Magnetic Resonance Imaging (MRI) Utilization and the Associated Use of Sedation and Anesthesia in a Pediatric Accountable Care Organization (ACO)

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INTRODUCTION

- Utilization of MRI in children and the need for sedation and anesthesia to complete studies are reported to be increasing
- Partners for Kids (PFK) is the nation’s largest Pediatric Accountable Care Organizations (ACO), responsible for 330,000 lives
- We determined overall utilization of MRI and need for sedation/anesthesia in the PFK claims database

METHODS

- Retrospective review of PFK paid claims from 2011-2014
- Encounters with CPT codes for MRI examination selected for analysis
- Encounters were coded as requiring anesthesia services if they were associated with CPT codes for moderate sedation or general anesthesia; or facility revenue codes suggesting sedation
- Patient demographics and scan types were compared according to need for anesthesia services
- MRI utilization calculated as # MRI encounters/10,000 member-months
- Cost analysis was limited to outpatient encounters as MRI costs could not be disaggregated from inpatient stay costs

RESULTS

- 17,221 MRI encounters and 18,543 separate exams were included
- MRI utilization was 11.4 encounters/ 10,000 member-months in 2011 and 12.1 encounters/ 10,000 member-months in 2014
- Need for anesthesia increased from 21% to 28% exams between 2011-2014 (p<0.05)
- 1-6 y/o age group had the largest increase in anesthesia use (0.64%/ month, p<0.001), followed by 7-12 y/o (0.42%/ month, p<0.001)
- Cost analysis included 14,982 outpatient encounters (16,026 exams), representing $11 million in paid costs
- Costs of outpatient MRI encounters with anesthesia increased from 22% of all outpatient MRI costs in 2011 ($1,515/10,000 member-months) to 33% of all outpatient MRI costs in 2014 ($2,659/10,000 member-months)

CONCLUSIONS

- In a pediatric ACO, overall MRI utilization has remained stable
- Use of anesthesia services to complete MRI studies increased
- The increasing need for anesthesia services to complete MRI exams resulted in increased cost of MRI exams, and a challenge to ACO cost containment

REFERENCES