

## Economic Burden of COPD in the Presence of Comorbidities

David M. Mannino, MD, FCCP; Keiko Higuchi, MPH; Tzy-Chyi Yu, PhD, MHA; Huanxue Zhou, MS; Yangyang Li, MS; Haijun Tian, PhD; and Kangho Suh, PharmD

CHEST 2015; 148(1):138-150

**e-Table 1. ICD-9-CM Codes for Comorbidities of Interest**

<b>Comorbidity</b>	<b>ICD-9-CM Code</b>
<b>CKD</b>	
Chronic kidney disease (Depressed GFR) <sup>1</sup>	DX 016.00, 016.01, 016.02, 016.03, 016.04, 016.05, 016.06, 095.4, 189.0, 189.9, 223.0, 236.91, 249.40, 249.41, 250.40, 250.41, 250.42, 250.43, 271.4, 274.10, 283.11, 403.01, 403.11, 403.91, 404.02, 404.03, 404.12, 404.13, 404.92, 404.93, 440.1, 442.1, 572.4, 580.0, 580.4, 580.81, 580.89, 580.9, 581.0, 581.1, 581.2, 581.3, 581.81, 581.89, 581.9, 582.0, 582.1, 582.2, 582.4, 582.81, 582.89, 582.9, 583.0, 583.1, 583.2, 583.4, 583.6, 583.7, 583.81, 583.89, 583.9, 584.5, 584.6, 584.7, 584.8, 584.9, 585, 585.1, 585.2, 585.3, 585.4, 585.5, 585.6, 585.9, 586, 587, 588.0, 588.1, 588.81, 588.89, 588.9, 591, 753.12, 753.13, 753.14, 753.15, 753.16, 753.17, 753.19, 753.20, 753.21, 753.22, 753.23, 753.29, 794.4 (any DX on the claim)
<b>CVD</b>	
<b>(congestive heart failure, stroke, acute myocardial infarction, peripheral vascular disease)</b>	
Congestive heart failure <sup>1</sup>	DX 398.91, 402.01, 402.11, 402.91, 404.01, 404.11, 404.91, 404.03, 404.13, 404.93, 428.0, 428.1, 428.20, 428.21, 428.22, 428.23, 428.30, 428.31, 428.32, 428.33, 428.40, 428.41, 428.42, 428.43, 428.9 (any DX on the claim)
Stroke /Transient Ischemic Attack <sup>1</sup>	DX 430, 431, 433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.00, 434.01, 434.10, 434.11, 434.90, 434.91, 435.0, 435.1, 435.3, 435.8, 435.9, 436, 997.02 (any DX on the claim)

*Online supplements are not copyedited prior to posting.*

	Acute myocardial infarction <sup>1</sup>	DX 410.01, 410.11, 410.21, 410.31, 410.41, 410.51, 410.61, 410.71, 410.81, 410.91 (ONLY first or second DX on the claim)
	Peripheral artery disease (Suggestions from CCS) <sup>2</sup>	
	114 Peripheral and visceral atherosclerosis	440.0, 440.1, 440.2, 440.20, 440.21, 440.22, 440.23, 440.29, 440.4, 440.8, 440.9, 443.9, 557.0, 557.1, 557.9
	115 Aortic; peripheral; and visceral artery aneurysms	441.0, 441.00, 441.01, 441.02, 441.03, 441.1, 441.2, 441.3, 441.4, 441.5, 441.6, 441.7, 441.9, 442.0, 442.1, 442.2, 442.3, 442.81, 442.82, 442.83, 442.84, 442.89, 442.9, 443.21, 443.22, 443.23, 443.24, 443.29, 447.70, 447.71, 447.72, 447.73
	116 Aortic and peripheral arterial embolism or thrombosis	444.0, 444.01, 444.09, 444.1, 444.21, 444.22, 444.81, 444.89, 444.9, 445.01, 445.02, 445.81, 445.89
	117 Other circulatory disease	443.0, 443.1, 443.81, 443.82, 443.89, 446.0, 446.1, 446.2, 446.20, 446.21, 446.29, 446.3, 446.4, 446.5, 446.6, 446.7, 447.0, 447.1, 447.2, 447.3, 447.4, 447.5, 447.6, 447.8, 447.9, 448.0, 448.1, 448.9, 458.0, 458.1, 458.8, 458.9, 459.0, 459.89, 459.9, 785.9, 794.30, 794.31, 794.39, 796.2, V125, V1250, V1253, V1254, V1259, V151, V421, V432, V4321, V4322, V434, V717
<b>Asthma</b>	Asthma <sup>1</sup>	DX 493.00, 493.01, 493.02, 493.10, 493.11, 493.12, 493.20, 493.21, 493.22, 493.81, 493.82, 493.90, 493.91, 493.92, (any DX on the claim)
<b>Depression</b>	Depression <sup>1</sup>	DX 296.20, 296.21, 296.22, 296.23, 296.24, 296.25, 296.26, 296.30, 296.31, 296.32, 296.33, 296.34, 296.35, 296.36, 296.51, 296.52, 296.53, 296.54, 296.55, 296.56, 296.60, 296.61, 296.62, 296.63, 296.64, 296.65, 296.66, 296.89, 298.0, 300.4, 309.1, 311 (any DX on the claim)

*Online supplements are not copyedited prior to posting.*

<b>Diabetes</b>	Diabetes <sup>1</sup>	DX 249.00, 249.01, 249.10, 249.11, 249.20, 249.21, 249.30, 249.31, 249.40, 249.41, 249.50, 249.51, 249.60, 249.61, 249.70, 249.71, 249.80, 249.81, 249.90, 249.91, 250.00, 250.01, 250.02, 250.03, 250.10, 250.11, 250.12, 250.13, 250.20, 250.21, 250.22, 250.23, 250.30, 250.31, 250.32, 250.33, 250.40, 250.41, 250.42, 250.43, 250.50, 250.51, 250.52, 250.53, 250.60, 250.61, 250.62, 250.63, 250.70, 250.71, 250.72, 250.73, 250.80, 250.81, 250.82, 250.83, 250.90, 250.91, 250.92, 250.93, 357.2, 362.01, 362.02, 362.03, 362.04, 362.05, 362.06, 366.41 (any DX on the claim)
<b>Osteoporosis</b>	Osteoporosis <sup>1</sup>	DX 733.00, 733.01, 733.02, 733.03, 733.09 (any DX on the claim)
<b>Anemia</b>	Anemia <sup>1</sup>	DX 280.0, 280.1, 280.8, 280.9, 281.0, 281.1, 281.2, 281.3, 281.4, 281.8, 281.9, 282.0, 282.1, 282.2, 282.3, 282.41, 282.42, 282.49, 282.5, 282.60, 282.61, 282.62, 282.63, 282.64, 282.68, 282.69, 282.7, 282.8, 282.9, 283.0, 283.10, 283.11, 283.19, 283.2, 283.9, 284.01, 284.09, 284.1, 284.2, 284.81, 284.89, 284.9, 285.0, 285.1, 285.21, 285.22, 285.29, 285.3, 285.8, 285.9 (any DX on the claim)

CCS= Clinical Classifications Software; DX=diagnosis; HCUP= Healthcare Cost and Utilization Project; GFR=glomerular filtration rate.

<sup>1</sup>Chronic Conditions Data Warehouse. Condition Categories.

<http://www.ccwdata.org/web/guest/condition-categories>. Accessed July 10, 2013.

<sup>2</sup>HCUP Clinical Classifications Software for ICD-9-CM. Healthcare Cost and Utilization Project. 2013. Agency for Healthcare Research and Quality, Rockville, MD. [www.hcup-us.ahrq.gov/toolssoftware/ccs/ccs.jsp](http://www.hcup-us.ahrq.gov/toolssoftware/ccs/ccs.jsp). Accessed June 17, 2013.

*Online supplements are not copyedited prior to posting.*