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

Krys Foster, MD, MPH
*Thomas Jefferson University, Krys.foster@jefferson.edu*

Tina Castellan, MD
*Thomas Jefferson University Hospital, christine.castellan@jefferson.edu*

Kelly Lopez, MD, PGY-III
*Thomas Jefferson University, kelly.lopez@jefferson.edu*

Phoebe Askie, MD, MPH
*Thomas Jefferson University Hospital, Phoebe.askie@jefferson.edu*

Daniel Chung, MD
*Thomas Jefferson University, daniel.chung@jefferson.edu*

See next page for additional authors

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

**Study Aims:**
- Examine the effect of on-site lead screening collection on resulted lead screening tests.

**Materials and Methods**
- **Inclusion Criteria:**
  - Providers reminders within the EMR pediatric note template significantly increased provider ordering behavior (p = 0.8485).
- **Interventions:**
  - Initiation of on-site lead filter paper testing on 8/12/2015.
  - Email to Providers on 8/12/2015.
- **Measures:**
  - Number of lead tests ordered and resulted during pre- and post-intervention period.
  - Number of on-site lead testing completed post-intervention.

**2014-2015 Quality Improvement Lead Study:**
- Provider reminders within the EMR pediatric note template significantly increased provider ordering behavior (p = 0.8485).
- However, this did not lead to a significant increase in resulted lead screening tests (p = 0.0047).

**Results**

- **Percentage of Eligible Patients**
  - Pre-Intervention: 58
  - Post-Intervention #1: 75
  - Post-Intervention #2: 78

- **Proportion of Tests Ordered that were Completed**
  - Pre-Intervention: 32
  - Post-Intervention #1: 76
  - Post-Intervention #2: 80

**Fischer's Test Analysis**

<table>
<thead>
<tr>
<th></th>
<th>Pre-Intervention</th>
<th>Post-Intervention #1</th>
<th>Post-Intervention #2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eligible Patients</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead Test Ordered</td>
<td>31</td>
<td>75</td>
<td>80</td>
</tr>
<tr>
<td>No Lead Test Ordered</td>
<td>28</td>
<td>48</td>
<td>47</td>
</tr>
<tr>
<td><strong>p-value</strong></td>
<td>0.5251</td>
<td>0.0071*</td>
<td>0.0047*</td>
</tr>
</tbody>
</table>

**Subgroup Analysis**

- **Post Intervention Group # 1**
  - Number of lead tests ordered and resulted during pre- and post-intervention.
  - Proportion of Tests Ordered that were Completed.

- **Post Intervention Group # 2**
  - Number of lead tests ordered and resulted during pre- and post-intervention.
  - Proportion of Tests Ordered that were Completed.

**Conclusions**
- Availability of on-site lead testing increased the rate of appropriate lead screening tests.
- Over time, the percentage of pediatric patients eligible to be screened decreased.
- Short term increase of physician/MA ordering practices following education but 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.

**References**

8. Wengrovitz, Anne, MPH and Mary Jean Brown, ScD. Recommendations for Blood Lead Screening of Medicaid-eligible Children Aged 1-5 years: an Updated Approach to Targeting a Group at High Risk. MMWR Recommendations and Reports. 8/7/2009. 58(RR09);1-11.