“Double Scans” of the Chest: Trends in Utilization by Specialty and Site of Service

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Disclosures

• None
Background

• “Double scans” or “Combined scans”
  • CT scan performed both with and without contrast

• Extensive scrutiny in the media
  • High prevalence
  • Increased costs and dose
  • Limited clinical utility
Background

• CMS legislation affecting payment updates for outpatient studies under Hospital Prospective Payment System (HOPPS)
  • 2006 – Legislation passed requiring reporting of double scan rates
  • 2008 – Endorsement of the double scan quality metric
  • 2009 – Annual payment update (APU) affected
  • 2010 – Public reporting of safety measures
Background

- **OP-11 – Chest CT Use of Contrast Material**
  - “Calculates percentage of thorax studies performed with and without contrast”

- **Numerator CPT Codes**
  - 71270 – Thorax CT with and without contrast

- **Denominator CPT codes**
  - 71250 - Thorax without contrast
  - 71260 – Thorax CT with contrast
  - 71270 – Thorax CT with and without contrast

- **Denominator exclusion ICD-9 codes**
  - 860-869 – Internal injury of chest, abdomen, and pelvis
  - 901-902 – Injury to blood vessels
  - 926, 929 – Crushing injury
Background

- Only a small percentage of CT chest are double scans, and it has decreased since 2006


**Fig 2**
Utilization rate per 1,000 Medicare fee-for-service beneficiaries of combined CT scans of the thorax (ie, performed without contrast followed by with contrast). The vertical axis shows studies per 1,000 and includes scans done in all places of service.
Purpose of Study & Methods

- **Purpose** - Analyze trends in utilization of double scans of the chest before and after CMS legislation targeting double scan utilization stratified by physician type and place of service

- **IRB approved**

- **National claims data using 100% Medicare Physician Supplier Procedure Summary Master Files from 2001 – 2012**

- **Self reported specialty codes**

- **Site of service codes**
  - Physician office
  - Inpatient hospital
  - Outpatient hospital
  - Emergency department
Total Double Scan Rate

- Total Double Scan Utilization Rates
  - 2001 – 6.1%
  - 2006 – 6.2%
  - 2012 – 3.6%
- Overall 41.2% decrease in utilization between 2006-2012
Physician Type

- **2001 – 2006**
  - Rates rising for others
  - Rates flat for radiologists

- **2006-2012**
  - -42.3% decrease for radiologists
  - -31.7% decrease for others

- **2012 Double Scan Utilization Rates**
  - Radiology – 3.4%
  - All Others – 6.1%
In 2001 the private physician office had the highest utilization rates and increased until 2007, when it began decreasing. 2012 rates remain higher than 2001.

All other sites continually decreased over the study period.
Discussion

• CMS introduced legislation in 2006 in response to perceived overuse of “double scans” of the chest, targeting payments for outpatient hospital scans beginning in 2009.

• Overall utilization of double scans began decreasing in 2006.

• Utilization rates differ among radiologists and other physicians performing imaging.

• Though legislation specifically targeted the outpatient hospital setting, utilization of double scans decreased at all sites of imaging, though it remains the highest in the physician office setting.
Implications

- Future legislation targeting perceived overuse of imaging may be most effective if it can be targets those with highest rates of utilization and specific sites with higher levels of inappropriate imaging utilization.