

**Appendix 1.** List of codes for primary study definitions.

<b>Breast cancer</b>	ICD-10 code C50
<b>Bone metastasis</b>	ICD-10 code C79.5
<b>Distant metastasis to sites other than bone</b>	ICD-10 codes C77-79 (excluding C79.5)
<b>CCI conditions</b>	ICD-8 and ICD-10 codes
Myocardial infarction	410, I21, I22, I23
Congestive heart failure	427.09, 427.10, 427.11, 427.19, 428.99, 782.49, I50, I11.0 I13.0, I13.2
Peripheral vascular disease	440, 441, 442, 443, 444, 445, I70, I71, I72, I73, I74, I77
Cerebrovascular disease	430-438, I60-I69, G45, G46
Dementia	290.09-290.19, 293.09, F00-F03, F05.1, G30
Chronic obstructive pulmonary disease	490-493, 515-518, J40-J47, J60-J67, J68.4, J70.1, J70.3, J84.1, J92.0, J96.1, J98.2, J98.3
Connective tissue disease	712, 716, 734, 446, 135.99, M05, M06, M08, M09, M30, M31, M32, M33, M34, M35, M36, D86
Ulcer disease	530.91, 530.98, 531-534, K22.1, K25-K28
Mild liver disease	571, 573.01, 573.04, B18, K70.0-K70.3, K70.9, K71, K73, K74, K76.0
Diabetes types I and II	249.00, 249.06, 249.07, 249.09, 250.00, 250.06, 250.07, 250.09, E10.0, E10.1, E10.9, E11.0, E11.1, E11.9
Hemiplegia	344, G81, G82
Moderate to severe renal disease	403, 404, 580-583, 584, 590.09, 593.19, 753.10-753.19, 792, I12, I13, N00-N05, N07, N11, N14, N17-N19, Q61
Diabetes + end-organ failure	249.01-249.05, 249.08, 250.01-250.05, 250.08, E10.2-8, E11.2-8
Any tumor	140-194, C00-C75
Leukemia	204-207, C91-C95
Lymphoma	200-203, 275.59, C81-C85, C88, C90, C96
Moderate/severe liver disease	070.00, 070.02, 070.04, 070.06, 070.08, 573.00, 456.00-456.09, B15.-, B16.0, B16.2, B19.0, K70.4, K72, K76.6, I85
Metastatic solid tumor	195-198; 199, C76-C80
Acquired immunodeficiency syndrome	079.83, B21-B24
<b>SREs</b>	
Fractures of the vertebrae, ribs and pelvis, femur and distal forearm	ICD-8 and ICD-10 codes M80.0, M84.4, M90.7, S12.0-S12.9, S22.0, S22.1, S32.0-S32.8, S72.0-S72.9, S52.5-S.52.6
Spinal cord compression	ICD-10 codes M43.9, M48.5, M54.5, M54.6, M54.9, G95.2, G95.8
Surgery to bone	NCSP code KNAGxx
Radiation	NCSP code BWGC1

<b>Immunochemistry expression</b>	<b>Systematized Nomenclature of Medicine (<a href="http://www.snomed.org">http://www.snomed.org</a>)</b>
Estrogen receptor-positive	F29521, FYY501
Estrogen receptor-negative	F29525, FYY505
Progesterone receptor-positive	F29551, FYY601
Progesterone receptor-negative	F29555, FYY605
HER2-negative (normal)	F29601
HER2-positive (over-expression)	F29603

CCI: Charlson Comorbidity Index; HER: human epidermal growth factor receptor 2; ICD-8: *International Classification of Diseases*, 8<sup>th</sup> Revision; ICD-10: *International Classification of Diseases*, 10<sup>th</sup> Revision; NCSP: Nordic Classification of Surgical Procedures; SREs: skeletal-related events