

Overuse of Imaging

Measure 7: Ratio of Magnetic Resonance Imaging Scans to Computed Tomography Scans for the Evaluation of Children with Atraumatic Seizure

Description

This measure assesses the ratio of the number of MRI scans to the number of CT scans obtained on or within 30 days after the date of evaluation for atraumatic seizure among children, ages 1 through 17 years old, within the measurement year. A higher ratio of MRI to CT scans indicates better performance, as reflected by a smaller number of children being exposed to radiation as a result of neuroimaging.

Calculation

This measure requires administrative claims data and is calculated as follows:

The ratio of the number of MRI scans to the number of CT scans among eligible children for whom imaging of the head (CT or MRI) is obtained on or within 30 days of an atraumatic seizure (numerator divided by denominator).

Eligible Population

The determination of the eligible population for this measure requires administrative claims data

Ages	Children at least 1 year old on January 1 of the measurement year but younger than 18 years on December 31 of the measurement year.
Enrollment	Continuous enrollment during both the measurement year and the year prior to the measurement year.
Event/Diagnosis	Imaging studies of the head (CT or MR; Table IMG1) for the evaluation of atraumatic seizure (Table IMG2) occurring on the day of or up to 30 days prior to imaging. (Note, IMG tables begin on page 52.)

Specification

Denominator	The number of CT scans of the head obtained on or within 30 days after the date of evaluation for atraumatic seizure among children, ages 1 through 17 years old, within the measurement year.
Numerator	The number of MRI scans of the head obtained on or within 30 days after the date of evaluation for atraumatic seizure among children, ages 1 through 17 years old, within the measurement year.

Exclusions

- Vascular disease (Table IMG8) on the day of or within 365 days prior to imaging
- Post-traumatic seizure (Table IMG2) on the day of or day prior to imaging
- Trauma (Table IMG9) or the presence of an E-code) on the day of or within the 7 days prior to imaging (from claims data)

For the denominator only: relative contraindications to MRI (Table IMG12) on the day of or within 365 days prior to imaging (Note: Some contraindications are guidelines rather than strict rules. As such, a provider may determine that a child should undergo an MRI despite a contraindication.)