MHCC MARYLAND HEALTH CARE COMMISSION

MRI Self-Referral Study

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Background

- Maryland’s self-referral law and subsequent Court of Appeals Decision prohibits non-radiology practices from self-referring patients from MRI, CT and radiation therapy services.
- HB 536 (2013) would have required a study of “ordering” MRI services by physicians in non-radiology group practices that owned an MRI machine prior to July 1, 2011.
- Legislation did not pass, however Chairman Hamman requested MHCC study MRI ordering and utilization by non-radiology group practices that owned an MRI machine prior to divesture in 2011.
- MHCC awarded a small procurement contract to Braid-Forbes Health Research LLC for statistical analysis.

Study Questions

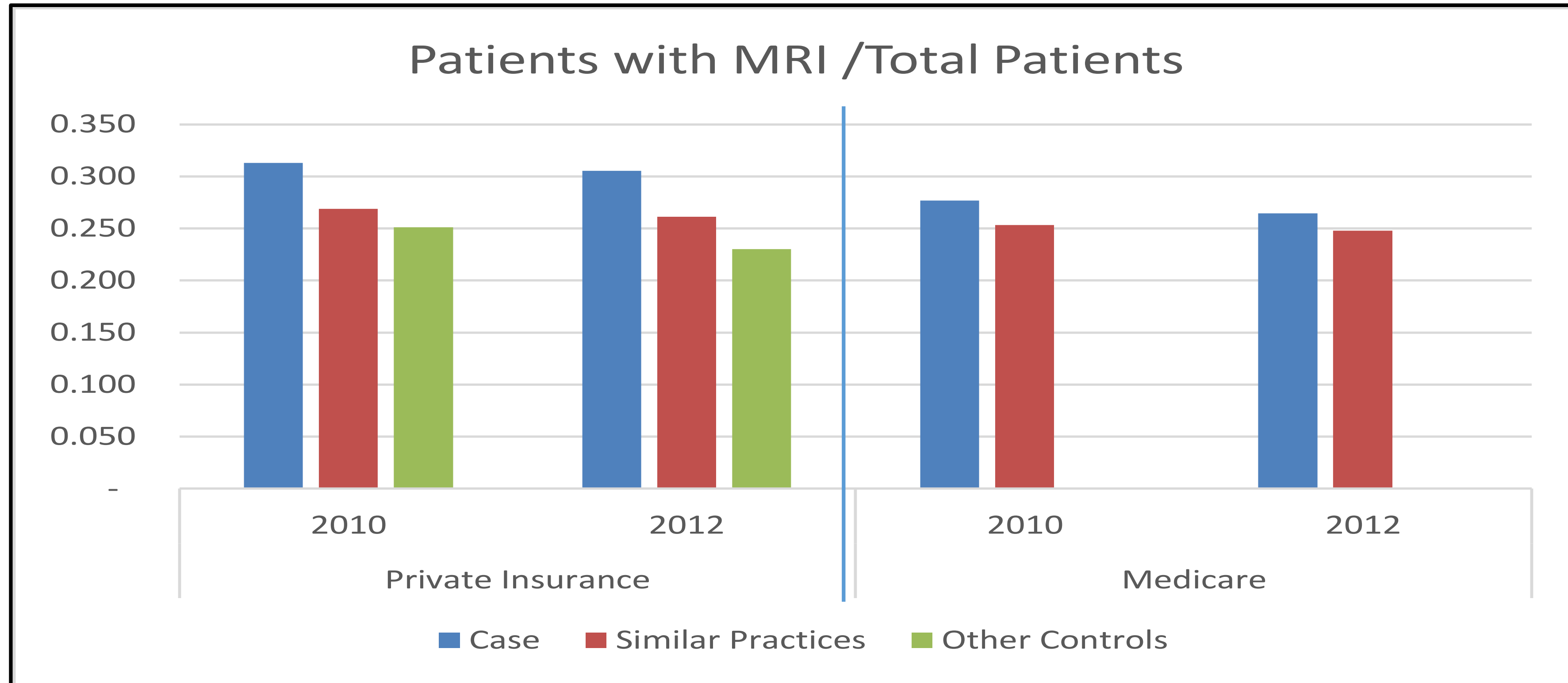
1. Did orthopedic practices that divested interest in MRI machines in 2011 change how often they ordered MRIs for their patients?

2. Did practices that had a financial interest have different rates of ordering MRIs for their patients than similar practices for similar patients before and after their divesture of the financial interest?

Study Design

- Pre/post, 2010 vs. 2012
- Case/Control,
  - Case: Orthopedic practices with MRI machines prior to divesture
  - Control 1: Similar orthopedic practices (size)
  - Control 2: Other orthopedists in the State
- Measures
  - Patients with MRI/all patients in the practice
  - Regression analysis controlling for factors such as age, sex, high deductible plan (private claims), dual eligibility (Medicare claims)

Providers with MRIs (case) had higher use than similar practices (control) or other orthopaedic practices (other controls)



Other controls not possible in Medicare data due to data issues with NPI

Statistical Model

- The model accounted for the probability of receiving an MRI based on:
  - change in utilization patterns over time,
  - financial ownership of the MRI equipment in 2010,
  - practice attributes specific to a practice (practice attribute variable), and
  - patient's age and sex, insurance status (high deductible for the privately insured or Medicaid eligibility for Medicare).

Regression Results – Privately Insured Patients

Variable	Odds Ratio
Year: 2012 vs. 2010	0.98
Practice: Case vs. Control	Range: 1.04 to 1.12
Financial Interest vs. No Interest	Range: 0.98 to 1.00

Significance (Green-Yes vs. Red-No) shown based on whether the p-value was less than 0.05; Regression Adjusted For: Gender, High Deductible Plans, and Age.

Regression Results – Medicare Patients

Variable	Odds Ratio
Year: 2012 vs. 2010	0.96
Practice: Case vs. Control	Range: 0.77 to 1.21
Financial Interest vs. No Interest	Range: 0.95 to 1.12

Significance (Green-Yes vs. Red-No) shown based on whether the p-value was less than 0.05; Regression Adjusted For: Gender, Dual Eligibility (Medicare and Medicaid), and Age.

Findings

- Ownership was not found to be associated with MRI higher use rates except for one practice for Medicare patients even after controlling for patient age, insurance design (Private only) and Medicaid status (Medicare).
- After controlling for ownership, rates of MRI use are higher and statistically significant for case practices for both private and Medicare in both 2010 and 2012 even after controlling for factors such as patient age and insurance design (private only) and Medicaid status (Medicare only)

Limitations

- After divesture changing in ordering patters may take more than two years to change. The study was limited to 2010-2012
- Demographics of the patient populations were outside the scope of the study and may impact ordering.
- Demographics of the orthopedists were outside the scope of the study and may impact ordering.

Conclusions of Commission

- Study is limited, results should be interpreted cautiously.
- Changes in current law would likely affect more than the five practices that are the subject of the study.
- Changes in self-referral could be linked to broader payment reforms, full participation in risk-based arrangements as a first condition.
- MHCC could assist stakeholders in devising solutions.

Questions?