NIATx Overview and Initial Estimates of Costs and Cost Effectiveness

NIATx Research Team

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Organizational Change

• Growing interest in implementation science and quality improvement
• Relatively little is known about the most efficient or cost-effective way to implement or disseminate organizational change
• Multiple possibilities:
  – Distance learning
  – Collaboratives
  – Coaching
  – Combinations
Testing QI and Organizational Change

• Relatively few studies test the effectiveness of different forms of implementation
• Even fewer provide evidence on the cost-effectiveness of different forms of implementation
• Objective of this component study is to estimate the costs and cost-effectiveness of different forms of implementation
NIATx 200

- NIATx 200 tested 4 QI interventions
  - Interest Circle Calls (distance learning)
  - Learning Sessions (collaboratives)
  - Coaching
  - A combination of all 4

- Outcomes
  - Waiting times
  - Continuation
  - New clients
Methods

• Costs tracked at two levels
  – State (MA, MI, NY, OR, WA)
    • Primarily learning sessions
  – NPO
    • Coaching and interest circles
  – Data included State and NPO expenditures specific to each arm as well as infrastructure and development costs
  – Data collected every 6 months

• Outcomes
  – Collected administratively for all clinics
Perspective

- We collect data on the intervention delivery
- Not on the cost to the clinic (minimal)
- Perspective is from the state administrator
  - How much do I have to spend to reduce waiting times among the treatment centers in my state?
## Costs by Arm (State Perspective)

### Reduction in Waiting Days

<table>
<thead>
<tr>
<th>Costs per arm (including Web)</th>
<th>Intervention Costs</th>
<th>Reduction in waiting days/arm/year</th>
<th>$/ avoided waiting day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Circle Only Only</td>
<td>$59,790</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Coaching Only</td>
<td>$135,244</td>
<td>1,560,384</td>
<td>$0.09</td>
</tr>
<tr>
<td>Learning Session Only Only</td>
<td>$229,229</td>
<td>1,125,432</td>
<td>$0.20</td>
</tr>
<tr>
<td>IC + LS + C</td>
<td>$380,652</td>
<td>1,203,840</td>
<td>$0.32</td>
</tr>
</tbody>
</table>
## Costs by Arm (State Perspective)

### Increase in New Patients

<table>
<thead>
<tr>
<th>Costs per arm (including Web)</th>
<th>Intervention Costs</th>
<th>Increase in New Patients</th>
<th>$/new patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Circle Only Only</td>
<td>$59,790</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Coaching Only</td>
<td>$135,244</td>
<td>8600</td>
<td>$16</td>
</tr>
<tr>
<td>Learning Session Only Only</td>
<td>$229,229</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>IC + LS + C</td>
<td>$380,652</td>
<td>3200</td>
<td>$119</td>
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</tbody>
</table>
Other outcomes?

• No significant changes from baseline in
  – Continuation
Other costs?

• We also collected data on the costs borne by states in implementing NIATx 200, independent of the interventions themselves
  – Outreach/recruitment
  – Data management
  – New IT resources for managing data
  – Retaining treatment programs in the experiment
  – Miscellaneous costs
# Costs of Engaging in NIATx 200

<table>
<thead>
<tr>
<th></th>
<th>MA</th>
<th>MI</th>
<th>NY</th>
<th>OR</th>
<th>WA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outreach</td>
<td>$ 21,918</td>
<td>$ 10,045</td>
<td>$ 20,271</td>
<td>$ 32,180</td>
<td>$ 16,515</td>
<td>$ 100,929</td>
</tr>
<tr>
<td>Data management</td>
<td>$ 28,303</td>
<td>$ 42,026</td>
<td>$ 62,737</td>
<td>$ 53,489</td>
<td>$ 43,991</td>
<td>$ 230,547</td>
</tr>
<tr>
<td>Data infrastructure</td>
<td>$ -</td>
<td>$ -</td>
<td>$ 189,327</td>
<td>$ 46,305</td>
<td>$ -</td>
<td>$ 235,632</td>
</tr>
<tr>
<td>Retention</td>
<td>$ 78,272</td>
<td>$ 2,409</td>
<td>$ 71,331</td>
<td>$ 35,495</td>
<td>$ 27,569</td>
<td>$ 215,075</td>
</tr>
<tr>
<td>Admin/Misc</td>
<td>$ 22,895</td>
<td>$ 30,995</td>
<td>$ 51,064</td>
<td>$ 22,788</td>
<td>$ 43,536</td>
<td>$ 171,277</td>
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<tr>
<td>TOTAL</td>
<td>$ 151,388</td>
<td>$ 85,475</td>
<td>$ 394,729</td>
<td>$ 190,257</td>
<td>$ 131,611</td>
<td>$ 953,460</td>
</tr>
</tbody>
</table>

**Observations:**

- One state (NY) had very large IT costs associated with NIATx 200.
- Data management (e.g. tracking waiting days) was the highest cost item for most states
- Mean cost per state = $190,692; mean cost per clinic = $4,767
<table>
<thead>
<tr>
<th>Costs per arm (including Web)</th>
<th>Intervention Costs</th>
<th>Engagement Costs</th>
<th>Total Cost</th>
<th>$/avoided waiting day</th>
<th>$/additional client</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coaching Only</td>
<td>$135,244</td>
<td>$191,872</td>
<td>$327,116</td>
<td>$0.21</td>
<td>$38</td>
</tr>
<tr>
<td>Learning Session Only</td>
<td>$229,229</td>
<td>$191,872</td>
<td>$421,101</td>
<td>$0.37</td>
<td>-</td>
</tr>
<tr>
<td>IC + LS + C</td>
<td>$380,652</td>
<td>$191,872</td>
<td>$572,524</td>
<td>$0.48</td>
<td>$179</td>
</tr>
</tbody>
</table>
Results Summary I

• No benefit associated with interest circles
  – Distance learning apparently not effective in this setting

• Coaching less expensive and more effective than learning sessions
  – Coaching dominates learning sessions

• Adding learning sessions and interest circles to the coaching effort adds to cost without reducing waiting days or adding new clients
Results Summary II

• The infrastructure associated with running QI implementations is on the same order of expense (possibly more) than the actual interventions themselves
  – Coaching: ~$135K for 40 clinics
  – Engagement: ~$190K for 40 clinics
Is the Cost of QI Worth It?

• No “accepted” threshold for the value of an avoided waiting day or an additional client (compare to threshold of $100,000/QALY gained)

• On face validity, paying 21 cents to improve time-to-care for addiction by one day seems relatively inexpensive and a worthwhile expense
  – Similar sense of “value” for $38 to add a new client

• However, excluding interest circles, differences across arms are usually not significant and no change in continuation