ISSUE BRIEF
The Massachusetts Health Policy Forum

Substance Abuse Treatment in the Commonwealth of Massachusetts: Gaps, Consequences and Solutions

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Thursday, November 17, 2005
8:30 to 9:00 - Breakfast
9:00 to 11:30 -Presentation and Discussion
Omni Parker House Hotel
School and Tremont Streets
Boston, Massachusetts

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NO.27

Substance Abuse Treatment in the Commonwealth of Massachusetts: Gaps, Consequences and Solutions

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Executive Summary

One out of ten people in Massachusetts ages 12 and older (577,000) abuse or are dependent on alcohol or other drugs.[1] Using a restrictive definition of most significant clinical need, a conservative estimate of 39,700 people need but are not receiving specialty substance abuse treatment.[2] The costs and consequences of substance abuse include illness and death, accidents and injuries, violence, crime, and lower productivity.[3] Whether personally, through a family member, or as a taxpayer, we are all affected by substance abuse.[4] The Commonwealth spends millions of dollars each year on substance abuse-related healthcare and crime. Millions more are lost through lower productivity resulting from alcohol and other drug abuse. Massachusetts has an opportunity to systemically improve the quality of treatment services and to reduce the gap of unmet need. This will save dollars and lives.

One out of four people in Massachusetts ages 12 and older reports binge drinking in the past 30 days.[5] Marijuana is the most prevalent illicit drug among adults and adolescents in the state.[6] Heroin poses a serious threat in the Commonwealth because of its low price and high purity.[7] Heroin accounted for one out of four drug-related emergency room visits in 2004 and, in conjunction with other opiates, was the leading cause of drug-related deaths for 2003.[8] Total charges for opioid-related hospitalizations including dependence, abuse, and/or overdoses, exceeded $167 million in 2003.[9] Since 2002, news reports have highlighted the Commonwealth's problem with OxyContin® abuse. Adolescents in Massachusetts also engage in high levels of alcohol and other drug use. Proportionally more adolescents in Massachusetts smoke marijuana than in the nation.[10] Substance abuse affects all segments of our population, including children, the elderly, homeless people, pregnant women, HIV-positive people and criminal offenders.

In August 2004, the State convened a panel of experts to address the substance abuse issues facing our community. The panel developed a comprehensive Strategic Plan that addressed six priority areas.[11] A key element of the Plan was to establish an executive leadership committee to provide an integrated and systemic approach to maximize and align available resources for addressing substance abuse issues. Other priority areas focused on expanding prevention services; expanding screening, assessment and referral activities; supporting a comprehensive continuum of care; ensuring accountability for clinically effective, cost-efficient, well-managed, outcomes-based services; and improving collaboration between the substance abuse and criminal justice systems.

Reductions in funding have broadened the treatment gap by reducing the availability of services. In fiscal year 2003, the Commonwealth spent more than $250 million on substance abuse services.[12] However, from FY '01 to FY '03, funding for the Bureau of Substance Abuse Services (BSAS) within the Massachusetts Department of Public Health (MDPH) was cut by $17.7 million dollars.[13] Even with current restorations in state appropriations, funding in FY '06 is down $7.1 million, or 7%, from 2001.[14] Similarly, Medicaid spending on substance abuse treatment was down 6% from FY '02 to FY '03.[15]

Private insurance covers 13% of all substance abuse treatment expenditures nationally.[16] Private

insurance payments for substance abuse treatment decreased 1.1% annually from 1991 to 2001, while public payments increased by 6.8% each year.[17] This trend has placed greater emphasis on the role of public payers in funding and overseeing substance abuse treatment services.[18] Although private payers must still be held accountable to provide quality services, the focus of this paper is on public payers in Massachusetts.

The estimated treatment gap of over 39,700 represents people who have the most clinically severe problems but have not received treatment.[19] An additional $110 million would be needed to fill this gap in services.[20] Providing treatment to these people would eliminate many of the social and economic costs resulting from substance abuse for individuals, families, communities and the state.

Substance abuse costs the Commonwealth millions through increased crime, lower productivity and higher healthcare utilization.[21] In 2004, there were 203 traffic fatalities in Massachusetts involving alcohol with an estimated cost of $304.5 million in medical expenses, public services, lost productivity and property damage.[22] Millions more are spent as a result of people injured in alcohol-related automobile crashes. Opioid overdoses accounted for 574 deaths in 2003 with associated costs and consequences.[23] Alcohol and other drug use increases hospital stays and emergency department visits directly and indirectly through alcohol- and drug-related illnesses and injuries.

Productivity in Massachusetts is reduced through alcohol- and drug-related deaths, injuries to victims of crime, and criminal careers. One out of five people incarcerated in Massachusetts is convicted of a drug offense.[24] Even more offenders engage in crime either under the influence of alcohol or other drugs or to support their habits.

Improving both the availability and effectiveness of treatment will significantly reduce the total cost and consequences associated with substance abuse. It will save lives, boost productivity and reduce costs in the health care and criminal justice system. It will improve the lives of many by reducing the considerable psychological turmoil and financial burdens placed on people and families dealing with substance abuse issues. It will also result in long-term savings for the taxpayer.

This issue brief outlines five strategies for improving the quality of treatment in Massachusetts:

- Engaging detoxification clients in a broader continuum of treatment,
- Improving retention in treatment,
- Providing client/family-centered services,
- Increasing the use of evidence-based treatment approaches, and
- Supporting recovery to address the chronic nature of substance use disorders.

These strategies are essential to maximizing the impact of our substance abuse dollars. We need to do it right and then expand access to treatment more broadly and fill the treatment gap. Although not the focus of this report we need to think harder about upfront prevention and efforts to encourage more people to seek care. Part of the public strategy also requires better coordination between BSAS, MassHealth, provider organizations, and other state agencies, including criminal justice and mental health agencies. Through these efforts we can reduce the costs and consequences of substance abuse and build a healthier, more productive community.

I. Introduction

Massachusetts exceeds the national average on indicators of alcohol and illicit drug use.[25] Over half a million people ages 12 and older in Massachusetts abuse or are dependent on alcohol or other drugs.[26] Although more than 80,000 people were admitted to publicly funded substance abuse treatment in the past year, conservative estimates, using a restrictive definition of clinical need, suggest that an additional 39,700 people are in need of specialty treatment services.[27] Substance use disorders that go untreated result in significant social and economic costs to the Commonwealth. Millions of dollars are lost each year due to substance abuse-related healthcare and crime costs and lower productivity.[28] For every $1 spent on substance abuse treatment, however, society saves $7 in other costs such as reduced crime and increased employment earnings.[29] Massachusetts has an opportunity to put systemic improvements in place to reduce the scope and consequences of substance abuse in the state.

To assess gaps, consequences and solutions related to substance abuse treatment in Massachusetts and to provide recommendations for consideration by policymakers in Massachusetts, this issue brief first describes the nature of the substance abuse problem in Massachusetts. This is followed by a discussion of the treatment gap and the consequences of unmet treatment need. We then discuss possible solutions to improve substance abuse treatment services and close with recommendations.

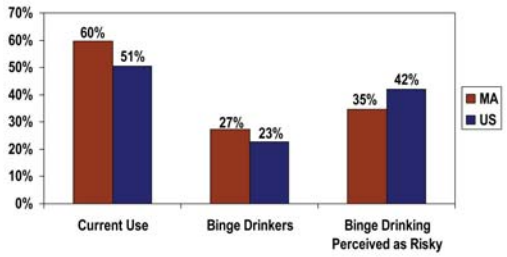
II. Recognizing the Problem in Massachusetts

A. Alcohol and Other Drug Use and Dependence

Alcohol Use

Massachusetts exceeds the national average on indicators of alcohol use. Three out of five people ages 12 and older in Massachusetts reported drinking in the past 30 days (60%), with 27% reporting binge drinking (5 or more drinks on one occasion).[30] Only one out of three (35%) perceived binge drinking as risky behavior.[31] This compares to national figures of 51%, 23% and 42%, respectively (see Figure 1).[32] Figure 2 provides trend data from 1999 to 2003 on binge drinking rates in Massachusetts and the United States, showing that Massachusetts consistently has higher rates of binge drinking compared to the nation.[33]

Figure 1:
Alcohol Use Indicators for People Ages 12 and Older in Massachusetts vs. the United States – 2002/2003*

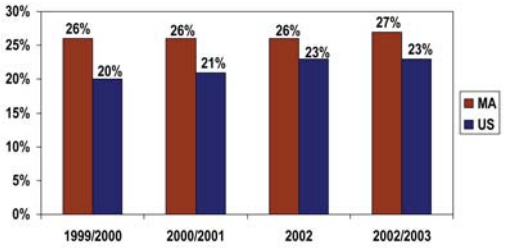


*Source: SAMHSA. (2005). Tables of Model-Based Estimates (50 States and the District of Columbia), by Substance. Office of Applied Studies, National Survey on Drug Use and Health, 2002 and 2003. Accessed on the Web at: http://oas.samhsa.gov/stateAlcohol.htm#StateAlc, October 6, 2005.

Illicit Drug Use

Massachusetts also has higher-than-average illicit drug use, relative to the nation.[34] Nearly one out of ten Massachusetts residents ages 12 and older (9.2%) report illicit drug use in the past month. This compares to 7.9% nationally (see Figure 3).[35] Rates of illicit drug use are lowest in the South and Midwest.[36] Within the general population, illicit drug use reported by Massachusetts residents ages 12 and older includes: marijuana (7.7%), non-medical use of prescription-type pain relievers, tranquilizers, stimulants, or sedatives (2.3%), cocaine (0.9%), hallucinogens (0.8%), and heroin

Figure 2:
Binge Drinking Among People Ages 12 and Older in Massachusetts vs. the United States: 1999 to 2003*



*Source: *National Surveys on Drug Use and Health*. Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

(0.1%).[37] Nationally, methamphetamine use is a serious problem that the Commonwealth currently monitors.[38]

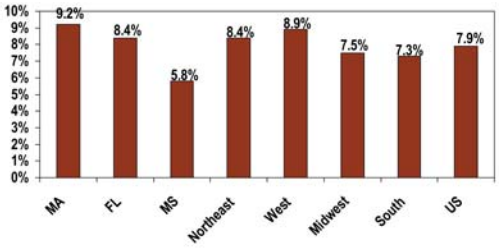
Heroin is a growing problem in Massachusetts, given the low price and high purity of the drug.[39] Heroin accounted for one out of four drug-related emergency room visits in 2004 and, in conjunction with other opiates, was the leading cause of drug-related deaths for 2003.[40] In Massachusetts, total charges for opioid-related hospitalizations including dependence, abuse, and/or overdoses, exceeded $167 million in 2003.[41]

Current reports indicate that heroin sells for $6 to $20 per bag on the street, with an average purity of 40%.[42] The accessibility of heroin has led to many problems. There were 716 heroin overdose calls in 2004. Three-fourths of admissions to substance abuse treatment in the greater Boston area, excluding alcohol admissions, reported heroin as the primary drug of abuse.[43] The treatment admissions data reflect both a serious problem and a response to prioritize treatment for this population. The serious nature of the heroin problem in Massachusetts is evident, given the level of emergency department visits, drug abuse deaths and treatment admissions due to heroin.

Since 2002, news reports have also highlighted the oxycodone problem in the Commonwealth. Surveillance shows growing levels of narcotic analgesic abuse due to oxycodone and hydrocodone use.[44] The Drug Enforcement Agency reports that OxyContin® is readily available in Massachusetts.[45] Illicit use generally comes from doctor-shopping rings, forged and/or altered prescriptions and diversion from people's prescriptions.[46]

Cocaine is also a problematic drug for the Commonwealth. The level of cocaine use has stabilized at high levels.[47] Similar to heroin, one out of four drug-related emergency department visits in 2004 was due to cocaine use.[48] Data from the Drug Abuse Warning Network show that more than two out of five drug-related deaths (44%) were due to cocaine use.[49]

Figure 3:
Past Month Illicit Drug Use Among People Ages 12 and Older in Massachusetts vs. Selected States, Regions and the United States: 2004*



*Source: Substance Abuse and Mental Health Services Administration. (2005). *Results from the 2004 National Survey on Drug Use and Health: National Findings* (Office of Applied Studies, NSDUH Series H-28, DHHS Publication No. SMA 05-4062). Rockville, MD.

Substance Use Among Different Racial/Ethnic Groups

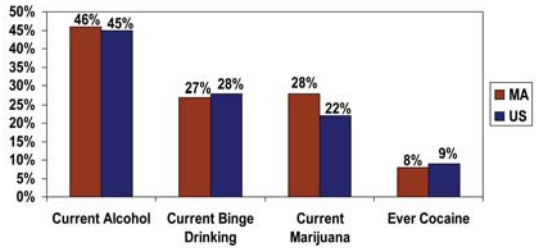
Within different racial/ethnic groups, different substances of abuse may be problematic. The Massachusetts Department of Public Health reports that in 2003, opioid-related fatal overdose rates were highest among Hispanic residents (10.7 per 100,000) followed by Black, non-Hispanic

(10.1 per 100,000) and White, non-Hispanic (9.1 per 100,000) residents.[50] A study of women with co-occurring mental health, substance abuse and trauma issues in Boston found that African-American women reported cocaine as their drug of choice more often, while Latina and non-Hispanic white women reported heroin more often.[51]

Adolescent Substance Use

Youth in Massachusetts are also engaging in high levels of substance use, particularly marijuana and alcohol (see Figure 4).[52] The age of first use of alcohol has been rising since 2002,[53] but almost half of all students (47%) reported use of an illegal drug in their lifetimes.[54] Although alcohol and other drug use have decreased for youth in Massachusetts and nationally, rates of current use (past 30 days) are still high. Nearly half of youth in grades 9 to 12 in Massachusetts (46%) reported current alcohol use, with one out of four (27%) binge drinking in the past 30 days.[55] These figures are comparable to national figures.[56] More than one out of four Massachusetts students (28%) used marijuana in the past 30 days, compared to 22% nationally.[57]

Figure 4:
Adolescent Substance Use in Massachusetts vs. the United States: 2003*



*Source: Data are for students in grades 9 to 12. National Center for Chronic Disease Prevention and Health Promotion, Youth Risk Behavior Surveillance System (YRBSS) State Fact Sheets, United States and Massachusetts, 2003. Accessed on the Web at: http://www.cdc.gov/HealthyYouth/yrbs/statefacts.htm on October 15, 2005.

B. MA Substance Abuse Strategic Plan

In August 2004, the Lieutenant Governor of Massachusetts convened a panel of experts throughout the Commonwealth to:

> "develop a strategic plan for the Commonwealth that aligns prevention, interdiction, enforcement, treatment and recovery support efforts across agencies and increases Massachusetts' collective ability to reduce the scope and consequences of the systemic problem across the state."[58]

Over a nine-month planning period, the panel, which included representatives from many government agencies, substance abuse treatment providers, the recovery community, other advocates, criminal justice experts, and researchers and policymakers, developed a comprehensive Strategic Plan. The Plan established six priority areas:[59]

- Establishing an executive leadership committee to ensure that the priorities of the Plan remain at the forefront of the Governor's efforts and to coordinate initiatives across agencies;
- Expanding prevention programs targeting at-risk youth and expanding community-based prevention efforts;
- Expanding screening, assessment and referral activities for people in primary care settings, schools, state agencies and other community settings;
- Supporting a comprehensive continuum of care;
- Ensuring accountability for clinically effective, cost-efficient, well-managed, outcomes-based services; and
- Improving collaboration between the substance abuse and criminal justice systems.

The Massachusetts Substance Abuse Strategic Plan is comprehensive and laudable. Given adequate resources and a continued commitment to the Plan, the Commonwealth could achieve some excellent goals in the substance abuse area. To be successful, however, the state needs to fully implement the Plan and have effective follow-through to ensure high-quality performance. The Plan is a long-term strategy to address the needs of the substance abuse service system and will require a significant investment of resources to accomplish. Given the need to address treatment gaps and reduce the negative consequences of substance misuse, later sections of this paper present strategies that are in line with and could enhance the goals of the Strategic Plan.

III. Treatment Gap

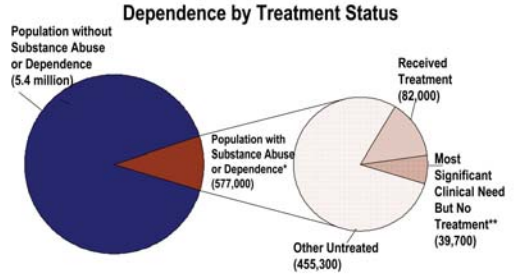
A. Gap Between Treatment Need and Availability

Using a restrictive definition of most significant clinical need, there are an estimated 39,700 people in need of specialty treatment services who are not getting them (see Figure 5).[60] One out of ten Massachusetts residents ages 12 and older (11% or 577,000) abuse or are dependent on alcohol or other drugs, compared to 9% nationally.[61]

Using a restrictive definition of most significant clinical need, there are an estimated 39,700 people in Massachusetts falling through the treatment gap.

Approximately 82,000 people received publicly funded substance abuse services, including detoxification services, in the past year.[62] Given the earlier figure of 577,000 people with dependence or abuse[63], these estimates initially suggest a treatment gap of approximately 495,000

Figure 5:
Massachusetts Population with Substance Abuse or Dependence by Treatment Status



Sources: * Based on population ages 12 and older. Wright, D., & Sathe, N. (2005). *State Estimates of Substance Use from the 2002–2003 National Surveys on Drug Use and Health* (DHHS Publication No. SMA 05-3989, NSDUH Series H-26). Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies.
** Based on population ages 19 and over. Shepard, DS, Strickler, GK, McAuliffe, WE, Beaston-Blaakman, A, Rahman, M, & Anderson, TE. (2005). Unmet Need for Substance Abuse Treatment of Adults in Massachusetts. Administration and Policy in Mental Health, 32(4), 403-426.

people in need of treatment who did not receive services. Experts in the field, however, have stated that not all who abuse or are dependent on substances are in need of specialty treatment.[64] People with less severe problems may recover on their own or may use support services other than specialty treatment to overcome their problems.

To better understand the treatment need in Massachusetts, a team of researchers applied a criterion of clinical significance to estimate those with substance use disorders.[65] Using data from a statewide random-digit-dialing sample of 7,251 Massachusetts residents aged 19 and older in 1996-1997, clinical significance was assessed.[66]

The treatment gap was defined as the total number of people with the most clinically significant substance use disorders who did not receive treatment services in the past year.[67] Results for 1996/1997 indicated that 39,450 people had clinical significant substance use disorder but had not received treatment in the past year. Given the growth in the state's population, current assessments conservatively estimate that 39,700 people in the Commonwealth have clinically significant substance use disorders but are not receiving treatment. Although much lower than the number of people who are dependent on or abuse alcohol or other drugs, this figure still

represents a significant gap in services. Moreover, these figures are conservative given the limitations of surveys that often miss severely addicted, homeless, incarcerated and other high-risk people. Although different estimation approaches may provide different estimates of the treatment gap, they all conclude that the gap is significant.[68,69] As part of their federal Block Grant application, BSAS updates the estimate of the treatment gap each year using current data and three estimation approaches.

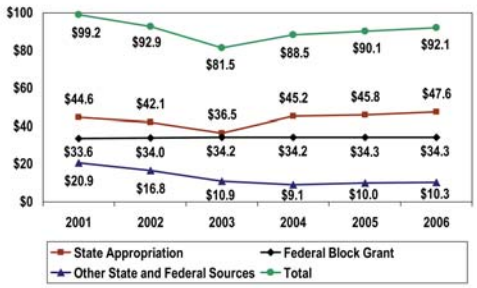
B. Financing of Substance Abuse Services and Service Availability

Reductions in funding have broadened the treatment gap by reducing the availability of treatment. From FY '01 to FY '04, state appropriations to the Department of Public Health's substance abuse services were cut by 24% ($10.8 million).[70] Funds were partially restored at the end of FY '04 and in FY '05 to avoid a federal penalty of $9 million for failing to maintain a required level of effort (see Figure 6).[71] Across all sources, total BSAS funding in FY '06 is $7.1 million less than in FY '01 (see Figure 6).[72] Between FY '02 and '03, MassHealth's spending on substance abuse services decreased $5.8 million.[73] Federal Substance Abuse Prevention and Treatment Block Grant dollars have been fairly level, with $33.6 million in FY '01 and $34.3 million in FY '06.[74] Under federal requirements, BSAS must use at least 20% of the Substance Abuse Prevention and Treatment Block Grant funds for primary prevention work.

BSAS and MassHealth account for more than 60% of the dollars spent on substance abuse services in the Commonwealth (see Figure 7).[75]

Across all sources, BSAS funding in FY '06 is $7.1 million less than in FY '01

Figure 6:
BSAS Funding History 2001-2006 (in millions)*



*Source: Massachusetts Department of Public Health, Bureau of Substance Abuse Services.

The uncompensated care pool accounts for another 15% of the spending.[76] Criminal justice agencies, the Department of Education and other agencies within the Executive Office of Health and Human Services also spend resources on substance abuse prevention and treatment services.[77]

Since 1996, MassHealth's share of the substance abuse spending has increased dramatically. In 1996, MassHealth spent $1 for every $3 spent by BSAS on substance abuse services.[78]

In 1992, Medicaid began contracting with a managed care organization to deliver behavioral health services to MassHealth enrollees who were not in health maintenance organizations.[79] Since that time, MassHealth has covered more of the substance abuse treatment costs, particularly much of the detoxification costs. MassHealth's spending now exceeds BSAS' spending on substance abuse detoxification and treatment services (see Figure 7).[80,81] Funding to BSAS and MassHealth for substance abuse services was cut from FY '02 to FY '04. Despite increases in state appropriations late in FY '04 and in FY '05 and '06, the current level of funding does not provide enough resources to meet the treatment need.[82]

Private insurance covers 13% of all substance abuse treatment expenditures nationally.[83] Private

insurance payments for substance abuse treatment decreased 1.1% annually from 1991 to 2001, while public payments increased by 6.8% each year.[84] This trend has placed greater emphasis on the role of public payers in funding and overseeing substance abuse treatment services.[85] Although private payers must still be held accountable to provide quality services, the focus of this paper is on public payers in Massachusetts.

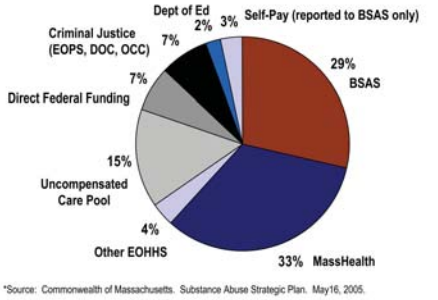
C. What Do We Pay For

The continuum of substance abuse services in Massachusetts includes prevention, early identification and intervention, detoxification, transitional support, outpatient drug-free counseling, methadone dosing and counseling, intensive outpatient, day treatment and residential treatment services. Funding cuts from FY '01 to FY '04 resulted in a 54% cut in outpatient services, a reduction of 89 beds (5%) in residential treatment programs, a reduction of 38 beds in transitional support services, elimination of Driver Alcohol Education services for 1,140 indigent offenders, a 30% reduction in treatment services in the county houses of correction, the elimination of treatment services for women at MCI Framingham, and a 40% reduction in acute treatment (detox) beds.[86] Additionally, many of the services that support recovery, such as child-care, parent support programs, and supportive housing services were reduced or eliminated.[87] Recently, BSAS redesigned residential treatment for women to be more inclusive residential treatment for families. This more comprehensive model provides services to parenting males, as well as females, and provides day care, childcare, and education for the children. BSAS is currently redesigning adolescent services, collaborating with other state agencies to develop comprehensive services for youth.

Admissions to publicly funded substance abuse treatment programs in Massachusetts peaked in FY '02 at 124,500 admissions and dropped to 102,200 admissions in FY '04,[88] driven by funding cuts (see Figure 8).[89] The most dramatic decrease was in acute treatment, or detoxification, services going from 59,500 admissions in FY '02 to 37,300 admissions in FY '04.[90] There was a decrease in outpatient services from 52,900 admissions in FY '02 to 48,600 admissions in FY '04 and an increase in residential treatment services, going from 11,400 admissions in FY '02 to 15,400 admissions in FY '04.[91]

While the number of admissions to publicly funded substance abuse detoxification and treatment services in Massachusetts has dropped over the last few years, the number in need of treatment has not changed dramatically, as indicated by the prevalence of use and substance use disorders found in national and state surveys.

Figure 7:
Spending on Publicly Funded Substance Abuse Services in Massachusetts by Payer*
Total Spending FY 2003: $253.8 Million

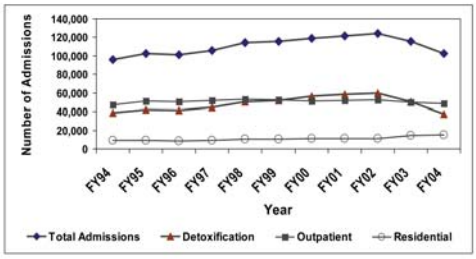


*Source: Commonwealth of Massachusetts. Substance Abuse Strategic Plan. May16, 2005.

D. Cost of Treating Unmet Need

Researchers have estimated the cost of treating the unmet need for substance abuse treatment in Massachusetts.[92,93] These estimates included costs for outreach, treatment and follow-up care. The

Figure 8:
Publicly Funded Substance Abuse Treatment Admissions by Modality FY'94 to FY'04*



*Source: Massachusetts Department of Public Health, Bureau of Substance Abuse Services, Substance Abuse Treatment MIS
Prepared by: Massachusetts Department of Public Health, Bureau of Substance Abuse Services, Office of Statistics and Evaluation

estimated cost of services for those 39,450 people in need of treatment but not receiving services would be $109 million, at an average of $2,763 per person.[94,95] Using the treatment gap figure of 39,700 described above, the cost of treating the current unmet need would be approximately $110 million.[96] Within the Commonwealth there are multiple payers for substance abuse treatment services. These include the MDPH-BSAS, Medicaid/MassHealth, private insurers and individual clients. These analyses showed that BSAS would be responsible for 28% of the additional $110 million in costs, or $31 million.[97]

Filling the treatment gap would cost and additional $110 million.

IV. Consequences of Gaps

A. Accidents, Healthcare, Death

Massachusetts incurred $304.5 million in economic costs alone as a result of 203 alcohol-related fatalities in 2004 (see Figure 9).[98,99] This does not account for the enormous suffering of families and communities associated with these deaths. In addition, Massachusetts pays an estimated $63,000 in economic costs for each injured survivor for alcohol-related crashes. Each alcohol-related fatality in Massachusetts costs $4.6 million, on average, with $1.5 million due to economic costs related to medical expenses, costs of public services, lost productivity, and property damage and $3.1 million due to quality of life losses.[100]

Massachusetts incurred $304.5 million in healthcare and other costs in 2004 as a result of 203 alcohol-related fatalities.

Opioid overdoses are the leading cause of deaths due to injury in Massachusetts, accounting for 574 deaths in 2003.[101] Opioid-related poisoning deaths as a proportion of all poisonings deaths increased from 28% in 1990 to 69% in 2003.[102] Alcohol and other drug use also contribute to hospital stays and emergency department visits directly and indirectly through alcohol or drug-related illnesses and injuries. In 2002, there were 23,000 hospital discharges involving alcohol or other drug use.[103] Opioid-related hospital discharge rates have risen substantially since 1996, increasing 68% from 1999 to 2003 (from 162.6 per 100,000 to 273.3 per 100,000, respectively).[104] The city of Boston reported more than 17,000 emergency room visits that involved alcohol and/or other drugs in 2004.[105] Statewide, heroin accounted for one out of four drug-related emergency room visits in 2004.[106] Total charges for opioid-related hospitalizations

Figure 9:
Selected Consequences and Related Costs of Alcohol and Other Drug Abuse in Massachusetts

Consequence	Number	Related Costs
Alcohol-related fatalities – 2004*	203 fatalities	$304.5 million
Opioid overdoses – 2003**	574 deaths	Data not available
Opioid-related hospitalizations – 2003***	Data not available	$167 million
Incarcerated offenders – 2004****	1,800 on drug offenses	$76.9 million

Sources: *National Highway Traffic Safety Administration; **Massachusetts Injury Surveillance; ***Massachusetts Department of Health; ****Massachusetts Department of Correction.

including dependence, abuse, and/or overdoses, exceeded $167 million in 2003.[107]

Problem drinkers and drug users place added strain on the healthcare system. Compared to non-drinkers, problem drinkers who are admitted to the hospital stay four times as long.[108] Moreover, because alcohol and other drug use often results in more serious injury, the costs of care for substance users is generally higher than for non-users.[109] Treatment for HIV/AIDS accounts for a large proportion of the medical costs related to substance abuse driven by the large number who become infected due to injection drug use.[110] In Massachusetts, one out of three people living with HIV/AIDS has a history of injection drug use.[111] Additionally, babies born with fetal alcohol syndrome, a direct result of alcohol abuse during pregnancy, add significant medical and education costs.

B. Productivity, Crime and Social Welfare

Massachusetts experiences significant costs through lost productivity, crime and social welfare due to substance abuse. Studies of the economic costs of alcohol and drug abuse indicate that this problem costs the nation over $276 billion in 1995.[112,113] Alcohol abuse cost the most at $166.5 billion, largely due to lost productivity from illness and death.[114] Drug abuse costs the nation another $109.9 billion.[115] Crime is the largest contributing factor driving drug abuse costs.[116] Productivity losses stem from several areas: premature death, incarceration, substance-abuse related illness, and crime careers. In addition, absenteeism and presenteeism contribute significant losses in productivity.[117] In each of these areas, people who would normally work and contribute to society's productivity are removed from the workplace or otherwise unable to contribute. As described above, there were more than 200 alcohol-related fatalities in Massachusetts in 2004 and an additional 574 deaths due to heroin overdoses.[118,119] Moreover, on any given day there are more than 9,000 people incarcerated in Massachusetts.[120] One out of five inmates is incarcerated on a drug offense. Even more commit a crime to support their alcohol and drug abuse. With incarceration costs of $42,700 per year, the 1,800 inmates convicted of drug offenses cost Massachusetts $76.9 million per year.[121] In addition to lost productivity from people who die prematurely or are incarcerated, Massachusetts experiences lost productivity from absenteeism and presenteeism due to alcohol- or drug-related illness and from people who are career criminals and, therefore, forego productive employment.[122]

Crime costs include police protection, processing of alcohol and drug-related cases in the criminal justice system, corrections costs and legal fees.[123] Crime-related costs, however, also fall into the healthcare and productivity areas.[124] Lost productivity due to incarceration and criminal careers adds significantly to the crime-related costs of alcohol and drug abuse. Similarly, victims of crimes contribute to healthcare costs. More than 60% of the economic costs due to drug abuse result

from crime.[125] Collaborative efforts between the criminal justice and substance abuse treatment systems represent an area for significant inroads and cost savings.

Given the many co-occurring issues of substance abusers, such as mental health disabilities; chronic diseases including diabetes, hepatitis and cardiovascular ailments; and homelessness, their participation in social welfare programs also adds economic costs.[126] Social welfare costs include the costs for such programs as Supplemental Security Income and food stamp programs and other costs such as those for child custody cases.

V. Possible Solutions: Improving What We Have

A. Engaging Detoxification Clients in Treatment

Detoxification is often a missed opportunity to get people into effective treatment.[127] In FY 2005, only 18% of the 37,000 detoxification clients in publicly funded substance abuse treatment in Massachusetts accessed a follow-up treatment service within 90 days of discharge.[128] Detoxification services can also become a revolving door for some clients. One out of three detoxification clients (35%) in Massachusetts' publicly funded services returned for additional detoxification services within a ninety-day period.[129] Linking detoxification clients to treatment provides an opportunity to break the cycle and promote recovery. A study of injection drug users in Massachusetts showed that African American and Latino detoxification clients were less likely than Whites to link to subsequent treatment.[130] In the past year, one out of three admissions to publicly funded substance abuse services, or 37,200 admissions, were to detoxification programs. There is an opportunity to improve the continuity of care and reduce the social and health consequences of substance abuse by actively supporting detoxification clients to initiate needed treatment services.[131]

The substance abuse treatment field, including both policy makers and practitioners, has talked about a continuum of quality services for many years. Detoxification services have often been viewed as one step on the continuum. In practice, however, clients' movement from detoxification services to the next appropriate level of care has been limited, with many detoxification clients never linking to substance abuse treatment services. Detoxification services alone are not efficacious but treatment does work.[132] This argues for an emphasis on linking detoxification clients to an appropriate level of substance abuse treatment, yet research shows that these linkages occur infrequently.[133]

In 1998, BSAS took a step to facilitate movement from detoxification programs into treatment by funding transitional support services.[134] Transitional services are short-term residential support services designed to bridge the gap in the service continuum between acute services, such as detox, and residential rehabilitation services or other aftercare. A study of these services for homeless clients showed reduced relapse to substance use among homeless detoxification clients and increased rates of entry into residential treatment programs.[135] The findings support the need to help detoxification clients link to treatment services.

The State could use incentives to promote linkages where clients initiate treatment. Examples of incentives include recognition programs for providers with higher linkage rates and bonus payments tied to the detoxification reimbursement rate for successful initiation. State policies and payment structures should also focus on engaging clients in treatment. Engagement goes beyond linkage to ensure that clients attend treatment

services beyond their initial intake appointment to help clients make a connection with the treatment program. The Washington Circle, a multi-disciplinary group of providers, researchers, managed care representatives, and public policy representatives, defines engagement as an intermediate step between initially accessing care (in the first visit) and completing a full course of treatment.[136]

Engagement in treatment is critical for treatment success and another way to help reduce the social costs and consequences of substance abuse. The State, through BSAS and MassHealth, is exploring the use of contract mechanisms to reward good engagement rates as well as the use of evidence-based practices among providers. Similarly, poor engagement rates could be assessed and corrective action plans required. Among offender populations, the state could improve collaboration and coordination between the criminal justice and substance abuse treatment systems. Mandated treatment that requires sufficient time in treatment increases lengths of stay, which in turn produce more positive outcomes.[137] Mandated treatment works with offenders in diversion, probation, prison, and parole programs. Programs such as Treatment Alternatives for Safer Communities (TASC) and drug courts enhance collaborations between the criminal justice and substance abuse treatment systems. These strategies, however, must use the continuum of care since length of stay in treatment must be balanced with treatment capacity issues.

B. Improving Retention in Treatment

Across all treatment for substance abuse, half of all people who follow through with a referral drop out of care before completing the program.[138] Clients who drop out of treatment often continue to add to the societal consequences and costs of substance abuse. Moreover, this is an inefficient use of resources, due to the money spent on assessments and the intake process, with little gain.[139] Addressing drop-out rates by improving retention is critical for achieving the best outcomes.

A number of large-scale, national studies show that longer lengths of stay are associated with less substance use, less crime and more employment for clients in long-term residential, outpatient methadone, and outpatient drug-free programs.[140,141] One study suggested that there were treatment thresholds where the odds of having better outcomes improved when a client reached the threshold. For long-term residential and outpatient drug-free treatment, the threshold was six months. A more recent analysis of the same clients showed that better outcomes persisted five years after treatment for clients with longer lengths of stay.[142] A recent study of specialized substance abuse treatment for women with mental health and substance use disorders who had experienced physical or sexual abuse found that integrated treatment increased the odds of staying in treatment longer by 31%, which led to better substance abuse and mental health outcomes.[143]

Retention in treatment is important to help a client achieve stable recovery.[144] Moreover, once recovery is attained, time is needed to prepare the client to leave treatment and resume a substance-free life in the community.[145] Services might include relapse prevention or recovery management and discharge planning. The client also needs time to build a supportive network to help sustain his/her recovery.

Given the importance of the client-counselor relationship, strategies to improve the workforce are important for retention. Workforce issues include adequate staffing levels, adequate training, cultural sensitivity, salaries that promote staff

retention and training, and supervision to promote the use of evidence-based practices. Treatment strategies to promote retention include motivational interviewing, a directive client-centered counseling style[147]; involving family members in the client's recovery [148,149]; legal coercion for offenders[150,151]; and contingency management approaches that use rewards such as voucher-based incentives to change clients' behaviors.[152] Incentives to providers can also help improve retention, as has been used with outpatient substance abuse treatment providers in Delaware.[153] Another important strategy for improving retention is working with treatment providers to improve the quality of care. This can include reducing financial and administrative barriers, implementing evidence-based practices, and using quality improvement tools to achieve excellence.

C. Providing Client-Centered Services and Family-Focused Services

Client-centered services are critical to address the complex health, mental health and social needs of many substance abuse treatment clients. The prevalence of co-occurring disorders is very high in both the substance abuse and mental health systems. Experts now agree that integrated treatment is the best approach for dealing with co-occurring problems.[154] HIV prevention, education and testing and counseling are also needed within substance abuse treatment services to reduce the risk of HIV and identify HIV positive people as early as possible.[155,156] This is particularly important for people in prison, where HIV infection is widespread. In addition to the risk for HIV and other infectious diseases, many substance abusers are malnourished, have severe dental problems, and other health conditions. Linkages with primary care can help a person address his health problems and promote recovery. A recent study of residential detoxification clients showed that linkage to primary care consisting of two or more visits over a two-year period resulted in lower addiction severity scores.[157] Primary care, emergency department and other alternative settings can also provide effective screenings, brief interventions and referrals to specialty treatment. Other critical wrap-around or ancillary client-centered services include employment services, housing assistance and transportation.[158]

Client-centered services should take racial/ethnic, gender and socioeconomic differences into account when addressing needs. A national study of women with co-occurring substance abuse, mental health and trauma issues found that Black and Hispanic women were more economically disadvantaged, had more social problems and were exposed to more community violence than White women. [159] The study suggests that services for economically disadvantaged people focus on educational and vocational training and life-building skills, such as parenting classes, to build a stronger environment for recovery.[160] Family-focused services are also of primary importance for parents in treatment. Early interventions with children are needed to break the cycle of addiction. Moreover, care that brings parents together with their children can begin to build the critical bond between mother or father and child.[161]

D. Increasing Use of Evidence-Based Treatment Approaches

There is a growing emphasis on using evidence-based practices in the substance abuse treatment field.[162] Several reports published by the Institute of Medicine (IOM) describe the problem of diffusing proven treatment strategies throughout the substance abuse treatment system.[163,164] A new IOM report emphasizes the need to provide

services that have been shown to be effective.[165] Additionally, IOM stresses the importance of providing care that is respectful of and responsive to client's needs and circumstances.[166] States have the opportunity to influence the use of evidence based treatment approaches through their contracting and policies and procedures. The adoption of evidence-based practices requires leadership on several levels.[167,168] States can be on the front line of leadership in this effort. Leadership, however, must be supported by funding and human and facility resources. The adoption of evidence-based practices is facilitated by preparation, established standards for the practice, technical assistance on the state level, and funding.[169,170]

Massachusetts is promoting the adoption of evidence-based treatment for substance use disorders by working with providers to identify the most salient programs for their client base. As part of this effort, the state should work with providers, the Mental Health and Substance Abuse Corporations of Massachusetts, and other statewide support services to train providers in selected practices and build a resource network to support implementation. Recently, Massachusetts had three sites involved in a quasi-experimental study of integrated treatment for women with mental health and substance use disorders who had experienced physical or sexual abuse.[171] Several other agencies are part of the Network for the Improvement of Addiction Treatment (NIATx), a program that helps treatment providers and states improve treatment access and retention.[172] These projects provide good case studies and lessons learned for the adoption of evidence-based practices.

E. Supporting Recovery to Address the Chronic Nature of Substance Abuse

Retention is also essential to ensure that a client has enough time in treatment to prepare for the transition to the next appropriate level of care and to build a support network.[173] Services that support recovery increase recovery periods, improve the quality of life for recovering persons and their families, and reduce the social costs related to substance abuse.

Recovery can be supported through transitions to lower levels of care, 12-step and self-help programs, recovery maintenance or management strategies, and services that support a person as he or she re-enters the community after release from prison. Policies, practices and funding that promote linkages between levels of care can further recovery and avoid costly relapses. The wide number and availability of 12-step programs, as well as their success, make linkages to these programs a powerful tool in supporting recovery.[174] There is a need, however, for alternative follow-up or continuing care services that are culturally sensitive and client-centered to meet the diverse needs of people in recovery. These services, although difficult to fund initially, perhaps, promote recovery and can produce long-term cost savings.[175,176]

Providing treatment for people in prisons can be a cost-effective approach to reduce alcohol and other drug use and the number of new crimes and incarcerations.[177] Support services for people released from prison are also important to sustain the gains. Release from prison often puts an offender back into the negative environment that originally supported substance abuse and crime. This can trigger relapse and lead to the commission of new crimes. Re-entry programs help to build and sustain recovery within a population that contributes significantly to the social costs of substance abuse.[178]

VI. Recommendations

A fragmented treatment system, made more fragile by recent cuts, presents Massachusetts with many opportunities for improvement. The Substance Abuse Strategic Plan is a first step in addressing these issues. The approaches and solutions proposed in this paper complement the Strategic Plan and provide ways that Massachusetts can improve its system of substance abuse treatment by improving the quality of care. Although not addressed here, effective outreach strategies are needed to help bring those who need treatment into services. Similarly, screenings and brief interventions in settings that reach a large number of people are needed to identify and treat those in the early stages of substance use disorders. These settings include colleges and universities, primary care centers, and emergency rooms. Moreover, this paper focuses on the downstream efforts of substance abuse treatment, but increased prevention efforts can help to decrease the need for treatment over time.

A first step in reducing the treatment gap is to do better at what we are already doing. In many ways, the substance abuse treatment system is irrational. For example, to get into many residential treatment programs in the state, clients must come through detoxification programs or emergency departments, even when the client is not in need of detoxification or in a critical situation. Some of the irrationality stems from services that are not always paid for, such as transportation and childcare, which can be critical resources for clients. Another important need is to provide adequate funding for the full continuum of care to ensure that clients have a place to move to on the continuum. Finally, quality improvement efforts will help to continuously monitor and improve the system of care.

A second step in addressing the treatment gap is to use research from the field to design and implement strategies to improve access and retention and treatment approaches that are client-centered and supportive of recovery. This is possible with leadership from State policymakers and funding agencies and from substance abuse treatment providers across the Commonwealth. As the major funders of substance abuse treatment services, BSAS and MassHealth should promote policies to support the diffusion of evidence-based practices and provide training and technical assistance to provider agencies and clinicians to help them as they adopt new approaches and strategies. Moreover, providers who are currently adopting evidence-based practices might be resources to others to facilitate widespread adoption of quality treatment approaches.

A third step in reducing the treatment gap is to provide adequate funding throughout the state system and to use those resources efficiently. As part of this effort, Massachusetts might look to coordinate resources across state agencies. The state of Washington provides an excellent example. In June, 2005, the state reported that it was appropriating an additional $51 million for 2005-2007 for substance abuse treatment services.[179] Analyses of the state system showed that it would realize significant savings in health care, child welfare services, and law enforcement to justify these expenditures.[180] The financing information presented above indicates that BSAS and MassHealth are the major payers of publicly funded substance abuse treatment in the Commonwealth. Other agencies, however, spend valuable resources on substance abuse treatment, most notably, agencies within the Executive Office of Public Safety. Recognizing that better treatment saves money in social costs over time, multiple agencies will realize financial savings from quality treatment. A statewide collaboration of relevant agencies should come together to systemically address substance abuse issues in the Commonwealth. There is an opportunity to think and act strategically and stem the long-term

consequences and costs of substance abuse by using current resources more effectively to improve the of quality treatment.

To further support quality improvements to the system, BSAS and MassHealth can use contracting and payment mechanisms as incentives to providers. Such systems would place a greater emphasis on accountability that encourages clinically effective, cost-efficient and outcomes-based services. Since substance abuse is a chronic relapsing illness, it may not be appropriate to hold providers and clinicians accountable for long-term recovery outcomes. However, much of the recent work in the substance abuse treatment field has emphasized process outcomes, such as linking detoxification clients to treatment, engaging clients in treatment and retaining clients in treatment for 90 or more days.[181,182] Providers and clinicians have much more control over these outcomes and, with appropriate incentives, can affect change in these areas. In addition to other stakeholders, such as consumers and representatives from various state agencies, providers should be at the table when discussing and defining the outcomes that they will be responsible for achieving.

Overall, quality improvement in the areas discussed above and in the system overall requires leadership and a commitment from government at the highest levels. Additionally, performance-based contracting and performance monitoring may facilitate the adoption of new practices and can track the impact of these practices on people in Massachusetts and across the system.[183] The adoption of evidence-based practices, training and technical assistance and performance-based contracting and management provide powerful tools to the state as it uses systemic improvements to reduce the scope and consequences of substance abuse in Massachusetts.

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