Comorbidities	ICD-10 Codes		
	Halfon et al.	Quan et. al	
	Charlson	Charlson	Elixhauser
AIDS/HIV	B20.0–B20.9, B21.0–B21.3, B21.7–B21.9 B22.0–B22.2, B22.7	B20.x-B22.x, B24.x	B20.x-B22.x, B24.x
Alcohol abuse			F10, E52, G62.1, I42.6, K29.2, K70.0, K70.3, K70.9, T51.x, Z50.2, Z71.4, Z72.1
Anemia (blood loss)			D50.0
Anemia (deficiency)			D50.8, D50.9, D51.x-D53.x
Cardiac arrhythmias			I44.1-I44.3, I45.6, I45.9, I47.x-I49.x, R00.0, R00.1, R00.8, T82.1, Z45.0, Z95.0
Cerebrovascular disease	I69.0–I69.4, I69.8	G45.x, G46.x,, H34.0, I60.x-I69.x	
Chronic pulmonary disease	I27.8, I27.9, J41.0, J41.1, J41.8, J42., J43.0, J43.1, J43.2, J43.8, J43.9, J44.0, J44.1, J44.8, J44.9, J45.0, J45.1, J45.8, J45.9, J46., J47., J60., J61., J62.0, J62.8, J63.0–J63.5, J63.8, J64., J65.,J66.0, J66.1, J66.2, J66.8, J68.4, J70.1, J70.3	I27.8, I27.9, J40.x-J47.x, J60.x-J67.x, J68.4, J70.1, J70.3	I27.8, I27.9, J40.x-J47.x, J60.x-J67.x, J68.4, J70.1, J70.3
Coagulopathy			D65-D68.x, D69.1, D69.3-D69.6
Congestive heart failure	I11.0, I13.0, I13.2, I42.0–I42.9, I43.0–I43.2, I43.8, I50.0, I50.1, I50.9, I51.7	I09.9, I11.0, I13.0, I13.2, I25.2, I42.0, I42.5-I42.9, I43.x, I50.x, P29.0	I09.9, I11.0, I13.0, I13.2, I25.5, I42.0, I42.5-I42.9, I43.x, I50.x, P29.0
Dementia	F00.0–F00.2, F00.9, F01.0–F01.3, F01.8, F01.9, F02.0–F02.4, F02.8, F03., G30.0, G30.1, G30.8, G30.9, G31.0, G31.1	F00.x-F03.x, F05.1, G30.X, G31.1	
Depression			F20.4, F31.3-F31.5, F32.x, F33.x, F34.1, F41.2, F43.2
Diabetes with chronic complication	E10.2–E10.7, E11.2–E11.7, E12.2–E12.7, E13.2–E13.7, E14.2–E14.7	E10.2-E10.5, E10.7, E11.2-E11.5, E11.7, E12.2-E12.5, E12.7, E13.2-E13.5, E13.7, E14.2-E14.5, E14.7	E10.2-E10.8, E11.2-E11.8, E12.2-E12.8, E13.2-E13.8, E14.2-E14.8
Diabetes without chronic complication	E10.0–E10.1, E10.8–E10.9, E11.0–E11.1, E11.8–E11.9, E12.0–E12.1, E12.8–E12.9, E13.0–E13.1, E13.8–E13.9, E14.0–E14.1, E14.8–E14.9	E10.0, E10.1, E10.6, E10.8-E11.1, E11.6, E11.8-E12.1, E12.6, E12.8-E13.1, E13.6, E13.8-E14.1, E14.6, E14.8, E14.9	E10.0, E10.1, E10.9, E11.0, E11.1, E11.9, E12.0, E12.1, E12.9, E13.0, E13.1, E13.9, E14.0, E14.1, E14.9

Drug abuse			F11.x-F16.x, F18.x, F19.x, Z71.5, Z72.2
Fluid and electrolyte disorders			E22.2, E86.x, E87.x
Hemiplegia or paraplegia	G81.0–G81.1, G81.9, G82.0–G82.5	G04.1, G11.4, G80.2, G81.x, G82.x, G83.0-G83.4, G83.9	G04.1, G11.4, G80.1, G80.2, G81.x, G82.x, G83.0-G83.4, G83.9
Hypertension, complicated			I10.x
Hypertension, uncomplicated			I11.x-I13.x, I15.x
Hypothyroidism			E00.x-E03.x, E89.0
Malignancies including lymphoma and leukemia except malignant neoplasm of skin	00.0–C41.9, C45–C76.8, C80., C81.0–C97, Z85.0–Z85.9	C00.x-C26.x, C30.x-C34.x, C37.x-C41.x, C43.x, C45.x-C58.x, C60.x-C76.x, C81.x-C85.x, C88.x, C90.x-C97.x	C81.x-C85.x, C88.x, C96.x, C90.0, C90.2, C00.x-C26.x, C30.x-C34.x, C37.x-C41.x, C43.x, C45.x-C58.x, C60.x-C76.x, C97.x
Metastatic solid tumor	C77.0–C79.8	C77.x-C80.x	C77.x-C80.x
Mild liver disease	K70.3, K71.3–K71.5, K71.7–K71.8, K73.0–K73.2, K73.8, K73.9, K74.3–K74.6, K76.1, B18.0–B18.2, B18.8, B18.9	B18.x, K70.0-K70.3, K70.9, K71.3-K71.5, K71.7, K73.x, K74.x, K76.0, K76.2-K76.4, K76.8, K76.9, Z94.4	B18.x, I85.x, I86.4, I98.2, K70.x, K71.1, K71.3-K71.5, K71.7, K72.x-K74.x, K76.0, K76.2-K76.9, Z94.4
Moderate or severe liver disease	I85.0, I85.9, K70.4, K71.1, K72.1, K72.9, K76.5–K76.7	I85.0, I85.9, I86.4, I98.2, K70.4, K71.1, K72.1, K72.9, K76.5, K76.6, K76.7	
Myocardial infarction	I25.2	I21.x, I22.x, I25.2	
Other neurological disorders			G10.x-G13.x, G20.x-G22.x, G25.4, G25.5, G31.2, G31.8, G31.9, G32.x, G35.x-G37.x, G40.x, G41.x, G93.1, G93.4, R47.0, R56.x
Obesity			E66.x
Peptic ulcer disease	K25.4–K25.7, K26.4–K26.7, K27.4–K27.7, K28.4–K28.7	K25.x-K28.x	K25.7, K25.9, K26.7, K26.9, K27.7, K27.9, K28.7, K28.9
Peripheral vascular disease	70.0, I70.2, I70.8–I70.9, I71.0–I71.9, I73.1, I73.9, I77.1, Z95.1, Z95.5, Z95.8–Z95.9	I70.x, I71.x, I73.1, I73.8, I73.9, I77.1, I79.0, I79.2, K55.1. K55.8, K55.9, Z95.8, K95.9	I70.x, I71.x, I73.1, I73.8, I73.9, I77.1, I79.0, I79.2, K55.1, K55.8, K55.9, Z95.8, Z95.9
Psychoses			F20.x, F22.x-F25.x, F28.x, F29.x, F30.2, F31.2, F31.5
Pulmonary circulation disorders			I26.x, I27.x, I28.0, I28.8, I29.9
Renal disease	N18.0, N18.8–N18.9, Z49.0–Z49.2, Z99.2	I12.0, I13.1, N03.2-N03.7, N05.2-N05.7, N18.x, N19.x, N25.0, Z49.0-Z49.2, Z94.0, Z99.2	I12.0, I13.1, N18.x, N19.x, N25.0, Z49.0-Z49.2, Z94.0, Z99.2

Rheumatic disease	M05.0–M05.3, M05.8–M05.9, M06.0, M31.5, M32.0–M32.1, M32.8–M32.9, M33.2, M34.0–M34.2, M34.8–M34.9, M35.3	M05.x, M06.x, M31.5, M32.x-M34.x, M35.1	Rheumatoid arthritis / collagen vascular diseases L94.0, L94.1, L94.3, M05.x, M06.x, M08.x, M12.0, M12.3, M30.x, M31.0-M31.3, M32.x-M35.x
Valvular disease			A52.0, I05.x-I08.x, I09.1, I09.8, I34.x-I39.x, Q23.0-Q23.3, Z95.2-Z95.4
Weight loss			E40.x-E46.x, R63.4, R64

References:
1. Halfon P, Eggli Y, van Melle G, Chevalier J, Wasserfallen JB, Burnand B. Measuring potentially avoidable hospital readmissions. J Clin Epidemiol. 2002 Jun;55(6):573-87
2. Quan H, Sundararajan V, Halfon P, Fong A, Burnand B, Luthi JC, Saunders LD, Beck CA, Feasby TE, Ghali WA. Coding algorithms for defining comorbidities in ICD-9-CM and ICD-10 administrative data. Med Care. 2005 Nov;43(11):1130-9.

MCHP - July 2005