Rethinking solutions in healthcare:

Addressing Health Disparities through Integrated Technology Driven Behavioral Health Care

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Epidemiology of Mental Illness

- 1.1 percent of American adults live with schizophrenia.
- 2.6 percent of American adults live with bipolar disorder.
- 6.7 percent of American adults live with major depression.
- 18.1 percent of American adults live with anxiety disorders.
- 9.2 million adults have co-occurring mental health and addiction disorders.
Mortality in Mood Disorders
Disorder Due to Natural Causes

Standardized Mortality Ratios

Endocrine Cardiovascular Cerebrovascular

Endocrine Cardiovascular Cerebrovascular

Health Disparities

- Health disparities includes individual, socioeconomic, and political factors which determine health outcomes.
- Social Determinants: Include housing, education, neighborhood, access to work, individual lifestyle (age, gender), socioeconomic status, and access to health care.
- Health disparities among particular racial and ethnic groups have multiple causes that need to be addressed on multiple levels.
Causes of Disparities in Mental Health

• Lack of insurance
• Geographic and provider-level differences
• Poor access
• Low quality of care
• Health provider assumptions, discrimination
• Language barriers
• Mental health workforce disparities
Approaches to address these disparities

- Address social disparities (e.g., poor housing, low education, poverty, lack of job opportunities)
- Improve access to care
- Provide incentives to health care professionals for improving communication, providing appropriate screening and treatment
- Increase racial and ethnic diversity in the mental health care workforce to reflect community populations
Substance Dependence or Abuse and Mental Health Disorders by Age Group in South Carolina and the United States

Percentages, annual averages based on 2012 and 2013 NSDUHs

**Illicit Drug Dependence or Abuse**
- 12 to 17: 3.85% vs 3.76%
- 18 to 25: 7.34% vs 7.59%
- 18+: 2.80% vs 2.60%

**Serious Mental Illness**
- 18 to 25: 4.23% vs 4.17%
- 18+: 4.38% vs 4.14%

**Had Serious Thoughts of Suicide**
- 18 to 25: 7.14% vs 7.33%
- 18+: 4.07% vs 3.89%

**Alcohol Dependence or Abuse**
- 12 to 17: 3.01% vs 3.11%
- 18 to 25: 11.87% vs 13.67%
- 18+: 6.29% vs 7.08%

**Had At Least One Major Depressive Disorder**
- 12 to 17: 9.44% vs 9.86%
- 18 to 25: 8.05% vs 8.81%
- 18+: 6.46% vs 6.77%

**Any Mental Illness**
- 18 to 25: 17.76% vs 19.50%
- 18+: 18.04% vs 18.53%
2013 Behavioral health disparity* in average annual days at acute care hospitals (ED or Inpatient) due to Ambulatory Care Sensitive Conditions.

Legend
Category
- 31-50%
- 61-90%
- 91-120%
- 121-150%

Statewide disparity: 77%

Source: RFA, DMH, DAODAS
By County of residence

\[100 \times \left( \frac{\text{Average annual ACSC days per patient with behavioral health issues}}{\text{Average annual ACSC days per patient without behavioral health issues}} \right) - 1\]
ER Rates for Medical Dx Increase with Complexity of Group Members

In both states, ER rates for medical diagnoses, compared to group with no underlying behavioral health diagnoses are:

- 1.7-1.9 times higher for MH group
- 1.8-2.1 times higher for SA group
- 3.5-4.0 times higher for the Co-occurring group.
Integrated Care Programs

- Center of Excellence for Integrated Care, North Carolina
- DIAMOND, Minnesota
- IMPACT Implementation Center, Washington
- Integrated Behavioral Health Project, California
- Mental Health Integration Program, Washington
Integrated Care Model
Emergency Department SC
Statewide Telepsychiatry
South Carolina Hospitals

Charleston Area

Columbia Area

Greenville Area

- General Acute Care Hospitals
- Hospitals Participating in Telepsychiatry Program
- Hospitals with Licensed Psychiatric Beds
- Behavioral Health Centers and Psychiatric Hospitals
Propensity scoring with optimal matching used to match patients treated at intervention EDs to those treated at non-intervention EDs in South Carolina

Compared two groups on utilization and cost outcomes using standard econometric techniques

Narasimhan, Druss, Hockenberry et al
## Service Use

<table>
<thead>
<tr>
<th></th>
<th>Telepsychiatry</th>
<th>Control</th>
<th>P</th>
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<tbody>
<tr>
<td>Admission following index ED visit</td>
<td>9%</td>
<td>18%</td>
<td>&lt;0.001</td>
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<tr>
<td>LOS at index visit (in days)</td>
<td>3.9</td>
<td>6.4</td>
<td>&lt;0.001</td>
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<tr>
<td>30 day OP f/u</td>
<td>42%</td>
<td>15%</td>
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<tr>
<td>90 day OP f/u</td>
<td>50%</td>
<td>19%</td>
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<tr>
<td>Index 30 day hospital cost (IP+ED)*</td>
<td>$5,066</td>
<td>$7,736</td>
<td>&lt;0.0001</td>
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Patient Perceptions of Telepsychiatry Program
Survey Data

Narasimhan and Druss et al
Public Private Academic Partnership

An Attempt To Bring Practice, Policy and Research In Line With the Science

Telepsychiatry
Integrated Care

Together we can do much
To address health disparities