

Supplement

Appendix 1. Quality assessment indicators for CHCG

CHCG: Community HealthCare Group

NHIA: National Health Insurance Administration (Taiwan)

For each scoring item failed, the score is calculated by the proportion of achievement of the benchmark. The quality assessment is passed if the total score reaches 90 out of 100 (full score).

- 1 Management indicators (weighting = 30%)
 - 1.1 Registration of all NHIA-assigned patients; must be 100%.
 - 1.2 Participation once a month in the case discussion seminar, the combined care clinic, the community healthcare education, or the ward round in backup hospital(s).
 - 1.3 Providing a twenty-four hour consultation hotline for NHIA-assigned patients (tested 6 times per year)
- 2 Clinical indicators (weighting = 40%)
 - 2.1 Rate of emergency department visits (excluding trauma): should be lower than the median of all eligible patients selected by NHIA.
 - 2.2 Rate of hospitalization due to pneumonia, coronary artery disease, diabetes related complications, chronic obstructive pulmonary disease, or urinary tract infection: should be lower than the median of all eligible patients selected by NHIA.
 - 2.3 Rate of needle injection (excluding insulin injection and vaccination): should be lower than the median of all eligible patients selected by NHIA.
 - 2.4 Rate of antibiotics use: should be lower than the median of all eligible patients selected by NHIA.
- 3 Feedbacks from participants (weighting = 30%)
 - 3.1 Patient satisfaction survey by phone: should be higher than 80/100
 - 3.2 Compliance of healthcare policies
 - 3.2.1 Rate of providing adult health examination for patients over 40: should be higher than the median of all eligible patients selected by NHIA.
 - 3.2.2 Rate of providing Pap smear for women over 30: should be higher than the median of all eligible patients selected by NHIA.
 - 3.2.3 Rate of providing influenza vaccination for patients over 65: should be higher than the median of all eligible patients selected by NHIA.

Appendix 2. Diagnostic codes used in this study

	Disease	ICD-9-CM	ICD-10-CM
Ambulatory care sensitive conditions	Chronic obstructive pulmonary disease / Asthma	490-496	J40-J47
	Diabetes	250	E10, E11, E13
	Heart failure / pulmonary edema	428, 518.4	I50, J81
Diagnoses of other comorbidities	Hyperlipidemia	272	E78
	Atherosclerosis	440	I70
	Atrial fibrillation	427	I48
	Coronary artery disease	414	I25
	Embolism	444	I74
	Thyroid disorders	240-246	E00-E07, E35
	Chronic hepatitis B or C	571.4, 070.20, 070.22, 070.30, 070.32, V02.61, 070.41, 070.44, 070.51, 070.54, V02.62	B18, K73.8, K73.9
	Liver cirrhosis	571.2, 571.5, 571.6	K70.3, K74.0, K74.3-K74.6
	Gout	274	M10
	Chronic kidney disease	403.01, 403.11, 403.91, 404.02, 404.03, 404.12, 404.13, 404.92, 404.93, 585, V45.1, V56	N18, I12.0, I13.11, I13.2, Z91.15, Z99.2, Z49
	Benign prostate hyperplasia	600	N40, N42.83
	Anemia	280-285	D50-D64, D47.4
	Osteoporosis	733.0, 733.1	M80, M81
	Depression	296.2, 296.3, 298.0, 300.4, 309.0, 309.1, 293.83, 296.90, 309.28, 296.82, 311	F32, F33, F34.1, F43.21, F43.23, F06.30, F06.31, F06.32, F39
	Seizure / Epilepsy	345	G40, G41
	Hypertension	401-404	I10-I11
	Angina	413, 414.0, 414.8	I20, I23, I24
Diagnoses for Charlson comorbidity index	Myocardial infarction	410, 412	I21, I22, I252
	Congestive heart failure	428	I50
	Peripheral vascular disease	441, 443.9, 785.4, V43.4	I71, I790, I739, I96, Z958, Z959
	Cerebral vascular accident	430-438	I60, I61, I62, I63, I65, I66, G450, G451, G452, G458, G459, G46, I64, G454, I670, I671, I672, I674, I675, I676, I677, I678, I679, I681, I682, I688, I69
	Dementia	290	F00, F01, F02, F051
	Pulmonary disease	490, 491, 492, 493, 494, 495, 496, 500, 501, 502, 503, 504, 505	J40, J41, J42, J44, J43, J45, J46, J47, J67, J44, J60, J61, J62, J63, J66, J64, J65
	Connective tissue disorder	710.0, 710.1, 710.4, 714.0, 714.1, 714.2, 714.81, 517.1, 725	M32, M34, M332, M053, M058, M059, M060, M063, M069, M050, M052, M051, M353
	Peptic ulcer	531, 532, 533, 534	K25, K26, K27, K28
	Liver disease	571.2, 571.4, 571.5, 571.6	K702, K703, K73, K717, K740, K742, K746, K743, K744, K745
	Diabetes	250	E109, E119, E139, E149, E101, E111, E131, E141, E105, E115, E135, E145
	Diabetes complications	250.4, 250.5, 250.6	E102, E112, E132, E142, E103, E113, E133, E143, E104, E114, E134, E144
	Paraplegia	342, 344.1	G81, G041, G820, G821, G822
	Renal disease	582, 583.0, 583.1, 583.2, 583.3, 583.5, 583.6, 583.7, 583.4, 585, 586, 588	N03, N052, N053, N054, N055, N056, N072, N073, N074, N01, N18, N19, N25
	Cancer	14, 15, 16, 18, 170, 171, 172, 174, 175, 176, 179, 190, 191, 192, 193, 194, 195.0, 195.1, 195.2, 195.3, 195.4, 195.5, 195.8, 200, 201, 202, 203, 204, 205, 206, 207, 208	C0, C1, C2, C3, C40, C41, C43, C45, C46, C47, C48, C49, C5, C6, C70, C71, C72, C73, C74, C75, C76, C80, C81, C82, C83, C84, C85, C883, C887, C889, C900, C901, C91, C92, C93, C940, C941, C942, C943, C9451, C947, C95, C96
	Metastatic cancer	196, 197, 198, 199.0, 199.1	C77, C78, C79, C80
	Severe liver disease	572.2, 572.3, 572.4, 572.8	K729, K766, K767, K721
	Acquired immune deficiency syndrome	042	B20, B21, B22, B23, B24
Diagnosis definition for comorbidities: Outpatient department _2 in the previous one year			

Appendix 3. Characteristics of study base at enrolment

	FPICP Participants					Non-participants				
Fiscal year	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Number of observation	1,304,979	1,947,402	1,823,209	2,011,578	2,316,114	2,634,985	3,355,140	3,119,420	3,302,801	3,021,262
Sex										
Female	704,689 (54.0%)	1,053,544 (54.1%)	975,417 (53.5%)	1,080,217 (53.7%)	1,241,437 (53.6%)	1,399,177 (53.1%)	1,791,645 (53.4%)	1,634,576 (52.4%)	1,743,879 (52.8%)	1,613,354 (53.4%)
Male	600,290 (46.0%)	893,858 (45.9%)	847,792 (46.5%)	933,361 (46.3%)	1,074,677 (46.4%)	1,235,808 (46.9%)	1,563,495 (46.6%)	1,484,844 (47.6%)	1,558,922 (47.2%)	1,407,908 (46.6%)
Age (year)*										
5-10	143,879 (11.0%)	209,173 (10.7%)	174,461 (9.6%)	198,595 (9.9%)	222,703 (9.6%)	268,352 (10.2%)	346,591 (10.3%)	268,860 (8.6%)	271,793 (8.2%)	239,933 (7.9%)
10-20	115,103 (8.8%)	215,448 (11.1%)	201,301 (11.0%)	230,627 (11.5%)	252,397 (10.9%)	228,384 (8.7%)	321,579 (9.6%)	323,927 (10.4%)	313,078 (9.5%)	303,073 (10.0%)
20-30	80,572 (6.2%)	133,871 (6.9%)	111,195 (6.1%)	140,939 (7.0%)	155,892 (6.7%)	159,869 (6.1%)	200,094 (6.0%)	158,724 (5.1%)	168,580 (5.1%)	161,008 (5.3%)
30-40	138,123 (10.6%)	219,632 (11.3%)	187,881 (10.3%)	230,627 (11.5%)	259,820 (11.2%)	256,932 (9.8%)	318,006 (9.5%)	275,338 (8.8%)	302,757 (9.2%)	287,288 (9.5%)
40-50	174,093 (13.3%)	261,466 (13.4%)	231,975 (12.7%)	260,523 (13.0%)	291,989 (12.6%)	319,738 (12.1%)	385,895 (11.5%)	349,841 (11.2%)	371,565 (11.3%)	344,114 (11.4%)
50-60	215,818 (16.5%)	315,851 (16.2%)	302,910 (16.6%)	335,263 (16.7%)	381,070 (16.5%)	425,366 (16.1%)	528,819 (15.8%)	492,370 (15.8%)	536,705 (16.3%)	486,180 (16.1%)
60-70	165,460 (12.7%)	242,641 (12.5%)	241,561 (13.2%)	277,606 (13.8%)	351,376 (15.2%)	356,851 (13.5%)	468,076 (14.0%)	437,302 (14.0%)	540,146 (16.4%)	524,064 (17.3%)
70-80	155,389 (11.9%)	204,990 (10.5%)	207,052 (11.4%)	207,137 (10.3%)	249,923 (10.8%)	348,286 (13.2%)	443,064 (13.2%)	427,584 (13.7%)	481,658 (14.6%)	423,040 (14.0%)
80-90	99,276 (7.6%)	123,412 (6.3%)	139,952 (7.7%)	111,043 (5.5%)	131,147 (5.7%)	231,239 (8.8%)	292,994 (8.7%)	327,167 (10.5%)	271,793 (8.2%)	217,834 (7.2%)

over 90	17,266 (1.4%)	20,918 (1.1%)	24,921 (1.4%)	19,218 (0.8%)	19,797 (0.8%)	39,968 (1.5%)	50,022 (1.4%)	58,307 (1.9%)	44,726 (1.2%)	34,728 (1.3%)
Monthly Income†‡										
Level 1 (high)	441,083 (33.8%)	669,906 (34.4%)	627,184 (34.4%)	710,087 (35.3%)	826,853 (35.7%)	880,085 (33.4%)	1,137,392 (33.9%)	1,066,842 (34.2%)	1,155,981 (35.0%)	1,078,591 (35.7%)
Level 2 (medium)	480,232 (36.8%)	703,012 (36.1%)	663,648 (36.4%)	710,087 (35.3%)	817,588 (35.3%)	998,659 (37.9%)	1,258,178 (37.5%)	1,179,141 (37.8%)	1,222,036 (37.0%)	1,102,761 (36.5%)
Level 3 (low)	383,664 (29.4%)	574,484 (29.5%)	532,377 (29.2%)	591,404 (29.4%)	671,673 (29.0%)	756,241 (28.7%)	959,570 (28.6%)	873,437 (28.0%)	924,784 (28.0%)	839,910 (27.8%)
Urbanization‡										
Level 1 (high)	288,400 (22.1%)	447,902 (23.0%)	421,161 (23.1%)	470,709 (23.4%)	528,074 (22.8%)	685,096 (26.0%)	848,850 (25.3%)	789,213 (25.3%)	852,123 (25.8%)	797,613 (26.4%)
Level 2 (medium)	619,865 (47.5%)	923,069 (47.4%)	856,908 (47.0%)	957,511 (47.6%)	1,100,154 (47.5%)	1,111,964 (42.2%)	1,449,420 (43.2%)	1,341,351 (43.0%)	1,440,021 (43.6%)	1,326,334 (43.9%)
Level 3 (low)	396,714 (30.4%)	576,431 (29.6%)	545,140 (29.9%)	583,358 (29.0%)	687,886 (29.7%)	837,925 (31.8%)	1,056,870 (31.5%)	988,856 (31.7%)	1,010,657 (30.6%)	897,315 (29.7%)

FPICP, Taiwan's Family Practice Integrated Care Project.

* Age at enrollment

† Counted in New Taiwan Dollar (NTD)

‡ Categorized by tertiles

Appendix 4. Comorbidities and utilization of medical resource among patients with ACSC, by FPICP participation

	FPICP Participants					Non-participants				
Fiscal year	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Number of observation	193,098	287,640	295,499	284,819	366,047	374,464	538,477	522,685	587,682	481,600
CCI										
High (>2)	24,403 (12.6)	35,532 (12.4)	41,504 (14.0)	38,240 (13.4)	52,656 (14.4)	53,782 (14.4)	71,895 (13.4)	78,108 (14.9)	93,334 (15.9)	76,019 (15.8)
Low (0-2)	168,695 (87.4)	252,108 (87.6)	253,995 (86.0)	246,579 (86.6)	313,391 (85.6)	320,682 (85.6)	466,582 (86.6)	444,577 (85.1)	494,348 (84.1)	405,581 (84.2)
Clinic / outpatient care										
Number of visits / year	17.1 (14.0)	14.3 (13.0)	13.4 (12.8)	13.3 (12.5)	12.6 (12.1)	19.3 (15.5)	16.5 (14.5)	14.9 (14.3)	14.2 (13.7)	14.0 (13.3)
Medical cost / year (point)*	11,515 (19,506)	9,559 (19,743)	9,221 (23,560)	9,568 (23,877)	9,458 (67,589)	13,094 (22,212)	11,278 (44,407)	10,412 (29,223)	10,518 (26,420)	10,655 (34,250)
Emergency care										
Number of visits / year	0.53 (1.41)	0.49 (1.39)	0.47 (1.32)	0.43 (1.94)	0.43 (1.49)	0.57 (1.49)	0.54 (1.55)	0.52 (1.40)	0.46 (1.39)	0.45 (1.44)
Medical cost / year (point)	1,427 (5,002)	1,321 (4,917)	1,349 (5,213)	1,268 (5,141)	1,365 (5,670)	1,670 (15,513)	1,511 (5,684)	1,538 (5,412)	1,447 (5,747)	1,541 (7,400)
Inpatient care										
Number of visits / year	0.34 (0.96)	0.31 (0.92)	0.31 (0.86)	0.30 (0.83)	0.30 (0.77)	0.39 (1.04)	0.36 (0.97)	0.36 (0.94)	0.35 (0.87)	0.35 (0.85)
Medical cost / year (point)	20,267 (110,847)	18,157 (101,410)	18,786 (98,339)	18,793 (95,087)	18,341 (91,482)	25,064 (126,771)	22,029 (115,683)	23,012 (112,184)	22,768 (104,896)	22,733 (96,611)
Hospitalization rate	17.8%	16.3%	16.4%	16.3%	16.3%	19.8%	18.6%	18.6%	18.6%	18.6%
Length of stay (day)	19.5 (59.5)	18.9 (59.1)	18.2 (48.1)	17.8 (44.8)	16.7 (39.4)	21.3 (64.4)	19.7 (54.9)	19.6 (49.2)	18.6 (42.9)	17.7 (35.5)

ACSC: Ambulatory care sensitive conditions; FPICP, Taiwan's Family Practice Integrated Care Project; CCI, Charlson comorbidity index.

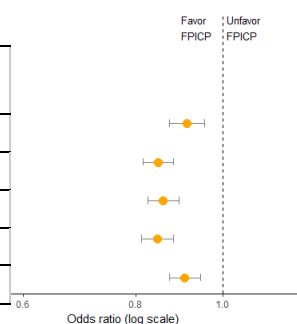
Standard deviation or percentage is shown in parentheses.

* Floating point value (1 point ~ NT\$0.9) under global budget scheme since 2001

Appendix 5. Associations between FPICP and ACSC

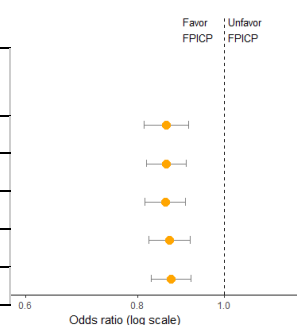
A FPICP and hospitalization for COPD / asthma

Fiscal year	Absolute rate reduction, % (95% CI)	Odds ratio (95% CI)
2011	6.4 (4.8, 8.0)	0.91 (0.87, 0.95)
2012	9.3 (8.1, 10.5)	0.85 (0.82, 0.88)
2013	9.4 (8.2, 10.6)	0.86 (0.82, 0.89)
2014	10.0 (8.8, 11.2)	0.85 (0.81, 0.88)
2015	8.6 (7.4, 9.8)	0.91 (0.87, 0.94)



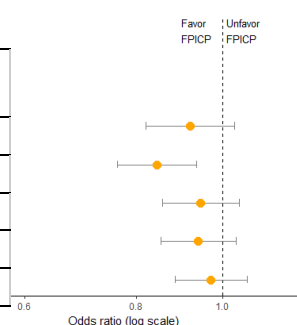
B FPICP and hospitalization for diabetes / complications

Fiscal year	Absolute rate reduction, % (95% CI)	Odds ratio (95% CI)
2011	3.2 (2.3, 4.1)	0.86 (0.81, 0.91)
2012	2.5 (1.8, 3.2)	0.86 (0.82, 0.91)
2013	2.3 (1.6, 3.0)	0.86 (0.82, 0.90)
2014	2.4 (1.8, 3.0)	0.87 (0.82, 0.92)
2015	1.9 (1.3, 2.5)	0.87 (0.83, 0.92)



C FPICP and hospitalization for heart failure

Fiscal year	Absolute rate reduction, % (95% CI)	Odds ratio (95% CI)
2011	3.9 (-1.2, 9.0)	0.92 (0.82, 1.03)
2012	7.8 (3.3, 12.3)	0.84 (0.76, 0.94)
2013	2.8 (-1.7, 7.3)	0.95 (0.86, 1.04)
2014	4.7 (0.0, 9.4)	0.94 (0.85, 1.04)
2015	2.0 (-2.5, 6.5)	0.97 (0.88, 1.07)



ACSC: Ambulatory care sensitive conditions; COPD, chronic obstructive pulmonary disease; FPICP, Taiwan's Family Practice Integrated Care Project

The odds ratios and 95% confidence interval (in parentheses) were estimated using conditional logistic regressions. Other independent variables for adjusted odds ratios include age, gender, and comorbidities.

Appendix 6. Eligibility criteria for patients in Family Practice Integrated Care Project (FPICP)

Year	Criteria
2011	<ol style="list-style-type: none"> 1. Chronic disease* cases: select the highest 60th percentile based on medical expenses 2. Non-chronic disease cases: select the highest 20th percentile based on medical expenses
2012	<ol style="list-style-type: none"> 1. Chronic disease cases: select the highest 60th percentile based on medical expenses 2. Non-chronic disease cases: select the highest 20th percentile based on medical expenses 3. Participants in FPICP 2011 4. High utilization cases in outpatient clinics: patients with outpatient visits in primary clinics ≥ 50 times 5. Elderly patients over 75 years old 6. Participants in other pay-for-performance (P4P) programs (referring to diabetes, asthma, hepatitis B or C, chronic kidney disease, etc.)
2013	<ol style="list-style-type: none"> 1. Chronic disease cases: select the highest 70th percentile based on medical expenses 2. Non-chronic disease cases: select the highest 30th percentile based on medical expenses 3. High-utilization cases in outpatient clinics: patients with outpatient visits to primary clinics ≥ 50 times 4. Elderly patients over 75 years old 5. Participants in other pay-for-performance (P4P) programs (referring to diabetes, asthma, hepatitis B or C, chronic kidney disease, etc.)
2014	<ol style="list-style-type: none"> 1. Chronic disease cases: select the highest 80th percentile based on medical expenses 2. Non-chronic disease cases: select the highest 30th percentile based on medical expenses 3. High-utilization cases in outpatient clinics: patients with outpatient visits to primary clinics ≥ 50 times 4. Elderly patients over 65 years of age with multiple chronic diseases 5. Participants in other pay-for-performance (P4P) programs (referring to diabetes, asthma, hepatitis B or C, chronic kidney disease, etc.)
2015	<ol style="list-style-type: none"> 1. Chronic disease cases: select the highest 85th percentile based on medical expenses 2. Non-chronic disease cases: select the highest 30th percentile based on medical expenses 3. High-utilization cases in outpatient clinics: patients with outpatient visits to primary clinics ≥ 50 times 4. Elderly patients over 65 years of age with multiple chronic diseases 5. Participants in other pay-for-performance (P4P) programs (referring to diabetes, asthma, hepatitis B or C, chronic kidney disease, etc.)

* Chronic diseases: refer to the List of chronic diseases reimbursed by National Health Insurance Administration (**Appendix 7.**)

Appendix 7. List of chronic diseases reimbursed by National Health Insurance Administration

Disease name	ICD-9-CM reference code	ICD-10-CM/PCS reference code	Remarks
1. Cancer	150.0-162.9	C153-C3492	
		C451	
		C480-C488	
		C7A010-C7A090	
		C7A092	
	163.0-176.9	C37-C50929	Contains C4A0-C4A9
		C7A091	
		D030-D039	
	180.0-188.9	C510-C549	
		C561-C639	
		C670-C679	
	189.0-189.9	C641-C669	
		C680-C689	
		C7A093	
	191.0-191.9	C710-C719	
		C457	
	192.0-201.07	C459	
		C700-C709	
		C720-C759	
		C7A00	
		C7A094-C7A096	
		C7A1-C7B8	
		C884	
		C800-C801	
		C8170-C8170	
		C8300-C8309	
		C8330-C8399	
		C8460-C8479	
		C8520-C8529	
		C865-C866	
		C964-C965	
	201.00-201.98	C8100-C8199	
	204.00-208.91	C9100-C9132	
		C9150-C9432	Contains C91A0-C91Z2, C92A0-C92Z2, C93Z0-C93Z2
		C9480-C9592	
		D45	
	200.00-200.88	C8300-C8309	
		C8330-C8399	

		C8460-C8479	
		C8520-C8529	
		C865-C866	
	202.00-203.81	C8200-C8299	
		C8310-C8339	
		C8380-C8389	
		C8400-C8449	
		C84A0-C864	Contains C84A0-C84Z9
		C882-C9032	
		C9140-C9142	
		C960-C964	
		C96A-C969	Contains C96A-C96Z
	140.0-149.9	C000-C148	
	230.0-234.9	D0000-D024	
		D040-D099	
2. Endocrine and metabolic diseases			
	240.0-246.9	E000-E079	
Thyroid Dysfunction		E35	
		E890	
Diabetes	250.00-250.91	E0800-E139	
Hyperlipidemia	272.0-272.1	E780-E781	
Wilson's Disease		C880	
Gout		C965-C966	
Pemphigus		D472	
Dermatomyositis		D800-D849	
Hyperprolactin		D890-D899	
Congenital metabolic disorders		E201	
Adrenal diseases with endocrine disorders		E65-E749	
Pituitary diseases with endocrine disorders		E7521-E7522	
Precocious puberty		E75240-E75249	
Hypoparathyroidism		E753	
Hypogonadism		E755-E756	
Congenital immune deficiency		E7601-E789	
	270.0-279.9	E791-E8319	
		E8330-E889	Wilson's disease: E8301
		H49811-H49819	
		J8482	
		M1A00X0-M109	Contains M1A00X0-M1A9XX1 Chronic gout: M1A00X0-M1A9XX1 Gout: M1000-M109
		M359	
		N200	

	251.0-259.9	E15-E200	
		E208-E35	
		E891-E896	
		N981	
3. Psychiatric diseases	290.0-301.9	F0150-F068	
		F10121	
		F1014-F1019	
		F10221	
		F10230-F1099	
		F11121-F11122	
		F1114-F1119	
		F11220-F1199	
		F12120-F1219	
		F12220-F1229	
		F12920-F1299	
		F13121-F1319	
		F13220-F1399	
		F14121-F1419	
		F14220-F1499	
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		F17203-F17209	
		F17213-F17219	
		F17223-F17229	
		F17293-F17299	
		F18120-F1819	
		F18220-F1829	
		F18920-F1899	
		F19121-F1919	
		F1921-F42	
		F440-F489	
		F53	
		F600-F609	
		F6810-F69	
		F840	
		F843-F849	
		F99	
		R452	
		R455-R456	
		R4586	
	305.00-305.93	F1010-F10120	
		F10129	

		F1110-F11120	
		F11129	
		F1190	
		F1210	
		F1290	
		F1310-F13120	
		F1390	
		F1410-F14120	
		F1490	
		F1510-F15120	
		F1590	
		F1610-F16120	
		F1690	
		F17200-F17201	
		F17210-F17211	
		F17220-F17221	
		F17290-F17291	
		F1810-F18120	
		F1890	
		F1910-F19120	
		F1990	
		F550-F558	
	307.0-316	F070-F09	
		F329	
		F430-F439	
		F4541-F4542	
		F482	
		F5000-F519	
		F54	
		F630-F639	
		F800-F82	
		F88-F989	
		G44201-G44229	
		G4720-G4729	
		H9325	
4. Nervous system diseases			
Brain tumor complicated by neurological dysfunction	225.0-225.9	D320-D339	
Parkinson's disease	332.0-332.1	G20-G219	
Myotonic dystrophy Other central nervous system degeneration and genetic diseases	330.0-336.9	E7500-E7519	
		E7523	
		E7525-E7529	
		E754	
		F842	

		G10-G129	
		G132-G138	
		G20-G3281	
		G803	
		G903	
		G910-G919	
		G937	
		G9389-G939	
		G94-G959	
		G992	
Multiple Sclerosis	340	G35	
Infantile cerebral palsy and other paralytic syndromes	343.0-344.9	G041	
		G800-G809	
		G8220-G839	
Epilepsy	345.00-345.91	G40001-G40919	Contains G40A01-G40B19
Myasthenia Gravis	323.0-326	G0400-G09	
		G373-G374	
		G92	
	337.0-342.9	G35-G379	
		G8100-G8194	
		G9001-G9009	
		G902	
		G904-G909	
		G990	
	346.00-359.9	E0842	
		E0942	
		E1040	
		E1042	
		E1140	
		E1142	
		E1342	
		G130-G131	
		G3289	
		G43009-G44049	Contains G43A0-G43D1
		G4451	
		G47411-G47429	
		G500-G737	
		G92-G936	
		G9381-G939	
		G960-G969	
		G971	

		G9782	
		G980-G988	
		G998	
		I6783	
Multiple peripheral neuropathy Plexopathy Trigeminal neuropathy Migraine Spinal cord injury	323.0-326	G0400-G09	
		G373-G374	
		G92	
	337.0-337.9	G9001-G9009	
		G902	
		G904-G909	
		G990	
	341.0-342.9	G360-G379	
		G8100-G8194	
	346.00-359.9	E0842	
		E0942	
		E1040	
		E1042	
		E1140	
		E1142	
		E1342	
		G130-G131	
		G3289	
		G43009-G44049	Contains G43A0-G43D1
		G4451	Contains G43001 (Migraine)
		G47411-G47429	
		G500-G737	
		G92-G936	
		G9381-G939	
		G960-G969	
		G971	
		G9782	
		G980-G988	
G998			
I6783			
5. Circulatory system diseases			
Heart disease	393-398.99	I050-I099	
	410.00-410.92	I2101-I229	
	411.0-414.9	I200-I209	
		I240-I259	
	427.0-427.9	I462-I499	
		R001	
428.0-429.9	I230-I238		

		I2510	
		I501-I52	
		I970-I97191	
Hypertension	402.00-402.91	I110-I119	
	405.01-405.99	I150-I159	
		N262	
Cerebrovascular disease	430-434.9	I6000-I669	
	436	I6789	
	437.0	I672	
Atherosclerosis	440.0-440.9	I700-I7092	
		I75011-I7589	
Arterial embolism and thrombosis	444.0-444.9	I7401-I749	
Raynaud's disease	441.0-443.9	I7100-I739	
Kawasaki disease complicated by cardiovascular abnormalities		I7771-I7779	
		I790-I798	
	446.0-448.9	I770-I776	
		I7789-I789	
		M300-M319	
6. Respiratory diseases			
Chronic sinusitis	472.0-473.9	J310-J329	
		R0982	
Chronic bronchitis			
Emphysema	490-493.91	J40-J45998	
Asthma			
Bronchiectasis	500-508.9	J60-J668 J680-J709	
Pulmonaryosis			
Lung disease caused by external causes			
Chronic obstructive pulmonary disease	495.0-496	J449	
		J670-J679	
Allergic rhinitis	475-478.9	J300-J309	
		J340-J349	
		J36-J399	
		R0981	
7. Digestive system diseases			
Peptic ulcer	531.00-533.91	K250-K279	
Cirrhosis of the liver	571.0-571.9	K700-K709	
Chronic hepatitis		K730-K7469	
		K754-K7581	
		K760	
		K7689-K769	
	534.00-537.9	K280-K316	

Gastrointestinal dysfunction Chronic cholangitis		K31811-K319	
		K5281	
		K9420-K9429	
		R1110	
	555.0-558.9	K5000-K559	
		K9281	
	565.0-570	K5520-K5521	
		K600-K639	
		K650-K67	
		K6811	
		K6819-K689	
		K7200-K7201	
		K762	
		K91858	
		K9289-K929	
		K9400-K9419	
		N994	
		R1113	
		R188	
	572.0-573.9	K710-K719	
		K7210-K7291	
		K750-K759	
		K761	
		K763-K77	
	575.9-579.9	K829-K904	
		K9089-K909	
		K912	
		K915	
		K920-K922	
8. Urinary system diseases			
Chronic nephritis	580.0-589.9	E1021	
		E1121	
		N000-N08	
		N140-N150	
		N158-N19	
		N250-N261	
		N269-N279	
Kidney infection	590.0-590.9	N10-N12	
		N136	
		N151	
		N159-N16	

		N2884-N2886	
9. Diseases of the musculoskeletal system and connective tissue			
Arthritis	711.39-720.0	M01X0-M0209	Contains M01X0-M01X9
		M0219-M0229	
		M0280-M0899	
		M1100-M1993	
		M2200-M24176	
		M2430-M25676	
		M2580-M259	
		M361-M364	
		M433-M435X9	
		M450-M459	
		M488X1-M488X9	
		M532X1-M532X9	
		M79646	
		Q686	
		R262	
		R294	
	725-729.9	D481	
		G4762	
		K6812	
		M2010	
		M2420-M2428	
		M2570-M25776	
		M353-M357	
		M5410	
		M5418	
		M60000-M6282	
		M62831-M799	Contains M79A11-M79A9
		R252	
		R29898	
Polymyositis	710.0-713.8	M0000-M029	Contains M01X0-M01X9
		M1100-M119	
		M1280	
		M1460-M1489	
		M320-M352	
		M355	
		M358-M368	
	715.00-716.99	M0760-M0769	
		M1210-M1219	
		M1250-M1259	
		M1280-M1389	

		M150-M1993	
Osteoporosis Lupus Erythematosus	731.0-733.99	H61031-H61039	
		M4200-M429	
		M4850X-M4858	The 7th character is "A"
		M8000X-M8088X	The 7th character is "A", "K", or "P"
		M810-M818	
		M8430X-M8468X	The 7th character is "A", "K", or "P"
		M8480-M949	
	737.0-739.9	M2110	
		M21179	
		M4000-M419	
		M4300-M4319	
		M438X1-M439	
		M8938	
		M898X8	
		M950-M959	
		M962-M965	
		M9900-M9909	
		M9980-M999	
Chronic osteomyelitis	730.00-730.99	M4620-M4639	
		M8600-M869	
		M8960-M8969	
		M9080-M9089	
10. Diseases of the eye and its accessory organs			
Glaucoma	365.00-365.9	H40001-H42	
		Q150	
Dry eye syndrome	375.00-375.9	H04001-H049	
Retinal degeneration Macular degeneration Uveitis Vitreous hemorrhage Corneal degeneration	360.00-364.9	E11311-E11359	
		G453	
		H16241-H16249	
		H2000-H22	
		H30001-H36	
		H44001-H449	
	367.0-368.9	H5200-H539	
		R441	
		R483	
	370.00-371.9	H16001-H16239	
		H16251-H189	
	372.4-374.9	H00011-H029	
		H10811-H10819	
		H11001-H119	

	376.00-377.9	H0500-H059	
		H4600-H479	
	379.00-379.99	H15001-H159	
		H2700-H279	
		H4300-H439	
		H5500-H579	
		H5940-H5943	
11. Infectious diseases			
Tuberculosis	010.00-016.96	A150-A1818	
		A1831-A1839	
		A1883	
	017.00-018.96	A182	
		A184-A199	
Onychomycosis	110.0-118	B350-B470	
		B480-B49	
12. Congenital malformations			
Congenital malformations	740.0-742.9	G901	
		Q000-Q079	
	745.0-751.9	P293	
		Q200-Q459	
	754.30-756.9	Q6500-Q669	
		Q676-Q678	
		Q681-Q76419	
		Q7649-Q799	
		Q870	
13. Skin and subcutaneous tissue diseases			
Psoriasis Systemic eczema Black foot disease Vitiligo Seborrheic dermatitis Amyloidosis (limited to lesions exceeding 30% of the body surface area) Pemphigoid Herpetic dermatitis Familial benign chronic pemphigus Epidermolytic vesicular disease Severe ichthyosis (including lamellar ichthyosis and ichthyosis-like erythroderma) Keratosis follicularis Progressive systemic scleroderma Chronic urticaria Atopic dermatitis	690-709.9	L00	
		L100-L759	
		L80-L97929	
		L981-L982	
		L98411-L99	
14. Diseases of blood and hematopoietic organs			
Chronic anemia	280.0-285.9	D500-D649	
Purpura	286.0-289.9	D474	

		D5702	
		D57212	
		D57412	
		D65-D77	
		D892	
		I880-I889	
Hemophilia	286.0-289.9	D474	
		D5702	
		D57212	
		D57412	
		D57812	
		D65-D77	
		D892	
		I880-I889	
Myelodysplastic syndromes	284.9	D619	
	285.0	D640-D643	
	205.2	C9220-C9222	
	205.8	C92Z0-C92Z2	
	206.1	C9310-C9312	
	238.7	C888	
		C9440-C946	
		D46A-D469	Contains D46A-D46Z
		D471	
		D473	
		D47Z1-D479	Contains D47Z1-D47Z9
Primary thrombocytosis	238.7	C888	
		C9440-C946	
		D46A-D469	Contains D46A-D46Z
		D471	
		D473	
		D47Z1-D479	Contains D47Z1-D47Z9
15. Diseases of ear and mastoid			
Chronic otitis media	381.00-383.9	H6500-H7093	
		H7500-H7583	
		H9500-H95199	
Vestibular disorders Neurological tinnitus	384.00-388.9	G960	
		H7100-H7493	
		H8000-H8393	
		H9110-H918X9	
		H9201-H93249	
		H93291-H9483	
	380.00-380.9	H6000-H628X9	

16. Other			
Follow-up treatment after organ transplantation	V63.0-V68.9	Z0271-Z0279	
		Z0289-Z029	
		Z048-Z049	
		Z08-Z09	
		Z2801-Z2829	
		Z2881-Z289	
		Z322-Z323	
		Z4681	
		Z515	
		Z5189	
		Z5301-Z539	
		Z6981	
		Z700-Z719	
		Z750-Z760	
		Z763-Z7681	
		Z7689	
Leprosy	030.0-030.9	A300-A309	
Hemorrhoids	455.0-455.9	K640-K649	
Prostate hypertrophy	600	N400-N403	
		N4283	
Endometriosis Perimenopausal syndrome	619.0-629.9	E230	
		G43821-G43839	
		N393	
		N820-N979	
		N992	
		N9983	
		R102	
		R87612-R87614	
Urinary incontinence	780.0-787.9	E035	
		F518	
		G44051-G44099	
		G441	
		G44301-G4441	
		G4452-G4489	
		G4700-G4720	
		G4730-G4739	
		G4750-G4761	
		G4769-G479	
		G933	
		H49811-H49813	
		I96	
		K522	

		K5289	
		L74510-L7452	
		P926	
		R000	
		R002	
		R008-R012	
		R040-R079	
		R093	
		R0989	
		R110-R1112	
		R1114-R159	
		R17	
		R1911-R192	
		R194-R261	
		R2681-R291	
		R293	
		R295-R2991	
		R400-R402344	
		R403-R414	
		R4182	
		R41842	
		R4189-R440	
		R442-R443	
		R4583-R4584	
		R4701-R5383	
		R55-R579	
		R590-R638	
		R6521-R6812	
		R683-R6881	
		R6883	
		R6889	
		R900	
	788.1	R300	
		R309	
	788.3-796.9	B349	
		E0781	
		E790	
		I4581	
		N393-N39498	
		O280-O289	
		P09	
		R030-R031	
		R100-R109	
		R160-R162	
		R180-R1909	

		R1930-R1937	
		R195	
		R198	
		R292	
		R301	
		R32	
		R34-R360	
		R369	
		R390-R3913	
		R3915-R399	
		R6889	
		R700-R801	
		R803-R899	
		R9081-R978	
	798.1-799.0	R0901-R0902	
		R99	
	799.2-799.9	R4189	
		R448-R450	
		R453-R454	
		R4587-R4689	
		R5381	
		R64	
		R6813-R6819	
		R6882	
		R6889	
		R69	
		R99	
Yusho disease (polychlorinated biphenyl poisoning)	905.0-909.9	S0000X-T889XX	Excludes T07-T1491, T300-T3299 and T8600-T879, except for those of which the 7th character is "S".
Chronic prostatitis	601.0-602.9	N410-N429	
		N51	
	604.0-604.99	N451-N454	
		N51	
	607.0-608.9	N4340-N448	
		N476	
		N480-N539	
		R102	