Evaluating Alternative Strategies to Prevent Overdose Deaths and New HIV Infections in CT

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Purpose

- Epidemic of overdose deaths in CT and U.S.
  - 44% OENDs have problems with obtaining naloxone due to costs or supply chain
- Value also important for mitigating harm from other injection-related diseases
  - HIV and Hepatitis C
- Objective: Compare the value of distributing Naloxone to alternative strategies
  - Identify the cost of Naloxone at which distribution has favorable value over alternative strategies
Methods

Model Structure
Develop a dynamic Excel based Markov Model that is sufficiently complex (yet manageable) to reflect the processes, outcomes, and cost of the 5 competing strategies.

Parameterize Model
Use data from Connecticut DOH, literature, and if necessary an informed/expert guess

Internal Validation and Debugging
Test the internal structure, logic, and formulas to ensure no errors and model behaves as expected.

External Validation and Calibration
Test model output against observed data and calibrate if necessary to ensure predictions reflect reality.

Conduct Analysis to Meet Objectives
Progress to Date

<table>
<thead>
<tr>
<th>Entering Cohort = 3000</th>
<th>Lives Saved @ 5 Years</th>
<th>Lives Saved @ 20 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Intervention</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Naloxone + PreP + Drug Treatment</td>
<td>25</td>
<td>94</td>
</tr>
<tr>
<td>Naloxone + PreP</td>
<td>24</td>
<td>78</td>
</tr>
<tr>
<td>Naloxone + Drug Treatment</td>
<td>9</td>
<td>42</td>
</tr>
<tr>
<td>Naloxone</td>
<td>8</td>
<td>23</td>
</tr>
</tbody>
</table>
How did we build this collaboration?

• Grew organically out of prior collaboration
  – Estimate value of HIV prevention strategies in CT
  – Determine cost savings from contracting organizations

• Funding from CIRA and CDC
Lessons for the Network

• Researchers co-formulate aims and deliverables with stakeholders
• Short concrete project with well defined deliverables before more ambitious project
• Research deliverables might come after other project deliverables
• CIRA/other seed funding is effective catalyst
Next Steps and Plans for Growth

• RO1 application to NIDA
  – Reducing morbidity and mortality from overdose, HIV, and hepatitis C in opioid-using persons