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The Effect of Best Practice Alerts in Electronic Medical Records for Low Back Pain Imaging

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Introduction

Guides presented by the ACP, NASS, ASA_PM, ACOEM, AANS, ACEP, AAPM&R state that imaging should not be obtained for low back pain unless there is unexplained weight loss, focal neurologic deficit, fever/recent infection, osteoporosis, immunocompromise, history of trauma, or prolonged steroid use. However, many providers continue to obtain imaging for low back pain, which increases the cost of healthcare.

Methods

We implemented Practice Alerts in our electronic medical record system (EPIC) at Stanford from March 2015 to April 2017. We then reviewed the frequency of imaging orders and reasons for override.

Results

Overall, we saw 5176 encounters per month for low back pain at Stanford. There were 28 CTs per month, 85 MRIs, and 170 xrays per month. 473 alerts on average (13.7% of all imaging orders) triggered the alert. After the alert implementation, we saw a relative decrease of 9.6% of unindicated imaging (P = 0.0193). There was a significant decrease in MRI rate (1.8% vs 1.5%, P = 0.003), but not CT (P = 0.88) or xray (P=0.39). Analysis revealed that 55% of overrides may be inappropriate (pain < 6 weeks, radicular symptoms only, patient request).

Conclusions

Overall, we show a small but significant decrease in imaging rate for low back pain after implementation of best practice alerts. There was a significant decrease in MRI use, but not xray. Further research and targeted education initiatives are needed to improve resource utilization.

Learning Objectives

By the conclusion of this session, participants should be able to: 1) Describe the indications for imaging for low back pain, 3) Describe the effect of best practice alerts on unindicated imaging and the reasons for override.

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