5.00	[M]Psammomatous meningioma
BBd6.00	[M]Angiomatous meningioma
BBd7.00	[M]Haemangioblastic meningioma
BBd7.11	[M]Angioblastic meningioma
BBd8.00	[M]Haemangiopericytic meningioma
BBd9.00	[M]Transitional meningioma
BBd9.11	[M]Mixed meningioma
BBdA.00	[M]Papillary meningioma
BBdB.00	[M]Meningeal sarcomatosis
BBdz.00	[M]Meningioma NOS
BBe..00	[M]Nerve sheath tumour

<b>Read Code</b>	<b>Description</b>
BBe..11	[M]Neurofibromas
BBe0.00	[M]Neurofibroma NOS
BBe1.00	[M]Neurofibromatosis NOS
BBe1.11	[M]Multiple neurofibromatosis
BBe1.12	[M]Von Recklinghausen's disease
BBe2.00	[M]Neurofibrosarcoma
BBe3.00	[M]Melanotic neurofibroma
BBe4.00	[M]Plexiform neurofibroma
BBe5.00	[M]Neurilemmoma NOS
BBe5.11	[M]Acoustic neuroma
BBe5.12	[M]Neurinoma
BBe5.13	[M]Schwannoma NOS
BBe6.00	[M]Neurinomatosis
BBe7.00	[M]Neurilemmoma, malignant
BBe7.11	[M]Schwannoma, malignant
BBe8.00	[M]Neuroma NOS
BBe9.00	[M]Triton tumour, malignant
BBeA.00	[M]Neurothekeoma
BBez.00	[M]Nerve sheath tumour NOS
BBf..00	[M]Granular cell tumours and alveolar soft part sarcoma
BBf0.00	[M]Granular cell tumour NOS
BBf1.00	[M]Granular cell tumour, malignant
BBf2.00	[M]Alveolar soft part sarcoma
BBfz.00	[M]Granular cell tumour or alveolar soft part sarcoma NOS
BBg..00	[M]Lymphomas, NOS or diffuse
BBg0.00	[M]Lymphomatous tumour, benign
BBg1.00	[M]Malignant lymphoma NOS
BBg1.11	[M]Lymphoma NOS
BBg1000	[M]Malignant lymphoma, diffuse NOS
BBg2.00	[M]Malignant lymphoma, non Hodgkin's type
BBg2.11	[M]Non Hodgkins lymphoma
BBg3.00	[M]Malignant lymphoma, undifferentiated cell type NOS
BBg4.00	[M]Malignant lymphoma, stem cell type
BBg5.00	[M]Malignant lymphoma, convoluted cell type NOS
BBg6.00	[M]Lymphosarcoma NOS
BBg7.00	[M]Malignant lymphoma, lymphoplasmacytoid type
BBg8.00	[M]Malignant lymphoma, immunoblastic type
BBg9.00	[M]Malignant lymphoma, mixed lymphocytic-histiocytic NOS
BBg9.11	[M]Reticulolymphosarcoma NOS
BBg9.12	[M]Reticulolymphosarcoma, diffuse
BBgA.00	[M]Malignant lymphoma, centroblastic-centrocytic, diffuse
BBgA.11	[M]Germinalblastoma, diffuse
BBgB.00	[M]Malignant lymphoma, follicular centre cell NOS
BBgC.00	[M]Malignant lymphoma, lymphocytic, well differentiated NOS

<b>Read Code</b>	<b>Description</b>
BBgC.11	[M]Lymphocytic lymphoma NOS
BBgC.12	[M]Lymphocytic lymphosarcoma NOS
BBgD.00	[M]Malig lymphoma, lymphocytic, intermediate different NOS
BBgE.00	[M]Malignant lymphoma, centrocytic
BBgF.00	[M]Malignant lymphoma, follicular centre cell, cleaved NOS
BBgG.00	[M]Malignant lymphoma, lymphocytic, poorly different NOS
BBgG.11	[M]Lymphoblastic lymphosarcoma NOS
BBgG.12	[M]Lymphoblastic lymphoma NOS
BBgG.13	[M]Lymphoblastoma NOS
BBgH.00	[M]Prolymphocytic lymphosarcoma
BBgJ.00	[M]Malignant lymphoma, centroblastic type NOS
BBgJ.11	[M]Germinoblastic sarcoma NOS
BBgK.00	[M]Malig lymphoma, follicular centre cell, non-cleaved NOS
BBgL.00	[M]Malignant lymphoma, small lymphocytic NOS
BBgM.00	[M]Malignant lymphoma, small cleaved cell, diffuse
BBgN.00	[M]Malignant lymphoma,lymphocytic,intermediate differn, diffuse
BBgP.00	[M]Malignant lymphoma, mixed small and large cell, diffuse
BBgQ.00	[M]Malignant lymphomatous polyposis
BBgR.00	[M]Malignant lymphoma, large cell, diffuse NOS
BBgS.00	[M]Malignant lymphoma, large cell, cleaved, diffuse
BBgT.00	[M]Malignant lymphoma, large cell, noncleaved, diffuse
BBgV.00	[M]Malignant lymphoma, small cell, noncleaved, diffuse
BBgz.00	[M]Lymphoma, diffuse or NOS
BBh..00	[M]Reticulosarcomas
BBh0.00	[M]Reticulosarcoma NOS
BBh0.11	[M]Reticulum cell sarcoma NOS
BBh1.00	[M]Reticulosarcoma, pleomorphic cell type
BBh2.00	[M]Reticulosarcoma, nodular
BBhz.00	[M]Reticulosarcoma NOS
BBj..00	[M]Hodgkin's disease
BBj0.00	[M]Hodgkin's disease NOS
BBj0.11	[M]Lymphogranuloma, malignant
BBj1.00	[M]Hodgkin's disease, lymphocytic predominance
BBj1000	[M]Hodgkin,s disease, lymphocytic predominance, diffuse
BBj1100	[M]Hodgkin,s disease, lymphocytic predominance, nodular
BBj2.00	[M]Hodgkin's disease, mixed cellularity
BBj3.00	[M]Hodgkin's disease, lymphocytic depletion NOS
BBj4.00	[M]Hodgkin's disease,lymphocytic depletion,diffuse fibrosis
BBj5.00	[M]Hodgkin's disease, lymphocytic depletion, reticular type
BBj6.00	[M]Hodgkin's disease, nodular sclerosis NOS

<b>Read Code</b>	<b>Description</b>
BBj6000	[M]Hodgkin,s disease, nodular sclerosis, lymphocytic predom
BBj6100	[M]Hodgkin,s disease, nodular sclerosis, mixed cellularity
BBj6200	[M]Hodgkin,s disease, nodular sclerosis, lymphocytic deplet
BBj7.00	[M]Hodgkin's disease, nodular sclerosis, cellular phase
BBj8.00	[M]Hodgkin's paragranuloma
BBj9.00	[M]Hodgkin's granuloma
BBjA.00	[M]Hodgkin's sarcoma
BBjz.00	[M]Hodgkin's disease NOS
BBk..00	[M]Lymphomas, nodular or follicular
BBk0.00	[M]Malignant lymphoma, nodular NOS
BBk0.11	[M]Brill - Symmers' disease
BBk0.12	[M]Follicular lymphosarcoma NOS
BBk0.13	[M]Giant follicular lymphoma
BBk0.14	[M]Nodular lymphosarcoma NOS
BBk1.00	[M]Malig lymphoma, mixed lymphocytic-histiocytic, nodular
BBk1.11	[M]Reticulolymphosarcoma, follicular
BBk1.12	[M]Reticulolymphosarcoma, nodular
BBk2.00	[M]Malignant lymphoma, centroblastic-centrocytic, follicular
BBk2.11	[M]Germinoblastoma, follicular
BBk3.00	[M]Malig lymphoma, lymphocytic, well differentiated,nodular
BBk4.00	[M]Malig lymp, lymphocytic, intermediate different, nodular
BBk5.00	[M]Malig lymp, follicular centre cell, cleaved, follicular
BBk6.00	[M]Malig lymp, lymphocytic, poorly differentiated, nodular
BBk7.00	[M]Malignant lymphoma, centroblastic type, follicular
BBk7.11	[M]Germinoblastic sarcoma, follicular
BBk8.00	[M]Malig lymp,follicular centre cell,noncleaved,follicular
BBkz.00	[M]Lymphoma, nodular or follicular NOS
BBl..00	[M]Mycosis fungoides
BBl0.00	[M]Mycosis fungoides
BBl1.00	[M]Sezary's disease
BBlz.00	[M]Mycosis fungoides NOS
BBm..00	[M]Miscellaneous reticuloendothelial neoplasms
BBm0.00	[M]Microglioma
BBm1.00	[M]Malignant histiocytosis
BBm1.11	[M]Malignant reticulosis
BBm2.00	[M]Histiocytic medullary reticulosis
BBm3.00	[M]Letterer - Siwe disease
BBm3.11	[M]Acute infancy reticulosis
BBm3.12	[M]Acute progressive histiocytosis X
BBm4.00	[M]True histiocytic lymphoma
BBm5.00	[M] Peripheral T-cell lymphoma NOS
BBm6.00	[M] Alpha heavy chain disease

<b>Read Code</b>	<b>Description</b>
BBm7.00	[M] Monoclonal gammopathy
BBm8.00	[M] Angioimmunoblastic lymphadenopathy
BBm9.00	[M] Monocytoid B-cell lymphoma
BBmA.00	[M] Refractory anaemia with sideroblasts
BBmB.00	[M] Refractory anaemia+excess of blasts with transformation
BBmC.00	[M] T-gamma lymphoproliferative disease
BBmD.00	[M] Cutaneous lymphoma
BBmE.00	[M] Gamma heavy chain disease
BBmF.00	[M] Angiocentric immunoproliferative lesion
BBmG.00	[M] Immunoproliferative small intestinal disease
BBmH.00	[M] Large cell lymphoma
BBmJ.00	[M] Angioendotheliomatosis
BBmK.00	[M] Waldenstrom's macroglobulinaemia
BBmL.00	[M] Refractory anaemia with excess of blasts
BBmz.00	[M]Miscellaneous reticuloendothelial neoplasm NOS
BBn..00	[M]Plasma cell tumours
BBn0.00	[M]Plasma cell myeloma
BBn0.11	[M]Multiple myeloma
BBn0.12	[M]Myeloma NOS
BBn0.13	[M]Myelomatosis
BBn0.14	[M]Plasmacytic myeloma
BBn1.00	[M]Plasma cell tumour, benign
BBn1.11	[M]Plasmacytoma, benign
BBn2.00	[M]Plasmacytoma NOS
BBn2.11	[M]Monostotic myeloma
BBn2.12	[M]Solitary myeloma
BBn3.00	[M]Plasma cell tumour, malignant
BBnz.00	[M]Plasma cell tumour NOS
BBp..00	[M]Mast cell tumours
BBp0.00	[M]Mastocytoma NOS
BBp1.00	[M]Mast cell sarcoma
BBp2.00	[M]Malignant mastocytosis
BBpz.00	[M]Mast cell tumour NOS
BBq..00	[M]Burkitt's tumours
BBq0.00	[M]Burkitt's tumour
BBqz.00	[M]Burkitt's tumour NOS
BBr..00	[M]Leukaemias
BBr0.00	[M]Leukaemias unspecified
BBr0000	[M]Leukaemia NOS
BBr0100	[M]Acute leukaemia NOS
BBr0111	[M]Blast cell leukaemia
BBr0112	[M]Blastic leukaemia
BBr0113	[M]Stem cell leukaemia
BBr0200	[M]Subacute leukaemia NOS

<b>Read Code</b>	<b>Description</b>
BBr0300	[M]Chronic leukaemia NOS
BBr0400	[M]Aleukaemic leukaemia NOS
BBr0z00	[M]Leukaemia unspecified, NOS
BBr1.00	[M]Compound leukaemias
BBr1000	[M]Compound leukaemia
BBr1011	[M]Mixed leukaemia
BBr1z00	[M]Compound leukaemia NOS
BBr2.00	[M]Lymphoid leukaemias
BBr2000	[M]Lymphoid leukaemia NOS
BBr2011	[M]Lymphatic leukaemia
BBr2100	[M]Acute lymphoid leukaemia
BBr2200	[M]Subacute lymphoid leukaemia
BBr2300	[M]Chronic lymphoid leukaemia
BBr2400	[M]Aleukaemic lymphoid leukaemia
BBr2500	[M]Prolymphocytic leukaemia
BBr2600	[M]Burkitt's cell leukaemia
BBr2700	[M]Adult T-cell leukaemia/lymphoma
BBr2z00	[M]Other lymphoid leukaemia NOS
BBr3.00	[M]Plasma cell leukaemias
BBr3000	[M]Plasma cell leukaemia
BBr3z00	[M]Plasma cell leukaemia NOS
BBr4.00	[M]Erythroleukaemias
BBr4000	[M]Erythroleukaemia
BBr4011	[M]Erythraemic myelosis
BBr4100	[M]Acute erythraemia
BBr4111	[M]Di Guglielmo's disease
BBr4200	[M]Chronic erythraemia
BBr4z00	[M]Erythroleukaemia NOS
BBr5.00	[M]Lymphosarcoma cell leukaemias
BBr5000	[M]Lymphosarcoma cell leukaemia
BBr5z00	[M]Lymphosarcoma cell leukaemia NOS
BBr6.00	[M]Myeloid leukaemias
BBr6000	[M]Myeloid leukaemia NOS
BBr6011	[M]Granulocytic leukaemia NOS
BBr6012	[M]Myelosis NOS
BBr6100	[M]Acute myeloid leukaemia
BBr6200	[M]Subacute myeloid leukaemia
BBr6300	[M]Chronic myeloid leukaemia
BBr6311	[M]Naegeli-type monocytic leukaemia
BBr6400	[M]Aleukaemic myeloid leukaemia
BBr6500	[M]Neutrophilic leukaemia
BBr6600	[M]Acute promyelocytic leukaemia
BBr6700	[M]Acute myelomonocytic leukaemia
BBr6800	[M]Chronic myelomonocytic leukaemia
BBr6900	[M]Juvenile myelomonocytic leukaemia

<b>Read Code</b>	<b>Description</b>
BBr6z00	[M]Other myeloid leukaemia NOS
BBr7.00	[M]Basophilic leukaemias
BBr7000	[M]Basophilic leukaemia
BBr7z00	[M]Basophilic leukaemia NOS
BBr8.00	[M]Eosinophilic leukaemias
BBr8000	[M]Eosinophilic leukaemia
BBr8z00	[M]Eosinophilic leukaemia NOS
BBr9.00	[M]Monocytic leukaemias
BBr9000	[M]Monocytic leukaemia NOS
BBr9011	[M]Histiocytic leukaemia
BBr9012	[M]Schilling-type monocytic leukaemia
BBr9100	[M]Acute monocytic leukaemia
BBr9200	[M]Subacute monocytic leukaemia
BBr9300	[M]Chronic monocytic leukaemia
BBr9400	[M]Aleukaemic monocytic leukaemia
BBr9z00	[M]Other monocytic leukaemia NOS
BBrA.00	[M]Miscellaneous leukaemias
BBrA000	[M]Mast cell leukaemia
BBrA100	[M]Megakaryocytic leukaemia
BBrA111	[M]Thrombocytic leukaemia
BBrA200	[M]Megakaryocytic myelosis
BBrA300	[M]Myeloid sarcoma
BBrA311	[M]Chloroma
BBrA312	[M]Granulocytic sarcoma
BBrA400	[M]Hairy cell leukaemia
BBrA411	[M]Leukaemic reticuloendotheliosis
BBrA500	[M]Acute megakaryoblastic leukaemia
BBrA600	[M]Acute panmyelosis
BBrA700	[M]Acute myelofibrosis
BBrA800	[M]Leukaemic reticuloendotheliosis
BBrAz00	[M]Miscellaneous leukaemia NOS
BBrz.00	[M]Leukaemia NOS
BBs..00	[M]Misc myeloproliferative and lymphoproliferative disorders
BBs0.00	[M]Polycythaemia vera
BBs0.11	[M]Polycythaemia rubra vera
BBs1.00	[M]Acute panmyelosis
BBs2.00	[M]Chronic myeloproliferative disease
BBs3.00	[M]Myelosclerosis with myeloid metaplasia
BBs3.11	[M]Megakaryocytic myelosclerosis
BBs5.00	[M]Chronic lymphoproliferative disease
BBsz.00	[M]Misc myeloproliferative or lymphoproliferative dis NOS
BBv..00	[M]Myelodysplastic syndrome
BBv0.00	[M]Monocytoid B-cell lymphoma
BBv1.00	[M]Angioendotheliomatosis

<b>Read Code</b>	<b>Description</b>
BBv2.00	[M]AngiocentricT-cell lymphoma
BBy1.00	[M]No microscopic confirmation of tumour, clinically malignant
BBy2.00	[M]No microscopic confirmation tumour, clinically metastatic
Byu0.00	[X]Malignant neoplasm of lip, oral cavity and pharynx
Byu1.00	[X]Malignant neoplasm of digestive organs
Byu1000	[X]Other sarcomas of the liver
Byu1100	[X]Other specified carcinomas of liver
Byu1200	[X]Malignant neoplasm of intestinal tract, part unspecified
Byu1300	[X]Malignant neoplasm/ill-defin sites within digestive system
Byu2.00	[X]Malignant neoplasm of respiratory and intrathoracic organs
Byu2000	[X]Malignant neoplasm of bronchus or lung, unspecified
Byu2100	[X]Malignant neoplasm/overlap lesion/heart,mediastinm+pleura
Byu2200	[X]Malignant neoplasm/upper resp tract, part unspecified
Byu2300	[X]Malignant neopl/overlapping les/resp+intrathoracic organs
Byu2400	[X]Malignant neoplasm/ill-defined sites within resp system
Byu2500	[X]Malignant neoplasm of mediastinum, part unspecified
Byu3.00	[X]Malignant neoplasm of bone and articular cartilage
Byu3000	[X]Mal neoplasm/overlap lesion/bone+articular cartilage/limb
Byu3100	[X]Malignant neoplasm/bones+articular cartilage/limb,unspfd
Byu3200	[X]Malignant neoplasm/overlap lesion/bone+articulr cartilage
Byu3300	[X]Malignant neoplasm/bone+articular cartilage, unspecified
Byu4.00	[X]Melanoma and other malignant neoplasms of skin
Byu4000	[X]Malignant melanoma of other+unspecified parts of face
Byu4100	[X]Malignant melanoma of skin, unspecified
Byu4200	[X]Oth malignant neoplasm/skin of oth+unspecfd parts of face
Byu4300	[X]Malignant neoplasm of skin, unspecified
Byu5.00	[X]Malignant neoplasm of mesothelial and soft tissue
Byu5000	[X]Mesothelioma of other sites
Byu5011	[X]Mesothelioma of lung
Byu5100	[X]Mesothelioma, unspecified
Byu5200	[X]Kaposi's sarcoma of multiple organs
Byu5300	[X]Kaposi's sarcoma, unspecified
Byu5400	[X]Malignant neoplasm/peripheral nerves of trunk,unspecified
Byu5500	[X]Mal neoplasm/overlap les/periph nerv+autonomic nerv systm
Byu5600	[X]Mal neoplasm/periph nerves+autonomic nervous system,unspc
Byu5700	[X]Malignant neoplasm of peritoneum, unspecified

<b>Read Code</b>	<b>Description</b>
Byu5800	[X]Mal neoplasm/connective+soft tissue of trunk,unspecified
Byu5900	[X]Malignant neoplasm/connective + soft tissue,unspecified
Byu5A00	[X]Malignant neoplasm overlapping lesion of skin
Byu5B00	[X]Kaposi's sarcoma of other sites
Byu6.00	[X]Malignant neoplasm of breast
Byu7.00	[X]Malignant neoplasm of female genital organs
Byu7000	[X]Malignant neoplasm of uterine adnexa, unspecified
Byu7100	[X]Malignant neoplasm/other specified female genital organs
Byu7200	[X]Malignant neoplasm/overlapping lesion/feml genital organs
Byu7300	[X]Malignant neoplasm of female genital organ, unspecified
Byu8.00	[X]Malignant neoplasm of male genital organs
Byu8000	[X]Malignant neoplasm/other specified male genital organs
Byu8100	[X]Malignant neoplasm/overlapping lesion/male genital organs
Byu8200	[X]Malignant neoplasm of male genital organ, unspecified
Byu9.00	[X]Malignant neoplasm of urinary tract
Byu9000	[X]Malignant neoplasm of urinary organ, unspecified
ByuA.00	[X]Malignant neoplasm of eye, brain and other parts of cent
ByuA000	[X]Malignant neoplasm/other and unspecified cranial nerves
ByuA100	[X]Malignant neoplasm/central nervous system, unspecified
ByuA200	[X]Malignant neoplasm of meninges, unspecified
ByuA300	[X]Malig neopl, overlap lesion brain & other part of CNS
ByuB.00	[X]Malignant neoplasm of thyroid and other endocrine glands
ByuB000	[X]Malignant neoplasm-pluriglandular involvement,unspecified
ByuB100	[X]Malignant neoplasm of endocrine gland, unspecified
ByuC.00	[X]Malignant neoplasm of ill-defined, secondary and unspeci
ByuC000	[X]Malignant neoplasm of other specified sites
ByuC100	[X]Malignant neoplasm/overlap lesion/other+ill-defined sites
ByuC200	[X]2ndry+unspcf malignant neoplasm lymph nodes/multi regions
ByuC300	[X]Secondary malignant neoplasm/oth+unspc respiratory organs
ByuC400	[X]Secondary malignant neoplasm/oth+unspcf digestive organs
ByuC500	[X]2ndry malignant neoplasm/bladder+oth+unsp urinary organs
ByuC600	[X]2ndry malignant neoplasm/oth+unspec parts/nervous system
ByuC700	[X]Secondary malignant neoplasm of other specified sites
ByuC800	[X]Malignant neoplasm without specification of site
ByuD.00	[X]Malignant neoplasms of lymphoid, haematopoietic and rela

<b>Read Code</b>	<b>Description</b>
ByuD000	[X]Other Hodgkin's disease
ByuD100	[X]Other types of follicular non-Hodgkin's lymphoma
ByuD200	[X]Other types of diffuse non-Hodgkin's lymphoma
ByuD300	[X]Other specified types of non-Hodgkin's lymphoma
ByuD400	[X]Other malignant immunoproliferative diseases
ByuD500	[X]Other lymphoid leukaemia
ByuD600	[X]Other myeloid leukaemia
ByuD700	[X]Other monocytic leukaemia
ByuD800	[X]Other specified leukaemias
ByuD900	[X]Other leukaemia of unspecified cell type
ByuDA00	[X]Oth spcf mal neoplsm/lymphoid,haematopoietic+rltd tissue
ByuDB00	[X]Mal neoplasm/lymphoid,haematopoietic+related tissu,unspcf
ByuDC00	[X]Diffuse non-Hodgkin's lymphoma, unspecified
ByuDD00	[X]Oth and unspecif peripheral & cutaneous T-cell lymphomas
ByuDE00	[X]Unspecified B-cell non-Hodgkin's lymphoma
ByuDF00	[X]Non-Hodgkin's lymphoma, unspecified type
ByuDF11	[X]Non-Hodgkin's lymphoma NOS
ByuE.00	[X]Malignant neoplasms/independent (primary) multiple sites
ByuE000	[X]Malignant neoplasms/independent(primary)multiple sites
ByuF.00	[X]In situ neoplasms
ByuF000	[X]Carcinoma in situ/other+unspecified parts of intestine
ByuF100	[X]Carcinoma in situ of other specified digestive organs
ByuF200	[X]Carcinoma in situ of digestive organ, unspecified
ByuF300	[X]Carcinoma in situ of other parts of respiratory system
ByuF400	[X]Carcinoma in situ of respiratory system, unspecified
ByuF500	[X]Melanoma in situ of other and unspecified parts of face
ByuF600	[X]Melanoma in situ of other sites
ByuF700	[X]Carcinoma in situ of skin of other+unspecified parts/face
ByuF800	[X]Carcinoma in situ of skin of other sites
ByuF900	[X]Carcinoma in situ of skin, unspecified
ByuFA00	[X]Carcinoma in situ of other parts of cervix
ByuFB00	[X]Carcinoma in situ of other+unspcf female genital organs
ByuFC00	[X]Carcinoma in situ of oth+unspecified male genital organs
ByuFD00	[X]Carcinoma in situ of other+unspecified urinary organs
ByuFE00	[X]Carcinoma in situ of other specified sites
ByuFF00	[X]Melanoma in situ, unspecified
ByuFG00	[X]Other carcinoma in situ of breast
ByuH.00	[X]Neoplasms of uncertain and unknown behaviour
ByuH000	[X]Neoplasm/uncertain+unknown behaviour/oth digestive organs

Read Code	Description
ByuH100	[X]Neoplasm/uncertain+unknown behavior/oth respiratory organs
ByuH200	[X]Neoplasm/uncertain+unknown behavior/oth fem genital organ
ByuH300	[X]Neoplasm/uncertain+unknown behavior/oth male genital organ
ByuH400	[X]Neoplasm/uncertain+unknown behavior/other urinary organs
ByuH500	[X]Neoplasm/uncertain+unknown behaviour/other parts/CNS
ByuH600	[X]Neoplasm/uncertn+unknwn behavior/oth myelodysplastic synd
ByuH700	[X]Oth spcf neo/uncrt+unknwn behav/lymph,h'matopetc+rel tiss,unspcf
ByuH800	[X]Neo/uncertn+unknwn behav/lymph,h'matopetc+rel tiss,unspcf
ByuH900	[X]Neoplasm/uncertain+unknown behavior/other specified sites
ByuHA00	[X]Neoplasm of uncertain and unknown behaviour, unspecified
ByuHB00	[X]Neoplasm of uncert/unkn behav female genit organs, unspec
C377.00	Disorders of glycoprotein metabolism
C377000	Defects in post-translational modif'n of lysosomal enzymes
C37y.00	Other specified disorder of metabolism
C37y000	Hand - Schuller - Christian disease
C37y100	Eosinophilic granuloma
C37y200	Enterokinase deficiency
C37y300	Trypsinogen deficiency
C37y400	Acatalasia
C37y500	Histiocytosis X , chronic
C37y600	Histiocytosis X , unspecified
C37y700	Histiocytosis, unspecified
C37y800	Haemophagocytic lymphohistiocytosis
C37y900	Haemophagocytic syndrome, infection-associated
C37yz00	Other specified disorder of metabolism NOS
C37yz11	Histiocytosis X (chronic)
D416.00	Familial polycythaemia
Z9J1112	Preparing chemotherapy
ZL22F00	Under care of oncology nurse
ZL62F00	Referral to oncology nurse
ZLA2F00	Seen by oncology nurse
ZLD7D00	Discharge by oncology nurse
ZLE3.00	Discharge from clinical oncology service
ZLE7300	Discharge from paediatric oncology service
ZV10000	[V]Personal history of malig neop of gastrointestinal tract
ZV10011	[V]Personal history of malignant neoplasm of anus
ZV10012	[V]Personal history of malig neop of gastrointestinal tract

<b>Read Code</b>	<b>Description</b>
ZV10013	[V]Personal history of malignant neoplasm of intestine
ZV10014	[V]Personal history of malignant neoplasm of large intestine
ZV10015	[V]Personal history of malignant neoplasm of liver
ZV10016	[V]Personal history of malignant neoplasm of oesophagus
ZV10017	[V]Personal history of malignant neoplasm of rectum
ZV10018	[V]Personal history of malignant neoplasm of stomach
ZV10019	[V]Personal history of malignant neoplasm of tongue
ZV10111	[V]Personal history of malignant neoplasm of bronchus
ZV10112	[V]Personal history of malignant neoplasm of lung
ZV10113	[V]Personal history of malignant neoplasm of trachea
ZV10212	[V]Personal history of malignant neoplasm of larynx
ZV10300	[V]Personal history of malignant neoplasm of breast
ZV10411	[V]Personal history of malignant neoplasm of cervix uteri
ZV10413	[V]Personal history malignant neoplasm - male genital organ
ZV10414	[V]Personal history of malignant neoplasm of ovary
ZV10415	[V]Personal history of malignant neoplasm of prostate
ZV10416	[V]Personal history of malignant neoplasm of testis
ZV10511	[V]Personal history of malignant neoplasm of bladder
ZV10512	[V]Personal history of malignant neoplasm of kidney
ZV10513	[V]Personal history of malignant neoplasm of kidney
ZV10600	[V]Personal history of leukaemia
ZV10611	[V]Personal history of lymphoid leukaemia
ZV10612	[V]Personal history of monocytic leukaemia
ZV10613	[V]Personal history of myeloid leukaemia
ZV10711	[V]Personal history of Hodgkin's disease
ZV10y11	[V]Personal history of malignant neoplasm of bone
ZV10y13	[V]Personal history of malignant neoplasm of eye
ZV10y14	[V]Personal history of malignant neoplasm of skin
ZV10y15	[V]Personal history of malignant neoplasm of thyroid
ZV10y16	[V]Personal history of malignant neoplasm of tongue
ZV58100	[V]Maintenance chemotherapy
ZV58800	[V]Chemotherapy session for neoplasm
ZV66200	[V]Convalescence after chemotherapy
ZV67200	[V]Chemotherapy follow-up
ZV67800	[V]Follow-up examin after chemotherapy for malign neoplasm
ZV67811	[V]Follow-up examination after chemotherapy for leukaemia
ZV6B100	[V]Follow-up exam after chemotherapy for other conditions
ZVu3L00	[X]Other chemotherapy

**Supplementary Table 10.** Read codes used to identify chronic obstructive pulmonary disease.

Read Code	Description
14B3.00	H/O: chr.obstr. airway disease
3375.00	Lung function mildly obstruct.
337C.00	Obstructive ventilatory defect
661M300	COPD self-management plan agreed
661N300	COPD self-management plan review
663..12	Chronic resp. dis. monitoring
66YB.00	Chronic obstructive pulmonary disease monitoring
66YB000	Chronic obstructive pulmonary disease 3 monthly review
66YB100	Chronic obstructive pulmonary disease 6 monthly review
66YD.00	Chronic obstructive pulmonary disease monitoring due
66YI.00	COPD self-management plan given
66YL.00	Chronic obstructive pulmonary disease follow-up
66YL.11	COPD follow-up
66YL.12	COAD follow-up
66YM.00	Chronic obstructive pulmonary disease annual review
66YS.00	Chronic obstructive pulmonary disease monitoring by nurse
66YT.00	Chronic obstructive pulmonary disease monitoring by doctor
66Yd.00	COPD accident and emergency attendance since last visit
66Ye.00	Emergency COPD admission since last appointment
66Yf.00	Number of COPD exacerbations in past year
66Yg.00	Chronic obstructive pulmonary disease disturbs sleep
66Yh.00	Chronic obstructive pulmonary disease does not disturb sleep
66Yi.00	Multiple COPD emergency hospital admissions
68C2.00	Chr.obst. pulm. dis. screen
8BMW.00	Issue of chronic obstructive pulmonary disease rescue pack
8CE6.00	Chronic obstructive pulmonary disease leaflet given
8CR1.00	Chronic obstructive pulmonary disease clini management plan
8CeD.00	Preferred place of care for next exacerbation of COPD
8H2R.00	Admit COPD emergency
8Hkw.00	Referral to COPD community nursing team
9N4W.00	DNA - Did not attend COPD clinic
9NgP.11	On COPD (chr obstruc pulmonary disease) supportv cre pathway
9Oi..00	Chronic obstructive pulmonary disease monitoring admin
9Oi0.00	Chronic obstructive pulmonary disease monitoring 1st letter
9Oi1.00	Chronic obstructive pulmonary disease monitoring 2nd letter
9Oi2.00	Chronic obstructive pulmonary disease monitoring 3rd letter
9Oi3.00	Chronic obstructive pulmonary disease monitoring verb invite
9Oi4.00	Chronic obstructive pulmonary disease monitor phone invite
9e03.00	GP OOH service notified of COPD care plan
9kf..00	COPD - enhanced services administration
9kf0.00	COPD patient unsuitable for pulmonary rehab - enh serv admin
9kf0.11	COPD patient unsuitable for pulmonary rehabilitation
9kf1.00	Refer COPD structured smoking assessment - enhanc serv admin

<b>Read Code</b>	<b>Description</b>
9kf1.11	Referred for COPD structured smoking assessment
9kf2.00	COPD structured smoking assessment declined - enh serv admin
9kf2.11	COPD structured smoking assessment declined
H3...00	Chronic obstructive pulmonary disease
H3...11	Chronic obstructive airways disease
H31..00	Chronic bronchitis
H310.00	Simple chronic bronchitis
H310z00	Simple chronic bronchitis NOS
H311.00	Mucopurulent chronic bronchitis
H311000	Purulent chronic bronchitis
H311100	Fetid chronic bronchitis
H311z00	Mucopurulent chronic bronchitis NOS
H312.00	Obstructive chronic bronchitis
H312000	Chronic asthmatic bronchitis
H312011	Chronic wheezy bronchitis
H312100	Emphysematous bronchitis
H312200	Acute exacerbation of chronic obstructive airways disease
H312z00	Obstructive chronic bronchitis NOS
H313.00	Mixed simple and mucopurulent chronic bronchitis
H31y.00	Other chronic bronchitis
H31y000	Chronic tracheitis
H31y100	Chronic tracheobronchitis
H31yz00	Other chronic bronchitis NOS
H31z.00	Chronic bronchitis NOS
H32..00	Emphysema
H320.00	Chronic bullous emphysema
H320000	Segmental bullous emphysema
H320100	Zonal bullous emphysema
H320200	Giant bullous emphysema
H320300	Bullous emphysema with collapse
H320z00	Chronic bullous emphysema NOS
H321.00	Panlobular emphysema
H322.00	Centrilobular emphysema
H32y.00	Other emphysema
H32y000	Acute vesicular emphysema
H32y100	Atrophic (senile) emphysema
H32y111	Acute interstitial emphysema
H32y200	MacLeod's unilateral emphysema
H32yz00	Other emphysema NOS
H32z.00	Emphysema NOS
H36..00	Mild chronic obstructive pulmonary disease
H37..00	Moderate chronic obstructive pulmonary disease
H38..00	Severe chronic obstructive pulmonary disease
H39..00	Very severe chronic obstructive pulmonary disease
H3y..00	Other specified chronic obstructive airways disease

Read Code	Description
H3y..11	Other specified chronic obstructive pulmonary disease
H3y0.00	Chronic obstruct pulmonary dis with acute lower resp infectn
H3y1.00	Chron obstruct pulmonary dis wth acute exacerbation, unspec
H3z..00	Chronic obstructive airways disease NOS
H3z..11	Chronic obstructive pulmonary disease NOS
H464.00	Chronic respiratory conditions due to chemical fumes
H464z00	Chronic respiratory conditions due to chemical fumes NOS
H581.00	Interstitial emphysema
H582.00	Compensatory emphysema
H591.00	Chronic respiratory failure
Hyu3.00	[X]Chronic lower respiratory diseases
Hyu3000	[X]Other emphysema
Hyu3100	[X]Other specified chronic obstructive pulmonary disease

**Supplementary Table 11.** Read codes used to identify peptic ulcer disease.

Read Code	Description
J102.00	Ulcer of oesophagus
J102000	Peptic ulcer of oesophagus
J102z00	Ulcer of oesophagus NOS
1956.00	Peptic ulcer symptoms
761J.11	Stomach ulcer operations
761J000	Closure of perforated gastric ulcer
761J111	Suture of ulcer of stomach NEC
7627000	Closure of perforated duodenal ulcer
J11..00	Gastric ulcer - (GU)
J11..11	Prepyloric ulcer
J11..12	Pyloric ulcer
J110.00	Acute gastric ulcer
J110000	Acute gastric ulcer without mention of complication
J110100	Acute gastric ulcer with haemorrhage
J110111	Bleeding acute gastric ulcer
J110200	Acute gastric ulcer with perforation
J110300	Acute gastric ulcer with haemorrhage and perforation
J110400	Acute gastric ulcer with obstruction
J110y00	Acute gastric ulcer unspecified
J110z00	Acute gastric ulcer NOS
J111.00	Chronic gastric ulcer
J111000	Chronic gastric ulcer without mention of complication
J111100	Chronic gastric ulcer with haemorrhage
J111111	Bleeding chronic gastric ulcer
J111200	Chronic gastric ulcer with perforation
J111211	Perforated chronic gastric ulcer
J111300	Chronic gastric ulcer with haemorrhage and perforation
J111400	Chronic gastric ulcer with obstruction
J111y00	Chronic gastric ulcer unspecified
J111z00	Chronic gastric ulcer NOS
J112.00	Anti-platelet induced gastric ulcer
J112z00	Anti-platelet induced gastric ulcer NOS
J113.00	Non steroidal anti inflammatory drug induced gastric ulcer
J113z00	Non steroidal anti inflammatory drug induced gastric ulc NOS
J11y.00	Unspecified gastric ulcer
J11y000	Unspecified gastric ulcer without mention of complication
J11y100	Unspecified gastric ulcer with haemorrhage
J11y200	Unspecified gastric ulcer with perforation
J11y300	Unspecified gastric ulcer with haemorrhage and perforation
J11y400	Unspecified gastric ulcer with obstruction
J11yy00	Unspec gastric ulcer; unspec haemorrhage and/or perforation
J11yz00	Unspecified gastric ulcer NOS

<b>Read Code</b>	<b>Description</b>
J11z.00	Gastric ulcer NOS
J11z.11	Gastric erosions
J11z.12	Multiple gastric ulcers
J12..00	Duodenal ulcer - (DU)
J120.00	Acute duodenal ulcer
J120000	Acute duodenal ulcer without mention of complication
J120100	Acute duodenal ulcer with haemorrhage
J120200	Acute duodenal ulcer with perforation
J120300	Acute duodenal ulcer with haemorrhage and perforation
J120400	Acute duodenal ulcer with obstruction
J120y00	Acute duodenal ulcer unspecified
J120z00	Acute duodenal ulcer NOS
J121.00	Chronic duodenal ulcer
J121000	Chronic duodenal ulcer without mention of complication
J121100	Chronic duodenal ulcer with haemorrhage
J121111	Bleeding chronic duodenal ulcer
J121200	Chronic duodenal ulcer with perforation
J121211	Perforated chronic duodenal ulcer
J121300	Chronic duodenal ulcer with haemorrhage and perforation
J121400	Chronic duodenal ulcer with obstruction
J121y00	Chronic duodenal ulcer unspecified
J121z00	Chronic duodenal ulcer NOS
J122.00	Duodenal ulcer disease
J123.00	Duodenal erosion
J124.00	Recurrent duodenal ulcer
J125.00	Anti-platelet induced duodenal ulcer
J125z00	Anti-platelet induced duodenal ulcer NOS
J126.00	Non steroidal anti inflammatory drug induced duodenal ulcer
J126z00	Non steroidal anti inflammatory drug induced duodenal ulcer NOS
J12y.00	Unspecified duodenal ulcer
J12y000	Unspecified duodenal ulcer without mention of complication
J12y100	Unspecified duodenal ulcer with haemorrhage
J12y200	Unspecified duodenal ulcer with perforation
J12y300	Unspecified duodenal ulcer with haemorrhage and perforation
J12y400	Unspecified duodenal ulcer with obstruction
J12yy00	Unspec duodenal ulcer; unspec haemorrhage and/or perforation
J12yz00	Unspecified duodenal ulcer NOS
J12z.00	Duodenal ulcer NOS
J13..00	Peptic ulcer - (PU) site unspecified
J13..11	Stress ulcer NOS
J130.00	Acute peptic ulcer
J130000	Acute peptic ulcer without mention of complication
J130100	Acute peptic ulcer with haemorrhage
J130200	Acute peptic ulcer with perforation

<b>Read Code</b>	<b>Description</b>
J130300	Acute peptic ulcer with haemorrhage and perforation
J130400	Acute peptic ulcer with obstruction
J130y00	Acute peptic ulcer unspecified
J130z00	Acute peptic ulcer NOS
J131..00	Chronic peptic ulcer
J131000	Chronic peptic ulcer without mention of complication
J131100	Chronic peptic ulcer with haemorrhage
J131200	Chronic peptic ulcer with perforation
J131300	Chronic peptic ulcer with haemorrhage and perforation
J131400	Chronic peptic ulcer with obstruction
J131y00	Chronic peptic ulcer unspecified
J131z00	Chronic peptic ulcer NOS
J13y..00	Unspecified peptic ulcer
J13y000	Unspecified peptic ulcer without mention of complication
J13y100	Unspecified peptic ulcer with haemorrhage
J13y200	Unspecified peptic ulcer with perforation
J13y300	Unspecified peptic ulcer with haemorrhage and perforation
J13y400	Unspecified peptic ulcer with obstruction
J13yy00	Unspec peptic ulcer; unspec haemorrhage and/or perforation
J13yz00	Unspecified peptic ulcer NOS
J13z..00	Peptic ulcer NOS
J14..00	Gastrojejunal ulcer (GJU)
J14..11	Anastomotic ulcer
J14..12	Gastrocolic ulcer
J14..13	Jejunal ulcer
J14..14	Marginal ulcer
J14..15	Stomal ulcer
J140..00	Acute gastrojejunal ulcer
J140000	Acute gastrojejunal ulcer without mention of complication
J140100	Acute gastrojejunal ulcer with haemorrhage
J140200	Acute gastrojejunal ulcer with perforation
J140300	Acute gastrojejunal ulcer with haemorrhage and perforation
J140400	Acute gastrojejunal ulcer with obstruction
J140y00	Acute gastrojejunal ulcer unspecified
J140z00	Acute gastrojejunal ulcer NOS
J141..00	Chronic gastrojejunal ulcer
J141000	Chronic gastrojejunal ulcer without mention of complication
J141100	Chronic gastrojejunal ulcer with haemorrhage
J141200	Chronic gastrojejunal ulcer with perforation
J141300	Chronic gastrojejunal ulcer with haemorrhage and perforation
J141400	Chronic gastrojejunal ulcer with obstruction
J141y00	Chronic gastrojejunal ulcer unspecified
J141z00	Chronic gastrojejunal ulcer NOS
J14y..00	Unspecified gastrojejunal ulcer

Read Code	Description
J14y000	Unspecified gastrojejunal ulcer without mention complication
J14y100	Unspecified gastrojejunal ulcer with haemorrhage
J14y200	Unspecified gastrojejunal ulcer with perforation
J14y300	Unspec gastrojejunal ulcer with haemorrhage and perforation
J14y400	Unspecified gastrojejunal ulcer with obstruction
J14yy00	Unspec gastrojejunal ulcer; unspec haemorrhage/perforation
J14yz00	Unspecified gastrojejunal ulcer NOS
J14z.00	Gastrojejunal ulcer NOS

**Supplementary Table 12.** Characteristics of the DKD and comparison cohort.

	DKD cohort (N=8416)		Comparison cohort (N=8416)	
	n	%	n	%
<b>Age (years)</b>				
<40	141	1.7	141	1.7
40–49	620	7.4	620	7.4
50–64	2506	29.8	2506	29.8
65–74	2812	33.4	2812	33.4
75–89	2337	27.8	2337	27.8
Mean (SD)	66.7	11.8	66.7	11.8
<b>Sex</b>				
Male	5251	62.4	5251	62.4
Female	3165	37.6	3165	37.6
<b>Smoking</b>				
Non-smoker	2624	31.2	2810	33.4
Smoker	1240	14.7	964	11.5
Ex-smoker	3793	45.1	3657	43.5
Missing	759	9.0	985	11.7
<b>Alcohol (units/week)</b>				
Non-drinker	1963	23.3	1723	20.5
1–2	2741	32.6	2787	33.1
3–15	2045	24.3	2153	25.6
16–24	413	4.9	487	5.8
≥25	522	6.2	555	6.6
Missing	732	8.7	711	8.4
<b>BMI (kg/m<sup>2</sup>)</b>				
<20	137	1.6	134	1.6
20–24	1069	12.7	1197	14.2
25–29	2660	31.6	2962	35.2
≥30	4499	53.5	4061	48.3
Missing	51	0.6	62	0.7
Mean (SD)	31.5	6.8	30.7	6.3
<b>Townsend index (quintile)</b>				
1st (least deprivation)	1541	18.3	1855	22.0
2nd	1657	19.7	1789	21.3
3rd	1733	20.6	1816	21.6
4th	1801	21.4	1614	19.2
5th (most deprivation)	1437	17.1	1135	13.5
Missing	247	2.9	207	2.5
<b>Glycemic control quality*</b>				
Always ≤8%	5139	61.1	5480	65.1
At some point >8%	2704	32.1	1655	19.7
Missing	573	6.8	1281	15.2
Mean (SD)	7.4	1.6	7.1)	1.4
<b>Comorbidities</b>				
Hypertension	6052	71.9	5511	65.5

	DKD cohort (N=8416)		Comparison cohort (N=8416)	
	n	%	n	%
<b>Age (years)</b>				
Hyperlipaemia	2862	34.0	2736	32.5
Heart failure	615	7.3	329	3.9
IHD	1862	22.1	1593	18.9
Atrial fibrillation	1013	12.0	594	7.1
Cerebrovascular disease	923	11.0	675	8.0
COPD	820	9.7	646	7.7
Peptic ulcer disease	688	8.2	598	7.1
Pancreatic disease	149	1.8	134	1.6
Liver disorders	402	4.8	332	3.9
Cancer	1386	16.5	1198	14.2
<b>GP visits*</b>				
<12	1476	17.5	2143	25.5
12–23	3749	44.5	4181	49.7
24–35	1884	22.4	1453	17.3
≥36	1307	15.5	639	7.6
<b>Referrals to secondary care*</b>				
None	1039	12.3	1243	14.8
1–6	4814	57.2	5265	62.6
≥7	2563	30.5	1908	22.7
<b>≥1 hospitalisation*</b>	1784	21.2	1392	16.5
<b>Lowest eGFR (mL/min/1.73m<sup>2</sup>)*</b>				
≥90	1515	18.0	1839	21.9
60–89	3089	36.7	4598	54.6
45–59	2084	24.8	878	10.4
30–44	691	8.2	241	2.9
15–29	202	2.4	61	0.7
<15	44		3	0.0
Missing	791	9.4	796	9.5
mean (sd)	68.7	22.0	77.6	20.1
<b>Medication use*</b>				
ACEI/ARB	6395	76.0	5099	60.6
MRA	330	3.9	163	1.9

\*In the year before study entry.

**Abbreviations:** ACE, angiotensin-converting enzyme; ARB, angiotensin receptor blocker; BMI, body mass index, COPD, chronic obstructive pulmonary disease; DKD, diabetic kidney disease; eGFR, estimated glomerular filtration rate; GP, general practitioner; IHD, ischaemic heart disease; MRA, mineralocorticoid receptor antagonist; SD, standard deviation

**Supplementary Table 13.** Hazard ratios (95% CI) for the association between antidiabetic medication and all-cause mortality among persons with type 2 diabetes (DKD and comparison cohorts).

Type 2 diabetes medication*	N	Deaths	Person-years	Incidence rate per 1000 person-years	Adjusted HR <sup>†</sup> (95% CI)	p
Metformin	11,147	1234	36,954	33.4	0.90 (0.83–0.99)	0.03
Sulphonylureas	5163	728	16,949	43.0	1.05 (0.95–1.15)	0.34
Insulin	1024	151	2902	52.0	1.37 (1.15–1.63)	<0.01
Glitazones	1527	182	6189	29.4	0.98 (0.84–1.14)	0.77
Gliptins	1339	84	3029	27.7	0.92 (0.73–1.15)	0.46
Meglitinides	57	7	221	31.6	0.95 (0.45–2.00)	0.89
GLP-1 receptor agonists	393	10	989	10.1	0.51 (0.27–0.95)	0.03
SGLT2 inhibitors	55	1	36	27.6	0.91 (0.13–6.48)	0.92

\*In the year before study entry.

†Adjusted for all the variables in Table 1.

Note: Reference group is not having a prescription for the respective medication in the year before study entry.

Abbreviations: CI, confidence interval; DKD, diabetic kidney disease; GLP-1, glucagon-like peptide-1; HR, hazard ratio; SGLT2, sodium-glucose co-transporter-2

**Supplementary Table 14.** Incidence rates of stage 5 CKD/ESRD per 1000 person-years among the DKD cohort, and HRs ratios (95% CI) for associations between person characteristics and risk of stage 5 CKD/ESRD.

Variable	N	Incidence rate per 1000 person-years	Person-years	Stage 5 CKD/ESRD	HR* (95% CI)	SHR* (95% CI)
<b>Smoking</b>						
Non-smoker	2856	7.10	10,280	73	1.0 (reference)	1.0 (reference)
Smoker	1312	4.90	4286	21	0.77 (0.46–1.27)	0.70 (0.42–1.15)
Ex-smoker	4156	7.00	15,282	107	0.88 (0.64–1.20)	0.90 (0.65–1.24)
Missing	851	13.65	879	12	1.95 (1.03–3.71)	0.90 (0.48–1.71)
<b>Alcohol (units/week)</b>						
Non-drinker	2141	7.42	7011	52	1.0 (reference)	1.0 (reference)
1–2	3017	7.40	9730	72	1.17 (0.81–1.70)	1.16 (0.79–1.71)
3–15	2214	6.17	7620	47	1.03 (0.68–1.56)	1.03 (0.68–1.56)
16–24	446	5.05	1583	8	1.01 (0.47–2.18)	1.00 (0.46–2.17)
≥25	561	8.41	1902	16	1.85 (1.02–3.36)	1.80 (0.98–3.30)
Missing	796	6.24	2883	18	0.93 (0.54–1.61)	0.92 (0.52–1.62)
<b>Further comorbidities</b>						
Cerebrovascular disease	1038	9.83	3,154	31	1.09 (0.74–1.61)	1.04 (0.71–1.52)
Atrial fibrillation	1145	7.99	3253	26	0.71 (0.46–1.12)	0.70 (0.45–1.09)
COPD	891	6.95	2447	17	0.75 (0.45–1.25)	0.67 (0.40–1.12)
Peptic ulcer disease	745	9.67	2274	22	1.13 (0.72–1.79)	1.15 (0.73–1.82)
Pancreatic disease	165	8.40	476	4	1.02 (0.37–2.79)	0.94 (0.33–2.71)
Liver disorders	433	9.18	1199	11	1.37 (0.73–2.58)	1.36 (0.71–2.58)

\*Adjusted for all the other variables in the table.

†In the year before study entry.

*Abbreviations:* CI, confidence interval; CeVD, cerebrovascular disease; CKD, chronic kidney disease; COPD, chronic obstructive pulmonary disease; HR, hazard ratio; SHR, sub-distribution hazard ratio

**Supplementary Table 15.** Incidence rates of stage 5 CKD/ESRD per 1000 person-years among the DKD cohort, and HRs (95% CI) for associations between BMI and risk of stage 5 CKD/ESRD.

BMI (kg/m <sup>2</sup> )	N	Incidence rate per 1000 person-years	Person-years	Stage 5 CKD/ESRD, n	Adjusted HR (95% CI)	Adjusted SHR (95% CI)
<20	148	17.75	394	7	1.49 (0.65–3.41)	1.41 (0.64–3.13)
20–24	1195	11.62	3614	42	1.0 (reference)	1.0 (reference)
25–29	2941	5.90	10,005	59	0.58 (0.39–0.88)	0.61 (0.40–0.93)
30–34	2531	6.98	8743	61	0.66 (0.44–1.01)	0.70 (0.46–1.08)
35–39	1384	6.02	4649	28	0.65 (0.39–1.08)	0.68 (0.41–1.12)
≥40	920	4.81	3119	15	0.55 (0.29–1.03)	0.55 (0.29–1.05)
Missing	56	4.92	203	1	0.34 (0.05–2.58)	0.32 (0.05–2.06)

\*Adjusted for all the other variables in the table.

†In the year before study entry.

Abbreviations: CI, confidence interval; HR, hazard ratio; SHR, sub-distribution hazard ratio

**Supplementary Table 16.** Incidence rates of stage 5 CKD/ESRD per 1000 person-years among the DKD cohort, and HR (95% CI) for associations between person characteristics and risk of stage 5 CKD/ESRD among males.

Variable	N	Incidence rate per 1000 person-years	Person-years	Stage 5 CKD/ESRD	HR* (95% CI)	SHR* (95% CI)
<b>Age (years)</b>						
<40	109	0	408	0	—	—
40–49	418	5.04	1589	8	1.0 (reference)	1.0 (reference)
50–64	1719	5.55	6129	34	0.58 (0.25–1.31)	0.59 (0.24–1.43)
65–74	1918	6.86	6558	45	0.54 (0.23–1.25)	0.52 (0.20–1.33)
75–89	1580	9.71	4430	43	0.60 (0.25–1.45)	0.48 (0.18–1.26)
<b>BMI (<math>\text{kg}/\text{m}^2</math>)</b>						
<20	54	5.79	173	1	0.33 (0.04–2.56)	0.37 (0.05–2.51)
20–24	729	12.74	2119	27	1.0 (reference)	1.0 (reference)
25–29	1960	5.70	6672	38	0.57 (0.34–0.96)	0.62 (0.36–1.08)
≥30	2970	6.38	10031	64	0.66 (0.40–1.09)	0.75 (0.45–1.25)
Missing	31	0	119	0	—	—
<b>Townsend index (quintile)</b>						
1st (least deprivation)	1126	5.01	3795	19	1.0 (reference)	1.0 (reference)
2nd	1212	5.69	3867	22	0.94 (0.49–1.78)	0.90 (0.47–1.73)
3rd	1187	6.14	4069	25	1.34 (0.73–2.45)	1.25 (0.67–2.31)
4th	1169	8.62	3942	34	1.78 (1.00–3.18)	1.60 (0.90–2.84)
5th (most deprivation)	889	8.62	2899	25	2.18 (1.18–4.06)	1.94 (1.05–3.57)
Missing	161	9.22	542	5	1.68 (0.60–4.66)	1.71 (0.66–4.43)
<b>Glycemic control quality<sup>†</sup></b>						
Always ≤8%	3469	6.83	11566	79	1.0 (reference)	1.0 (reference)
At some point >8%	1921	5.58	6096	34	0.99 (0.63–1.55)	0.96 (0.61–1.53)
Missing	354	11.71	1452	17	1.85 (1.05–3.26)	1.64 (0.91–2.95)
<b>Comorbidities</b>						
Hypertension	4105	7.38	13684	101	1.12 (0.72–1.76)	1.11 (0.70–1.78)
Hyperlipaemia	1943	5.12	6444	33	0.67 (0.44–1.01)	0.68 (0.45–1.03)
Heart failure	475	13.85	1227	17	1.45 (0.77–2.71)	1.37 (0.75–2.49)
IHD	1485	8.42	4752	40	1.12 (0.74–1.70)	1.11 (0.73–1.68)
Cancer	929	15.46	2523	39	2.24 (1.48–3.38)	1.92 (1.26–2.91)
<b>Lowest eGFR (<math>\text{mL}/\text{min}/1.73\text{m}^2</math>)<sup>†</sup></b>						
≥90	1052	1.42	3514	5	1.0 (reference)	1.0 (reference)
60–89	2201	3.44	7258	25	2.64 (0.97–7.14)	2.63 (0.92–7.47)
45–59	1423	9.71	5047	49	7.09 (2.64–19.10)	6.88 (2.43–19.45)

Variable	N	Incidence rate per 1000 person-years	Person-years	Stage 5 CKD/ESRD	HR* (95% CI)	SHR* (95% CI)
30–44	431	17.80	1349	24	11.17 (3.93–31.74)	10.52 (3.58–30.95)
15–29	102	74.57	255	19	49.83 (16.80–147.76)	43.85 (14.14–135.98)
<15	0	0	0	0		—
Missing	535	4.73	1691	8	4.06 (1.27–12.97)	3.94 (1.21–12.88)
<b>GP visits<sup>†</sup></b>						
<12	1094	3.72	4035	15	1.0 (reference)	1.0 (reference)
12–23	2590	5.34	9173	49	1.19 (0.65–2.16)	1.19 (0.64–2.23)
24–35	1228	9.55	3771	36	1.83 (0.94–3.54)	1.78 (0.89–3.57)
≥36	832	14.06	2134	30	2.54 (1.21–5.32)	2.26 (1.01–5.06)
<b>Referrals to secondary care<sup>†</sup></b>						
None	694	6.54	2753	18	1.0 (reference)	1.0 (reference)
1–6	3315	6.13	11581	71	1.00 (0.58–1.72)	0.99 (0.58–1.71)
≥7	1735	8.58	4780	41	0.80 (0.42–1.52)	0.76 (0.38–1.51)
<b>&gt;1 hospitalisation<sup>†</sup></b>	1243	10.70	3552	38	1.14 (0.74–1.77)	1.13 (0.71–1.78)
<b>Anti-diabetic medication<sup>†</sup></b>						
None	1051	5.03	3776	19	1.0 (reference)	1.0 (reference)
1 class of non-insulin glucose-lowering medication	2073	8.25	7148	59	1.94 (1.14–3.30)	1.96 (1.15–3.33)
2 classes of non-insulin glucose-lowering medication	1576	5.72	5249	30	1.45 (0.78–2.70)	1.43 (0.74–2.76)
>2 classes of non-insulin glucose-lowering medication	622	6.25	1759	11	2.10 (0.93–4.74)	2.04 (0.89–4.68)
Insulin	422	9.31	1182	11	2.23 (0.99–5.01)	2.08 (0.93–4.65)
<b>Other medication<sup>†</sup></b>						
ACEI/ARB	4485	7.13	14999	107	1.16 (0.70–1.90)	1.23 (0.74–2.04)
MRA	262	11.84	591	7	0.82 (0.34–1.98)	0.69 (0.28–1.70)
<b>Time from diabetes diagnosis to DKD (years)</b>						
0–1	176	3.80	790	3	1.0 (reference)	1.0 (reference)
1–2	534	7.88	2285	18	1.59 (0.46–5.48)	1.78 (0.49–6.43)
2–3	670	8.79	2843	25	1.53 (0.45–5.22)	1.76 (0.51–6.06)
3–4	698	7.66	2874	22	1.20 (0.35–4.16)	1.34 (0.39–4.67)
4–5	645	5.16	2520	13	0.84 (0.23–3.07)	0.89 (0.24–3.31)
>5	3021	6.28	7802	49	1.08 (0.32–3.64)	1.10 (0.33–3.72)

\*Adjusted for all the other variables in the table. <sup>†</sup>In the year before study entry.

*Abbreviations:* ACE, angiotensin-converting enzyme; ARB, angiotensin receptor blocker; BMI, body mass index, CI, confidence interval, CKD, chronic kidney disease; CV, cardiovascular; DKD, diabetic kidney disease; eGFR, estimated glomerular filtration rate; ESRD, end-stage renal disease GP, general practitioner; HR, hazard ratio; IHD, ischaemic heart disease; MRA, mineralocorticoid receptor antagonist; SHR, sub-distribution hazard ratio

**Supplementary Table 17.** Incidence rates of stage 5 CKD/ESRD per 1000 person-years among the DKD cohort, and HR (95% CI) for associations between person characteristics and risk of stage 5 CKD/ESRD among females.

Variable	N	Incidence rate per 1000 person-years	Person-years	Stage 5 CKD/ESRD	HR* (95% CI)	SHR* (95% CI)
<b>Age (years)</b>						
<40	49	0	186	0	—	—
40–49	217	2.46	813	2	1.0 (reference)	1.0 (reference)
50–64	878	4.28	3275	14	1.27 (0.27–5.88)	1.20 (0.26–5.65)
65–74	1110	9.13	3944	36	2.32 (0.51–10.59)	2.13 (0.44–10.30)
75–89	1177	9.13	3396	31	1.80 (0.37–8.72)	1.50 (0.30–7.50)
<b>BMI (kg/m<sup>2</sup>)</b>						
<20	94	27.07	222	6	3.06 (1.04–8.98)	2.50 (0.90–6.96)
20–24	466	10.03	1495	15	1.0 (reference)	1.0 (reference)
25–29	981	6.30	3333	21	0.60 (0.30–1.21)	0.62 (0.30–1.29)
≥30	1865	6.17	6480	40	0.65 (0.34–1.24)	0.67 (0.34–1.31)
Missing	25	11.91	84	1	0.67 (0.07–6.01)	0.68 (0.09–5.13)
<b>Townsend index (quintile)</b>						
1st (least deprivation)	546	4.19	1669	7	1.0 (reference)	1.0 (reference)
2nd	632	8.27	2178	18	1.95 (0.80–4.75)	2.08 (0.84–5.11)
3rd	704	7.25	2346	17	1.72 (0.69–4.28)	1.77 (0.71–4.43)
4th	792	8.76	2740	24	2.12 (0.89–5.05)	2.18 (0.92–5.13)
5th (most deprivation)	656	6.34	2366	15	1.47 (0.58–3.73)	1.61 (0.62–4.21)
Missing	101	6.33	316	2	1.63 (0.32–8.31)	1.75 (0.35–8.70)
<b>Glycemic control quality<sup>†</sup></b>						
Always ≤8%	2165	6.76	7253	49	1.0 (reference)	1.0 (reference)
At some point >8%	1012	8.24	3275	27	1.39 (0.81–2.37)	1.34 (0.83–2.16)
Missing	254	6.45	1086	7	0.81 (0.35–1.91)	0.77 (0.32–1.82)
<b>Comorbidities</b>						
Hypertension	2504	7.67	8471	65	1.23 (0.69–2.18)	1.26 (0.71–2.24)
Hyperlipaemia	1211	6.70	4180	28	0.97 (0.60–1.58)	0.98 (0.61–1.55)
Heart failure	216	15.24	591	9	1.43 (0.63–3.24)	1.32 (0.59–2.95)
IHD	620	10.50	2000	21	1.23 (0.70–2.14)	1.21 (0.68–2.15)
Cancer	610	11.34	1764	20	1.72 (1.01–2.92)	1.58 (0.91–2.73)
<b>Lowest eGFR (mL/min/1.73m<sup>2</sup>)<sup>†</sup></b>						
≥90	542	1.70	1767	3	1.0 (reference)	1.0 (reference)
60–89	1189	3.80	3947	15	1.63 (0.45–5.95)	1.62 (0.42–6.25)
45–59	891	9.83	3357	33	3.64 (1.04–12.75)	3.83 (1.03–14.26)

Variable	N	Incidence rate per 1000 person-years	Person-years	Stage 5 CKD/ESRD	HR* (95% CI)	SHR* (95% CI)
30–44	365	13.17	1139	15	4.77 (1.25–18.18)	4.32 (1.02–18.27)
15–29	122	28.02	357	10	10.77 (2.67–43.43)	9.64 (2.18–42.58)
<15	0	0	0	0		
Missing	322	6.68	1048	7	3.25 (0.79–13.44)	3.37 (0.74–15.35)
<b>GP visits<sup>†</sup></b>						
<12	521	3.08	1951	6	1.0 (reference)	1.0 (reference)
12–23	1495	7.31	5336	39	2.53 (1.04–6.16)	2.47 (1.06–5.73)
24–35	839	8.46	2720	23	2.24 (0.85–5.95)	2.19 (0.85–5.64)
≥36	576	9.33	1608	15	2.06 (0.69–6.12)	1.84 (0.59–5.70)
<b>Referrals to secondary care<sup>†</sup></b>						
None	427	8.98	1783	16	1.0 (reference)	1.0 (reference)
1–6	1937	5.57	6641	37	0.51 (0.27–0.97)	0.50 (0.25–1.00)
≥7	1067	9.40	3191	30	0.73 (0.35–1.51)	0.70 (0.33–1.49)
<b>&gt;1 hospitalisation<sup>†</sup></b>	697	9.41	2126	20	1.09 (0.62–1.94)	1.02 (0.57–1.82)
<b>Anti-diabetic medication<sup>†</sup></b>						
None	668	6.06	2312	14	1.0 (reference)	1.0 (reference)
1 class of non-insulin glucose-lowering medication	1321	6.63	4377	29	1.30 (0.66–2.57)	1.34 (0.68–2.64)
2 classes of non-insulin glucose-lowering medication	899	8.41	3211	27	1.61 (0.77–3.34)	1.77 (0.87–3.61)
>2 classes of non-insulin glucose-lowering medication	274	6.57	914	6	1.60 (0.55–4.65)	1.74 (0.63–4.77)
Insulin	269	8.75	800	7	1.29 (0.45–3.74)	1.42 (0.51–4.01)
<b>Other medication<sup>†</sup></b>						
ACEI/ARB	2493	7.53	8636	65	1.06 (0.60–1.90)	1.11 (0.63–1.96)
MRA	108	17.74	282	5	1.26 (0.44–3.60)	1.28 (0.47–3.50)
<b>Time from diabetes diagnosis to DKD (years)</b>						
0–1	109	12.69	473	6	1.0 (reference)	1.0 (reference)
1–2	277	5.25	1143	6	0.46 (0.14–1.56)	0.41 (0.12–1.39)
2–3	359	7.16	1677	12	0.53 (0.17–1.61)	0.50 (0.16–1.53)
3–4	419	7.12	1686	12	0.60 (0.20–1.82)	0.48 (0.17–1.34)
4–5	415	8.80	1591	14	0.57 (0.18–1.74)	0.50 (0.17–1.47)
>5	1852	6.54	5045	33	0.48 (0.17–1.40)	0.41 (0.15–1.10)

\*Adjusted for all the other variables in the table. <sup>†</sup>In the year before study entry.

*Abbreviations:* ACE, angiotensin-converting enzyme; ARB, angiotensin receptor blocker; BMI, body mass index, CI, confidence interval, CKD, chronic kidney disease; CV, cardiovascular; DKD, diabetic kidney disease; eGFR, estimated glomerular filtration rate; ESRD, end-stage renal disease GP, general practitioner; HR, hazard ratio; IHD, ischaemic heart disease; MRA, mineralocorticoid receptor antagonist; SHR, sub-distribution hazard ratio

**Supplementary Table 18.** Incidence rates of stage 5 CKD/ESRD per 1000 person-years among the DKD cohort, and HRs ratios (95% CI) for associations between person characteristics and risk of stage 5 CKD/ESRD (adjusted for history of anaemia).

Variable	N	Incidence rate per 1000 person-years	Person-years	Stage 5 CKD/ESRD	HR* (95% CI)	SHR* (95% CI)
<b>Age (years)</b>						
<40	158	0	594	0		
40–49	635	4.16	2402	10	1.0 (reference)	1.0 (reference)
50–64	2597	5.1	9404	48	0.77 (0.38–1.56)	0.76 (0.36–1.62)
65–74	3028	7.71	10,502	81	0.88 (0.43–1.80)	0.82 (0.37–1.79)
75–89	2757	9.45	7827	74	0.84 (0.40–1.79)	0.68 (0.30–1.55)
<b>Sex</b>						
Male	5744	6.8	19,114	130	1.0 (reference)	1.0 (reference)
Female	3431	7.15	11,614	83	0.85 (0.63–1.16)	0.9 (0.66–1.22)
<b>BMI (kg/m<sup>2</sup>)</b>						
<20	148	17.75	394	7	1.48 (0.65–3.39)	1.41 (0.63–3.13)
20–24	1195	11.62	3614	42	1.0 (reference)	1.0 (reference)
25–29	2941	5.9	10,005	59	0.58 (0.39–0.88)	0.61 (0.40–0.93)
≥30	4835	6.3	16,511	104	0.64 (0.44–0.95)	0.68 (0.46–1.00)
Missing	56	4.92	203	1	0.34 (0.05–2.57)	0.32 (0.05–2.03)
<b>Townsend index (quintile)</b>						
1st (least deprivation)	1672	4.76	5464	26	1.0 (reference)	1.0 (reference)
2nd	1844	6.62	6044	40	1.33 (0.81–2.20)	1.34 (0.81–2.20)
3rd	1891	6.55	6415	42	1.49 (0.91–2.44)	1.43 (0.87–2.35)
4th	1961	8.68	6682	58	1.95 (1.21–3.12)	1.88 (1.18–2.99)
5th (most deprivation)	1545	7.6	5265	40	1.76 (1.06–2.93)	1.71 (1.03–2.84)
Missing	262	8.15	859	7	1.79 (0.76–4.18)	1.84 (0.80–4.23)
<b>Glycemic control quality<sup>†</sup></b>						
Always ≤8%	5634	6.8	18,819	128	1.0 (reference)	1.0 (reference)
At some point >8%	2933	6.51	9371	61	1.07 (0.76–1.51)	1.06 (0.75–1.49)
Missing	608	9.46	2538	24	1.31 (0.82–2.08)	1.22 (0.75–1.96)
<b>Comorbidities</b>						
Hypertension	6609	7.49	22,155	166	1.21 (0.85–1.72)	1.22 (0.86–1.74)
Hyperlipaemia	3154	5.74	10,623	61	0.76 (0.56–1.03)	0.77 (0.57–1.04)
Heart failure	691	14.3	1818	26	1.50 (0.92–2.43)	1.37 (0.86–2.20)
IHD	2105	9.03	6753	61	1.17 (0.84–1.62)	1.14 (0.82–1.59)
Cancer	1539	13.76	4287	59	1.98 (1.44–2.73)	1.75 (1.27–2.42)
Anemia	1074	10.4	3173	33	1.05 (0.71–1.55)	1.04 (0.69–1.57)
<b>Lowest eGFR (mL/min/1.73m<sup>2</sup>)<sup>†</sup></b>						
≥90	1594	1.51	5281	8	1.0 (reference)	1.0 (reference)

Variable	N	Incidence rate per 1000 person-years	Person-years	Stage 5 CKD/ESRD	HR* (95% CI)	SHR* (95% CI)
60–89	3390	3.57	11,205	40	2.19 (1.00–4.79)	2.22 (0.98–5.02)
45–59	2314	9.76	8404	82	5.45 (2.51–11.82)	5.59 (2.47–12.62)
30–44	796	15.68	2487	39	8.04 (3.54–18.25)	7.72 (3.28–18.13)
15–29	224	47.41	612	29	25.72 (11.04–59.92)	23.22 (9.43–57.20)
<15	0	0	0	0	—	—
Missing	857	5.48	2740	15	3.92 (1.61–9.54)	3.88 (1.55–9.70)
<b>GP visits<sup>†</sup></b>						
<12	1615	3.51	5986	21	1.0 (reference)	1.0 (reference)
12–23	4085	6.07	14,509	88	1.55 (0.95–2.52)	1.54 (0.94–2.50)
24–35	2067	9.09	6491	59	1.96 (1.14–3.37)	1.89 (1.10–3.27)
≥36	1408	12.03	3742	45	2.22 (1.21–4.07)	1.94 (1.02–3.71)
<b>Referrals to secondary care<sup>†</sup></b>						
None	1121	7.5	4536	34	1.0 (reference)	1.0 (reference)
1–6	5252	5.93	18,221	108	0.77 (0.51–1.15)	0.75 (0.50–1.14)
≥7	2802	8.91	7971	71	0.75 (0.46–1.21)	0.72 (0.43–1.20)
<b>&gt;1 hospitalisation<sup>†</sup></b>	1940	10.21	5678	58	1.13 (0.80–1.59)	1.09 (0.76–1.56)
<b>Anti-diabetic medication<sup>†</sup></b>						
None	1719	5.42	6088	33	1.0 (reference)	1.0 (reference)
1 class of non-insulin glucose-lowering medication	3394	7.64	11,525	88	1.80 (1.19–2.71)	1.82 (1.20–2.74)
2 classes of non-insulin glucose-lowering medication	2475	6.74	8460	57	1.65 (1.04–2.63)	1.72 (1.07–2.76)
>2 classes of non-insulin glucose-lowering medication	896	6.36	2673	17	2.09 (1.10–3.96)	2.13 (1.13–4.01)
Insulin	691	9.08	1982	18	1.99 (1.06–3.74)	1.96 (1.07–3.57)
<b>Other medication<sup>†</sup></b>						
ACEI/ARB	6978	7.28	23,635	172	1.06 (0.73–1.53)	1.12 (0.77–1.62)
MRA	370	13.75	873	12	0.94 (0.49–1.81)	0.84 (0.43–1.65)
<b>Time from diabetes diagnosis to DKD (years)</b>						
0–1	285	7.13	1263	9	1.0 (reference)	1.0 (reference)
1–2	811	7	3428	24	0.86 (0.39–1.89)	0.89 (0.41–1.96)
2–3	1029	8.19	4520	37	0.92 (0.43–1.95)	0.96 (0.46–2.02)
3–4	1117	7.46	4559	34	0.77 (0.36–1.66)	0.75 (0.35–1.58)
4–5	1060	6.57	4110	27	0.66 (0.30–1.45)	0.64 (0.29–1.42)
>5	4873	6.38	12,847	82	0.66 (0.31–1.38)	0.61 (0.30–1.25)

\*Adjusted for all the other variables in the table.

<sup>†</sup>In the year before study entry.

**Abbreviations:** ACE, angiotensin-converting enzyme; ARB, angiotensin receptor blocker; BMI, body mass index, CI, confidence interval, CKD, chronic kidney disease; CV, cardiovascular; DKD, diabetic kidney disease; eGFR, estimated glomerular filtration rate; ESRD, end-stage renal disease GP, general practitioner; HR, hazard ratio; IHD, ischaemic heart disease; MRA, mineralocorticoid receptor antagonist; SHR, sub-distribution hazard ratio