Predictive analytics to prevent crisis service utilization for youth with mental health disorders.

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Goals

• Describe predictive model for youth at risk for use of crisis services.
• Describe care coordination interventions for these at-risk youth.
• Present pilot evaluation of effectiveness for predi
The problem

Potential trajectory of health service utilization for youth with mental health disorders.
The problem

Potential trajectory of health service utilization for youth with mental health disorders.

ED or inpatient admission
Intervention

Predictive analytics

ED or inpatient admission

Potential trajectory of health service utilization for youth with mental health disorders.
Potential trajectory of health service utilization for youth with mental health disorders.
Predictive analytics
Predictive analytics

• Public health approach to early identification and intervention.
Predictive analytics

- Public health approach to early identification and intervention.
- Data sources:
  - Behavioral health claims
  - Physical health claims
Predictive analytics

- Public health approach to early identification and intervention.
- Data sources:
  - Behavioral health claims
  - Physical health claims
- Advanced applied statistics
- Main outcome measure: ED or inpatient admission
Demographic data for selected youth identified by predictive modeling to be at risk for admission to Emergency Department or psychiatric inpatient services, N=31.

<table>
<thead>
<tr>
<th></th>
<th>n</th>
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<tbody>
<tr>
<td><strong>Age</strong></td>
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<td></td>
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<tr>
<td>14.2 yrs ±4.06</td>
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</tr>
<tr>
<td><strong>Gender</strong></td>
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</tr>
<tr>
<td>Male</td>
<td>19</td>
<td>61.3</td>
</tr>
<tr>
<td><strong>Race/ethnicity</strong></td>
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<tr>
<td>African-American, non-Hispanic</td>
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<td>Caucasian, non-Hispanic</td>
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<td>Hispanic</td>
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<td><strong>Primary behavioral health diagnosis (not unique count)</strong></td>
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<tr>
<td>ADHD/Disruptive behavioral disorders</td>
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<td>97</td>
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<tr>
<td>Mood disorder</td>
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<td>Psychosis</td>
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<td>Anxiety &amp; trauma-related disorders</td>
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<td>35</td>
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<tr>
<td>Substance use disorders</td>
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<td>16</td>
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<tr>
<td>Missing</td>
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<tr>
<td><strong>Baseline psychotropic medication prescription (not unique count)</strong></td>
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<tr>
<td>ADHD medication</td>
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<td>Antidepressant</td>
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<td>Mood stabilizer</td>
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<tr>
<td>Antipsychotic</td>
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<tr>
<td>Missing</td>
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</table>
Care coordination intervention
Care coordination intervention

- Registry
- In depth case review
- Weekly multidisciplinary meetings
  - Introduce new members
  - Develop care coordination plan
    - Clinical diagnosis and treatment plan
    - Social needs
    - Health system needs
    - Emphasis on relationship with providers
  - On a schedule, review individuals already discussed
  - No one falls off the registry
- Focused on health and economic outcomes
Specific interventions

• Family Partner
• Tiered Case management
Tiered Case Management

- **Tier One**
  - Light touch Case management
  - Connect to provider, services or other needs
  - Family Navigator (Family Peer) or Systems Navigator

- **Tier Two**
  - Moderate touch Case management
  - Connect to provider, services or other needs
  - Provide Clinical Assessment
  - Family Navigator (Family Peer), Systems Navigator or TCM/Assessor from Youth Villages

- **Tier Three**
  - High Fidelity Wraparound
  - Evidence Based Model
Phases of High Fidelity Wraparound

Phase 1 – Engagement & Team Preparation

Phase 2 – Planning

Phase 3 – Implementation

Phase 4 - Transition
Pilot evaluation of effectiveness
Pilot evaluation of effectiveness

• Tasks assigned by the rounding team: 75% completion.
Pilot evaluation of effectiveness

• Tasks assigned by the rounding team: 75% completion.

• Child/youth engagement in community based treatment (proxy for reduced ED and inpatient visits): 65% completion.
Major takeaways and next steps

• In the response to at risk individuals/families identified through predictive modeling
  • Importance of a Family Partner
  • Importance of Provider Engagement
Goals

• Describe predictive model for youth at risk for use of crisis services.
• Describe care coordination interventions for these at-risk youth.
• Present pilot evaluation of effectiveness for predictive modeling.