

**Table 1. Changes Made to Comorbidity Software for FY2004, Version 2.1**

The following changes were made to the Comorbidity Software for fiscal year 2004. This year included not only ICD-9-CM updates for fiscal year 2004, but also ICD-9-CM and DRG adjustments based on recommendations from Stanford University, as well as some modifications to the software as described below. These changes are incorporated in the tool currently available: Comorbidity Software, Version 2.1.

ICD-9-CM Changes to the Comorbidity Software, FY2004		
ICD-9-CM Diagnosis Code	ICD-9-CM Diagnosis Code Label	Comorbidity Assignment
07022	HPT B CHRN COMA WO DLTA	Liver disease
07023	HPT B CHRN COMA W DLTA	Liver disease
07044	CHRN C HPT C W HEPAT COMA	Liver disease
25080	DMII OTH NT ST UNCENRLD	Diabetes with chronic complications
25081	DMI OTH NT ST UNCENRLD	Diabetes with chronic complications
25082	DMII OTH UNCENRLD	Diabetes with chronic complications
25083	DMI OTH UNCENRLD	Diabetes with chronic complications
28521	ANEMIA IN ESRD	Deficiency anemias
28522	ANEMIA IN NEOPLASTIC DIS	Deficiency anemias
28529	ANEMIA-OTH CHRONIC ILL	Deficiency anemias
28981*	PRIM HYPERCOAGULABLE ST	<i>Removed from Coagulopathy</i>
28982*	SEC HYPERCOAGULABLE ST	<i>Removed from Coagulopathy</i>
2910	DELIRIUM TREMENS	Alcohol abuse
2913	ALCOHOLIC HALLUCINOSIS	Alcohol abuse
3300	LEUKODYSTROPHY	Other neurological
3301	CEREBRAL LIPIDOSES	Other neurological
3302	CEREB DEGEN IN LIPIDOSIS	Other neurological
3303	CEREB DEG CHLD IN OTH DIS	Other neurological
3308	DEREB DEGEN IN CHILD NEC	Other neurological
3309	CEREB DEGEN IN CHILD NOS	Other neurological
3310	ALZHEIMER'S DISEASE	Other neurological
33111*	PICK'S DISEASE	Other neurological
33119*	FRONTOTEMP DEMENTIA NEC	Other neurological
3312	SENILE DEGENERAT BRAIN	Other neurological
3313	COMMUNICAT HYDROCEPHALUS	Other neurological
3314	OBSTRUCTIV HYDROCEPHALUS	Other neurological
3317	CEREB DEGEN IN OTH DIS	Other neurological
33181	REYE'S SYNDROME	Other neurological
33182*	DEMENTIA W LEWY BODIES	Other neurological
33189	CEREB DEGENERATION NEC	Other neurological
34280	OTH SPEC HEMIPLAG SIDE UNSP	Paralysis
34281	OTH SPEC HEMIPLAG DOM SIDE	Paralysis
34282	OTH SPEC HEMIPLAG NO DOM SIDE	Paralysis
3452	PETIT MAL STATUS	Other neurological

3453	GRAND MAL STATUS	Other neurological
34560	INF SPASM W/O INTR EPIL	Other neurological
34561	INF SPASM W INTRACT EPIL	Other neurological
34570	EPIL PAR CONT W/O INT EP	Other neurological
34571	EPIL PAR CONT W INTR EPI	Other neurological
3481	ANOXIC BRAIN DAMAGE	<i>Removed from Other neurological</i>
34830*	ENCEPHALOPATHY NOS	<i>Removed from Other neurological</i>
34831*	METABOLIC ENCEPHALOPATHY	<i>Removed from Other neurological</i>
34839*	ENCEPHALOPATHY NEC	<i>Removed from Other neurological</i>
3979	RHEUM DIS ENDOCARD VLV NOS	Valvular disease
4010	MALIGNANT HYPERTENSION	Hypertension, complicated
40200	MAL HYP HT DIS W/O HF	Hypertension, complicated
40201	MAL HYPERT HRT DIS W HF	Congestive heart failure (CHF), Hypertension, complicated
40211	BEN HYP HT DIS NO CHF	Hypertension, complicated
40291	BEN HYP HT DIS W/CHF	Hypertension, complicated
40300	MAL HYP REN W/O REN FAIL	Hypertension, complicated
40301	MAL HYP REN W RENAL FAIL	Renal failure, Hypertension, complicated
40310	BEN HYP REN W/O REN FAIL	Hypertension, complicated
40311	BEN HYP REN W REN FAIL	Hypertension, complicated
40390	HYP REN NOS W/O REN FAIL	Hypertension, complicated
40391	HYP REN NOS W REN FAIL	Hypertension, complicated
40400	MAL HY HT/REN W/O HF/RF	Hypertension, complicated
40401	MAL HYPER HRT/REN W HF	Congestive heart failure (CHF), Hypertension, complicated
40402	MAL HY HT/REN W REN FAIL	Renal failure, Hypertension, complicated
40403	MAL HYP HRT/REN W HF&RF	Renal failure, Congestive heart failure (CHF), Hypertension, complicated
40410	BEN HY HT/REN W/O HF/RF	Hypertension, complicated
40411	BEN HYP HRT/REN W/CHF	Hypertension, complicated
40412	BEN HYP HRT/REN W/REN	Hypertension, complicated
40413	BEN HYP HRT/REN W HF&RF	Renal failure, Congestive heart failure (CHF), Hypertension, complicated
40491	HYP HRT/REN NOS W/CHF	Hypertension, complicated
40492	HYP HRT/REN NOS W/REN	Hypertension, complicated
40493	HYP HRT/REN NOS W HF&RF	Renal failure, Congestive heart failure (CHF), Hypertension, complicated
40501	MAL RENOVASC HYPERTENS	Hypertension, complicated
40509	MAL SECOND HYPERTEN NEC	Hypertension, complicated
42499	ENDOCARDITIS, VALVE NOS, OTH	Valvular disease
43820	LATE EF-HEMPLGA SIDE NOS	Paralysis
43821	LATE EF-HEMPLGA DOM SIDE	Paralysis
43822	LATE EF-HEMIPLGA NON-DOM	Paralysis
43830	LATE EF- HEMIPLGA UP LMB NOS	Paralysis
43831	LATE EF- HEMIPLGA UP LMB DOM	Paralysis
43832	LT EF- HEMIPLGA UPLMB NONDOM	Paralysis
43840	LTE EF- HEMIPLGA LOW LMB NOS	Paralysis

43841	LTE EF- HEMIPLGA LOW LMB DOM	Paralysis
43842	LT EF- HEMIPLGA LOWLMB NONDM	Paralysis
43850	LT EF OTH PARAL SIDE NOS	Paralysis
43851	LT EF OTH PARAL DOM SIDE	Paralysis
43852	LT EF OTH PARALS NON-DOM	Paralysis
43853	LT EF OTH PARALS-BILAT	Paralysis
44100	DSCT OF AORTA UNSP SITE	Peripheral vascular disorder
44101	DSCT OF THORACIC AORTA	Peripheral vascular disorder
44102	DSCT OF ABDOMINAL AORTA	Peripheral vascular disorder
44103	DSCT OF THORACOABD AORTA	Peripheral vascular disorder
4411	RUPTUR THORACIC ANEURYSM	Peripheral vascular disorder
4413	RUPT ABD AORTIC ANEURYSM	Peripheral vascular disorder
4415	RUPT AORTIC ANEURYSM NOS	Peripheral vascular disorder
4416	THORACOABD ANEURYSM RUPT	Peripheral vascular disorder
4420	UPPER EXTREMITY ANEURYSM	Peripheral vascular disorder
4421	RENAL ARTERY ANEURYSM	Peripheral vascular disorder
4422	ILIAC ARTERY ANEURYSM	Peripheral vascular disorder
4423	LOWER EXTREMITY ANEURYSM	Peripheral vascular disorder
44281	ANEURYSM OF NECK	Peripheral vascular disorder
44282	SUBCLAVIAN ANEURYSM	Peripheral vascular disorder
44283	SPLENIC ARTERY ANEURYSM	Peripheral vascular disorder
44284	VISCERAL ANEURYSM NEC	Peripheral vascular disorder
44289	ANEURYSM NEC	Peripheral vascular disorder
4429	ANEURYSM NOS	Peripheral vascular disorder
49381*	EXERCSE IND BRONCHOSPASM	Chronic pulmonary disease
49382*	COUGH VARIANT ASHTMA	Chronic pulmonary disease
49392	ASTHMA NOS W (AC) EXAC	Chronic pulmonary disease
53141	CHR STOM ULC W HEM-OBSTR	Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53151	CHR STOM ULC W PERF-OBST	Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53161	CHRSTOM ULC HEM-PERF-OB	Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53171	CHR STOMACH ULC NOS-OBST	Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53190	GASTI ULC NOS ACU NO HEM/PERF	<i>Removed</i> from Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53191	STOMACH ULCER NOS-OBSTR	Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53241	CHR DUODEN ULC HEM-OBSTR	Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)

53251	CHR DUODEN ULC PERF-OBST	Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53261	CHR DUOD ULC HEM/PERF-OB	Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53271	CHR DUODEN ULC NOS-OBSTR	Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53290	DUO ULC NOS ACU NO HEMR/PERF	<i>Removed</i> from Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53291	DUODENAL ULCER NOS-OBSTR	Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53341	CHR PEPTIC ULC W HEM-OBS	Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53351	CHR PEPTIC ULC PERF-OBST	Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53361	CHR PEPT ULC HEM/PERF-OB	Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53371	CHR PEPTIC ULCER NOS-OBS	Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53390	PEP ULC NOS ACU NO HEMR/PERF	<i>Removed</i> from Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53391	PEPTIC ULCER NOS-OBSTRUC	Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53441	CHR MARGIN ULC W HEM-OBS	Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53451	CHR MARGIN ULC PERF-OBST	Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53461	CHR MARG ULC HEM/PERF-OB	Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53471	CHR MARGINAL ULC NOS-OBS	Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
53490	GASTO ULC NOS ACU NO HEM/PER	<i>Removed</i> from Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)

53491	GASTROJEJUN ULC NOS-OBST	Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)
64200	ESSEN HYPERTEN PREG-UNSP	Hypertension, uncomplicated
64201	ESSEN HYPERTEN-DELIVERED	Hypertension, uncomplicated
64202	ESSEN HYPERTEN-DEL W P/P	Hypertension, uncomplicated
64203	ESSEN HYPERTEN-ANTEPART	Hypertension, uncomplicated
64204	ESSEN HYPERTEN-POSTPART	Hypertension, uncomplicated
64210	RENAL HYPERTEN PREG-UNSP	Hypertension, complicated
64211	RENAL HYPERTEN PG-DELIV	Hypertension, complicated
64213	RENAL HYPERTEN-ANTEPART	Hypertension, complicated
64214	RENAL HYPERTEN-POSTPART	Hypertension, complicated
64220	OLD HYPERTEN PREG-UNSPEC	Hypertension, complicated
64221	OLD HYPERTEN NEC-DELIVER	Hypertension, complicated
64222	OLD HYPERTEN-DELIV W P/P	Hypertension, complicated
64223	OLD HYPERTEN NEC-ANTEPAR	Hypertension, complicated
64224	OLD HYPERTEN NEC-POSTPAR	Hypertension, complicated
64270	TOX W OLD HYPERTEN-UNSP	Hypertension, complicated
64271	TOX W OLD HYPERTEN-DELIV	Hypertension, complicated
64272	TOX W OLD HYP-DEL W P/P	Hypertension, complicated
64273	TOX W OLD HYPER-ANTEPART	Hypertension, complicated
64274	TOX W OLD HYPER-POSTPART	Hypertension, complicated
64290	HYPERTEN PREG NOS-UNSPEC	Hypertension, complicated
64291	HYPERTENS NOS-DELIVERED	Hypertension, complicated
64292	HYPERTENS NOS-DEL W P/P	Hypertension, complicated
64293	HYPERTENS NOS-ANTEPARTUM	Hypertension, complicated
64294	HYPERTENS NOS-POSTPARTUM	Hypertension, complicated
64820	ANEMIA IN PREG-UNSPEC	Blood loss anemia
64821	ANEMIA – DELIVERED	Blood loss anemia
64822	ANEMIA – DELIVERED W P/P	Blood loss anemia
64823	ANEMIA – ANTEPARTUM	Blood loss anemia
64824	ANEMIA – POSTPARTUM	Blood loss anemia
64830	DRUG DEPEND PREG-UNSPEC	Drug abuse
64831	DRUG DEPENDENCE-DELIVER	Drug abuse
64832	DRUG DEPENDEN-DEL W P/P	Drug abuse
64833	DRUG DEPENDENCE-ANTEPARTUM	Drug abuse
64834	DRUG DEPENDENCE-POSTPART	Drug abuse
7751	NEONAT DIABETES MELLITUS	Diabetes with chronic complications
78321	ABNORNNAL LOSS OF WEIGHT	Weight Loss
78322	ABNORMAL UNDERWEIGHT	Weight Loss
V1000- V1059	PERS HIST MALIG NEOPLS GASTRO	<i>Removed from Solid tumor without metastatis</i>
V1071	PERS HIST LYMPHOSAR/RETICULO	<i>Removed from Lymphoma</i>
V1072	PERS HIST HODGKIN'S	<i>Removed from Lymphoma</i>
V1079	PERS HIST OTHER LYMPHATIC	<i>Removed from Lymphoma</i>
V1081- V109	PERS HIST MALIG NEOPLS OTHR	<i>Removed from Solid tumor without metastatis</i>
V113	PERS HIST ALCOHOLISM	<i>Removed from Alcohol abuse</i>

V1271	PERS HIST PEPTIC ULCER	<i>Removed from Chronic Peptic ulcer disease (includes bleeding only if obstruction is also present)</i>
V561	FT/ADJ XTRCORP DIAL CATH	Renal failure
V562	FIT/ADJ PERIT DIAL CATH	Renal failure
V5631	ENC DIAL ADEQUACY HEMODIAL	Renal failure
V5632	ENC DIAL ADEQUACY PERI DIAL	Renal failure

- ICD-9-CM changes designated with an asterisk are new ICD-9-CM codes introduced in FY2004. All other changes are pre-existing codes that have been added to the software.

<b>DRG Changes to the Comorbidity Software, FY2004</b>		
DRG Code	DRG Label	Comorbidity Exclusion Assignment
120	OTH CIRCULATORY SYS O.R. PROCS	Removed from Cardiac Category
521	ALC/DRUG ABUSE/DEP W CC	Alcohol and drug abuse
522	ALC/DRUG REHAB W/O CC	Alcohol and drug abuse
523	ALC/DRUG ABUSE/DEP W/O CC	Alcohol and drug abuse
539	LYMPH/LEUK MAJ OR PROC W CC	Leukemia/lymphoma
540	LYMPH/LEUK MAJ OR PROC W/O CC	Leukemia/lymphoma
531	SPINAL PROC W CC	Nervous system
532	SPINAL PROC W/O CC	Nervous system
533	EXTRACRANIAL PROC W CC	Nervous system
534	EXTRACRANIAL PROC W/O CC	Nervous system
528	INTRACRAN VASC PROC PDX HEM	Nervous system
529	VENTRIC SHUNT PROC W CC	Nervous system
530	VENTRIC SHUNT PROC W/O CC	Nervous system

<b>Other Changes to Comorbidity Software, FY2004</b>	
Comorbidity	Description of Change
Cardiac arrhythmias	This comorbidity was removed for FY2004, Version 2.0.
Coagulopathy	This comorbidity should be dropped when using the AHRQ Patient Safety Indicators.
Diabetes w/o chronic complications	In the previous version, this comorbidity was labeled as "Diabetes."
Diabetes w/ chronic	In the previous version, this comorbidity was labeled as "Diabetes, complicated."

complications	
Fluid and electrolyte disorders	This comorbidity should be dropped when using the AHRQ Patient Safety Indicators.
Removed duplicate Cardiac DRG format	There is now only one Cardiac DRG group format to be used by the software. Two formats were not necessary.
Hypertension Complicated	Version 2.1: This comorbidity was updated so that it now shares certain diagnosis codes with both Congestive Heart Failure and Renal Failure. Due to the limitations of SAS formats, temporary formats and variables were created to handle these overlapping diagnosis codes, and ultimately assign complicated hypertension.

*Current as of August 2004.*