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North Carolina Statewide Telepsychiatry Program (NC-STeP)
• An estimated 26.2% of Americans ages 18 and older (about 1 in 4) Americans have a mental disorder in any one year\(^1\).
  – When applied to the 2014 U.S. Census residential population estimate for ages 18 and older, this figure translates to 61.8 million\(^2\).
• The main burden of illness is concentrated in a much smaller proportion — about 6 percent, or 1 in 17 (14.2 million) — who suffer from a serious mental illness\(^1\).

Psychiatrists per 10,000 Population
North Carolina, 2013

Source: North Carolina Health Professions Data System, with data derived from the North Carolina Medical Board, 2013; US Census Bureau and Office of Management and Budget, March 2013.

Note: Data are based on primary practice location and include active, instate, nonfederal, non-resident-in-training MDs and DOs licensed in NC as of October 31, 2013 who indicate that their primary area of practice is psychiatry, child psychiatry, psychoanalysis, psychosomatic medicine, addiction/chemical dependency, forensic psychiatry or geriatric psychiatry. "Core Based Statistical Area" (CBSA) is the OMB's collective term for Metropolitan and Micropolitan Statistical areas. Here, nonmetropolitan counties include micropolitan and counties outside of CBSAs.

Produced by: Program on Health Workforce Research and Policy, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

Map labels reflect the number of psychiatrists within the county.
Psychiatrists per 10,000 Population

Distribution of psychiatrists statewide is such that many counties have a shortage

• 29 out of 100 counties in NC have no psychiatrists
• 58 out of 100 counties have a shortage of MH services
  – According to federal guidelines, 58 counties in North Carolina qualify as Health Professional Shortage Areas because of shortages of mental health providers to meet population needs.
In recent years North Carolina has seen high emergency department admissions related to behavioral health issues and extended lengths of stays (LOS), ranging from long hours to multiple days. ¹

In 2013, NC hospitals had 162,000 behavioral health emergency department visits.²

In 2010, patients with mental illness made up about 10 percent of all emergency room visits in North Carolina, and people with mental health disorders were admitted to the hospital at twice the rate of those without.³

2. NC Hospital Association
3. Study by the Centers for Disease Control
Currently, there are 108 hospitals with either single ED’s, or in some cases, multiple site ED’s across the state with varying degrees of psychiatric coverage.

The majority of ED’s do not have access to a full-time psychiatrist.
Telepsychiatry is defined in the statute as *the delivery of acute mental health or substance abuse care, including diagnosis or treatment, by means of two-way real-time interactive audio and video* by a consulting provider at a consultant site to an individual patient at a referring site.
Demonstrated Benefits of Telepsychiatry
(Saeed SA, Diamond J, Bloch RM. (2011))

- ↑ access to mental health services
- ↓ geographic health disparities
- ↑ consumer convenience
- ↓ professional isolation
- ↑ recruiting and retaining MH professionals in underserved areas
- Improved consumer compliance.
- Improved education of mental health professionals.
- Improved coordination of care across mental health system.
- Reduction of stigma associated with receiving mental health services.
This statewide program was developed in response to Session Law 2013-360 directing the N.C. Department of Health and Human Services' Office of Rural Health and Community Care to "oversee and monitor establishment and administration of a statewide telepsychiatry program." (G.S. 143B-139, 4B).
If an individual experiencing an acute behavioral health crisis enters an emergency department, s/he will receive timely specialized psychiatric treatment through the statewide network in coordination with available and appropriate clinically relevant community resources.
NC-STeP Status as of June 30, 2017

• 62 hospitals in the network. 43 live.
• 26,700 total psychiatry assessments since program inception
• 2,816 IVCs overturned
  – Cumulative return on investment = $15,066,000
    (from savings from preventing unnecessary hospitalizations)
• High levels of satisfaction
• Six Clinical Providers’ Hubs with 36 consultant providers
• Administrative costs below industry’s standard
NC-STeP Status as of June 30, 2017

Gold = Hospital with NC-STeP live
Purple = Hospitals with NC-STeP in the process of going live
■ = Provider HUB
1. Carolina Behavioral
2. Mission
3. Cone Health
4. Novant
5. Cape Fear
6. Old Vineyard
Quality Management and Outcomes Monitoring

• All participating clinical providers:
  – Participate in a Peer review process
  – Meet quality and outcome standards
• “Health Information Exchange System” for NC-STeP
• Support all the HIT functions required of the program
• Portal is a group of separate but related technologies that serves as the primary interface through which data is reviewed and created regarding patient encounters
• Uses Direct Messaging and CCD/CCDA to deliver clinical information via DirectTrust HISP, using MU standards
Total Assessments by Hospital as of 6-30-2017
(since project inception in November 2013)
47.6% percent of patients had a LOS of 30 hours or less.

Median Length of Stay for April – June 2017 = 33.7 Hours
NC STeP: Number of IVCs for Participating Hospitals by Quarter

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</tr>
</thead>
<tbody>
<tr>
<td>25% Turnover</td>
<td>829</td>
<td>811</td>
<td>3090</td>
<td>913</td>
<td>341</td>
<td>281</td>
<td>1126</td>
<td>54</td>
<td>299</td>
<td>83</td>
<td>219</td>
<td>677</td>
</tr>
<tr>
<td>19% Turnover</td>
<td>206</td>
<td>154</td>
<td>729</td>
<td>411</td>
<td>175</td>
<td>281</td>
<td>17062</td>
<td>62</td>
<td>16754</td>
<td>858</td>
<td>319</td>
<td>858</td>
</tr>
<tr>
<td>23% Turnover</td>
<td>153</td>
<td>121</td>
<td>513</td>
<td>411</td>
<td>175</td>
<td>222</td>
<td>17062</td>
<td>54</td>
<td>16754</td>
<td>858</td>
<td>319</td>
<td>858</td>
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Number of IVCs
Number of IVCs Turned Over
Percent of Patients by Discharge Disposition

- **April – June 2017**
  - Home: 43%
  - Transfer: 20%
  - Admit: 37%
  - Other: 1%

- **January - March 2017**
  - Home: 52%
  - Transfer: 43%
  - Other: 4%

- **January – December 2016**
  - Home: 51%
  - Transfer: 43%
  - Admit: 3%
  - Other: 3%

- **January – December 2015**
  - Home: 53%
  - Transfer: 39%
  - Admit: 3%
  - Other: 5%
NC-STeP Charge Mix – Project to Date
Service Dates 10/01/2013 – 06/30/2017

- Blue Shield: 5.58%
- Commercial: 17.22%
- Medicaid: 5.95%
- Medicare: 19.75%
- Other: 20.46%
- Self-pay: 31.03%
<table>
<thead>
<tr>
<th>Entity</th>
<th>Cost Savings</th>
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<tbody>
<tr>
<td>Patients and Families</td>
<td>How to quantify reduced distress/disability, functional improvement, quality of life, gainful employment, etc.</td>
</tr>
<tr>
<td>Communities</td>
<td>How to quantify better &quot;citizenship&quot;, reduced homelessness, crime reduction, more self reliance, etc.</td>
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<td>NC-Medicaid + “Indigent Care” (?MCOs)</td>
<td>State projected cost savings from overturned IVC's for self-pay and Medicaid Cost savings from reduced recidivism</td>
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<tr>
<td>Third Party Payors</td>
<td>Projected cost savings from overturned IVC's Cost savings from reduced recidivism</td>
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<tr>
<td>Sheriff Department</td>
<td>Projected cost savings to Sheriff Department from overturned IVCs</td>
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<tr>
<td>Hospitals</td>
<td>Costs savings from increased throughput in the ED.</td>
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</tbody>
</table>
NC-STeP is positioned well to create collaborative linkages and develop innovative models of mental health care:

- EDs and Hospitals
- Communities-based mental health providers
- Primary Care Providers
- FQHCs and Public Health Clinics
- Others

NC-STeP web portal, accessible by participating providers, as a central point for coordinated care.
Telepsychiatry can enhance quality of care

- Improve efficiency
- Expand service delivery
- Improve outcomes
- Evidence-based practices to make recovery possible
• Telepsychiatry is a viable and reasonable option for providing psychiatric care to those who are currently underserved or who lack access to services.
• The current technology is adequate for most uses and continues to advance.
• Numerous applications have already been defined, and more are ripe for exploration.
Conclusions

• Overcoming the barriers to implementation will require a combination of consumer, provider, and governmental advocacy.

• The purpose and fit of telecare services in the wider care system should drive its introduction – not the technology.

• Investing in a “connected network” should be the goal.

• It’s about relationships, not technology.
The plan for NC-STeP was developed in collaboration with a workgroup of key stakeholders including representatives from universities, NC DHHS, hospitals/healthcare systems, NC hospital Association, NC Psychiatric Association, and LME-MCOs. In addition to the NC General Assembly appropriation of $2 million per year to fund the program, NC-STeP is partially funded by the Duke Endowment in the amount of $1.5 million. NC DHHS provides administrative oversight of the funding.
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