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REPORT

RAND/UCLA Quality-of-Care Measures for Carpal Tunnel Syndrome

Appendix III: Quality Measures: Identifying Relevant Patients Using Administrative (Claims) Data

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Appendix III: Quality Measures: Identifying Relevant Patients Using Administrative (Claims) Data

We have defined four categories of patients in order to identify populations that may be eligible for the measures in each of the sections. Categories 3 and 4 are essential because they include patients who have a diagnosis of CTS. Including patients from categories 1 and 2 is optional, but doing so provides a more representative assessment of the quality of the initial work-up because it entails assessing care of patients who might have unrecognized CTS.

1. **Category 1**: Patients who have been diagnosed with other neurological conditions that typically cause paresthesias, numbness, or tingling in the fingers. These are needed to thoroughly assess the quality of the initial work-up because these conditions are often confused with CTS.

2. **Category 2**: Patients who have other non-neurological conditions that cause pain in the hand or forearm. These are needed to assess the initial work-up, particularly distinguishing CTS from serious or urgent conditions.

3. **Category 3**: Patients who have been diagnosed with CTS but have not undergone carpal tunnel surgery. These are needed to assess the quality of the initial work-up, non-operative care and the underuse of carpal tunnel surgery when it is strongly indicated, and

4. **Category 4**: Patients who have been diagnosed with CTS and have undergone carpal tunnel release surgery. These are needed to assess the use of carpal tunnel surgery when it is strongly contraindicated, as well as the quality of the pre-operative, intra-operative, and post-operative care.

When using administrative data containing ICD-9 and CPT codes to identify populations of patients in each category, it is better to use the four- or five-digit ICD-9 codes than three-digit codes. If ICD-9 and CPT codes are available, pick categories that match the four categories of patients above as closely as possible.

1. **Patients in Category 1**

Measures in Appendix IV Section 3 apply to patients with paresthesias, numbness, and tingling in the first to third digits. It obviously is not possible to sample patients with these exact symptoms using ICD-9 codes. However, it is possible to use ICD-9 codes to identify patients diagnosed with conditions that cause similar symptoms, i.e., a population of potentially eligible patients. Patients with such symptoms may also be eligible for measures in Sections 4 and 5. Medical record review is necessary to identifying which patients are actually eligible for each measure.

1. **353 Nerve root and plexus disorders**
   a. **353.0 Brachial plexus lesions**
      i. Cervical rib syndrome
      ii. Costoclavicular syndrome
      iii. Scalenus anticus syndrome
      iv. Thoracic outlet syndrome
   b. **353.2 Cervical root lesions, not elsewhere classified**

2. **354 Mononeuritis of upper limb and mononeuritis multiplex**
   a. **NOT 354.0 or 354.1 (covered by Category 3)**
   b. **354.2 Lesion of ulnar nerve**
      i. Cubital tunnel syndrome
ii. Tardy ulnar nerve palsy

3. 354.3 Lesion of radial nerve
   i. Acute radial nerve palsy

d. 354.4 Causalgia of upper limb

e. 354.8 Other mononeuritis of upper limb

f. 354.9 Mononeuritis of upper limb, unspecified

3. 722.0 Displacement of cervical intervertebral disc without myelopathy
   a. Neuritis (brachial) or radiculitis due to displacement or rupture of cervical intervertebral disc
   b. Any condition classifiable to 722.2 of the cervical or cervicothoracic intervertebral disc
      i. Discogenic syndrome NOS
      ii. Herniation of nucleus pulposus NOS
      iii. Intervertebral disc NOS:
          1. Extrusion
          2. Prolapse
          3. Protrusion
          4. Rupture

4. 723.4 Brachial neuritis or radiculitis NOS
   a. Cervical radiculitis
   b. Radicular syndrome of upper limbs

5. 907 Late effects of injuries to the nervous system
   a. 907.3 Late effect of injury to nerve root(s), spinal plexus(es), and other nerves of trunk (Late effect of injury classifiable to 953-954)
   b. 907.4 Late effect of injury to peripheral nerve of shoulder girdle and upper limb (Late effect of injury classifiable to 955)

6. 955 Injury to peripheral nerve(s) of shoulder girdle and upper limb
   a. 955.0 Axillary nerve
   b. 955.1 Median nerve
   c. 955.2 Ulnar nerve
   d. 955.3 Radial nerve
   e. 955.4 Musculocutaneous nerve
   f. 955.5 Cutaneous sensory nerve, upper limb
   g. 955.6 Digital nerve
   h. 955.7 Other specified nerve(s) of shoulder girdle and upper limb
   i. 955.8 Multiple nerves of shoulder girdle and upper limb
   j. 955.9 Unspecified nerve of shoulder girdle and upper limb

2. Patients in Category 2

Patients in Category 2 have non-neurological disorders that may sometimes be confused with CTS; Appendix IV Sections 4 and 5 focus on efforts to distinguish CTS from other conditions. The measures in Section 3 are also relevant to Category 2 patients who have paresthesias, numbness, and tingling but CTS has not been diagnosed.

Note that the list of ICD-9 codes below excludes a small number of codes that do not distinguish between upper and lower extremity conditions. I.e., the sampling frame may miss a few patients who would be eligible for some of the measures, but identifying these patients would require reviewing the records of many patients who are ineligible.
1. **170 Malignant neoplasm of bone and articular cartilage**
   a. **170.5 Short bones of upper limb**
      i. Carpal
      ii. Cuneiform, wrist
      iii. Metacarpal
   b. **681.0 Cellulitis and abscess of finger** (Includes: that with lymphangitis)
   c. **682.4 Other cellulitis and abscess, Hand, except fingers and thumb**
      1. Wrist
   d. **726.4 Enthesopathy of wrist and carpus**
      i. Bursitis of hand or wrist
      ii. Periarthritis of wrist
   e. **727 Other disorders of synovium, tendon, and bursa**
      i. **727.04 Radial styloid tenosynovitis**
         1. de Quervain’s disease
      ii. **727.05 Other tenosynovitis or hand and wrist**
      iii. **727.2 Specific bursitides often of occupational origin**
         1. Beat:
            a. Elbow
            b. Hand
            c. Knee
         2. Chronic crepitant synovitis of wrist
         3. Miners’:
            a. Elbow
            b. Knee
      iv. **727.4 Ganglion and cyst of synovium, tendon, and bursa**
      v. **727.63 Rupture of extensor tendons of hand and wrist**
      vi. **727.64 Rupture of flexor tendons of hand and wrist**
   f. **814 Fracture of carpal bone(s)**
   g. **833 Dislocation of wrist**
   h. **834 Dislocation of finger**
   i. **842 Sprains and strains of wrist and hand**
      i. **842.0 Wrist**
      ii. **842.00 Unspecified site**
      iii. **842.01 Carpal (joint)**
      iv. **842.02 Radiocarpal (joint) (ligament)**
      v. **842.09 Other**
         1. Radialulnar joint, distal
   j. **905 Late effects of musculoskeletal and connective tissue injuries**
i. 905.2 Late effect of fracture of upper extremities
k. 923 Contusion of upper limb
   i. 923.2 Wrist and hand(s), except finger(s) alone
   ii. 923.20 Hand(s)
   iii. 923.21 Wrist
l. 959 Injury, other and unspecified
   i. 959.4 Hand, except finger
   ii. 959.5 Finger
      1. Fingernail
      2. Thumb (nail)

3. Patients in Category 3

Category 3 patients may be eligible for measures in Appendix IV Sections 3 through 11 because they have been given a diagnosis of CTS. These patients have NOT undergone carpal tunnel surgery, since those are placed in Category 4. Patients in Category 3 may have other diagnoses from Categories 1 and 2 above in addition to CTS. These patients should have the following codes:

1. ICD-9 Code
   a. 354.0 Carpal tunnel syndrome
   b. 354.1 Other lesion of median nerve
      i. Median nerve neuritis
2. NOT CPT Codes
   a. 29848 Endoscopic carpal tunnel release
   b. 64721 Neuroplasty and/or transposition; median nerve at carpal tunnel

4. Patients in Category 4

Category 4 patients may be eligible for measures in Appendix IV Sections 3 through 15 because they have been given a diagnosis of CTS and have undergone carpal tunnel release. Patients in Category 4 may have other diagnoses from Categories 1 and 2 above in addition to CTS. Patients should have both of the following:

1. ICD-9 Code
   a. 354.0 Carpal tunnel syndrome
   b. 354.1 Other lesion of median nerve
      i. Median nerve neuritis
2. CPT Codes
   a. 29848 Endoscopic carpal tunnel release
   b. 64721 Neuroplasty and/or transposition; median nerve at carpal tunnel