Owing the Behavioral Health Population

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Objectives

- What is the problem?
  - United States
  - North Carolina

- Why in the world did we do this?

- How did it work out?

- What did we learn?
United States
How prevalent is mental illness in the US?

18%

Eighteen percent of adults in the United States have a mental, behavioral, or emotional disorder.
The prevalence is increasing???

NO
Prevalence has been relatively stable

12-month prevalence of any mental illness among adults ages 18+, by age group, 2008-2015

Source: Kaiser Family Foundation analysis of data from SAMHSA 2015 NSDUH (Accessed on July 27, 2017) • Get the data • PNG
Then what is the problem????

Psych Hospital Beds Per 100K Nationwide

- 1955: 337
- 2005: 16.8
- 2010: 14.1
- 2016: 11.7

Of these, 50% occupied by forensic patients

Where did these people go?

46% of persons in homeless shelters suffer from mental illness and/or substance abuse

~60% of people in prison or jail suffer from mental illness
Are people receiving care?

1 out of 5 is NOT receiving care
Why can’t people get care?

- Insured: 3.50%
- No Insurance: 4.70%
- Below Poverty: 6.80%
- Above Poverty: 3.50%

They can’t afford it
What is the result?

Age-adjusted suicide rates, by sex, 1999-2014

Source: CDC
Cost is rising

<table>
<thead>
<tr>
<th>Disease Category</th>
<th>Expenditures in $ billions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ill-defined conditions</td>
<td>$254</td>
</tr>
<tr>
<td>Circulatory</td>
<td>$236</td>
</tr>
<tr>
<td>Musculoskeletal</td>
<td>$190</td>
</tr>
<tr>
<td>Respiratory</td>
<td>$161</td>
</tr>
<tr>
<td>Endocrine</td>
<td>$142</td>
</tr>
<tr>
<td>Nervous system</td>
<td>$136</td>
</tr>
<tr>
<td>Cancers and tumors</td>
<td>$127</td>
</tr>
<tr>
<td>Injury and poisoning</td>
<td>$118</td>
</tr>
<tr>
<td>Genitourinary</td>
<td>$114</td>
</tr>
<tr>
<td>Digestive</td>
<td>$114</td>
</tr>
<tr>
<td>Other</td>
<td>$89</td>
</tr>
<tr>
<td>Mental illness</td>
<td>$89</td>
</tr>
<tr>
<td>Infectious diseases</td>
<td>$70</td>
</tr>
<tr>
<td>Pregnancy/childbirth complications</td>
<td>$47</td>
</tr>
<tr>
<td>Dermatological</td>
<td>$45</td>
</tr>
</tbody>
</table>

Note: Expenditures on nursing home and dental care are not included in health services spending by disease. Data does not include spending on institutionalized population.

Quelle: Kaiser Family Foundation analysis of data from Bureau of Economic Analysis Health Care Satellite Account (Blended Account) and National Health Expenditure Data. Peterson-Kaiser Health System Tracker
Among comparable countries, the U.S. has the highest rate of death from mental health and substance abuse disorders.
North Carolina
North Carolina gets a ‘F’ on how equally it treats mental and physical health issues
NC lost 280 mental health beds in 2012
**Relevant Stats**

**In North Carolina...**

- NEARLY 1 in 5 adults have a mental illness *(national average over 1 in 6)*
- OVER 1 in 7 adults with mental illness are uninsured *(national average over 1 in 7)*
- NEARLY 1 in 10 youth have a mental illness *(national average approximately 1 in 12)*
- OVER 1 in 13 youth have private insurance that does not cover mental health *(national average 1 in 13)*

- **45%** of residents are covered by employer-based health insurance *(national average 49%)*

*Sources: Mental Health America (2018); The Henry J. Kaiser Family Foundation (2016)*
How Do North Carolina’s Statutes Measure Up?

49 out of 100 points — Grade: F
Psychiatrist Full-Time Equivalents per 10,000 Population
North Carolina, 2004

Total Psychiatrists = 1,061
Psychiatry FTEs per 10,000 Population
(# of Counties)

- 0.98 to 10.27 (18)
- 0.60 to 0.98 (20)
- 0.33 to 0.59 (18)
- 0.01 to 0.32 (27)
- No Psychiatrists (17)

Psychiatric Hospital (4)

Source: LINC, 2005; North Carolina Health Professions Data System, with data derived from the North Carolina Medical Board, 2004; NC DHHS, MHDDSAS, 2005.

Produced by: North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

*Psychiatrists include active (or unknown activity status), in-state, non-federal, non-resident-in-training physicians who indicate a primary specialty of psychiatry, child psychiatry, psychoanalysis, psychosomatic med, addiction/chemical dependency, forensic psychiatry, or geriatric psychiatry, and secondary specialties in child psychiatry and forensic psychiatry.
Behavioral Health Encounters Map
In the beginning
Original infrastructure to support psych patients was not adequate and not well aligned operationally

Daily Coverage = 88 hrs

12 hours = MD + multiple LCSW, APP, Clerical

12 hours = Psych resident with inpatient duties
Psych volume was continuing to rise

Seasonality
- Lull during the summer
- Two peaks – December and May

Increasing Volume over time
- Steep growth slope
- No evidence of leveling

Noon Psych Census 01/2015 – 07-2017
At 8pm that same day, we hit our all-time high of 64 BH patients
Length of stay for BH patients excessive

MONTHLY Mean BH LOS in Hours (Black) and Mean Census (Blue)
Time to be seen was excessive

36 hours
Psych patients often occupied >50% of ED clinical space

20 Rooms
6 Rooms
15 Rooms
6 Rooms
4 Rooms

Psych = 51 rooms
Non-psych = 30 rooms
Financial impact was considerable

Assumptions

- For each behavioral health patient in a bed for more than 24 hours, ED loses 2.2 bed turns
- In a sample month, we had 395 beds-days in which a behavioral health patient occupied a bed >24 hours
- We net an average of $114 per patient encounter (not including facility fee)
Huge financial impact

In a single month the Department lost ~ $100,000. This translates into a $1.2 million loss annually
And it would appear that we had the patients to fill those bed days but they were walking out the door
My Autistic Son Has Been Waiting Over 200 Hours in the ER for a Psych Bed in North Carolina

For 11-year-old in ER, The Wait for a Psych Bed is 10 Days

October 17, 2017 by Taylor Knopf

Liam Harrison. Photo courtesy the Harrison family.

For more than 250 hours in the UNC Emergency Department, Liam Harrison waited for an inpatient bed to open at one of North Carolina’s few psychiatric facilities. Maybe today will be the day he gets one.
We started to get terrible social media feedback

Twitter
Facebook
Google Plus.........

Linda McDonough @briannas_m... · Oct 16, 2017
239hrs. To #UNC 's credit, they have added have added 2 new BED areas. BUT Illegal restraint seen yesterday, kid facedown with knee in back.

Linda McDonough @briannas_m... · Oct 16, 2017
Liam has waited 238hrs for child psych bed, but many in the ER have waited even longer. We need beds for them too.  .@ncdhhs  .@NC_Governor
Residency match that year was horrid
Trouble recruiting faculty
Lost 5-8000 in ED volume
Faculty wellness down the tubes
The intervention
## Challenging finances

<table>
<thead>
<tr>
<th>Service</th>
<th>Net Professional Collections per Patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Medicine</td>
<td>≈ $114</td>
</tr>
<tr>
<td>Psych Emergency Services</td>
<td>≈ $50</td>
</tr>
</tbody>
</table>
Expenses for psych services significant

Annual Expenses

- Salary: $2,281,777
- Benefits: $637,898
- Misc: $129,444

Total: $3,049,119
Patient collections cover a fraction of expenses

**Annual Expenses**

- Salary: 2,281,777
- Benefits: 637,898
- Misc: 129,444

**Annual Revenue**

- Patient Collections: 238,319
Hospital commitment

Annual Expenses

- Salary: $2,281,777
- Benefits: $637,898
- Misc: $129,444

Total Expenses: $3,049,119

Annual Revenue

- Hospital Subsidy: $2,810,800
- Patient Collections: $238,319

Total Revenue: $3,049,119
July 2017 – Emergency Medicine took over

Led by Dr. Angela Strain

- MD: 2 FTEs
- Nurse Practitioners: 4 FTEs
- Social Workers: 7.4 FTEs
- Administrative Support: 1 FTE
New care paradigm

- 1 MD – 8 hours
- LCSW – 24 hours
- APP – 16 hours
- Clerical – 8 hrs

56 hours of coverage
Immediate impact on LWBS
Door to evaluation improved

Median Door to Evaluation (hours)
LOS improved

Median Length of Stay (hours)
Increased ability to take outside transfers

ED to ED Outside Transfers

Source: Transfer Center Data (1/16 to 9/17); PLC Dashboard (2/18 to 12/18)
Other enhancements

- Dedicated APP to address primary care needs
- Recreation therapy every day
- Hospital school for the kids
- Dedicated Butterfly Garden for outdoor time
- Dedicated case management to assist with placement
Challenges and Current State
Scarce outpatient resources

Wait time to see any mental health professional in NC is over 4 months

40% of psychiatrists will not accept insurance (of any kind)

8,300 child psych specialists in US for more than 15 million young patients
Complex patients

28 years old male
Severely developmentally delayed
Mobile only with walker – mobility status declining
Large and very aggressive
Mother could no longer care for him
Lost ability to walk within days of being in ED

Required long term placement in a psych facility
Very few of these beds
Was in the ED for 142 days
Complex patients

6 year old male
   Autistic and developmentally delayed
   Not potty trained
   Cannot feed himself
   Extremely violent to himself
   Required 2 on 1 care

North Carolina only has one facility in the state who can handle a patient like this
In the ED for 12 weeks
Complex patients

76 year old female
Severe dementia
Infected bed sores

Psych facility will not take her as she requires IV antibiotics
Medical floor will not take her as she requires 2 on 1 nursing
PT/OT would not come to the ED
Wound care nurse would not come to the ED
What does the Future Hold?
36-bed ED Psych Unit (June 2020)
Patients and Families teaching Us

Behavioral Health Lay Navigators

Patient Advocacy Council
Telepsych