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On-Site Test Collection Intervention Improves Lead Screening Rates at an Urban Family Medicine Practice

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On-Site Test Collection Intervention Improves Lead Screening Rates at an Urban Family Medicine Practice

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Background and Introduction

- Elevated blood lead levels ( BLL ) can cause multiple deleterious effects in pediatric patients, leading to neurological disease and delays in development 1,2
- The CDC and state governments have made recommendations for screening in pediatric patients to allow for prompt intervention 3,4
  - Two blood lead tests for children at “higher risk”: one at age 9-12 months and one at age 2 years; screening should be done at 36-72 months if no prior test completed
  - The Philadelphia Department of Health has recommended that 100% of children be screened due to housing conditions 5,6
- In Philadelphia, only 26.80% of children under the age of 7 have been appropriately screened; in Pennsylvania, the number is only 14.05% 7

2014-2015 Quality Improvement Lead Study:

- Provider reminders within the EMR pediatric note template significantly increased provider ordering behavior (p = 0.0001)
- However, this did not lead to a significant increase in resulted lead screening tests (p = 0.8485)

Study Aims:

Examine the effect of on-site lead screening collection on resulted lead screening rates.

Materials and Methods

- Inclusion Criteria:
- Interventions:
  - Initiation of on-site lead filter paper testing on 8/12/2015
  - Email to Providers on 8/12/2015
  - QI PowerPoint presentation 9/3/2015
- Measures:
  - Number of lead tests ordered and resulted during pre- and post-intervention period
  - Number of on-site lead testing completed post-intervention

Results

- Proportion of Tests Ordered that were Completed

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<th>Pre-Intervention</th>
<th>Post-Intervention #1</th>
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<td>Eligible Patients</td>
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<tr>
<td>Lead Test Ordered</td>
<td>37</td>
<td>31</td>
<td>8</td>
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<td>Fischer’s Test Analysis</td>
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Conclusions

- Availability of on-site lead testing increased the rate of appropriate lead screening
- Over time, the percentage of pediatric patients eligible to be screened decreased
- Short term increase of physician/MA ordering practices following education but was not sustained

Future Directions

- Qualitative analysis of barriers to Lead Test ordering
- Determine need and feasibility for on-site hemoglobin assessment in addition to on-site lead testing
- Introduce a pediatric checklist

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