2015 MEASURE INFORMATION ABOUT THE 30-DAY ALL-CAUSE HOSPITAL READMISSION MEASURE, CALCULATED FOR THE VALUE-BASED PAYMENT MODIFIER PROGRAM

A. Measure Name

30-day All-Cause Hospital Readmission measure

B. Measure Description

The 30-day All-Cause Hospital Readmission measure is a risk-standardized readmission rate for beneficiaries age 65 or older who were hospitalized at a short-stay acute-care hospital and experienced an unplanned readmission for any cause to an acute care hospital within 30 days of discharge. The measure applies to solo practitioners and groups, as identified by their Medicare Taxpayer Identification Number (TIN).

This TIN-level, risk-standardized, all-cause unplanned readmission measure is adapted from a hospital-level quality measure developed for the Centers for Medicare & Medicaid Services (CMS) by the Yale School of Medicine Center for Outcomes Research & Evaluation (Yale/CORE) (Horwitz et al. 2011). This version of the measure is based on the measure updates developed for CMS by Yale/CORE in 2015 (Horwitz et al. 2015). For the Annual Quality and Resource Use Reports (QRURS) only, CMS has edited Yale/CORE’s 2015 measure to create a preliminary version that incorporates ICD-10 coding.

For each TIN participating in a Medicare Shared Savings Program Accountable Care Organization (ACO), CMS will compute the TIN’s performance on this measure at the TIN level for the Mid-Year QRUR for informational purposes. However, CMS will display the TIN’s ACO performance on this measure in the Annual QRUR and include the ACO’s performance in the TIN’s Quality Composite Score for the 2017 Value Modifier.1

C. Rationale

Some readmissions are unavoidable, but they may also result from poor quality of care, inadequate coordination of care, or lack of effective discharge planning and transitional care. CMS is applying this measure to the Value Modifier because reducing avoidable readmissions is a key component in the effort to promote more efficient, high-quality care.

1 For ACO-level All-Cause Hospital Readmission measure calculations, please see the following documentation: https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/sharedsavingsprogram/Downloads/ACO-8.pdf.
Information on TINs’ performance on this measure is included in the Mid-Year and Annual QRURs and used in the calculation of the Value Modifier.

The information in this document was used to calculate this measure for the 2017 Value Modifier (based on calendar year 2015 data) as shown in the 2015 Annual QRUR. The 2015 Mid-Year QRUR provides a preview of each TIN’s performance on this measure based on data from July 1, 2014 to June 30, 2015.

D. Measure Outcome (Numerator)

The outcome for this measure is any unplanned readmission to a non-federal, short-stay, acute-care or critical access hospital within 30 days of discharge from an index admission. The identification of planned readmissions is discussed in section H. Readmissions during the 30-day period that follow a planned readmission are not counted in the outcome. In the case of multiple readmissions during the 30-day period, the measure counts only one outcome. Readmissions to the same hospital on the same day for the same principal diagnosis are not counted in the outcome.

E. Population Measured (Denominator)

Eligible (index) admissions include acute care hospitalizations for Medicare Fee-for-Service (FFS) beneficiaries age 65 or older at non-federal, short-stay, acute-care or critical access hospitals that occurred during the performance period and are not excluded for the reasons listed in the next section. Admissions for all principal diagnoses are included unless identified as having an exclusion. A hospital stay that counts as a readmission for a prior stay also counts as a new index stay if it meets the criteria for an index stay.

For the purposes of measure calculation (described in section H), the eligible admissions are assigned to one of five specialty cohorts—surgery/gynecology, general medicine, cardiorespiratory, cardiovascular, and neurology—based on diagnoses and procedure codes on the claim mapped to Agency for Healthcare Research and Quality (AHRQ) Clinical Classifications Software (CCS); section I provides a link to methodology reports that contain the detailed CCS categories for each cohort.

F. Exclusions

Beneficiaries are excluded from the population measured if they:

- were enrolled in Medicare Part A only or Medicare Part B only for any month during the performance period
- were enrolled in a private Medicare health plan (for example, a Medicare Advantage HMO/PPO, or a Medicare private FFS plan) for any month during the performance period

2 This measure does not have a traditional numerator and denominator like a process of care measure; see risk adjustment and other resources below for more detail on measure construction.
• resided outside of the United States, its territories, and its possessions during the performance period

In addition, hospitalizations are excluded from the denominator if the beneficiary:

• died during the admission
• was not continuously enrolled in Medicare Part A FFS for at least 30 days following discharge from the index admission
• lacked complete Medicare Part A FFS enrollment history for the 12 months prior to the index admission
• was discharged against medical advice
• was transferred from the admission to another acute care hospital
• was hospitalized in a prospective payment system-exempt cancer hospital
• was hospitalized for medical treatment of cancer
• was hospitalized for a primary psychiatric disease

G. Data Collection Approach and Measure Collection

This measure is calculated from Medicare FFS claims (Parts A and B) and Medicare beneficiary enrollment data; no additional data submission is required. The measure uses one year of inpatient claims to identify eligible admissions and readmissions, as well as up to one year prior of inpatient data to collect diagnoses for risk adjustment. The measure uses Part A and B paid claims from the performance period to attribute beneficiaries to TINs as described in the next section.

H. Methodological Information and Measure Construction

Attribution. For the 30-day All-Cause Hospital Readmission measure, beneficiaries are attributed to a single TIN in a two-step process that takes into account the level of primary care services received (as measured by Medicare-allowed charges during the performance period) and the provider specialties that performed these services. Only beneficiaries who received a primary care service during the performance period are considered in attribution. For more information on attribution, please see the Attribution Fact Sheet at the following URL: https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeedbackProgram/2015-QRUR.html.

3 These are identified by AHRQ CCS categories; see Table 1 for a listing of CCS categories for cancer that are excluded from the set of eligible index admissions.

4 See Table 2 for a listing of AHRQ CCS categories for psychiatric disease that are excluded from the set of eligible index admissions.
The following two steps are used to attribute beneficiaries to a TIN for the 30-day All-Cause Hospital Readmission measure:

a. A beneficiary is attributed to a TIN in the first step if the beneficiary received more primary care services (as defined in Table 3) from primary care physicians (PCPs), nurse practitioners (NPs), physician assistants (PAs), and clinical nurse specialists (CNSs) in that TIN than in any other TIN.4

b. If a beneficiary did not receive a primary care service from any PCP, NP, PA, or CNS during the performance period, the beneficiary is attributed to a TIN in the second step if the beneficiary received more primary care services from specialist physicians within the TIN than in any other TIN.

Planned readmissions. This measure does not count hospitalizations that are considered planned in the outcome. Planned readmissions are identified based on the following three principles: (1) some types of care are always considered planned (obstetrical delivery, transplant surgery, maintenance chemotherapy, rehabilitation); (2) otherwise, a planned readmission is defined as a non-acute readmission for a scheduled procedure; and (3) admissions for acute illness or for complications of care are never planned. Tables 4 and 5 present procedure and diagnosis categories that are always considered planned, identified by AHRQ CCS. Table 6 presents procedure codes that are considered planned as long as they are not accompanied by one of the acute diagnoses listed in Table 7.

Risk adjustment and measure construction. Risk-adjusted readmissions account for beneficiary-level age and clinical risk factors of the beneficiaries attributed to the TIN that can affect hospital readmissions, regardless of the care provided. Risk-adjusted readmissions also include a TIN-level effect that accounts for the underlying risk of readmission for that TIN. The measure reports a single composite risk-standardized rate derived from the volume-weighted results of hierarchical regression models for five specialty cohorts: surgery/gynecology, general medicine, cardiorespiratory, cardiovascular, and neurology. For more detail on risk adjustment and measure construction, please see the technical reports referenced in Section I below.

Each specialty cohort model uses a fixed, common set of risk-adjustment variables summarized in Table 8. Diagnoses recorded in hospital claims during the year prior to hospitalization and secondary diagnoses from the index admission (that do not represent complications) are used in assigning risk-adjustment variables for each admission, grouped by selected condition categories. Diagnoses that are present on the index hospitalization claim but not in the prior year and which are considered complications of care are not included in the risk adjustment; see Table 9 for diagnosis categories considered to be complications of care.

A Hierarchical Generalized Linear Model (HGLM) logistic regression model is used to calculate a “standardized readmission ratio” (SRR) for each cohort. At the beneficiary level, HGLM models the log-odds of hospital readmission within 30 days of discharge using age, selected clinical covariates, and a TIN-specific intercept. At the TIN level, it models the TIN-specific intercepts as arising from a normal distribution. The TIN-level intercept represents the underlying risk of a readmission for a TIN’s beneficiaries, after accounting for beneficiary risk. The TIN-specific intercepts are given a distribution to account for the clustering (non-independence) of beneficiaries within the same TIN.
For each specialty cohort, the numerator of the SRR (“predicted”) is the number of 30-day readmissions for beneficiaries within the specialty cohort predicted on the basis of the TIN’s performance (accounting for its TIN-specific intercept) with its observed case mix; the denominator (“expected”) is the number of readmissions expected for beneficiaries within the specialty cohort on the basis of the nation’s performance with that TIN’s case mix. If a TIN has an SRR > 1, this indicates higher than expected readmissions given the patient mix of its attributed beneficiaries; an SRR < 1 indicates lower than expected readmissions.

These SRRs are then pooled for each TIN to create a composite SRR. The composite SRR is the geometric mean of the specialty cohort SRRs, weighted by the number of admissions in the specialty cohort; the pooled SRR is then multiplied by the national observed readmission rate to produce the risk-standardized rate.

I. For Further Information

This risk-standardized, 30-day All-Cause Hospital Readmission measure is adapted from a hospital risk-standardized, all condition readmission quality measure previously developed for CMS by the CORE (Horwitz et al., 2011). Specifically, it is calculated at the TIN level for the Value-Based Payment Modifier Program. This version of the measure is based on the measure updates developed for CMS by Yale/CORE in 2015 (Horwitz et al., 2015). For the Annual QRURs only, CMS has edited Yale’s 2015 measure to create a preliminary version that incorporates ICD-10 coding in the last quarter of the CY2015 performance period. For the measure specifications and other information, please visit https://www.qualitynet.org and click on the “Hospitals-Inpatient” tab, scroll down to the “Claims-Based Measures” option, click on “Readmission Measures” and then select “Measure Methodology”.

More information about the 2015 QRURs and 2017 Value Modifier is available at: https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeedbackProgram/2015-QRUR.html.

5 This measure is also applied at the Shared Savings Program ACO level for that program. For more information see: https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/sharedsavingsprogram/Downloads/ACO-8.pdf
J. References


### Table 1. Cancer discharge condition categories excluded from eligible admissions

<table>
<thead>
<tr>
<th>AHRQ CCS (ICD-9)</th>
<th>Brief description</th>
<th>AHRQ CCS (ICD-10)</th>
<th>Brief description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Cancer of head and neck</td>
<td>11</td>
<td>Cancer of head and neck</td>
</tr>
<tr>
<td>12</td>
<td>Cancer of esophagus</td>
<td>12</td>
<td>Cancer of esophagus</td>
</tr>
<tr>
<td>13</td>
<td>Cancer of stomach</td>
<td>13</td>
<td>Cancer of stomach</td>
</tr>
<tr>
<td>14</td>
<td>Cancer of colon</td>
<td>14</td>
<td>Cancer of colon</td>
</tr>
<tr>
<td>15</td>
<td>Cancer of rectum and anus</td>
<td>15</td>
<td>Cancer of rectum and anus</td>
</tr>
<tr>
<td>16</td>
<td>Cancer of liver and intrahepatic bile duct</td>
<td>16</td>
<td>Cancer of liver and intrahepatic bile duct</td>
</tr>
<tr>
<td>17</td>
<td>Cancer of pancreas</td>
<td>17</td>
<td>Cancer of pancreas</td>
</tr>
<tr>
<td>18</td>
<td>Cancer of other GI organs, peritoneum</td>
<td>18</td>
<td>Cancer of other GI organs, peritoneum</td>
</tr>
<tr>
<td>19</td>
<td>Cancer of bronchus, lung</td>
<td>19</td>
<td>Cancer of bronchus, lung</td>
</tr>
<tr>
<td>20</td>
<td>Cancer, other respiratory and intrathoracic</td>
<td>20</td>
<td>Cancer, other respiratory and intrathoracic</td>
</tr>
<tr>
<td>21</td>
<td>Cancer of bone and connective tissue</td>
<td>21</td>
<td>Cancer of bone and connective tissue</td>
</tr>
<tr>
<td>22</td>
<td>Melanomas of skin</td>
<td>22</td>
<td>Melanomas of skin</td>
</tr>
<tr>
<td>23</td>
<td>Other non-epithelial cancer of skin</td>
<td>23</td>
<td>Other non-epithelial cancer of skin</td>
</tr>
<tr>
<td>24</td>
<td>Cancer of breast</td>
<td>24</td>
<td>Cancer of breast</td>
</tr>
<tr>
<td>25</td>
<td>Cancer of uterus</td>
<td>25</td>
<td>Cancer of uterus</td>
</tr>
<tr>
<td>26</td>
<td>Cancer of cervix</td>
<td>26</td>
<td>Cancer of cervix</td>
</tr>
<tr>
<td>27</td>
<td>Cancer of ovary</td>
<td>27</td>
<td>Cancer of ovary</td>
</tr>
<tr>
<td>28</td>
<td>Cancer of other female genital organs</td>
<td>28</td>
<td>Cancer of other female genital organs</td>
</tr>
<tr>
<td>29</td>
<td>Cancer of prostate</td>
<td>29</td>
<td>Cancer of prostate</td>
</tr>
<tr>
<td>30</td>
<td>Cancer of testis</td>
<td>30</td>
<td>Cancer of testis</td>
</tr>
<tr>
<td>31</td>
<td>Cancer of other male genital organs</td>
<td>31</td>
<td>Cancer of other male genital organs</td>
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<tr>
<td>32</td>
<td>Cancer of bladder</td>
<td>32</td>
<td>Cancer of bladder</td>
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<td>33</td>
<td>Cancer of kidney and renal pelvis</td>
<td>33</td>
<td>Cancer of kidney and renal pelvis</td>
</tr>
<tr>
<td>34</td>
<td>Cancer of other urinary organs</td>
<td>34</td>
<td>Cancer of other urinary organs</td>
</tr>
<tr>
<td>35</td>
<td>Cancer of brain and nervous system</td>
<td>35</td>
<td>Cancer of brain and nervous system</td>
</tr>
<tr>
<td>36</td>
<td>Cancer of thyroid</td>
<td>36</td>
<td>Cancer of thyroid</td>
</tr>
<tr>
<td>37</td>
<td>Hodgkin’s disease</td>
<td>37</td>
<td>Hodgkin’s disease</td>
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<tr>
<td>38</td>
<td>Non-Hodgkin’s lymphoma</td>
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<td>Non-Hodgkin’s lymphoma</td>
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<td>39</td>
<td>Leukemias</td>
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<td>Leukemias</td>
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<tr>
<td>40</td>
<td>Multiple myeloma</td>
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<td>Multiple myeloma</td>
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<td>41</td>
<td>Cancer, other and unspecified primary</td>
<td>41</td>
<td>Cancer, other and unspecified primary</td>
</tr>
<tr>
<td>42</td>
<td>Secondary malignancies</td>
<td>42</td>
<td>Secondary malignancies</td>
</tr>
<tr>
<td>43</td>
<td>Malignant neoplasm without specification of site</td>
<td>43</td>
<td>Malignant neoplasm without specification of site</td>
</tr>
<tr>
<td>44</td>
<td>Neoplasms of unspecified nature or uncertain behavior</td>
<td>44</td>
<td>Neoplasms of unspecified nature or uncertain behavior</td>
</tr>
<tr>
<td>45</td>
<td>Maintenance chemotherapy, radiotherapy</td>
<td>45</td>
<td>Maintenance chemotherapy, radiotherapy</td>
</tr>
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</table>
## Table 2. Psychiatric discharge condition categories excluded from eligible admissions

<table>
<thead>
<tr>
<th>AHRQ CCS (ICD-9)</th>
<th>Brief description</th>
<th>AHRQ CCS (ICD-10)</th>
<th>Brief description</th>
</tr>
</thead>
<tbody>
<tr>
<td>650</td>
<td>Adjustment disorders</td>
<td>650</td>
<td>Adjustment disorders</td>
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<tr>
<td>651</td>
<td>Anxiety disorders</td>
<td>651</td>
<td>Anxiety disorders</td>
</tr>
<tr>
<td>652</td>
<td>Attention-deficit, conduct, and disruptive behavior disorders</td>
<td>652</td>
<td>Attention-deficit</td>
</tr>
<tr>
<td>654</td>
<td>Developmental disorders</td>
<td>654</td>
<td>Developmental disorders</td>
</tr>
<tr>
<td>655</td>
<td>Disorders usually diagnosed in infancy, childhood, or adolescence</td>
<td>655</td>
<td>Disorders usually diagnosed in infancy</td>
</tr>
<tr>
<td>656</td>
<td>Impulse control disorders, NEC</td>
<td>656</td>
<td>Impulse control disorders</td>
</tr>
<tr>
<td>657</td>
<td>Mood disorders</td>
<td>657</td>
<td>Mood disorders</td>
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<td>658</td>
<td>Personality disorders</td>
<td>658</td>
<td>Personality disorders</td>
</tr>
<tr>
<td>659</td>
<td>Schizophrenia and other psychotic disorders</td>
<td>659</td>
<td>Schizophrenia and other psychotic disorders</td>
</tr>
<tr>
<td>662</td>
<td>Suicide and intentional self-inflicted injury</td>
<td>662</td>
<td>Suicide and intentional self-inflicted injury</td>
</tr>
<tr>
<td>670</td>
<td>Miscellaneous disorders</td>
<td>670</td>
<td>Miscellaneous disorders</td>
</tr>
</tbody>
</table>

## Table 3. Healthcare Common Procedure Coding System (HCPCS) primary care service codes

<table>
<thead>
<tr>
<th>HCPCS codes</th>
<th>Brief description</th>
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</thead>
<tbody>
<tr>
<td>99201–99205</td>
<td>New patient, office, or other outpatient visit</td>
</tr>
<tr>
<td>99211–99215</td>
<td>Established patient, office, or other outpatient visit</td>
</tr>
<tr>
<td>99304–99306</td>
<td>New patient, nursing facility care</td>
</tr>
<tr>
<td>99307–99310</td>
<td>Established patient, nursing facility care</td>
</tr>
<tr>
<td>99315–99316</td>
<td>Established patient, discharge day management service</td>
</tr>
<tr>
<td>99318</td>
<td>Established patient, other nursing facility service</td>
</tr>
<tr>
<td>99324–99328</td>
<td>New patient, domiciliary or rest home visit</td>
</tr>
<tr>
<td>99334–99337</td>
<td>Established patient, domiciliary or rest home visit</td>
</tr>
<tr>
<td>99339–99340</td>
<td>Established patient, physician supervision of patient (patient not present) in home, domiciliary, or rest home</td>
</tr>
<tr>
<td>99341–99345</td>
<td>New patient, home visit</td>
</tr>
<tr>
<td>99347–99350</td>
<td>Established patient, home visit</td>
</tr>
<tr>
<td>G0402</td>
<td>Initial Medicare visit</td>
</tr>
<tr>
<td>G0438</td>
<td>Annual wellness visit, initial</td>
</tr>
<tr>
<td>G0439</td>
<td>Annual wellness visit, subsequent</td>
</tr>
<tr>
<td>G0463</td>
<td>Hospital outpatient clinic visit (Electing Teaching Amendment hospitals only)</td>
</tr>
</tbody>
</table>

Table 4. Procedure categories that are always considered planned (version 3.0)

<table>
<thead>
<tr>
<th>AHRQ Procedure CCS (ICD-9)</th>
<th>Description</th>
<th>AHRQ Procedure CCS (ICD-10)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>64</td>
<td>Bone marrow transplant</td>
<td>64</td>
<td>Bone marrow transplant</td>
</tr>
<tr>
<td>105</td>
<td>Kidney transplant</td>
<td>105</td>
<td>Kidney transplant</td>
</tr>
<tr>
<td>134</td>
<td>Cesarean section*</td>
<td>134</td>
<td>Cesarean section*</td>
</tr>
<tr>
<td>135</td>
<td>Forceps, vacuum, and breech delivery*</td>
<td>135</td>
<td>Forceps, vacuum, and breech delivery*</td>
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<tr>
<td>176</td>
<td>Other organ transplantation</td>
<td>176</td>
<td>Other organ transplantation (other than bone marrow corneal or kidney)</td>
</tr>
</tbody>
</table>

* CCS to be included only in all-payer settings, not intended for inclusion in CMS’s claims-based readmission measures for Medicare FFS beneficiaries age 65+ years.

Table 5. Diagnosis categories that are always considered planned (version 3.0)

<table>
<thead>
<tr>
<th>AHRQ Procedure CCS (ICD-9)</th>
<th>Description</th>
<th>AHRQ Procedure CCS (ICD-10)</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>45</td>
<td>Maintenance chemotherapy</td>
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<td>Maintenance chemotherapy</td>
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<tr>
<td>194</td>
<td>Forceps delivery*</td>
<td>194</td>
<td>Forceps delivery*</td>
</tr>
<tr>
<td>196</td>
<td>Normal pregnancy and/or delivery*</td>
<td>196</td>
<td>Normal pregnancy and/or delivery*</td>
</tr>
<tr>
<td>254</td>
<td>Rehabilitation</td>
<td>254</td>
<td>Rehabilitation</td>
</tr>
</tbody>
</table>

* CCS to be included only in all-payer settings, not intended for inclusion in CMS’s claims-based readmission measures for Medicare FFS beneficiaries age 65+ years.
<table>
<thead>
<tr>
<th>AHRQ Procedure CCS</th>
<th>ICD-9 Description</th>
<th>ICD-9</th>
<th>Description</th>
<th>AHRQ Procedure CCS</th>
<th>ICD-10 Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Laminectomy, excision intervertebral disc</td>
<td>3</td>
<td>Excision, destruction or resection of intervertebral disc</td>
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<td></td>
</tr>
<tr>
<td>5</td>
<td>Insertion of catheter or spinal stimulator and injection into spinal</td>
<td>5</td>
<td>Insertion of catheter or spinal stimulator and injection into spinal</td>
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<td></td>
</tr>
<tr>
<td>9</td>
<td>Other OR therapeutic nervous system procedures</td>
<td>9</td>
<td>Other OR therapeutic nervous system procedures</td>
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<td></td>
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<tr>
<td>10</td>
<td>Thyroidectomy, partial or complete</td>
<td>10</td>
<td>Thyroidectomy; partial or complete</td>
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<td></td>
</tr>
<tr>
<td>12</td>
<td>Other therapeutic endocrine procedures</td>
<td>12</td>
<td>Therapeutic endocrine procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Other OR therapeutic procedures on nose, mouth, and pharynx</td>
<td>33</td>
<td>Other OR therapeutic procedures of mouth and throat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Lobectomy or pneumonecctomy</td>
<td>36</td>
<td>Lobectomy or pneumonecctomy</td>
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<td></td>
</tr>
<tr>
<td>38</td>
<td>Other diagnostic procedures on lung and bronchus</td>
<td>38</td>
<td>Other diagnostic procedures on lung and bronchus</td>
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<td></td>
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<tr>
<td>40</td>
<td>Other diagnostic procedures of respiratory tract and mediastinum</td>
<td>40</td>
<td>Other diagnostic procedures of respiratory tract and mediastinum</td>
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<tr>
<td>43</td>
<td>Heart valve procedures</td>
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<td>Heart valve procedures</td>
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<td></td>
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<tr>
<td>44</td>
<td>Coronary artery bypass graft (CABG)</td>
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<td>Coronary artery bypass graft (CABG)</td>
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<td></td>
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<tr>
<td>45</td>
<td>Percutaneous transluminal coronary angioplasty (PTCA)</td>
<td>45</td>
<td>Percutaneous transluminal coronary angioplasty (PTCA) with or without stent</td>
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<tr>
<td>47</td>
<td>Diagnostic cardiac catheterization, coronary arteriography</td>
<td>47</td>
<td>Diagnostic cardiac catheterization; coronary arteriography</td>
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<td></td>
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<tr>
<td>48</td>
<td>Insertion, revision, replacement, or removal of cardiac pacemaker or cardioverter/defibrillator</td>
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**ICD-9 CODES** | **ICD-10 CODES**
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30.1 Hemilaryngectomy | 0CBS0ZZ Excision of Larynx, Open Approach
30.1 Hemilaryngectomy | 0CBS3ZZ Excision of Larynx, Percutaneous Approach
30.1 Hemilaryngectomy | 0CBS4ZZ Excision of Larynx, Percutaneous Endoscopic Approach
30.1 Hemilaryngectomy | 0CBS7ZZ Excision of Larynx, Via Natural or Artificial Opening
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Note: The ICD-10 codes in this table are preliminary mappings from version 3.0 of the planned readmission algorithm. They apply only to the Annual QRURs.

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**Acute ICD-9 codes within Dx CCS 105**

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**Acute ICD-9 codes within Dx CCS 149**

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<th>Biliary tract disease</th>
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<th>Acute ICD-10 codes within Dx CCS 152:</th>
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<td>Cytomegaloviral pancreatitis</td>
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<td>Idiopathic acute pancreatitis</td>
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<td>Biliary acute pancreatitis</td>
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<td>Acute Pancreatitis</td>
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<td>Other acute pancreatitis</td>
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* The multiple ICD-10 codes mapped from the same ICD-9 code must occur together to reflect the original ICD-9 condition.

Note: The ICD-10 codes in this table are preliminary mappings from version 3.0 of the planned readmission algorithm. They apply only to the Annual QRURs.
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<th>CMS CCs v22*</th>
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<td>7, 114-116</td>
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<td>Alcohol</td>
<td>Drug and Alcohol disorders</td>
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<td>MotorDisfunction</td>
<td>Hemiplegia, paraplegia, paralysis, functional disability</td>
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<td>86-89, 102, 105-109</td>
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<td>Specified arrhythmias</td>
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<td>96, 97</td>
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<td>Chronic obstructive pulmonary disease</td>
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<td>111</td>
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<td>LungDisorder</td>
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<td>112</td>
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<td>Dialysis Status</td>
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* Note: The CC mappings in this table are preliminary mappings to V22 HCCs based on the 2015 Yale measure. They apply only to the Annual QRURs.
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<td>156</td>
<td>Concussion or Unspecified Head Injury</td>
<td>168</td>
<td>Concussion or Unspecified Head Injury</td>
</tr>
<tr>
<td>158</td>
<td>Hip Fracture/Dislocation</td>
<td>170</td>
<td>Hip Fracture/Dislocation</td>
</tr>
<tr>
<td>159</td>
<td>Major Fracture, Except of Skull, Vertebrae, or Hip</td>
<td>171</td>
<td>Major Fracture, Except of Skull, Vertebrae, or Hip</td>
</tr>
<tr>
<td>163</td>
<td>Poisonings and Allergic Reactions</td>
<td>175</td>
<td>Poisonings and Allergic and Inflammatory Reactions</td>
</tr>
<tr>
<td>164</td>
<td>Major Complications of Medical Care and Trauma</td>
<td>173</td>
<td>Traumatic Amputations and Complications</td>
</tr>
<tr>
<td>164</td>
<td>Major Complications of Medical Care and Trauma</td>
<td>176</td>
<td>Complications of Specified Implanted Device or Graft</td>
</tr>
<tr>
<td>165</td>
<td>Other Complications of Medical Care</td>
<td>177</td>
<td>Other Complications of Medical Care</td>
</tr>
<tr>
<td>174</td>
<td>Major Organ Transplant Status</td>
<td>186</td>
<td>Major Organ Transplant or Replacement Status</td>
</tr>
<tr>
<td>175</td>
<td>Other Organ Transplant Status/Replacement</td>
<td>187</td>
<td>Other Organ Transplant Status/Replacement</td>
</tr>
<tr>
<td>176</td>
<td>Artificial Openings for Feeding or Elimination</td>
<td>188</td>
<td>Artificial Openings for Feeding or Elimination</td>
</tr>
<tr>
<td>177</td>
<td>Amputation Status, Lower Limb/Amputation Complications</td>
<td>189</td>
<td>Amputation Status, Lower Limb/Amputation Complications</td>
</tr>
<tr>
<td>178</td>
<td>Amputation Status, Upper Limb</td>
<td>190</td>
<td>Amputation Status, Upper Limb</td>
</tr>
<tr>
<td>179</td>
<td>Post-Surgical States/Aftercare/Elective</td>
<td>191</td>
<td>Post-Surgical States/Aftercare/Elective</td>
</tr>
</tbody>
</table>

* Note: The CC mappings in this table are preliminary mappings to V22 HCCs based on the 2015 Yale measure. They apply only to the Annual QRURs.