THE COST OF MENTAL ILLNESS:
CONNECTICUT FACTS AND FIGURES

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3/1/2017
ACKNOWLEDGMENTS

This work was done as part of the Keck-Schaeffer Initiative for Population Health Policy. We also acknowledge comments and contributions to this work from the National Council for Behavioral Health and the Behavioral Health + Economics Network.

Funding for this project was provided through an unrestricted grant from Alkermes.

References, data sources and methods are described in more detail in the online appendix. This chartbook and the appendix can be downloaded at: http://healthpolicy.usc.edu/Keck_Schaeffer_Initiative.aspx
INTRODUCTION

Improving access to high-quality medical care for patients with mental illness remains one of the most vexing problems facing the healthcare system in the United States.

While Connecticut’s mental health system is considered to be among the nation’s top regarding access to care, as demand rises, and funding is cut many of the most vulnerable within the system are facing increasing risk.¹

Our chartbook offers an overview of the behavioral health system in United States and Connecticut with respect to:
1) the population in need 2) the workforce available to serve 3) funding difficulties faced 4) the impact on the criminal justice system and 5) the economic impact associated with treatment of individuals suffering from mental illness.

¹ http://ctmirror.org/2016/11/07/theres-a-lot-of-anxiety-mental-health-system-braces-for-more-cuts/
KEY OBJECTIVES

QUANTIFY THE POPULATION LIVING WITH MENTAL ILLNESS IN CONNECTICUT AND THE U.S.

REVIEW MENTAL HEALTH CARE COVERAGE, UTILIZATION & COSTS

- Medicaid & mental health care needs
- Unmet mental health care needs
- Hospital utilization & charges
- State mental health funding for community-based programs

DESCRIBE SUPPLY OF MENTAL HEALTH CARE PROVIDERS

EXAMINE INTERACTION BETWEEN THE CRIMINAL JUSTICE SYSTEM & PERSONS SUFFERING FROM MENTAL ILLNESS

SUMMARIZE TOTAL ECONOMIC BURDEN OF SERIOUS MENTAL ILLNESS
QUANTIFYING THE POPULATION LIVING WITH MENTAL ILLNESS IN CONNECTICUT AND THE U.S.
KEY POPULATIONS OF INTEREST

SERIOUS PSYCHOLOGICAL DISTRESS (SPD)

When someone experiences Serious Psychological Distress, he or she may have a diagnosed or undiagnosed mental health condition, such as major depressive disorder, bipolar disorder, or schizophrenia (described below). Serious Psychological Distress is determined by six questions on the Kessler-6 screening instrument, which measures the frequency of symptoms of depression, anxiety, and emotional distress during a specific time period.

MAJOR DEPRESSIVE DISORDER

A mental illness that severely impairs a person’s ability to function, characterized by the presence of depressed mood, feelings of worthlessness, guilt, or helplessness, reduced concentration, ability to think, sleep problems, loss of interest or pleasure in activities, and/or recurrent thoughts of suicide.

BIPOLAR DISORDER

A mental illness characterized by extreme shifts in mood and energy levels. During manic episodes, a patient has abnormally high energy and activity levels that lead to impairment in daily functioning or requires hospitalization to prevent harm to self or others. Delusions or hallucinations can also occur. Manic episodes may be alternated with major depressive episodes.

SCHIZOPHRENIA

A debilitating mental illness that distorts a patient’s sense of reality. Symptoms of schizophrenia include hallucinations, delusions, confusion, cognitive and mood impairments, and extremely disorganized thinking.

RISK FACTORS: GENETIC & EXTERNAL FACTORS

Many different genetic factors may increase risk, but no single genetic variation causes a mental illness by itself; Specific interactions between the individual’s genes and environment are necessary for a mental illness to develop.
Many mental health conditions are fairly common in the general population.

Of the three conditions that are often labeled as Serious Mental Illness (SMI), major depressive disorder is the most prevalent, followed by bipolar disorder and schizophrenia.

**Past-year prevalence adults**

- Serious Psychological Distress: 10.4%
- Major depressive disorder: 6.0%
- Bipolar disorder: 2.6%
- Schizophrenia: 1.1%
- Post-traumatic stress disorder: 3.5%
- Generalized anxiety disorder: 3.1%
- Panic disorder: 2.7%
- Obsessive compulsive disorder: 1.0%

**NB:** Due symptom overlap, diagnoses of mental illnesses are not mutually exclusive.

Source: National Survey on Drug Use and Health (NSDUH) 2015 (SPD), NSDUH Mental Health Surveillance Study 2008-2012 (major depressive disorder) and National Institutes of Mental Health (other conditions – see appendix for original sources)
We estimate that approximately 300,000 adults in Connecticut experienced Serious Psychological Distress in the past 12 months.

Note that a patient can receive multiple diagnoses of a serious mental illness due to a high degree of overlap between the mental health conditions.

<table>
<thead>
<tr>
<th>Mental Health Condition</th>
<th>Estimated Number of Affected People</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious Psychological Distress</td>
<td>294,066</td>
</tr>
<tr>
<td>Major depressive disorder</td>
<td>169,654</td>
</tr>
<tr>
<td>Bipolar disorder</td>
<td>73,517</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>31,103</td>
</tr>
</tbody>
</table>


Estimate of # of people affected using total state population of 2,827,561 adults (18 years and over), Census Bureau data (2015)
Substance abuse in people with Serious Psychological Distress

UNITED STATES 2015

People who experienced Serious Psychological Distress in the past 12 months are more likely to abuse or be dependent on alcohol or illicit drugs during that same time period.

Percentage of adults with substance/alcohol abuse and/or dependence in past year

- Serious Psychological Distress: 21.4% (Any substance), 15.0% (Alcohol), 10.6% (Any illicit drug), 3.5% (Prescription pain relievers)
- No SPD: 6.6% (Any substance), 5.3% (Alcohol), 1.9% (Any illicit drug), 0.5% (Prescription pain relievers)

Source: National Survey on Drug Use and Health (2015)
MENTAL HEALTH CARE COVERAGE, UTILIZATION & COSTS

Medicaid & mental health care needs
People with mental illness have greater reliance on the safety net

UNITED STATES 2015

Percentage of people with Serious Psychological Distress by insurance type

- Private health insurance: 8.5%
- Medicare: 6.7%
- VA/military health insurance: 10.6%
- Medicaid/CHIP: 17.4%
- Uninsured: 13.6%

In the Medicaid and uninsured population, a higher percentage of people reported Serious Psychological Distress (SPD) during the past year compared to people with Medicare, VA/military, or private health insurance coverage.

Source: National Survey on Drug Use and Health (NSDUH) 2015
Medicaid reimbursement rates to physicians are low

CONNECTICUT AND UNITED STATES 2014

Medicaid-to-Medicare fee ratio, 2014

Low reimbursement rates are a disincentive for individual physicians to accept patients with Medicaid coverage and mental health problems. Compared to Medicare fee levels, Medicaid reimbursement rates are low in most states. Although Connecticut’s fee ratio is one of the highest in the U.S, the Medicaid fees are still below Medicare fees, which may further limit physician’s willingness to accept Medicaid patients.

This can be a barrier for these patients to obtain access to mental health care.

**New England states
Source: Kaiser Family Foundation, Medicaid-to-Medicare Fee Index, FY 2014
Medicaid reimbursement rates for mental health services by community providers are low

CONNECTICUT 2014

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Margin per hour</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychotherapy, 45 min</td>
<td>-$106.86</td>
<td>21%</td>
</tr>
<tr>
<td>Therapeutic behavioral services, 15 min</td>
<td>-$133.25</td>
<td>10%</td>
</tr>
<tr>
<td>Psychotherapy, 60 min</td>
<td>-$80.86</td>
<td>9%</td>
</tr>
<tr>
<td>Family psychotherapy, 60 min</td>
<td>-$124.75</td>
<td>8%</td>
</tr>
<tr>
<td>Psychiatric diagnostic evaluation</td>
<td>-$111.98</td>
<td>8%</td>
</tr>
<tr>
<td>Group psychotherapy</td>
<td>-$103.12</td>
<td>5%</td>
</tr>
<tr>
<td>Behavioral health day treatment, per hour</td>
<td>-$128.58</td>
<td>5%</td>
</tr>
<tr>
<td>Office/outpatient visit, level 3</td>
<td>-$116.66</td>
<td>4%</td>
</tr>
<tr>
<td>Alcohol/drug services, intensive outpatient</td>
<td>-$1.76</td>
<td>3%</td>
</tr>
<tr>
<td>Targeted case management</td>
<td>-$207.51</td>
<td>2%</td>
</tr>
</tbody>
</table>

The 10 most utilized behavioral health services account for 75% of total service hours by community providers.

The service delivery cost for these procedures is higher than the revenue under Medicaid rates, resulting in negative margins and providers operating at a loss.

The annual loss for these procedures is more than $27 million for approximately 250,000 service hours.

Source: Prioritizing Community Based Services in CT, CT Community Providers Association, February 2015

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MENTAL HEALTH CARE COVERAGE, UTILIZATION & COSTS

Unmet mental health care needs
There is significant unmet need for mental health care in the U.S.

United States 2015

Among adults who experienced Serious Psychological Distress during the past year:

- Unmet need: 27.1%
- Cannot afford: 42.6%

27.1% indicates an unmet need of mental health treatment. And 42.6% of these people did not receive mental health treatment, because they could not afford it.

More than a quarter of adults who experienced Serious Psychological Distress in the previous year in the U.S. reported an unmet need for mental health care. Almost half of the people with a perceived unmet need reported that they did not receive treatment because they could not afford it.

Source: National Survey on Drug Use and Health (NSDUH) 2015
The extent to which cost was a factor in driving unmet need for mental health care varied by insurance status. People without health insurance were most affected by the inability to afford mental health treatment (71.1%). Alternatively, 19% of uninsured patients with Serious Psychological Distress had unmet need due to cost compared with 9.6% with Medicaid, 11.1% for private insurance.

Source: National Survey on Drug Use and Health (NSDUH) 2015
In the U.S. the number of hospitalizations is highest for adult patients with a principle diagnosis of major depressive disorder. However, patients with a schizophrenia diagnosis have a much higher rate of hospitalizations.

In the U.S. there are approximately 18 serious mental illness-related hospitalizations for every 100 adult patients. The rate for each SMI is up to five times as high as for patients with heart failure as principle diagnosis.

2.5% of all hospitalizations are due to SMI

Source: Health Care Utilization Project (HCUPnet) 2014

Estimate of hospitalization rate: based on total state population (Census bureau data, 2014)
Prevalence estimates reported previously, and from Heart Disease and Stroke Statistics 2016
Update: A Report From the American Heart Association
Length of stay for mental illness hospitalizations

**United States 2014**

**Average duration of hospital stays (days) adults**
- All hospital stays: 4.8 days
- Schizophrenia: 11.3 days
- Bipolar Disorder: 7.7 days
- Major Depressive Disorder: 6.5 days

**Total number of hospital days in 2014 adults**
- SMI total: 7,411,694 days
- Schizophrenia: 3,359,874 days
- Bipolar Disorder: 1,974,641 days
- Major Depressive Disorder: 2,077,179 days

**In the U.S., the average hospital stay duration for adult patients with serious mental illness is high compared to all hospital stays, especially for patients diagnosed with schizophrenia.**

**The total time spent in the hospital by adults with a primary diagnosis of schizophrenia, bipolar disorder or major depressive disorder exceeds seven million days each year in the U.S.**

Source: Health Care Utilization Project (HCUPnet) 2014

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The average length of stay for a schizophrenia hospitalization was longer than those for kidney transplants, heart attacks or hip replacement surgeries. Moreover, the average duration for these other conditions all declined by at least 18% from 2000 to 2014 while for schizophrenia the duration increased slightly.

Source: Health Care Utilization Project (HCUPnet) 2014
Average hospital cost for mental illness hospitalizations

UNITED STATES 2014

The average cost for a hospitalization in the U.S. ranged from more than $5,000 to almost $9,000 per stay for patients with serious mental illness. This is despite a general absence of procedures or surgeries during a hospitalization for symptoms of serious mental illness.

Source: Health Care Utilization Project (HCUPnet) 2014
The total costs for serious mental illness hospitalizations exceeded six billion dollars in the U.S. in 2014.

**Total hospital costs**
(all ages, in 2015 U.S. $)

- SMI total: $6,349,720,780
- Schizophrenia: $2,659,728,696
- Bipolar disorder: $1,719,484,287
- Major depressive disorder: $1,970,507,796

Source: Health Care Utilization Project (HCUPnet) 2014
MENTAL HEALTH CARE COVERAGE, UTILIZATION & COSTS

State agency funding of community-based programs and state mental health hospitals

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The Connecticut Department of Mental Health and Addiction Services spends a higher per capita amount on mental health services compared to state mental health agencies in the rest of the U.S.

Of the agency’s clients in 2016, 52.4% have a diagnosis of serious mental illness, and 67.5% a substance use/abuse disorder.

On average, 89.7% of their 2909 available inpatient and residential beds were in use in 2016.

Expenditures include (U.S. average):
- 72% Community-based mental health programs funded and/or operated by state mental health agencies
- 26% Mental health services in state psychiatric hospitals
- 2% Administration/training/research/evaluation to support these services

**New England states**

Source: State Mental Health Agency-Controlled Expenditures for Mental Health Services, FY 2013 National Association of State Mental Health program Directors Research Institute, Inc (NRI)
Connecticut Department of Mental Health and Addiction Services, Annual Statistical Report 2016
SUPPLY OF MENTAL HEALTH CARE PROVIDERS
There are 33 mental health providers for every 10,000 residents in Connecticut, which is higher than the national average.

**Mental health providers include:** psychiatrists, psychologists, licensed clinical social workers, counselors, marriage and family therapists, and advanced practice nurses specializing in mental health care.

**New England states**

Source: County Health Rankings & Roadmaps, by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute.
Availability of mental health care providers and hospital beds

CONNECTICUT AND UNITED STATES 2013

Per resident, Connecticut has more primary care physicians, mental health care providers, and hospital beds dedicated to psychiatric care compared to the US average.

Source: Area Health Resource Files 2013 (psychiatrists, physicians and psychiatric care beds), and 2005-2013 Demographics of the U.S. Psychology Workforce, American Psychological Association (psychologists)
Currently, Connecticut has 50 full-time equivalent mental health providers in designated shortage areas or **34% of what is needed**. Neighbor states generally do better (MA 52%, RI 61%, NH 95%, ME 35%).

Nationally, 44% of needed providers are present in shortage areas.

In CT 95 more full-time providers are needed in these areas (28 in correctional facilities).

Source: Health Professional Shortage Areas (HSPA), HRSA Data Warehouse data as of 7/31/2016
MENTAL HEALTH CONDITIONS & THE CRIMINAL JUSTICE SYSTEM
People who experienced Serious Psychological Distress (SPD) are more likely to have been arrested or be on parole or probation in the past year.

An alternate way to express this is: Of all people arrested once, 24% experienced SPD. For those arrested > 1 time, 38% experienced SPD.

Finally, among all persons arrested ≥1 28.4% had SPD compared with 10.1% of those not arrested.

Source: National Survey of Drug Use and Health (NSDUH) 2015
Survey does not include current institutionalized population.
Mental health issues in prison and jail populations

A large percentage of the U.S. adult prison and jail inmate population currently experiences Serious Psychological Distress compared to the non-institutionalized population.

Additionally, these mental health issues are observed at higher rates in local jails than in prisons.

Source: National Survey of Drug Use and Health (NSDUH) 2015
Bureau of Justice report: Sexual Victimization in Prisons and Jails Reported by Inmates, 2011-12, based on data from the National Inmate Survey
Connecticut state prison inmates previously diagnosed with a serious mental illness:

- Schizophrenia or other psychotic disorder: 5.1%
- Depressive disorder: 19.3%
- Bipolar disorder, manic depression, or mania: 6.7%
- Other mental illnesses: 12.9%
- Other mental illnesses: 0.5%
- Other mental illnesses: 0.5%
- Other mental illnesses: 0.3%
- Other mental illnesses: 0.3%

In Connecticut state prisons, approximately 21% of prison inmates previously have been diagnosed with a serious mental illness, which is similar to the overall U.S. prison population. Many patients have been diagnosed with two or three mental illnesses, confirming the presence of overlap in symptoms in this population.


Due to rounding, percentages of separate parts may not add up to the total percentage.
Change in treatment before and during incarceration in prison and jails

UNITED STATES

The increase in mental health care treatment in federal and state prisons after admission to prison suggests that these institutions are making up for the gaps in mental health treatment in the regular health care system.

At the same time, local jail inmates do not have the same access to medication and counseling while incarcerated as federal and state prisoners.

Mental health conditions include prior diagnosis of depressive disorder, bipolar disorder, and/or schizophrenia. Medication and counseling data includes treatment for any mental illness.

Source: SISFCF (Survey of inmates in states and federal correctional facilities) 2004 & SILJ (Survey of inmates in local jails) 2002
Number of Connecticut state prison inmates previously diagnosed with serious mental illness:

3,542

Overall annual costs:

$149,781,030

(in 2015 US$)

Overall annual costs based on 2014 average of all state prison inmates in Connecticut
Source: Annual Survey of State Government Finances 2014
Survey of Inmates in State/Federal Correctional facilities, BJS, 2004
Connecticut Department of Correction website – Incarcerated Population by Status and Gender

Draft - subject to change
TOTAL ECONOMIC COSTS OF SERIOUS MENTAL ILLNESS
The economic burden of schizophrenia, bipolar disorder, and major depressive disorder in adults in Connecticut is estimated to be at least 1.4 billion dollars for each serious mental illness.

Due to symptom overlap, diagnoses of mental illnesses are not mutually exclusive, therefore, patients with two or more diagnoses may be represented in multiple categories.

The economic burden of schizophrenia, bipolar disorder, and major depressive disorder in adults in the U.S. is estimated to be at least $125 billion dollars for each serious mental illness.

Due to symptom overlap, diagnoses of mental illnesses are not mutually exclusive, therefore, patients with two or more diagnoses may be represented in multiple categories.

IN SUM

- Nationally serious psychological distress affects 10.4% of adults annually
- Major Depression affects 6%, Bipolar Disorder 2.6% and Schizophrenia 1.1%
- Medicaid is a major financier of mental health services
- Medicaid does not render behavioral health services completely affordable
- Most outpatient behavioral health services for Medicaid patients lose money
- Extended hospitalizations are common for patients with Serious Mental Illness
- In Connecticut, despite having an overall high provider to resident ratio, there are areas that only have 34% of needed behavioral health professionals
- People living with mental illness are much more to be arrested and placed in correctional facilities where shortages of behavioral health professionals are severe
- Those arrested are unlikely to have been receiving treatment
- Annual total economic cost for Major Depression, Bipolar Disorder and Schizophrenia is $5.4 Billion in Connecticut