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| **Appendix 3.** International Classification of Diseases, 9th Revision (ICD-9) codes for the modified Charlson Comorbidity Index algorithm | |
| Comorbidity | Code |
| Congestive heart failure | 398.91, 402.01, 402.11, 402.91, 404.01, 404.03, 404.11, 404.13, 404.91, 404.93, 425.4-425.9, 428-428.43 |
| Dementia | 290, 290.0, 290.3, 290.8-290.43, 294.1, 294.11-294.21, 331.2 |
| Chronic pulmonary disease | 416.8, 416.9, 490-491.0, 491.2-495.2, 495.4-505, 506.4, 508.1, 508.8 |
| Rheumatologic disease | 466.5, 710.0-710.4, 714.0-714.2, 714.8, 725 |
| Mild liver disease\* | 070.22, 070.23, 070.32, 070.33, 070.44, 070.54, 070.6, 070.9, 570, 570.1, 573.3, 573.4, 573.8, 753.9, V42.7 |
| Diabetes with chronic complications | 249.40-249.91, 250.40-250.90 |
| Hemiplegia or paraplegia | 342.00-342.92, 344.00-344.5, 344.89-344.9 |
| Renal disease | 403.01, 403.11, 403.91, 404.02, 404.03, 404.12, 404.13, 404.92, 404.93, 582-583.7, 585-586, 588.0, V42.0, V45.1, V56-V56.8 |
| Any malignancy, including leukemia and lymphoma\* | 150.0-159.0, 162-173.59, 173.70-175.9, 180.0-183.9, 185-186.9, 188.0-188.6, 188.8-189.4, 189.9, 191.0-192.3, 192.9-194.4, 200.2-202.38, 202.70-202.81, 203.0-204.22, 204.90-208.22, 208.90-209.36, 209.70, 209.72-209.79, 230.2-230.6, 230.8, 231.2, 231.9, 232.5-232.7, 233.0, 233.1, 233.31, 233.32, 233.4, 233.7, 235.2-235.4, 235.7, 235.8, 236.2, 236.4, 236.5, 236.7-236.91, 237.1-237.4, 237.6, 238.0-238.3, 238.79, 239.0-239.4, 239.6, 239.7, 239.89, 239.9 |
| Moderate or severe liver disease\* | 456.0-456.2, 572.2-572.8 |
| Metastatic solid tumor\* | 197.0-198.7, 198.81-190.9, 192.0-196.9, 199.0 |
| AIDS/HIV | 042 |
| \*The following comorbidities were mutually exclusive: mild liver disease and moderate or severe liver disease and any malignancy and metastatic solid tumor. | |
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