Cost-effectiveness analysis of Assisted Outpatient Treatment implementation in California’s civil sector

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Overview

In California, those with serious mental illness (schizophrenia, schizoaffective disorder, and bipolar disorder) receive treatment in various settings. Those with milder degrees of illness and good insight into their psychiatric condition often voluntarily accept treatment and can be managed in outpatient settings. A sizeable group of those with serious mental illness (40-50%) are so impaired that they are unable to recognize their illness and lack the self-awareness to engage in community-based treatment (Amador et al.). These individuals are at risk for involuntary psychiatric hospitalization, placement in locked sub-acute facilities, arrests, jailing, and death (Lamb & Weinberger).

Assisted Outpatient Treatment (AOT), e.g. “Laura’s Law” was specifically designed to target this subset of persons with a serious mental illness. AOT has shown to be effective in reducing acute involuntary psychiatric hospitalizations (both the frequency and length of hospitalization) (Swartz et al.; Van Dorn et al.), violent behavior, and arrests/jailing (Gilbert et al.; Link et al.). This has been demonstrated in research on Assisted Outpatient Treatment programs in New York and Nevada County, California. The language in New York and California’s Assisted Outpatient Treatment statutes are the same in that both are written to intervene early in the course of a person who has a serious mental illness and prevent further deterioration (see Attachment 1 for legal criterion). Assisted Outpatient Treatment is widespread in New York because it was implemented statewide with funding attached; in California, each individual county must decide whether or not to implement a program and establish a funding mechanism.

In California, Nevada County fully implemented Assisted Outpatient Treatment in 2008 and has since been awarded both state and national awards for innovation. One of the striking findings of the program is not only improved clinical outcomes for participants, but also the financial benefit realized by Nevada County in terms of taxpayer expense. For every $1 spent on the Assisted Outpatient Treatment program, preventing acute psychiatric hospitalizations and jailing saved $1.81. In summary, AOT resulted in a 45% net savings ($503,621) for Nevada County over the first 30 months of the program. If Assisted Outpatient Treatment were adopted statewide, the projected savings for the rest of the state over the next following 30 months would be $189,491,479 based on these results (see Appendix for projected statewide cost-savings calculation).
The following analysis of existing mental health funding streams indicates why Assisted Outpatient Treatment is more cost-effective than the alternative mechanisms for ensuring sustained treatment for those with a serious mental illness that resist accessing care in California. Federal regulations governing Medicaid and Medicare reimbursement were written with the intent of shifting the costs of institutionalized care for persons with mental illness to local & state taxpayers. Consequently, mental health systems are provided incentives for providing community-based care whenever possible in order to receive optimal compensation for their services.

**Existing mechanisms for sustained treatment in the civil sector for those who fail to engage in treatment voluntarily**

California counties that have not implemented Assisted Outpatient Treatment use other options to facilitate the sustained treatment of individuals with a serious mental illness who have a history of refusing care. These options include:

- Acute involuntary psychiatric hospitalizations in the community. In California, 33 of 58 counties have access to acute psychiatric beds; the remaining 25, including Nevada County, do not and must send persons requiring hospitalization to other counties for acute inpatient care.

- The use of a mental health conservatorship in the civil sector in conjunction with a long-term placement in a sub-acute treatment facility.

- Some California counties receive Mental Health Services Act funds to provide Full Service Partnership (FSP) programs. FSP programs can be used to try to engage seriously mentally ill persons who are refusing community-based treatment by providing more intensive services.

**Frequent, involuntary acute psychiatric hospitalizations vs. Assisted Outpatient Treatment**

Involuntary hospitalization in acute psychiatric facilities for seriously mentally ill persons who refuse treatment in the community is often ineffective and expensive. A cost analysis of Assisted Outpatient Treatment vs. acute involuntary psychiatric hospitalization varies depending upon whether or not a county has a psychiatric inpatient unit. Some larger counties have acute psychiatric units within large, general hospitals that are permitted to bill Medi-Cal and Medicare for services. Acute psychiatric units within large hospitals with predominately medical/surgical beds do not fall under the Institute of Mental Disease exclusion, which specifies that any hospital with more than 17 beds devoted exclusively to the treatment of persons with a mental illness, are barred from receiving Medi-Cal reimbursement (see Attachment 2 for definition of Institute of Mental Disease). Some counties have small acute psychiatric inpatient facilities (16 beds or less) and thus are permitted to bill Medi-Cal as a
way of obtaining reimbursement for their services. State and local governments have a financial incentive for obtaining Medi-Cal and Medicare for the provision of psychiatric services. The federal government provides matching funds for inpatient care of persons with Medi-Cal (Federal share 50%; State share 50%) and covers 100% of inpatient care for those patients with Medicare.

**Medi-Cal and Medicare reimbursement rates for acute psychiatric care**

<table>
<thead>
<tr>
<th></th>
<th>Medi-Cal</th>
<th>Medicare</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eligibility</strong></td>
<td>Health coverage for people with low income and limited ability to pay for health coverage (in 2009-10, 23% of Californians received Medi-Cal benefits)</td>
<td>Those less than 65 years automatically receive Medicare if they have received Social Security Disability Insurance for two years (been employed for five years and paid into FICA)</td>
</tr>
</tbody>
</table>
| **Daily reimbursement for medically necessary inpatient day** | $1213.75 in Bay Area  
$663 in Los Angeles | $1100 |
| **Daily reimbursement for administrative day** | $409.48 | Not applicable |
| **State share**      | 50% | 0% |
| **Federal share**    | 50% | 100% |

Title IX of the California Code of Regulations governs the reimbursement of inpatient psychiatric services provided for those with Medi-Cal and Medicare (see Attachment 3 for medical necessity criteria). Hospitals are reimbursed per day of hospitalization only if the inpatient level of care is deemed to be “medically necessary.” For those with Medi-Cal the maximum reimbursement rate is $1213.75 for each inpatient day (in the Bay Area) deemed “medically necessary” (see Attachment 4 for Medi-Cal reimbursement rates); for those with Medicare the maximum reimbursement rate is somewhat lower (approximately $1100 for each medically necessary day) but depends on whether a patient has traditional Medicare or managed-care Medicare (see Attachment 5 for operating costs and Medicare reimbursement rates). Once a hospitalization is no longer determined to be “medically necessary,” the hospital receives no reimbursement for inpatient services, unless the patient is waiting for placement in a facility that provides a lower level of care. Inpatient level of care for patients with Medi-Cal awaiting placement at a lower level of care can be billed for the “administrative day” rate, which is $409.48 (Attachment 4).

As a consequence of Title IX’s strict behavioral criteria, reviewers often quickly find that acute hospitalization is not medically necessary. Frequently, patients require inpatient level of care for behaviors exhibited in the community that justify admission; once on the inpatient unit these behaviors resolve in the structured
hospital environment and inpatient level of care is deemed no longer “medically necessary.” As a result, patients who may benefit from more time in the hospital are discharged prematurely based in large measure on financial, rather than clinical considerations.

To illustrate the discrepancy between the reimbursement allowed by Medi-Cal and Medicare, and the operating costs of an acute inpatient psychiatric unit, consider the following data from San Mateo Medi-Cal Center’s 24-bed acute psychiatric unit. In December of 2011, there were 58 patients discharged from the unit. Of these 58 persons, 22 (38%) had Medi-Cal, 18 (31%) had Medicare, and 18 (31%) were uninsured. The cumulative length of stay for the 58 patients was 637 days (average length of stay 11.0 days): of these 637 days 237 were deemed to be medically necessary (or 36.9%), 293 days were not medically necessary (46.5%), and 106 days were spent on administrative status (16.6%). The maximum amount the hospital was permitted to collect from Medi-Cal and Medicare was $246,167.00, which represents only 19.4% of the total operating expenses required to run the unit over the same period, which is $1,269,475.31.

Medi-Cal and Medicare Reimbursements: San Mateo Medical Center Acute Psychiatric Unit: December 2011

<table>
<thead>
<tr>
<th>Insurance</th>
<th>#</th>
<th>Days Medically Necessary</th>
<th>Days not Medically Necessary</th>
<th>Administrative Days¹</th>
<th>Reimbursement for month of December</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medi-Cal</td>
<td>22</td>
<td>91</td>
<td>96</td>
<td>51</td>
<td>$131,334.73</td>
</tr>
<tr>
<td>Medicare Traditional</td>
<td>9</td>
<td>33</td>
<td>50</td>
<td>12</td>
<td>$39,830.07</td>
</tr>
<tr>
<td>Medicare HMO</td>
<td>9</td>
<td>62</td>
<td>54</td>
<td>19</td>
<td>$75,002.20</td>
</tr>
<tr>
<td>Uninsured</td>
<td>18</td>
<td>51</td>
<td>93</td>
<td>24</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td>58</td>
<td>237</td>
<td>293</td>
<td>106</td>
<td>$246,167.00</td>
</tr>
</tbody>
</table>

¹Some patients with Medicare also had Medi-Cal, thus allowing reimbursement for administrative day status (Medicare does not recognize administrative days)

Operating costs of acute psychiatric care: San Mateo Medical Center

<table>
<thead>
<tr>
<th>Operating costs</th>
<th>For each bed daily</th>
<th>For the unit (24 beds) daily</th>
<th>Monthly unit costs</th>
<th>Annual unit costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating costs</td>
<td>$1,706.28</td>
<td>$40,950.82</td>
<td>$1,245,587.32</td>
<td>$14,947,047.80</td>
</tr>
</tbody>
</table>
Thus, only a fraction of the operating expenses of acute inpatient psychiatric facilities that do not fall under the Institute of Mental Disease exclusion are supported financially by Medi-Cal and Medicare reimbursements. Further, a significant percentage of those treated are uninsured and no direct reimbursement can be claimed for services provided. Covering the remainder of a psychiatric unit’s operating expenses falls to other, less-reliable funding mechanisms, including realignment monies and the County’s general fund, e.g. local taxpayer expense.

Poor reimbursement for acute psychiatric care is a primary reason there has been a massive reduction in inpatient beds across California that has intensified during the economic recession. According to the California Hospital Association, 40 psychiatric facilities have closed and 2763 inpatient beds have been lost in California since 1995, even though the state’s population increased by 5.6 million persons (see Attachment 6 for California psychiatric bed data). Today, California has one psychiatric bed for every 5,653 people, which is substantially lower than the rest of the nation, with one psychiatric bed for 4,790 people. Lengthy hospitalizations are financially prohibitive for California’s local governments and have been targeted for cuts in difficult economic times.

For the twenty-five California counties that do not have access to acute psychiatric beds, the financial burden on local government for providing acute inpatient psychiatric care is even more severe. These counties must contract with a freestanding acute psychiatric facility located in another county for the acute psychiatric care of their seriously mentally ill residents. Many of these out-of-county acute psychiatric facilities are excluded from billing Medi-Cal for services because they are classified as an Institute of Mental Disease (see Attachment 7 for list of California’s Institutes of Mental Disease). Thus, counties without access to acute psychiatric care face the following challenges:

- Financial responsibility for the full costs of inpatient cares if they sent a seriously mentally ill resident without insurance or Medi-Cal to an acute psychiatric facility classified as an Institute of Mental Disease.

- The costs of transporting the resident both to and from the out-of-county facility.

- The complexity of coordinating with out-of-county legal systems and providers with regard to post-discharge care.

In summary, acute psychiatric inpatient services are costly and reimbursements from Medi-Cal and Medicare, when permitted, cover only a fraction of operating expenses. A primary reason seriously mentally ill persons require acute psychiatric inpatient care and remain in the hospital longer than “medically necessary” is the lack of reliable and consistent community supports in place across the state. Assisted Outpatient Treatment is an evidenced-based practice
that has been shown to prevent the need for inpatient care, facilitates timely discharges, prevents re-admissions, and if re-hospitalized, shortens lengths of stay.

Assisted Outpatient Treatment can be funded with Mental Health Services Act (MHSA) monies. Nevada and Los Angeles County are using MHSA money to fund their programs. In 2008, the Department of Mental Health ruled MHSA funds could be used for AOT because recipients of this funding could not be discriminated against based on legal status. Nevada County uses a combination of MHSA funding as well as matching Medi-Cal funding, which provides robust reimbursement for community-based services. Clinical care provided in AOT programs can be fully financed by existing funding streams, whereas only a fraction of psychiatric inpatient care is funded by these sources (see Attachment 4). Thus, from a cost-containment and clinical care perspective, Assisted Outpatient Treatment is a better alternative than allowing a seriously mentally ill person who refuses community treatment to endure repeated involuntary hospitalizations.

**Mental Health Conservatorship vs. Assisted Outpatient Treatment**

Public mental health systems struggle with the seriously mentally ill who fail to engage voluntarily in outpatient treatment after discharge from an acute psychiatric unit, suffer repeated relapses, and frequent re-hospitalizations. For such individuals, a decision is often eventually made to apply for a mental health conservatorship in order to break this vicious cycle. Most seriously mentally ill persons are placed on a conservatorship during an acute hospitalization and subsequently discharged to a Mental Health Rehabilitation Center (usually a secure or locked facility) for a period of sustained treatment, where the average length of stay is 4-6 months, depending on the facility. If the Mental Health Rehabilitation Center has more than 17 licensed beds, the costs of care fall upon local (county) taxpayers through county contracts that pay private corporations to run these facilities because they are barred from collecting reimbursement from Medi-Cal. This approach to dealing with seriously mentally ill persons who refuse community-based care is widespread in California despite research that demonstrates it is not effective for the majority of patients (Lamb & Weinberger, 2005).

The vast majority of patients who are placed on a mental health conservatorship and placed into a Mental Health Rehabilitation Center for sustained treatment would also meet the legal criteria for AOT. The process of initiating a conservatorship also often results in an extended acute psychiatric hospitalization and most of the hospitalization isn’t covered by Medi-Cal because persons who are clinically stable and awaiting placement on an acute facility do not meet the medical necessity criteria.
To illustrate the high costs of obtaining a mental health conservatorship and providing treatment in a Mental Health Rehabilitation center also classified as an Institute of Mental Disease rather than utilizing Assisted Outpatient Treatment, consider the following data. In December of 2011, nine inpatients were admitted to San Mateo Medical Center’s acute psychiatric unit, placed on a Temporary Conservatorship (T-CON), and discharged to Cordilleras Mental Health Rehabilitation Center (CMHRC). Of these nine persons, seven would have been eligible for release to the community in an Assisted Outpatient Treatment program as a less restrictive alternative to Temporary Conservatorship and locked facility placement. The unreimbursed cost of placing a person on a Temporary Conservatorship and transferring for subsequent treatment at a Mental Health Rehabilitation Center is $58,437.08 per person; based on this data, the projected annual costs of using a mental health conservatorship and sub-acute facility placement is $4,791,840.56 (see Appendix for per person and estimated annual cost of conservatorship and CMHRC placement).

Assisted Outpatient Treatment would be a less restrictive and less expensive alternative to conservatorship and placement in sub-acute facility as a discharge plan from an acute psychiatric facility. Treatment costs for AOT would be $30,000 annually and Medicare, Medi-Cal, and Mental Health Services Act funding would cover the costs of treatment. Legal costs would be negligible compared to a mental health conservatorship, as both options require legal hearings, e.g. a judge, county counsel, public defenders, and legal testimony from treatment providers. Nevada County program has found that the majority of participants (75-80%) in their Assisted Outpatient Treatment program choose to forego formal legal proceedings (75-80%), accept court-supervision status, and enter into the program voluntarily (see Attachment 9 for schematic of legal process and voluntary settlement agreement).

Assisted Outpatient Treatment is considered by many to be part of the recovery movement in that it provides community-based care in the least restrictive environment. Implementation of Assisted Outpatient Treatment programs in California would be consistent with the Supreme Court ruling in Olmstead v. LC (Teitelbaum, Burke, & Rosenbaum, 2004). In this case, the Supreme Court held that under the Americans with Disabilities Act, individuals with mental disorders have the right to live in communities rather than in institutions if, in the Court’s opinion, “the State’s treatment professionals have determined that community placement is appropriate, the transfer from institutional care to a less restrictive setting is not opposed by the affected individual, and the placement can be reasonably accommodated, taking into account the resources available to the State and the needs of others with mental disabilities."

Across California, there may be many individuals who are confined on an inpatient psychiatric unit or in a sub-acute placement who could be managed in the community with an AOT program if one were made available. Individuals
with a serious mental illness who are confined in institutions would likely not oppose a transfer to the community into an AOT program given it provides an individual more freedom, greater input into treatment decisions, freedom from forced medications, and the ability to reap the benefits of community living. Institutional placement of persons who can handle and benefit from community settings perpetuates unwarranted assumptions that persons so isolated are incapable of meaningful participation in the community, e.g., Allen v. Wright, 468 U.S. 737,755.

**Full Service Partnerships vs. Assisted Outpatient Treatment**

Assisted Outpatient Treatment programs combine court supervision with intensive case management services, such as Assertive Community Treatment (ACT) or Full Service Partnerships (FSP). These intensive case management services are service-delivery models that provide comprehensive, highly individualized, and multi-disciplinary care to people with serious mental illness. Care teams are comprised of psychiatrists, therapists, social workers, nurses, substance abuse counselors, and vocational rehabilitation counselors.

An FSP program is a type of intensive case management that is defined as “the collaborative relationship between the County and the client, and when appropriate the client’s family, through with the County plans for and provides the full spectrum of community services so the client can achieve the identified goals” (California Code of Regulations, Title 9). Individuals with a serious mental illness are eligible for Full Service Partnership programs only if they are “unserved” and if they meet one of the following criteria: homeless or at risk of becoming homeless, involved in the criminal justice system, or frequent users of the hospital or emergency room services as the primary resource of mental health treatment. Individuals are also eligible for Full Services Partnerships if they are “underserved” and at risk of one of the following: homelessness, involvement in the criminal justice system, or institutionalization.

The services that are provided to individuals participating in FSP programs include an assigned case manager/personal service coordinator and an array of services listed in California Code of Regulations, Title 9, Section 3620 (see Attachment 10). Though FSP services appear to vary depending on the county, one study on FSP services in San Diego County, California reported that clients are recruited “though a combination of referrals and outreach from psychiatric hospitals, emergency departments, other mental health programs, county agencies, Institutes of Mental Disease, shelters, rescue missions, and the street” (Gilmer, Stefancic, Ettner, et al). The staff to patient ratio is described as 1 team per 100 persons.

While results of FSP programs have been promising, an important distinction between FSP and AOT is that FSP services are only offered on a voluntary
basis. As a result, the positive results from FSP only apply to the population of the seriously mentally ill who are amenable to voluntary services. In contrast, AOT is designed to target a different and more difficult to engage group— the severely mentally ill who have a history of repeatedly declining voluntary care and frequently lack insight into their illness. Currently, FSP programs have difficulty engaging the patient population that AOT targets. As a result, the services provided in Assisted Outpatient Treatment offers the following advantages compared to a FSP:

- AOT targets a very specific population of the seriously mentally ill who have a history of repeated hospitalizations and incarcerations as a result of refusing voluntary care. FSP services are only available to those who accept voluntary care. While studies have revealed promising results for both FSP and AOT programs in terms of reduced hospitalizations, incarcerations, and homelessness, these results pertain to different populations. Consequently, making both services available would increase the spectrum of the seriously ill who receive services.

- AOT combines court supervision with intensive case management services and allows treatment providers to harness the motivating influences of the judicial system (“therapeutic jurisprudence”) in order to improve treatment adherence. Supporting evidence from AOT programs in New York and Nevada County, as well as from Behavioral Health Courts around the nation, have shown that individuals are frequently responsive to judicial involvement in their treatment plan. Additionally, legal oversight in the civic sector helps to identify at-risk persons and engage them in treatment before they come into contact with the criminal justice system.

- AOT allows a multitude of third parties familiar with the client to refer for services, including: family members, co-habitants, law enforcement, and mental health professionals. The ability of various member of the community to identify at-risk persons having difficulty and connect them to services can prevent untoward outcomes.

- The AOT criteria define precisely when enhanced services are needed to prevent homelessness, criminal justice involvement, or institutionalization.

- The AOT statue provides a finite time period for intensive treatment- 6 months with options to renew depending on progress, thus opening up space for others who require higher levels of care once AOT participants are on the road to recovery.

- The AOT model provides a level of care commiserate with the acuity of the patient, which can approach the level of care provided in an inpatient facility. As opposed to FSP programs, which have higher provider-to-client ratios, the AOT statute specifies that the provider-to-client ratios
must be 1:10. As a result, individuals in AOT programs, who are generally the most ill and resource-intensive clients, appropriately receive higher levels of services than other individuals who are more stable in the community.

**Conclusion**

Federal reimbursement for institutional care of seriously mentally ill persons who refuse voluntary services is paltry. Consequently, the involuntary treatment of such persons in acute psychiatric hospitals and intermediate care facilities places a heavy burden upon state and local taxpayers in California. Evidenced- and community-based early intervention programs such as AOT can be used as an alternative to the existing, costly mechanisms for addressing the needs of this population. Assisted Outpatient Treatment, which targets the most seriously mentally ill who refuse voluntary treatment, can reverse this cost-shifting and has the potential to save state and local taxpayers money both in the short and long term. Health care reform may result in unprecedented numbers of persons who have some type of governmental insurance; Assisted Outpatient Treatment programs are ideally suited to make the most efficient use of this influx of federal funding.

California's public mental health system is currently facing a number of challenges in providing care for those with a serious mental illness: limited availability of acute psychiatric beds, a reduction in available outpatient services, criminal justice realignment and pressures on California counties to avoid criminalizing those with a serious mental illness, and a growing population. Assisted Outpatient Treatment provides an evidenced-based approach to help deal with these challenges and is more clinically effective and cost-effective than current approaches for the seriously mentally ill who lack insight. Assisted Outpatient Treatment does not represent an expansion of involuntary services; rather, it provides services to those who are already receiving involuntary services in the least-restrictive, least expensive, community-based setting.
References


Lamb HR, Weinberger LE: Meeting the needs of those persons with serious mental illness who are most likely to become criminalized. J Am Acad Psychiatry Law 39:549-554.


Appendix

Projected statewide cost-savings calculation based on Nevada County data:

- $503,621 savings in 30 months / Nevada County’s population 98,764 = $5.10 saved per unit population

- Population of California 37,253,956 – Nevada County population 98,764 = 37,155,192 x $5.10 = $189,491,479 savings for the rest of California over 30 months

Per person and estimated annual costs calculation of mental health conservatorship and Cordellaris Mental Health Rehabilitation Center placement

- The seven patients were hospitalized for a total of 135 days, which represented a total operating cost of $230,348.34. San Mateo Medical Center was reimbursed only $64,328.75 by Medi-Cal and Medicare because the majority of inpatient days waiting for placement were deemed to be not medically necessary.

- Unreimbursed inpatient costs per eligible inpatient waiting placement at Cordilleras is $23,717.08 (operating costs ($230,348.34) – reimbursed costs ($64,328.75)/7)

- The seven patients will spend, on average, 140 days at Cordilleras Mental Health Rehabilitation Center (see Attachment 8 for costs of Mental Health Rehabilitation Center):
  - 140 day average length of stay is calculated by multiplying the number of licensed beds at CMHRC x 365 days in a year, divided by the number of annual admissions, which is 162.

- The post-discharge psychiatric care provided at CMHRC for these seven persons will cost $243,040 ($248 daily bed rate x 140 day length of stay x 7 residents) or $34,720 per patient ($243,040/7)

- Per person cost is $58,437.08 (unreimbursed inpatient cost $23,717.08 + Costs of post discharge care at CMHRC $34,720)
This data can be used to estimate the annual costs of hospitalizing persons who would be eligible for Assisted Outpatient Treatment, filing for a mental health conservatorship, and transfer to a Mental Health Rehabilitation Center for institutional treatment.

- 82 persons annually would be eligible for Assisted Outpatient Treatment rather than a conservatorship (7 persons eligible in December of 2011; one person is eligible every 4.43 days 31/7; on an annual basis 82 persons are eligible 365 / 4.43 = 82)

- 82 eligible inpatients per year x unreimbursed inpatient costs & CMHRC cost $58,437.08 = $4,791,840.56