Using “Lean” rapid-quality improvement (QI) to increase chlamydia screening rates in a large pediatric clinic: A strategy for engaging primary care in public health QI priorities

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Background

- Chlamydia (CT) screening rates are low in primary care settings, especially among adolescent patients
- Engaging primary care in public health QI priorities has been challenging:
  - Traditional QI methods are time-intensive (6-12 months)
  - Primary care clinics have many competing priorities
- Rapid-QI methods have been successful in other settings

**Question:** Can rapid-QI successfully engage primary care settings to improve CT screening?

Methods: QI Intervention

- **“Kaizen” Event** – 4.5-day Lean rapid-QI onsite event, September 2015 (figure 1)
  - Used a whole-team, systems-based approach
  - Integrated clinical and QI training
  - Offered specialty board Maintenance of Certification (MOC) - Part 4 credit to participating clinicians and CEUs to all staff attending trainings
  - Held 30-, 60-, and 90-day follow-up calls with clinic to check in on progress

**Figure 1. The Lean Rapid-QI “Kaizen” Event**

<table>
<thead>
<tr>
<th>Day 1 (1/2 day)</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinic QI Team kick-off meeting</td>
<td>Clinical best practices training</td>
<td>Impact Matrix to prioritize ideas for testing</td>
<td>QI Team huddle to discuss results</td>
<td>Rapid-PDSA* cycles to test small changes</td>
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<tr>
<td>Clinic flow visual mapping to identify gaps &amp; possible solutions</td>
<td></td>
<td>Rapid-PDSA* cycles to test small changes</td>
<td>QI Team huddle to discuss results</td>
<td>QI Team report out to all staff &amp; leadership</td>
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<tr>
<td>Patient flow observation</td>
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* Plan, Do, Study, Act (PDSA) cycle is shorthand for testing a change — planning it, trying it, observing the results, and acting on what is learned (Model for Improvement)

Methods: Data Processes

**Staff surveys:**

- Cross-sectional surveys collected 1 week pre- and 2.5 months post-event
- Calculated mean % change in scores across 3 categories of questions:
  - knowledge, practice, and comfort/confidence

**Quality metrics:**

- Data abstracted from electronic health records for well-check visits among patients 12-19 years old and compared across 3 time periods:
  - **Baseline** = 6 months of visits from 1 year pre-event
  - **Short-Term** = 3 months of visits during and post-event
  - **Long-Term** = 3 months of visits from 7-9 months post-event
- Statistical significance determined using 2-tailed Fisher’s exact tests

Results

**Sexual Activity Status Documentation (data not shown)**

- Sexual activity status documentation remained steady
- Use of HEEADSSS assessment improved, but only short-term
- When the proportion of patients with documented HEEADSSS assessment increased, more sexually active patients were identified

**CT Screening**

- CT screening among sexually active patients significantly increased (figure 2)

**Staff Pre/Post Survey**

- Staff demonstrated significant improvements in knowledge, practice, and comfort/confidence with adolescent sexual health best practices (figure 3)

**Balancing Measure**

- No change in average well-check visit length after new protocols were adopted (figure 4)

Limitations

- This was a case study of 1 clinic, therefore results may not be generalizable
- This is a labor-intensive intervention – what we have learned from individual rapid-QI onsite events are informing our future interventions with broader reach

Conclusions

- Public Health can play a strategic and effective role in facilitating healthcare systems transformation
- Offering rapid-QI support can be a successful strategy for engaging primary care practices in public health QI priorities
- Focusing efforts on high-need areas and/or residency training programs can have greater impact in improving healthcare

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