APPENDIX A: Selected comorbidities defined by ICD-9 codes

|  |  |
| --- | --- |
| Non-metastatic cancer other than non-melanoma skin cancer | 140.x-172.x, 174.x-195.8, 200.x-208.x, 238.6[20](#_ENREF_20) |
| Metastatic solid tumor | 196.x-199.x[20](#_ENREF_20) |
| Chronic pain | Osteoarthritis 715x Back pain (dorsopathies) 720x-724x Peripheral nervous system disorders 350x-359x Fibromyalgia 729.1[9](#_ENREF_9) |
| Chronic pulmonary disease | 416.8, 416.9, 490.x-505.x, 506.4, 508.1, 508.8[20](#_ENREF_20) |
| Complicated diabetes | 250.4-250.9[20](#_ENREF_20) |
| 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.x[20](#_ENREF_20) |
| Renal disease | 403.01, 403.11, 403.91, 404.02, 404.03, 404.12, 404.13, 404.92, 404.93, 582.x, 583.0-583.7, 585.x, 586.x, 588.0, V42.0, V45.1, V56.x[20](#_ENREF_20) |
| Dementia | 290.x, 294.1, 331.2[20](#_ENREF_20) |
| Mental health | anxiety disorders 300.00 to 300.09, 300.20-300.29, and 300.3  adjustment disorder 309.0-309.9 (excluding 309.81)  depressive disorders 296.20 to 296.35, 296.50 to 296.55, 296.90, and 300.4  substance use disorders 303, 304, 305[19](#_ENREF_19) |
| Post-traumatic stress disorder | 309.81[19](#_ENREF_19) |

APPENDIX B: Medications used in definition of opioid exposure and frequency of prescription

|  |  |
| --- | --- |
| Drug | Number (%) of total prescriptions N=257,623 |
| Hydrocodone | 100,379 (38.97) |
| Oxycodone (Immediate release) | 43,558 (16.95) |
| Tramadol | 36,658 (14.23) |
| Morphine (sustained action) | 27,700 (10.75) |
| Codeine | 15,153 (5.88) |
| Methadone | 11,043 (4.29) |
| Morphine (immediate release) | 7,771 (3.02) |
| Oxycodone (extended release) | 4,926 (1.91) |
| Fentanyl | 4,279 (1.66) |
| Propoxyphene | 3,262 (1.27) |
| Hydromorphone | 2,669 (1.03) |
| Pentazocine | 33 (0.02) |
| Meperidine | 32 (0.02) |
| Oxymorphone | 14 (--) |
| Levorphanol | 2 (--) |

APPENDIX C: Days of opioids prescribed among the chronic opioid therapy group

|  |  |  |
| --- | --- | --- |
| Days prescribed (range) | Number (%) | Cumulative number (%) |
| 90 | 3,610 (11.35) | 3,610 (11.35) |
| 91-119 | 1,264 ( 3.98) | 4,874 (15.33) |
| 120 | 3,226 (10.14) | 8,100 (25.47) |
| 121-149 | 1,689 (3.42) | 9,189 (28.89) |
| 150 | 3,082 (9.69) | 12,271 (38.59) |
| 151-179 | 1,449 (4.55) | 13,720 (43.14) |
| 180 | 5,348 (16.82) | 19,068 (59.96) |
| >180 | 12,734 (40.04) | 31,802 (100) |