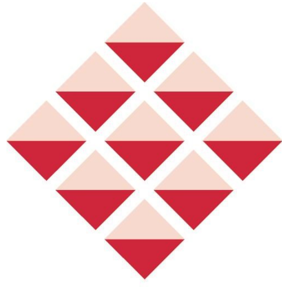

ISSUE BRIEF

The Massachusetts Health Policy Forum

The Time is Now:

Tackling Racial and Ethnic Disparities in Mental and Behavioral Health Services in Massachusetts

Margarita Alegría, PhD, Professor, Department of Psychiatry, Harvard Medical School, Center for Multicultural Mental Health Research

Benjamin Cook, PhD, Assistant Professor, Department of Psychiatry, Harvard Medical School, Center for Multicultural Mental Health Research

Stephen Loder, Research Coordinator, Center for Multicultural Mental Health Research

Michael Doonan, PhD, Associate Professor, The Heller School for Social Policy and Management, Brandeis University

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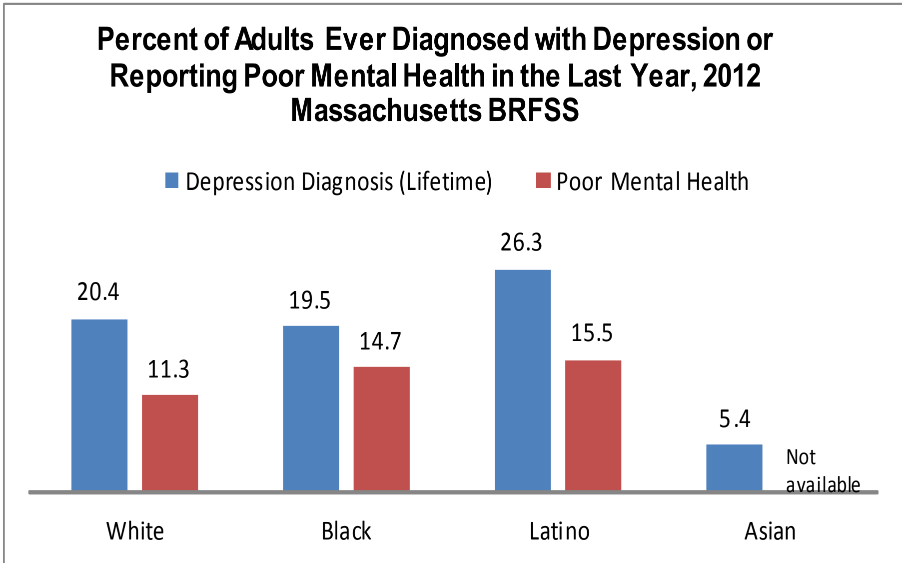
Executive Summary

Massachusetts is in the midst of a demographic shift that will leave the state with unprecedented ethnic, racial and cultural diversity. In light of this change, health care services in the Commonwealth need to respond to and serve an increasingly multicultural population. The time is now for bold initiatives to reduce behavioral health and health service disparities by building collaborations between policymakers, insurers/payers, provider organizations, training institutions, and community groups. In the same way collaboration among diverse stakeholders enabled the Commonwealth to lead the nation in achieving near universal access to health insurance, a new collaboration can pave the way for the elimination of behavioral health and health care disparities.

This brief compiles current information on racial and ethnic disparities in mental health and substance use disorders and treatment disparities in Massachusetts. It concludes with state level policy recommendations. The Brief does not recommend policies already in motion, such as moving to universal insurance coverage, enforcement of parity laws, policies to expand coverage of drug treatment services or greater inclusion of consumers in the development and configuration of behavioral health services. Recommendations offered are based on best practices and evidence-based research. Most research, however, studies incremental changes. To transform rather than reform the system, we integrate consideration of experience and research from other policy areas. The ultimate goal is to generate an action plan that motivates policymakers to address persistent racial and ethnic disparities in the availability and quality of behavioral health services in the Commonwealth.

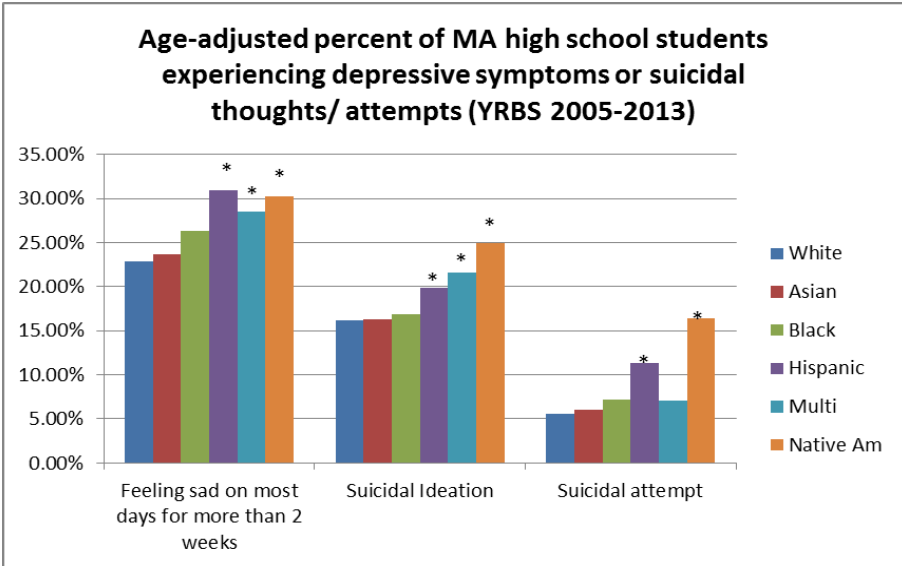
Overall Picture of Disparities across Behavioral Health and Behavioral Health Services

In this summary section, we briefly report the main results of our analyses. Approximately 1 out of 7 whites, 1 out of 8 Blacks, and 1 out of 6 Latinos living in Massachusetts have experienced a mental health disorder in the last year. Looking at specifics of mental health, Latinos have higher rates of depression and poor self-reported mental health compared to whites, patterns that are not seen in the overall U.S. population.



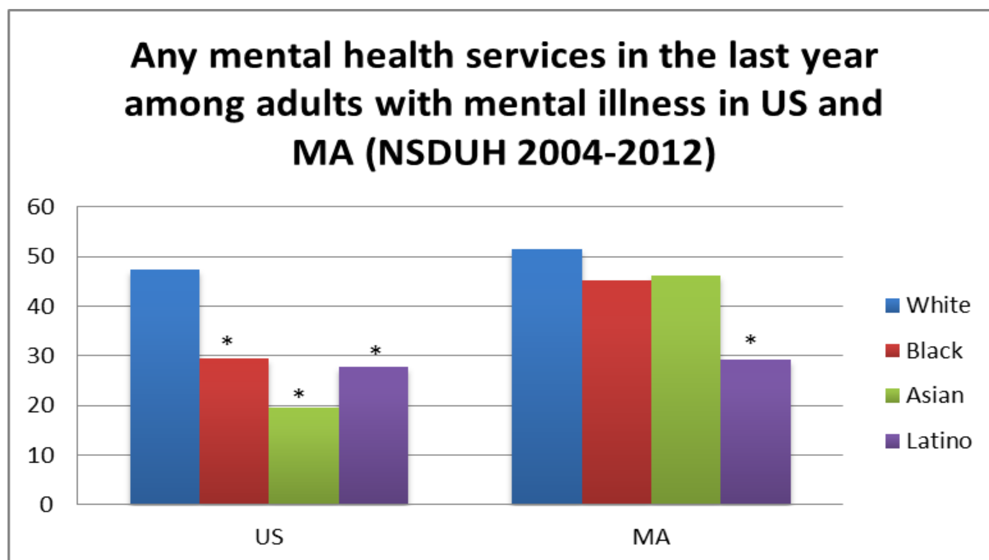
Age-adjusted estimates. Source: Massachusetts Department of Public Health. A Profile of Health among Massachusetts Adults, 2012: Results from the Behavioral Risk Factor Surveillance System (BRFSS).[1]

This greater need for behavioral health care is also evident among Latino youth, with approximately 20% of Latino high school students having suicidal thoughts in the last year (compared to 15% of white high school students). Moreover, Latino youth in the Boston area are more likely to be diagnosed with ADHD, anxiety, behavioral and conduct disorders, and depression than their white counterparts. Multi-racial and Native American high school students also reported higher rates of feelings of sadness or hopelessness and suicidal thoughts compared to white students. Rates of mental illness among blacks vary, generally showing no significant difference from whites, with the exception of a significantly lower likelihood of reporting a diagnosis of anxiety disorder compared to whites. Meanwhile, rates of mental illness among Asian youth were generally similar or lower than white youth.



Age-adjusted data from the 2005-2013 Youth Risk Behavior Surveillance System among Massachusetts high school students
*Significantly different from whites ($p<0.05$)
(Feeling sad: n=14188, suicidal ideation: n=14307, suicidal attempt: n=14209)

The services provided in Massachusetts do not match the need for mental health services, and disparities exist among some minority groups in Massachusetts. Among adults, Latino-white disparities persist in Massachusetts with 29.2% of Latinos with mental illness receiving mental health care (compared to 51.5% of whites).



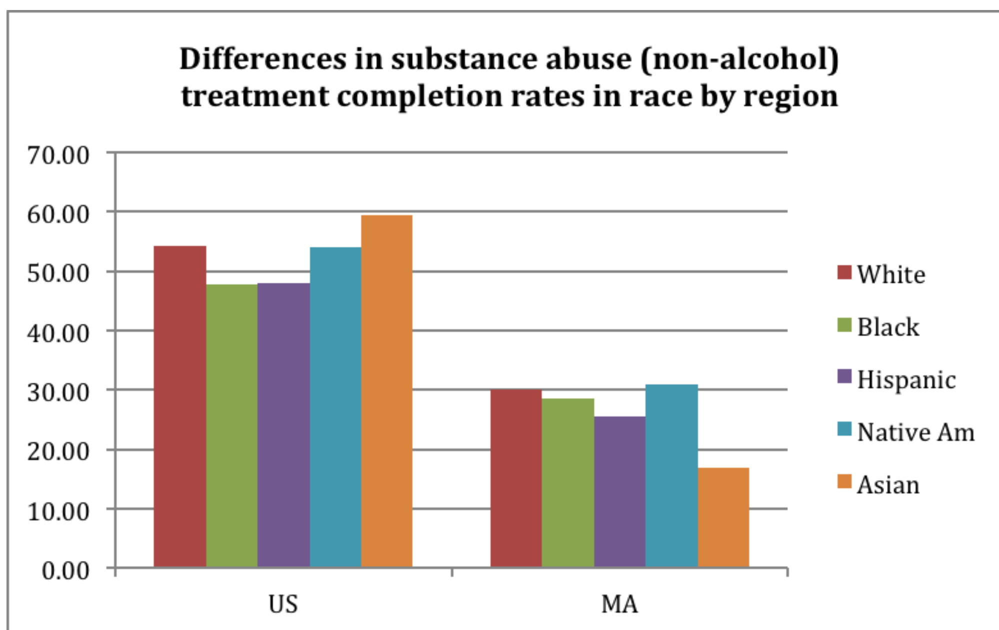
Age- and gender-adjusted data from the 2004-2012 National Survey of Drug Use and Health among adults predicted to have mental illness based on K-6 scale of psychological distress and WHO-DAS scale of disability due to mental illness. Difference from whites is significant at p<.05 level n=65,100 for US and n=900 for MA

Results are similar among youth in Massachusetts, where data show Latino-white disparities in mental health service use among those with diagnosed depression, and no black-white or Asian-white disparities in service use. Data on access to mental health services for elderly blacks, Latinos, and Asians as compared to elderly whites in Massachusetts were unavailable. If access for these groups follows the national trend, elder minorities may suffer greater disparities in access.

Non-Latino white adults ages 18+ had greater last year cocaine use than blacks and greater last year marijuana use than Asians, but otherwise no statistically significant different use of cocaine, hallucinogens, or marijuana compared to racial/ethnic minority groups. Approximately 1 in 10 youth age 12-17 in Massachusetts used marijuana in the last year and 1 in 4 used alcohol in the last year. For youth with substance use or dependence, treatment was extremely rare for all racial/ethnic groups with rates ranging from 6% to 8%.

For all individuals with substance abuse or dependence, access to substance use treatment is around 1 in 10, similar to the rest of the U.S. Among the individuals that *do* access treatment, significant disparities exist in completion of treatment, and Massachusetts completion rates are well below national averages. Alcohol treatment completion in MA is lower for blacks and Native Americans compared to whites, and illicit drug treatment completion is lower for Latinos and Asians, even after adjustment for their lower rates of use (see Figure below).

National policy initiatives to eliminate disparities, such as the 2011 *HHS Action Plan to Reduce Racial and Ethnic Health Disparities*[2] and *Healthy People 2020,*[3] have had some success. Nonetheless, more must be done at the state and local levels to target behavioral health disparities where they originate: in minority communities. Efforts must be coordinated with the social and human service agencies and health care systems that serve minority communities.[4] As part of the Affordable Care Act,[5] the Department of Health and Human Services (HHS) is mandated to develop and evaluate an action plan to reduce racial/ethnic health and behavioral healthcare disparities, including increased preventive care and investments in community health teams that can benefit minority communities.[6] We propose five recommendations for disparities reduction in behavioral health and health care in the Commonwealth of Massachusetts.



Data from the 2013 Treatment Episode Data Set
* Difference from whites is significant at p<.05 level

These recommendations are geared to improve behavioral health care for all residents, regardless of race/ethnicity:

1. **Increase early identification and enhance consumer self-management of behavioral health problems, particularly for older adults and those suffering from severe mental illness. Early identification should be pursued in social, criminal justice and human services sectors:** Engage and train community health workers (CHWs) and peer counselors in quick screening of behavioral health symptoms, self-management of illness, and brief collaborative behavioral health care. Using an apprentice model approach in social (i.e. foster care, nursing homes), criminal justice and human services sectors (i.e. faith-based organizations and NGOs) as well as use of online disease management tools, train CHWs and peer counselors in the provision of evidence-based psychotherapy, medication side effects, case management, and psycho-education.

2. **Expand the supply of qualified core mental health providers, peer counselors and paraprofessionals with competence in behavioral health care**: a) create a state database to map the supply of qualified mental health and addiction providers and identify shortage areas ; b) ensure the adequate supply of licensed culturally competent and linguistically appropriate behavioral health providers and paraprofessionals (including peer counselors) by augmenting incentives such as scholarship funding under Title VII of the Public Health Service Act , loan forgiveness programs, increased reimbursement for treatment (increasing Medicaid provider payments), reduced paperwork for payment; and easier interstate medical licensure; c) strengthen ongoing training, supervision and constructive monitoring for the specialty competencies for professionals as well as competency enhancements for paraprofessionals by certification; d) require adequate enrollment of core behavioral health professionals in provider networks; and e) provide organizational interventions in community behavioral health programs (such as the ARC intervention model by Glisson)[7] to support evidence-based implementation and service innovation. Organizations must de-emphasize increased workforce productivity and better understand the double burden placed on safety net providers (see Horton, 2006)[8] who undertake many tasks that greatly enhance patient health (i.e. housing supports, food security) but are not currently reimbursed for these ancillary services. More attention to the conditions of providers in safety net facilities and the daily challenges they must overcome is needed to improve the attractiveness of working in public health settings.
3. **Build community coalitions to help prevent suicide and mood disorders in minority youth and older adults and substance problems in white youth and adults**: Leverage existing community organizations for population health and foster additional service capacity through a centralized and well-planned statewide initiative that coordinates prevention activities that apply evidence-based strategies. Follow a model like the Vermont New Directions program[9] that teaches organizations and staff to implement proven strategies and trains them in the methods necessary to track and evaluate behavioral health outcomes. Focus community-based research projects on prevention and treatment of specific health problems, such as depression, as well as on environmental factors that contribute to illness.[10] A randomized trial to increase the utilization of evidence-based substance use prevention practices found that coalitions that received training were significantly more likely to implement evidence-based strategies. This suggests that offering training and outcome tracking for community-based organizations could be an effectual and cost-effective way to improve community-based behavioral health prevention efforts.[11] As an example, the Detroit Community Academic Urban Research Center, which connects researchers from the University of Michigan and local health care organizations with community groups across the city, has resulted in over 20 health-related community prevention projects.[12]

4. **Reduce disparities attributable to interactions within the health care system**: Establish better alignment of incentives in payment systems with desired disparities outcomes as a way to reduce disparities. Increase the use of data and analytics generated by electronic medical record systems to identify problems in the provider-level interaction with all patients. Once problems are identified, provide coaching for providers who demonstrate low treatment retention and limited quality care standards, monitor improvement and provide feedback to providers. Increase premium payments to providers who treat Medicaid patients, patients with low health literacy, those who require interpreters or non-English languages, and for those with dual diagnoses or severe mental illness. Include a system of feedback for providers and patients mimicking the eBay 5-star review system for both buyers and sellers. Require additional tracking and reporting of disparities data to the state Department of Public Health and the Department of Mental Health and incentivize progress in reducing disparities. The Massachusetts Health Disparities Council (MHDC) currently tracks and makes recommendations to reduce disparities for a number of medical outcomes. Lawmakers should expand the purview of the MHDC to include behavioral health problems such as depression, anxiety, serious mental illness, and drug/alcohol abuse.[13] Patient audits could be used to assess the difficulty of accessing behavioral health care and to identify variations in access linked to race/ethnicity, insurance status, age, and treatment type. Implement communication interventions – which involve training patients or providers in strategies to communicate more effectively with one another.[14] Consider enacting communication interventions that directly target minority patients and their providers, such as the DECIDE patient and provider interventions.[15]
5. **Expand access to behavioral health service to anyone in need, independent of insurance coverage, documentation status or ability to pay**: Make access to behavioral health services as high a priority as access to treatment for maternal and child health. This will lead to a significant increase in wellbeing and a reduction in public health consequences (e.g. incarceration, homelessness, school dropout, premature mortality, and poorer physical health). Enable access to services to anyone in need, independent of insurance coverage, documentation status or ability to pay. For this policy to work, insurers or the state must pay for the services, providers must treat patients in a culturally appropriate manner and the system needs to be monitored and outcomes evaluated. Evidence suggests that this will lead to overall health care cost-savings as well as increases in productivity and decreases in social service costs including incarceration.

Introduction

Despite an increasingly diverse population in the Commonwealth of Massachusetts (MA; See Sidebar #1 for description of demographics), evidence-based knowledge about the behavioral health (i.e. mental health and substance use problems) of racial and ethnic minorities in the state is limited. While national epidemiological studies have consistently shown that minority populations have similar or lower overall rates of mental illness than non-Latino whites,[16] minorities are at elevated risk of having mental disorders that persist over time.[17] The end result is greater negative social consequences, augmented suffering to family caregivers[18] and increased costs to society.[19] A share of negative behavioral outcomes can be attributed to the lack of available mental health and substance abuse services,[20] along with stigma and other barriers to care,[21-25] leading to lower probability of use or access to needed services. Nationally, less than 1 in 2 non-Latino whites and 1 in 3 blacks and Latinos that need behavioral health care seek treatment,[26] and only 1 in 10 individuals with substance abuse or dependence receive treatment.[27,28] As a result, most people with behavioral health problems, particularly people of color, continue to receive less treatment.[29]

Even though efforts to address service disparities have rapidly expanded since the Institute of Medicine's 2002 *Unequal Treatment* report,[30] racial and ethnic disparities in mental health care remain a national problem.[31] Lack of access to behavioral health services combined with premature drop out of services for racial/ethnic minorities,[28,32] has been shown to lead to excess morbidity, greater disease burden, lower likelihood of employment, and high rates of disability.[33] Failure to address mental health and substance abuse treatment disparities is thus likely to continue to exacerbate social problems.

To address this gap, this brief provides an overview of the available data on racial and ethnic disparities in behavioral health and behavioral health services in Massachusetts. We define ***racial/ ethnic disparities in health*** based on the World Health Organization definition as "differences in health which are not only unnecessary and avoidable but, in addition, are considered unfair and unjust."[34] We define ***racial/ethnic disparities in health care*** based on the Institute of Medicine definition of health care disparities as differences in service use that are not justified by underlying health conditions or patient preferences.[30]

The issue brief is organized as follows. First, the executive summary provides an overview of the disparities analysis and five broad policy recommendations to address areas where disparities have been identified. Second, we provide more detail about the prevalence of mental health problems, rates of mental health service use, prevalence of substance use problems, and the rates of access to substance use treatment among racial/ethnic groups and subgroups. Third, we examine underlying mechanisms that could contribute to existing behavioral health and service disparities. Fourth, we suggest a range of more detailed policies and interventions that could be used to reduce and ultimately eliminate these inequalities in Massachusetts. Because racial and ethnic minority populations are more often affected by social factors such as discrimination, racism, and poverty linked with poor behavioral health outcomes, we also review other factors including social determinants of population health.[35]

Details of the Epidemiological and Service Use Analysis

Mental Illness

The Prevalence of Mental Illness in Adults

Analysis of Massachusetts data reveals no Latino-white and Black-white disparities in rates of mental illness or last year Major Depressive Disorder (MDD) (Figures 1 and 3) and actually a trend of lower rates of mental illness for blacks and Asians as compared to non-Latino whites. However, there are some concerning disparities in other measures of self-reported mental health and of depression. Latino residents have higher rates of *lifetime* depression and Latinos and blacks are more likely to report poorer *self-reported mental health* than whites (Figure 2). For Asians, evidence points towards lower rates of mental illness compared to whites in MA, with lower rates of any mental illness in the last year, lifetime depression, and last year major depressive episode (Figures 1, 2, and 3). [a]

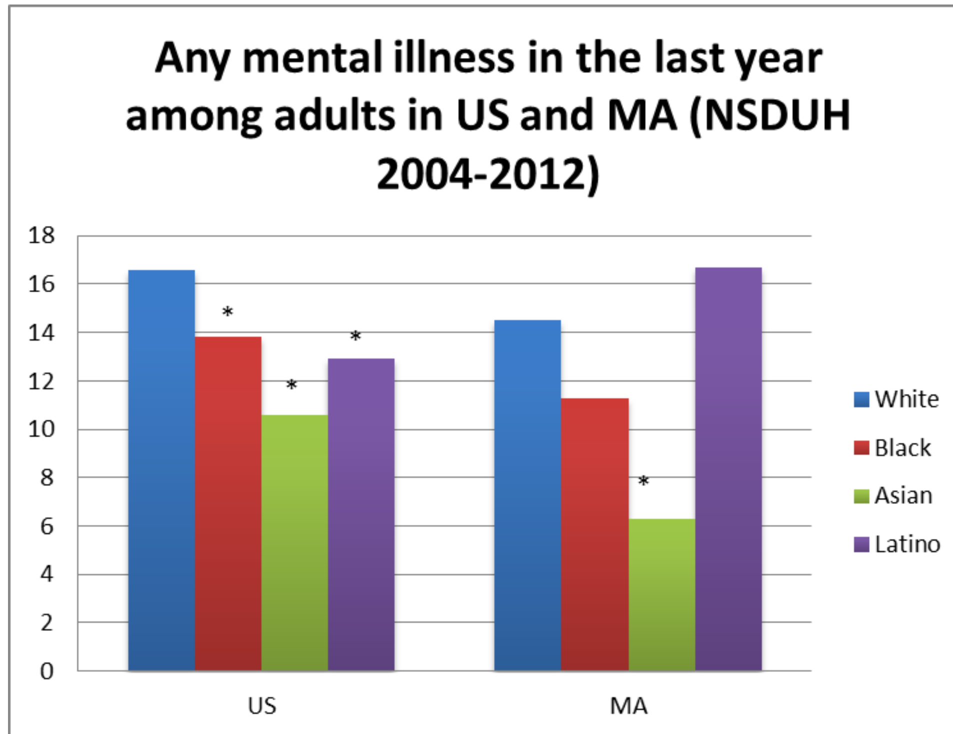


Figure 1. Age- and gender-adjusted estimates of last year mental illness. Data from the National Survey of Drug Use and Health (NSDUH);
*difference from Whites is significant at p<.05. Sample size for US=365,200; MA=5,000
Multiple years were used to increase the robustness of estimates

[a] These rates are derived from community-based surveys where respondents are interviewed in their homes. An individual does not need to access mental health care in order to receive a diagnosis of mental illness, depression, or to report poor mental health.

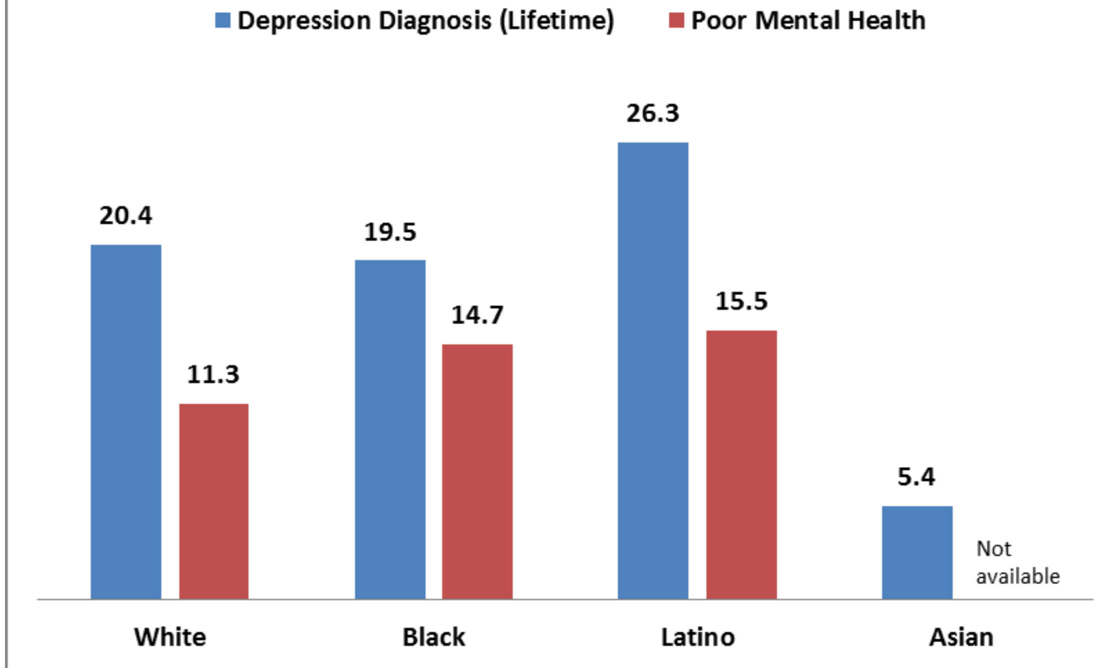


Figure 2: Age-adjusted estimates. Source: Massachusetts Department of Public Health. A Profile of Health among Massachusetts Adults, 2012:
Results from the Behavioral Risk Factor Surveillance System (BRFSS).[1]

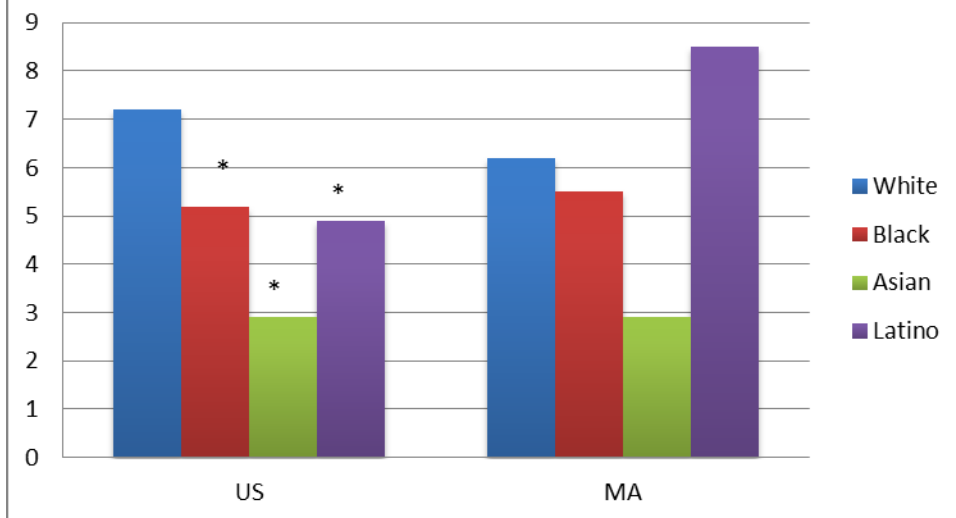


Figure 3. Age- and gender-adjusted estimates of last year major depressive disorder (MDD). Data from the National Survey of Drug Use and Health (NSDUH);
*difference from Whites is significant at p<.05 sample size for US (not MA)=362,200; MA=5,000

Higher rates of lifetime depression diagnosis and self-reported poor mental health in Massachusetts' Latino population present a worrying picture when compared with their lower rates of insurance than whites.[36] Without more precise data at the state level, it is difficult to fully understand why these specific mental health problems are more common among Massachusetts Latinos, given that the national Latino population tends to have lower prevalence of psychiatric disorders than whites.[37] One possible explanation is that specific subgroups within the Latino population in Massachusetts have higher rates of mental disorders. Studies have shown that Puerto Ricans have the highest prevalence of both mental health and substance use disorders of any Latino subgroup.[37,38] 42.4% of Latinos in Massachusetts are of Puerto Rican origin, making them the single largest Latino subgroup in the state.[39] Additionally, Puerto Ricans in Massachusetts are concentrated in some of the poorest urban areas in the state, which may increase exposure to risk factors for depression.[40,41] There is also reason to believe that other Latino subgroups in Massachusetts may be at higher risk of mental health problems than the U.S. Latino population as a whole. Approximately 17.7% of Latinos in Massachusetts are of Central American origin, some with trauma-related or other mental health issues due to several decades of social, political, and economic turmoil in Central America associated with war, gangs and drug trafficking.[42]

The findings for Black adults in MA show no significant disparities in mental illness, a result that may be explained by the equal levels of mental health care that is provided to Blacks and whites (see below). A more negative interpretation is that the consequences of mental disorders are worse for Black adults as compared to white adults, leading to increased incarceration among Blacks (but not whites). These surveys are only administered among non-institutionalized Massachusetts residents and may miss a disproportionate share of Blacks in prisons with mental illness. Racial and ethnic disparities have been documented across the criminal and juvenile justice systems, ranging from higher contact with law enforcement, to higher rates of arrest, harsher sentencing, and finally to the strikingly large numbers of minority inmates in U.S. prisons and jails.[43,44] At year end 2011, the population of prisoners under federal and state jurisdiction was about 38% black, 23% Latino, and 34% white.[45] Minorities were similarly overrepresented in the population under the jurisdiction of the Massachusetts Department of Correction: in 2012, 27.9% of Massachusetts prisoners were black, 25.2% were Latino, 1.3% were Asian, and 43.9% were white.[46] These numbers show that the proportion of blacks and Latinos in the Massachusetts prison population is two to three times higher than their proportional representation in the general population, and many of these individuals have behavioral health problems. Testing these hypotheses to get a better grasp of the course of psychiatric illness for black adults and youth in MA should be a priority.

Utilization of Mental Health Care among Adults with Mental Illness

Among those with mental illness, Latinos were less likely to receive any mental health care in the last year in Massachusetts, with disparities similar to the rest of the United States (Figure 4). Unlike other states, there were no black-white or Asian-white disparities in any mental health care use among individuals with mental illness in Massachusetts (Figure 4). Nor were Black-white or Asian-white disparities found when looking at the entire population (individuals with and without mental illness) after adjustment for indicators of depression and mental illness (data not shown).

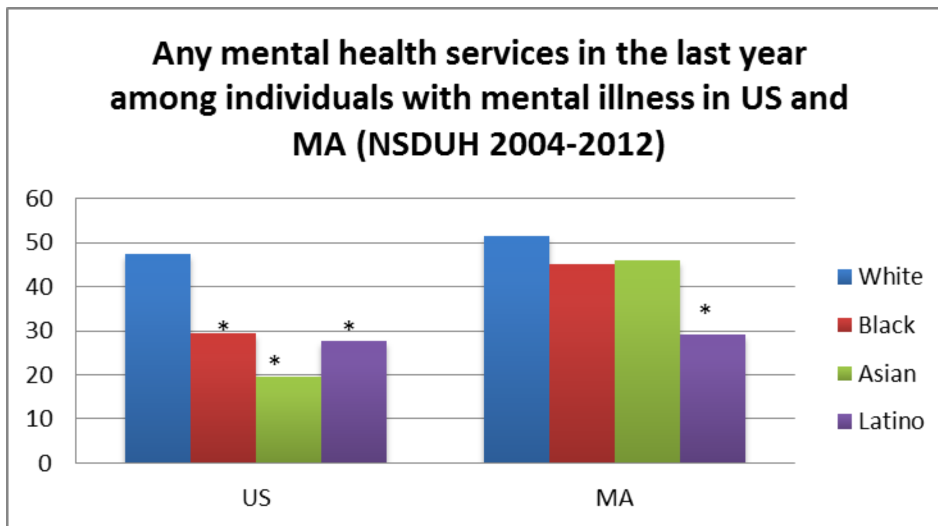


Figure 4. Data from the 2004-2012 National Survey of Drug Use and Health among adults predicted to have mental illness based on K-6 scale of psychological distress and WHO-DAS scale of disability due to mental illness. Estimates are age- and gender-adjusted Difference from whites is significant at p<.05 level n=65,100 for US and n=900 for MA

The significant Latino-white mental health care disparities among those with mental illness suggest high rates of unmet need for Latinos in Massachusetts living with mental illness. Research into geographic differences in supply of mental health providers has shown that, paradoxically, Latinos are more likely to live in urban areas where there is a larger supply of mental health providers compared to less urban areas.[47] This coupled with our findings could indicate that there may be more competition for providers in urban areas that can treat the large minority populations in Boston given the high volumes of low-income, limited English proficiency, Medicaid or uninsured patients. An alternative explanation is that while there is a high density of providers, there may be very few that speak Spanish. Aligning the supply of providers to meet needs of Latino residents and interventions that encourage access among this group is sorely needed.

The lack of black-white service disparities is a positive sign and may indicate increased access for blacks, possibly through improved mental health services in community health centers or better access to insurance due to health reform. There is evidence that access to community clinics together with insurance coverage can augment use of behavioral health services and reduce disparities.[48] However, these results should be replicated using additional data and racial and ethnic differences in health care should continue to be closely monitored.

The Prevalence of Mental Health Problems in Youth

In Massachusetts, Latino, multiracial, and Native American high school students were more likely to report feelings of sadness or hopelessness, had higher rates of suicidal ideation, and (in the case of Latinos and Native Americans) had greater probability of a suicide attempt than whites (Figure 5). Analyses of NSDUH data identified no differences between whites, blacks and Latinos, and lower rates among Asians compared to whites in endorsing symptoms congruent with a DSM-IV diagnosis of major depressive disorder (Figure 6). These data represent studies of community samples, and do not depend on accessing mental health care. Analysis of another dataset looking at those that did receive care identified that Latinos had higher rates of ever receiving one of the following diagnoses: ADHD, Anxiety, Behavioral / Conduct Disorders, and Depression and that blacks were less likely to receive a diagnosis of Anxiety disorders compared to whites (Figure 7).

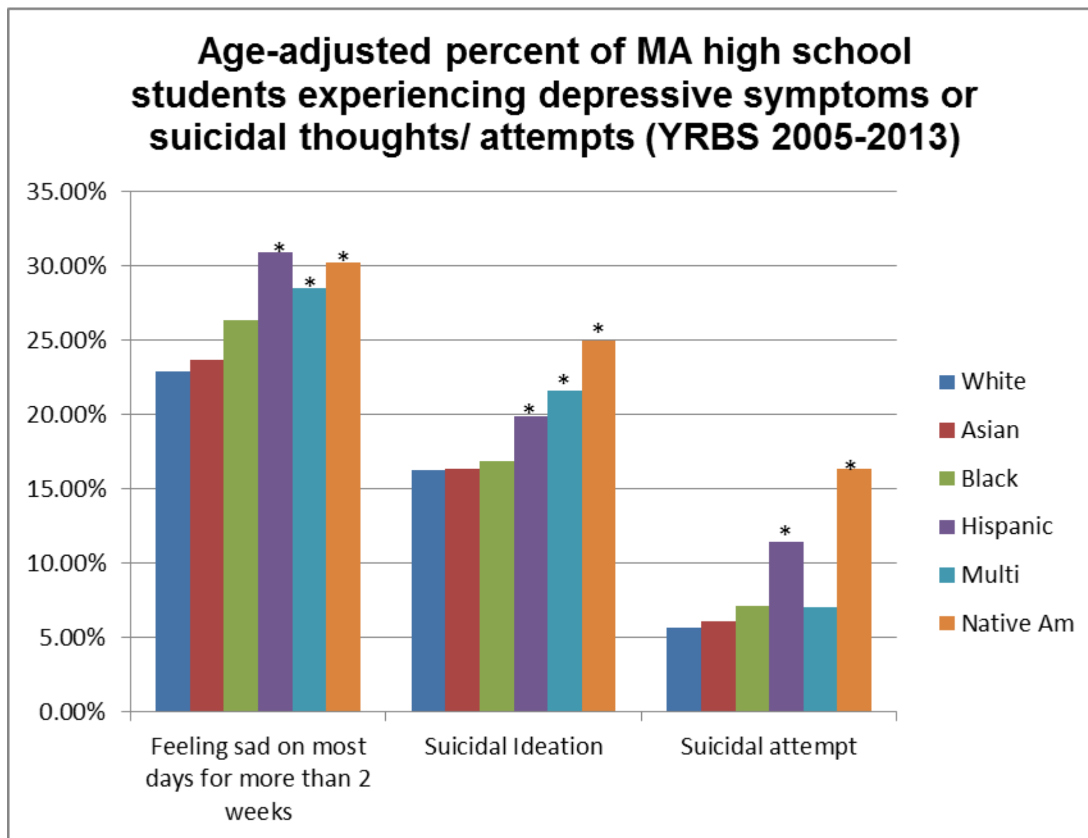


Figure 5. Age-adjusted data from the 2005-2013 Youth Risk Behavior Surveillance System among Massachusetts high school students
*****Significantly different from white (p<0.05)
(Feeling sad: n=14188, suicidal ideation: n=14,307, suicidal attempt: n=14,209)

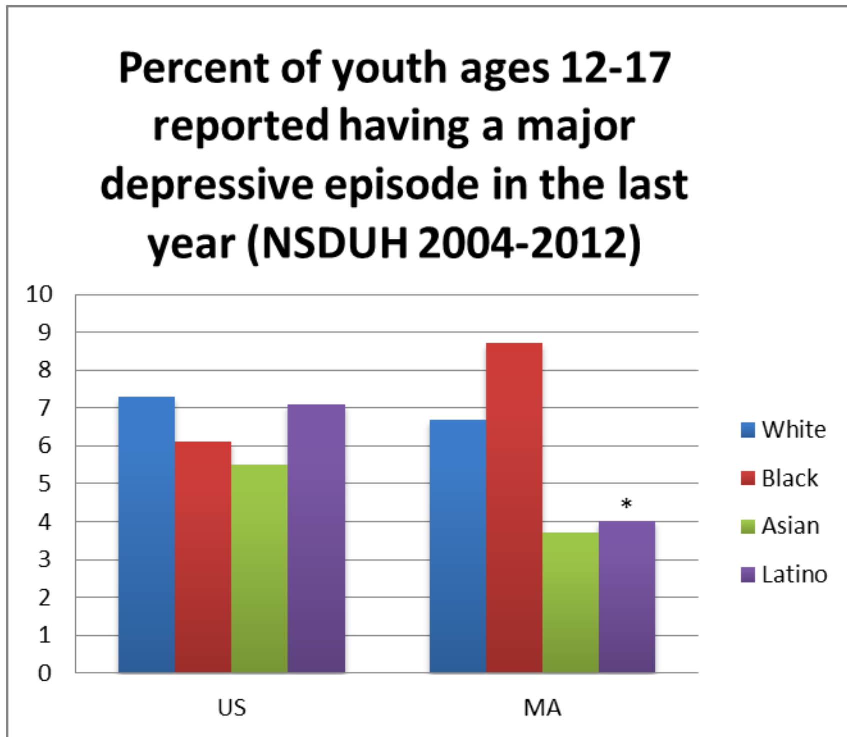


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Figure 6. Age- and gender-adjusted estimates of last year major depressive episode (MDE) among youth 12-17. Data from the 2005-2012 National Survey of Drug Use and Health (NSDUH); sample size for US (not MA)=176,500; MA=2,400.

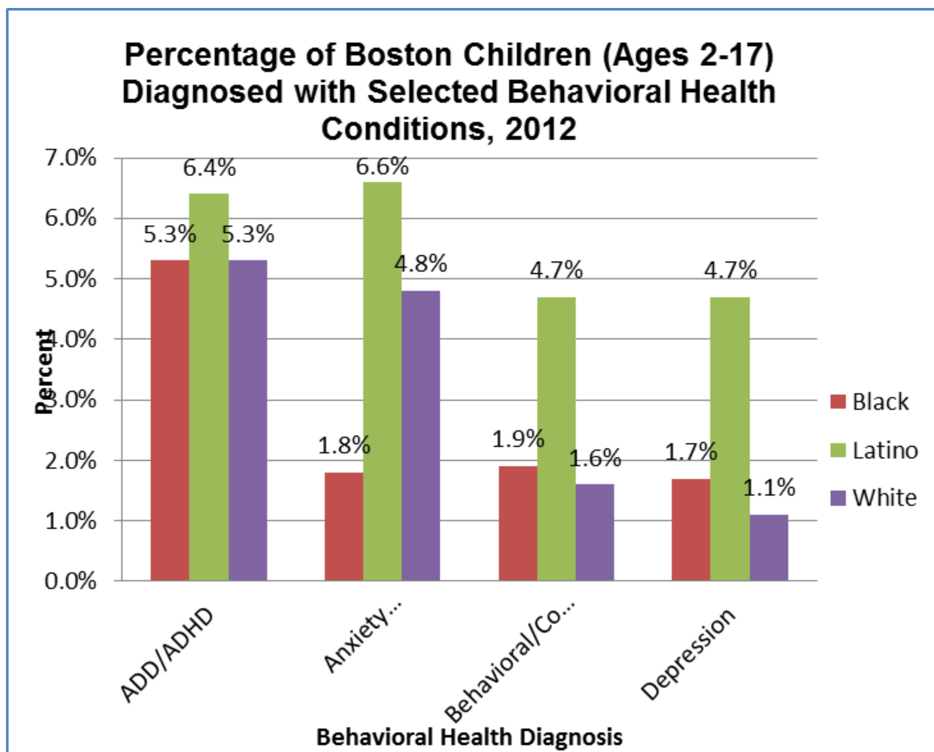


Figure 7. Data from the Boston Survey of Children's Health, 2012
Total number of parents interviewed=2,100

The higher rates of mental illness among Latino youth are consistent with a previously published report finding that parents of Latino children in Boston were 2.94 times as likely to report that their child had been diagnosed with behavioral and conduct problems and 4.27 times more likely to report that their child had been diagnosed with depression than parents of non-Latino white children.[36]

Rate differences in depression (higher among Latino youth that were able to access care, but not significantly different from whites in the community sample) suggest that there are important differences in the populations being diagnosed in treatment settings and those in the community, and/or differences in living circumstances between Boston and other parts of the state.

For Asian adults and youth in MA, the rates of mental health problems appear lower than for non-Latino whites, following the national trends. In this group, resiliency to negative social forces (poverty, unemployment) and neighborhood toxicity should be further investigated among Asians in Massachusetts. Caution should be exercised when using these numbers since the Asian representation in these samples is typically small, leaving estimates with wide confidence bounds. As a result, the power to detect significant differences in mental health and service use is limited. The importance of including an overrepresentation of Asians in future MA samples of behavioral health and healthcare studies cannot be overstated, particularly for a population that will triple in MA in the next two decades.

Utilization of Mental Health Care for Youth Ages 12-17

Similar to adults, Latino youth are less likely than whites to utilize mental health care, after adjustment for age, sex, and depression diagnosis (Figure 8). Similar to other states, Asians and blacks have lower rates of treatment (though not significantly so) compared to whites.

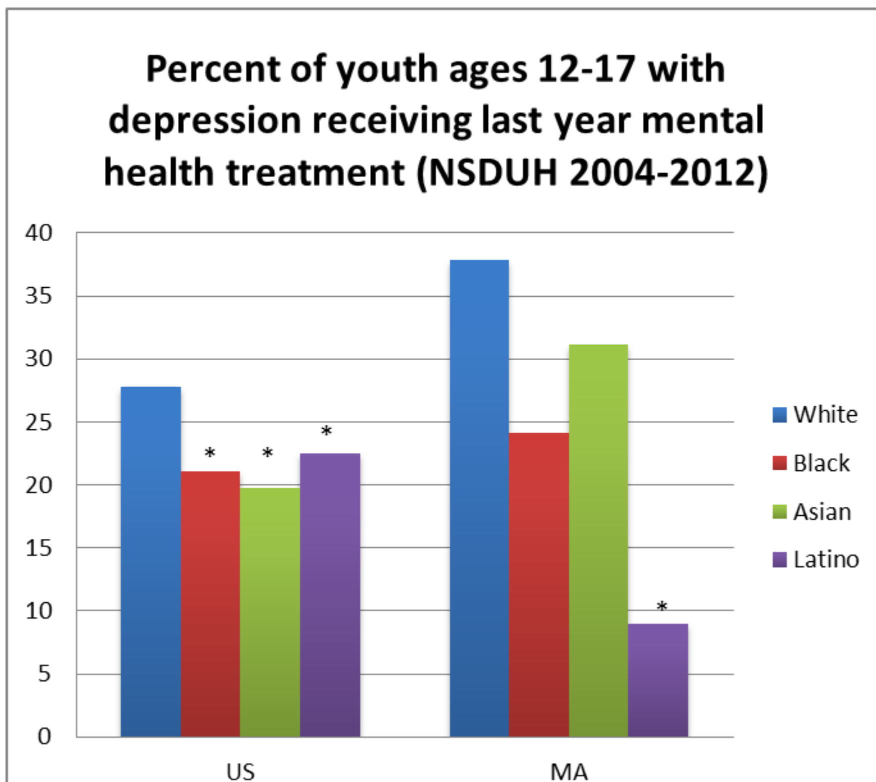


Figure 8. Data from the 2004-2012 National Survey of Drug Use and Health among youth ages 12-17. Adjusted for age, sex, and depression diagnosis (n=15,100 in US and n=200 in MA)
* Difference from whites is significant at p<.05 level

The Prevalence of Mental Health Problems in Older Adults

As the number of elderly rises, nearly one in five will suffer from one or more mental health and/or substance use conditions,[49] with mood disorders being the most prominent source of emotional distress[50] and risk for premature disability.[51] Particularly at risk of disability are older blacks[52] and Latinos with marked disparities in healthy aging, as well as immigrant elders who exhibit worse mental health than the native-born population.[53] There are little data specific to Massachusetts regarding behavioral health disparities in older adults. However, one epidemiological study of 1,500 Boston-area Puerto Ricans aged 45-75 found greater current symptoms of depression, particularly in Puerto Rican women. 58.6% of Puerto Rican women age 60-75 reported high depressive symptomatology, compared to 43.8%, of Puerto Rican men.[54]
One study shows that non-Latino white and Latino older adults have the highest rates of affective disorders, with other minorities showing lower prevalence of most disorders than their non-Latino white counterparts, except for substance use disorders. When compared with the results of a 2008 study that showed that Latinos ages 18-50 tend to have lower prevalence of psychiatric disorders than whites,[37] this may reflect the possibility that protective factors disappear as Latinos age.[55] A similar analysis of mental illness prevalence in older adults by Jimenez et al., examined the prevalence of both mental health and substance use disorders, and analyzed immigration and language-related data, providing more detailed insight into the health of immigrant vs. non-immigrant minority elders.[56] Jimenez et al. found that adjusted lifetime prevalence of any psychiatric disorder for adults over the age of 50 was 31.8% for non-Latino whites, 31.0% for Latinos, 14.0% for Asians, 26.8% for African Americans, and 17.6% for Afro-Caribbean older adults. African American older adults were more likely to have substance abuse disorders than their non-Latino white counterparts. The authors identified higher rates of dysthymia and generalized anxiety disorder among immigrant Latinos, while U.S.-born Latinos had higher rates of substance use disorder, alcohol dependence, and alcohol and drug abuse. This appears linked to the fact that although minorities are less likely to develop lifetime major depression than non-Latino Whites, their depression is significantly more likely to develop a chronic course.[57] Mental disorders also appear to lead to greater functional impairments and disabilities for racial/ethnic minorities than non-Latino Whites,[17] and could account for the higher current rates of psychiatric symptomatology in minority elders.

Utilization of Mental Health Care for Older Adults

Most elders in need of mental health services receive limited mental health treatment.[49] This is a missed opportunity given that mood disorder treatment has been shown to reduce disability days by 40%-45% in those with severe to moderate depression.[58] National data indicate that elderly African-Americans, Latinos, and Asians access mental health services less than elderly whites, despite having greater or equal mental health needs.[59] This is partly due to workforce shortages,[60] few evidence-based treatments in community health clinics and limited implementation of effective trials in primary care.[61] This problem will affect a growing number of people as minority elders (60+) represent a rapidly increasing segment of an aging US population, suffering significant disparities in access.[62-68]

Substance Abuse

The Prevalence of Substance Abuse Problems among Adults Age 18+

Non-Latino white adults ages 18+ had greater last year cocaine use than blacks and greater last year marijuana use than Asians, but otherwise no statistically significant different use of other substances compared to racial/ethnic minority groups (Figures 9 and 10).

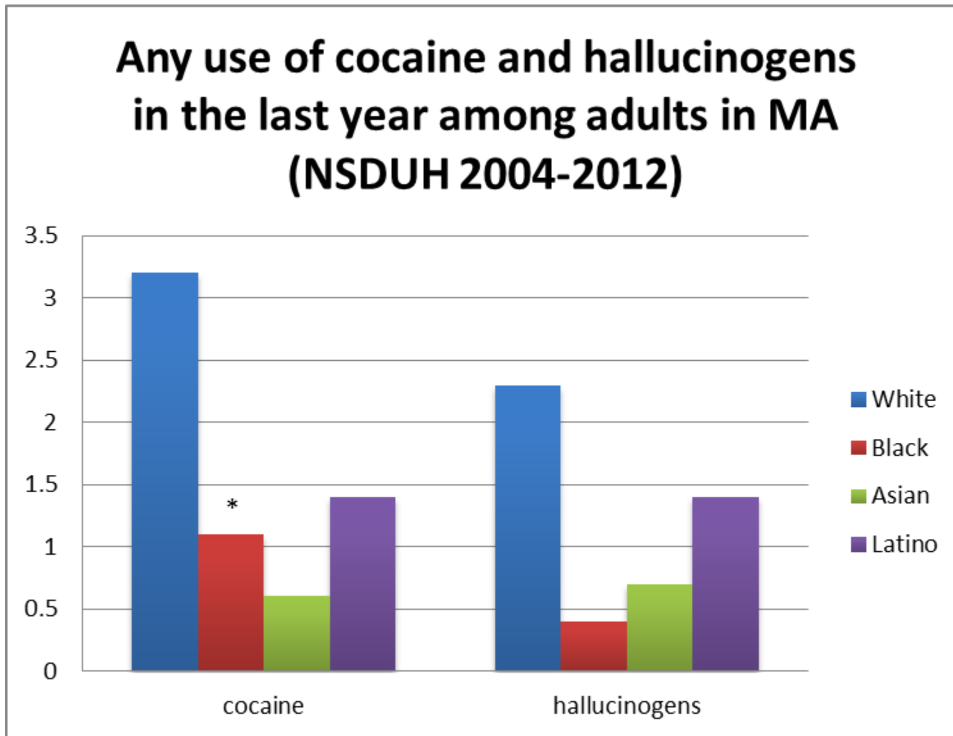


Figure 9. Age- and gender-adjusted estimates of substance use within the last year among adults 18+. Data from the 2004-2012 National Survey of Drug Use and Health (NSDUH); n=5,600.
***Significantly different from white (p<0.05)**

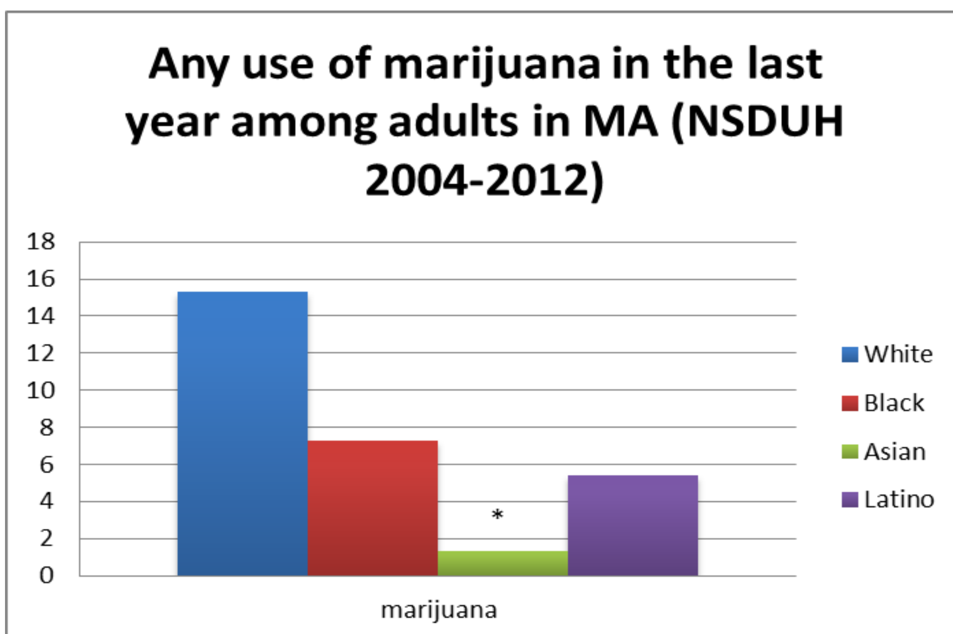


Figure 10. Age- and gender-adjusted estimates of substance use within the last year among adults 18+.
Data from the 2004-2012 National Survey of Drug Use and Health (NSDUH); n=5,600.
***Significantly different from white (p<0.05)**

A source of concern for Massachusetts is the increasing popularity of heroin and other opiates, including prescription painkillers.[69] In 2007, Latinos had the highest rates of opioid-related emergency department visits of any racial/ethnic group in the state,[70] suggesting that the epidemic of opioid abuse may be especially harmful for Latinos. The widespread concern over opioid use reflects trends nationally, where the annual number of drug poisoning deaths

attributed to heroin more than doubled over a ten year period, increasing from 2,089 in 2002 to 4,397 in 2011. The increase in the rate of heroin-related deaths was almost entirely limited to the non-Latino white population, while rates remained constant for Latinos and blacks.[69]

Utilization of Substance Abuse Treatment among Adults

No racial/ethnic differences in any last year access to substance use treatment were identified (data not shown). In 2012, 81.2% of patients who reported receiving substance abuse treatment in Massachusetts were white, 7.1% were black, 2.5% were multiracial, 9.6% were other race (including Asians), and 11.1% were Latino (see Table 1).[71] For those that did access substance use treatment, compared to whites, drug treatment completion[b] was lower for Latinos and Asians and similar for Native Americans (Figure 11). Compared to whites, alcohol treatment completion was lower for blacks and Native Americans, but more Asians than non-Latino whites completed alcohol treatment (Figure 11). However, there is limited availability of substance use treatments so the opportunities for detoxification or inpatient services are almost nil for the population of Massachusetts.

Table 1: Race/Ethnicity of Patients Admitted to Substance Abuse Treatment, 2013

Race/Ethnicity	% patients entering treatment	% of overall population
White	81.2%	75.1%
Black	7.1%	8.1%
Multiracial	2.5%	2.1%
Other	9.6%	--
Latinos	11.1%	10.5%

A pre-health care reform study conducted in 2006 of racial and ethnic differences in use of treatment services among injection drug users in Massachusetts found that blacks were 19% more likely than whites to use detoxification only, while Latinos were one-third less likely to use residential treatment than non-Latino whites and blacks.[72] When comparing use of methadone maintenance programs, blacks were almost half as likely to access this type of treatment as compared to their non-Latino white counterparts. The authors found that those without insurance were less likely to use residential treatment or methadone maintenance programs. Lack of insurance, lower education, and homelessness were all associated with using detoxification only. These findings suggest that black and Latino injection drug users were more likely receiving less costly and less effective treatments. As this research was completed prior to the 2006 health reform it is not known whether higher rates of insurance among blacks and Latinos have increased use of residential and methadone maintenance services. Further research is needed to determine the effect of reform on drug treatment use services.

[b] Treatment completion is defined as any planned discharge from treatment, including transfers to other facilities where the individual was expected to continue further treatment. Incomplete treatment includes leaving against professional advice or having treatment terminated by the facility because of noncompliance, incarceration, or death.

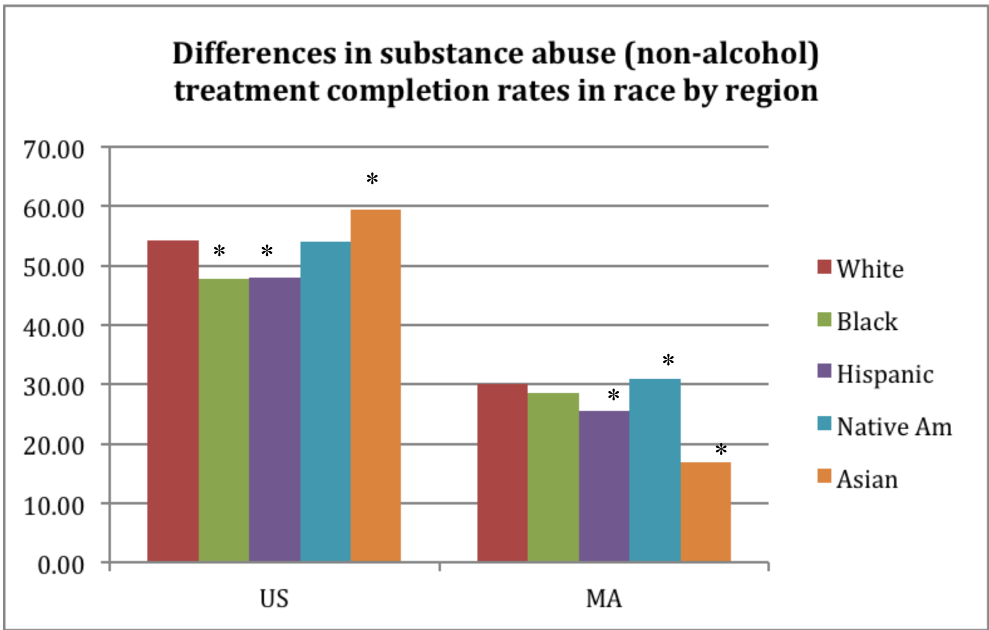


Figure 11: Data from the 2013 Treatment Episode Data Set
* Difference from whites is significant at p<.05 level

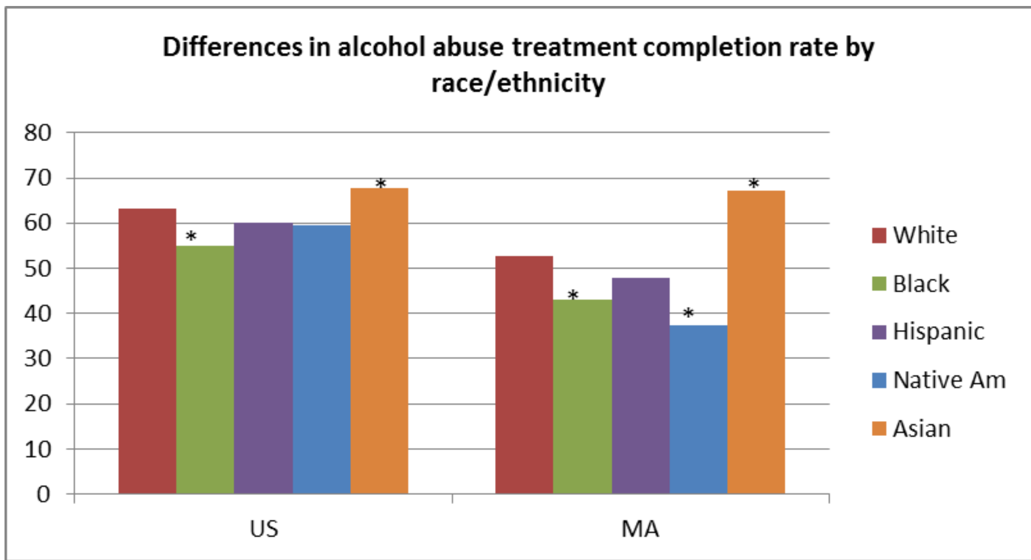


Figure 12: Data from the 2013 Treatment Episode Data Set
* Difference from whites is significant at p<.05 level.

In Massachusetts, there was also considerable variation in types of services used by Latino subgroups with substance use problems. Puerto Rican men were the most likely to enter methadone maintenance treatment and the least likely to use only detoxification services or residential treatment compared to other Latino men. Central American men were 2.4 times more likely to enter only detoxification programs and 54% less likely to enter methadone maintenance programs. Lundgren et al. suggest that Central American and other Latino immigrants may be less knowledgeable about different treatment options beyond detoxification.[72]

Another study of 425 Puerto Rican drug users in western Massachusetts found that drug users who reported higher levels of need were more likely to have entered addiction treatment in the previous 6 months.[73] Enabling factors

associated with treatment included having attended self-help groups, receiving outpatient mental health treatment, having regular interactions with a health care provider, and having interacted with supportive friends and family members.[73] This study shows the importance of regular care and mental health providers in referring patients to drug abuse services, as well as the complex network of services and support needed to facilitate recovery from drug addiction.

The Prevalence of Substance Use Problems among Youth Age 12-17

White youth were more likely to use marijuana in the last year compared to racial/ethnic minority groups. We also observed higher rates of alcohol use among white youth compared to their black and Asian counterparts but no significant differences with Latinos (see Figure 13).[74]

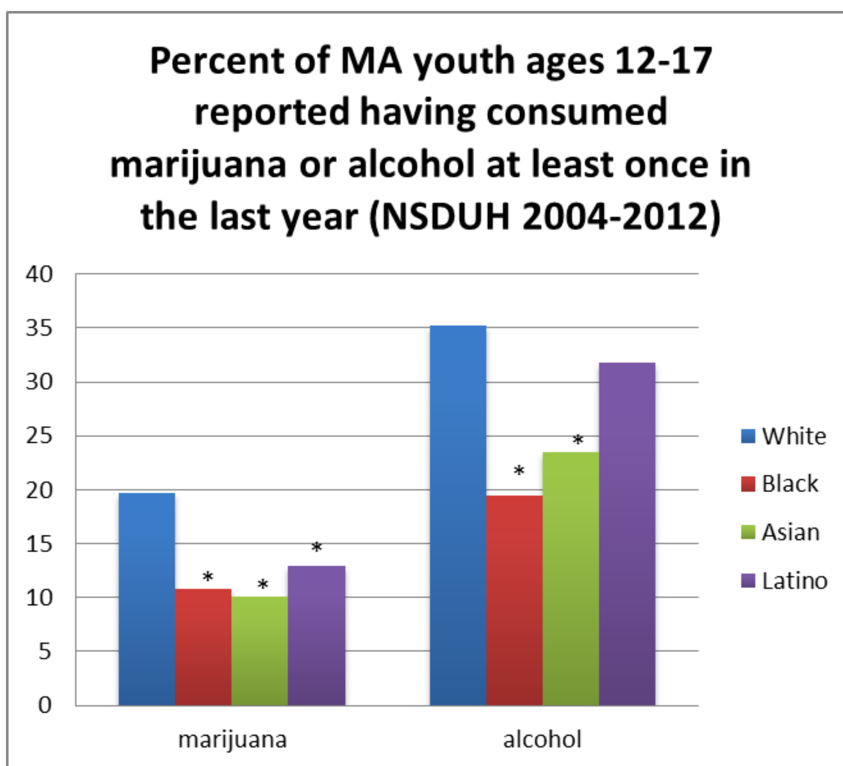


Figure 13: Age- and gender-adjusted estimates from the 2004-2012 NSDUH among Massachusetts youth (ages 12-17). (n=2,800)
* Significant at p<.05 level

Utilization of Substance Abuse Treatment among Youth Ages 12-17

We found few reports or data sources that describe substance use treatment differences among youth with substance use disorder. Analysis of NSDUH data identified no significant racial/ethnic differences in youth substance use treatment among youth with a diagnosis of any last year substance abuse or dependence (Figure 14). Comparisons among groups in Massachusetts were limited because of small sample sizes, and because there are almost no services available.

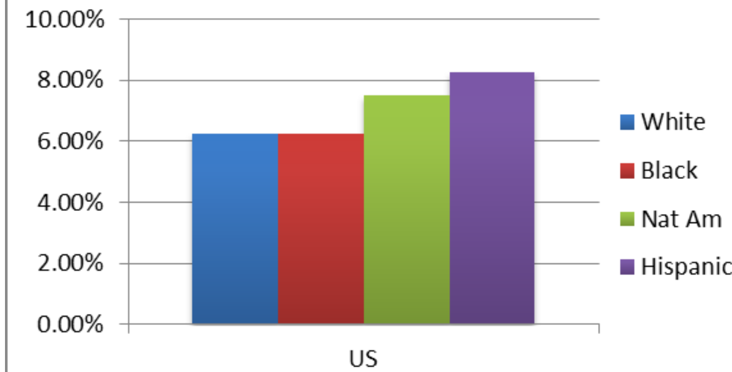


Figure 14. Age and gender-adjusted data from the 2004-2012 National Survey of Drug Use and Health among youth ages 12-17. (n = 15,400)

Framework Explaining These Behavioral Health and Service Disparities

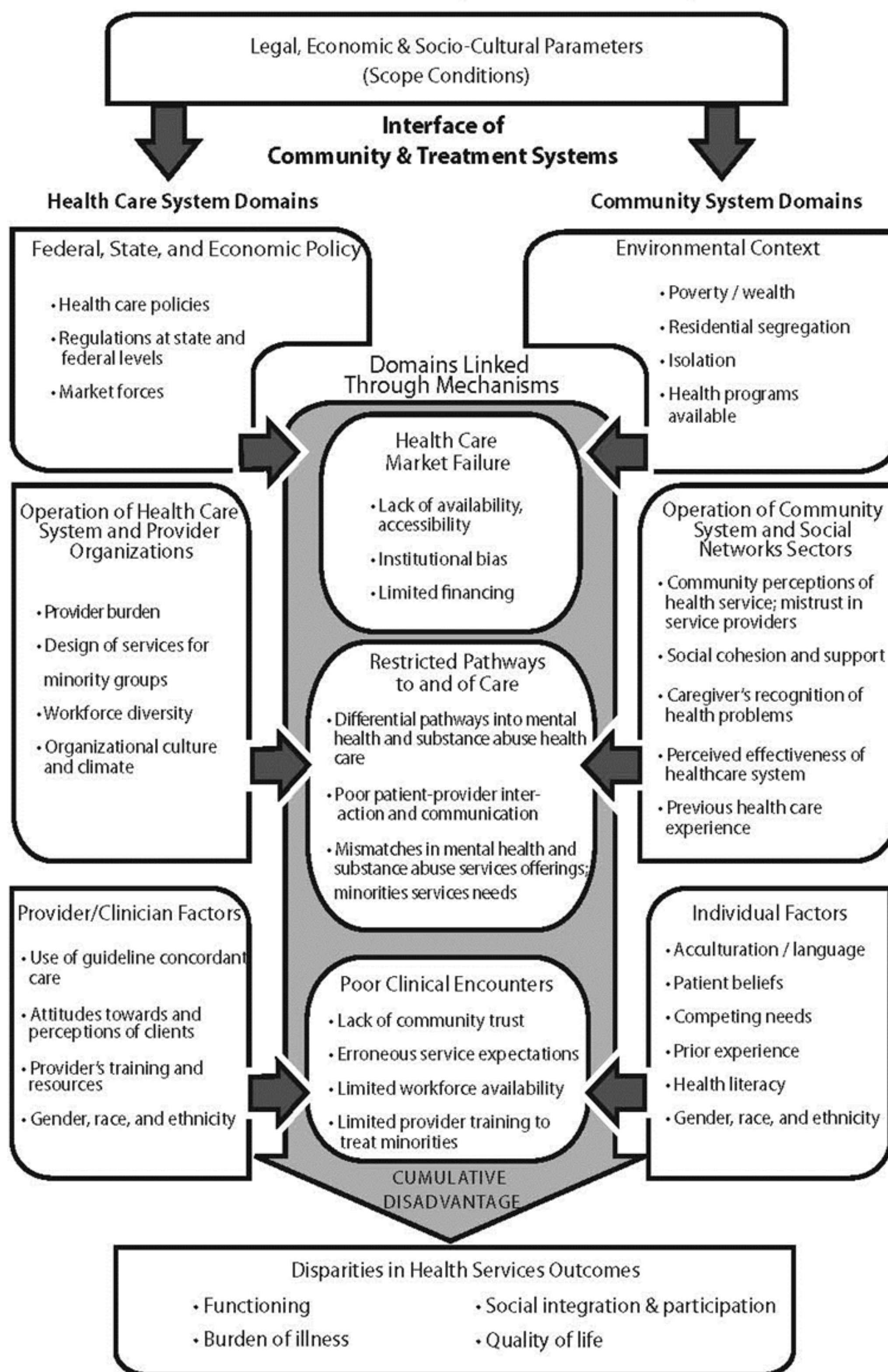
To make it easier to understand what causes the previously discussed disparities and how we can work to eliminate them (including the reverse disparities in substance use for whites), we present an updated version of the Sociocultural Framework for Health Service Disparities.[75] This model divides the causes, or "mechanisms," of disparities into three separate levels and is based on the idea that disparities in behavioral health care are inextricably linked to the larger social context (see Figure 15). Service inequities arise from interactions between the community and the health treatment system. Each point of interaction between the two major systems – community and treatment – represents a key site for understanding and a potential target for improvement or intervention. We therefore divide potential sources of behavioral health disparities into three levels and then focus on the potential sites for change at each level.

At the macro-level, state and federal regulations oriented toward cost control can contribute to the increase in the number of untreated patients, not only for minorities but actually for whites with substance use problems. When states limit reimbursement payments, individuals who depend on public or even private insurance are affected in trying to find behavioral health service providers who would accept such low payments. In fact, the number of providers accepting new Medicaid patients has fallen over the past ten years.[76] The disproportionably low supply of providers, particularly multilingual service providers, in communities with ethnic and racial minorities limits the availability of providers and makes it more difficult for Latinos and other non-English speakers to seek treatment.[77] Communities with high proportions of African-American and Latino residents are four times as likely as non-Latino Whites to have a shortage of providers

regardless of community income.[78] The end result is insufficient competition that thwarts the power of government to reform the health care system – a failure of the market to make high quality care available to ethnic and racial minorities. At the meso level, differences in problem recognition of mental health issues in the community, differential referral by community networks, and higher barriers to care can precipitate behavioral service disparities for multi-racial, Latino and Native American high school students. Research shows greater parental stigma and more distrust about some mental health treatments in minority communities than in majority communities.[79] Barriers, such as competing demands on time from work and child care for minority parents, may limit the ability of minority families to prioritize engaging in treatment over more urgent matters.[80] We also pay particular attention to how the types of services offered in specific clinics might not match the community's needs and result in shortages of the services that are most needed.[81]

At the micro level, reluctance to adopt evidence-based treatments among community providers has been well-documented,[82] while methods for overcoming these barriers have not been systematically identified. More needs to be done about how to support providers in adopting quality behavioral health care[83] while still addressing pressures for productivity and the double burden of being responsive to their patient's social determinants of health. Another major obstacle at the micro level for patients of color is inadequate provider appreciation of minority patients' preferences for interpersonal relations.[84,85] Given institutional constraints to ensure financial stability, providers rarely receive training in how to motivate minority patients to voice their treatment concerns or preferences. Providers display fewer patient-centered behaviors, are less receptive to question asking, and tend to demonstrate greater verbal dominance with minorities than with white patients.[104]

Figure 15.



Below, we discuss some of the hypothesized mechanisms of disparities in behavioral health care, along with policies to address these factors and reduce disparities.

Mechanisms Hypothesized to Impact Behavioral Health and Health Service Disparities

Macro Level Mechanisms: Larger Policy or Environmental Contexts

Lack of Health Insurance Coverage

The Affordable Care Act, through expansion of public insurance programs and subsidized private plans to low and middle income individuals,[86] aims to augment access to health services.[87] These efforts have significantly improved insurance coverage rates among minorities, who have historically been less likely to have health insurance than whites.[88] Massachusetts currently has the highest rate of insurance coverage in the nation, according to data from 2012.[89] However, a review of state-level data and published research on Massachusetts indicates that for most minority groups disparities persist in insurance coverage and that it still remains a barrier to accessing care for minority populations.[90] Only 3.2% of non-Latino whites were uninsured in 2012, compared with 10.6% of blacks, 9.0% of Latinos, and 4.3% of Asians.[91] Yet the overall percentage of the population that was uninsured at the time of the survey was 4.4%. These findings suggest that some racial and ethnic minority groups may face other barriers to getting insurance such as lack of citizenship or documentation status[92,93 94] or may still have difficulty paying for subsidized coverage, leading to uninsurance or underinsurance. Nonetheless, while a fundamental measure of access to health care in the US,[95] health insurance coverage is not a sufficient condition for accessing behavioral healthcare, and other barriers must be considered as factors contributing to service use disparities.[48]

Limited Provider Supply

Persuasive evidence demonstrates that the current behavioral health workforce is insufficient to meet the health care needs of a diverse population.[49,96] Although significant progress has been made over the last decade, the behavioral health care workforce is still less diverse than the population at large. Only 7.8% of psychologists, 12.9% of social workers, and 21.4% of psychiatrists are from racial/ethnic minority groups.[97] A concerted effort must be made both to diversify the behavioral health care workforce and to incentivize care for racial and ethnic minority populations.

Of all Massachusetts counties, Suffolk county, which includes Boston, has the highest minority population, with 24.5% of residents identifying as black, 21.3% as Latino, and 8.7% as Asian.[98] It also accounts for almost a third of the state's 60 Mental Health Professional Shortage Areas, as designated by the U.S. Department of Health and Human Services.[99] Shortage areas are determined by assessing the number of core mental health providers in a certain area in combination with geographic and socioeconomic factors to identify gaps in access to treatment.[100] This might explain the constant complaint of primary care physicians (PCPs) of not being able to access outpatient mental health services for their patients, particularly non-English-speaking patients.[101] This shortage of mental health care providers follows the national trend cited by PCPs of the inadequate supply of behavioral health providers and lack of available appointments as a serious barrier to mental health and substance treatment

access.[102] This limited supply might account for a portion the observed Latino-white disparity in behavioral healthcare reported in this Brief.

Benefits of increased HMO penetration,[103] increased provider supply,[47] and the presence of a community mental health center have[47] been shown to be especially beneficial for black mental health care use compared to whites, and could explain the lower white-black service disparities in MA. But research on Massachusetts indicates that for most minority groups, disparities in quality to mental health and substance abuse treatment still remain.[70,89,94] This may indicate that urban areas with large minority populations as shown in Boston and many providers still experience shortages because providers may not treat large numbers of low-income Medicaid or uninsured patients. The distribution of behavioral health providers appears to closely match the socioeconomic characteristics of neighborhoods, in that wealthier neighborhoods have greater supply of behavioral health providers than low-income neighborhoods.[104] Monitoring provider supply, particularly for Medicaid and MassHealth patients can facilitate tackling this disparity.

Low Reimbursement Levels

Nationally, the reduced number of mental health providers accepting insurance, particularly Medicare and Medicaid has major consequences for access to quality care for low income vulnerable populations.[105] Only 54.8% of psychiatrists accepted Medicare in 2009-2010 in comparison with 86.1% of other physicians in these same years, with a 19.5% decrease from 2005-2006 to 2009-2010. A parallel trend was observed, with a significantly lower percentage of psychiatrists who accept private non-capitated insurance (55.3%) or Medicaid (43.1%) in 2009-2010 as compared to the percentage of physicians in other specialties who accept non-capitated insurance (88.7%) or Medicaid (73.0%). Increases in payment of premiums to providers who treat Medicaid or MassHealth patients, patients with low health literacy, those who require interpreters or non-English languages, and for those with dual diagnoses or severe mental illness might assist in expanding the pool of providers who currently have to devote more effort for equal or less pay. These data indicate that many psychiatrists are moving away from acceptance of insurance of any type, reducing the supply of mental health providers available to those with public or private insurance who cannot afford to pay for visits out-of-pocket. Furthermore, the low acceptance of insurance among psychiatrists is likely to be a larger problem for those with more severe mental illness, for whom pharmacotherapy is an integral part of treatment. Massachusetts should evaluate and map shortage areas where few mental health providers accept public insurance programs and should provide additional incentives for providers to offer care in those areas. A similar strategy has been proposed to evaluate and deal with shortages of primary care doctors nationwide.[106]

Another issue plaguing minority-serving institutions is related the low reimbursement rates from public and private payers, which can result in productivity-oriented organizational cultures that can lead to frustration and provider burnout. Implementation of new evidence-based practices should be carefully planned to avoid disrupting providers' ability to provide individualized care to their patients. The ARC intervention model, which was tested in a randomized trial during implementation of a new evidence-based standard of

care for troubled rural youth, provides a comprehensive strategy for organizational change that reduces strain on service providers. The ARC program involves the training of “change agents” who explain and advocate for a new policy or program, provide data and feedback on program implementation, and facilitate communication within an organization and the community. Results of the trial showed that the intervention improved organizational climate and lowered turnover rates among case managers, which could translate into higher quality care and better implementation of evidence-based practices.[7,107]

Macro Level Policies and Recommendations

The Addiction Act of August 2014

In 2012, the Massachusetts Department of Public Health reported 668 deaths due to unintentional opioid overdoses, representing an increase of 10% over 2011.[91] In March of 2014, Governor Deval Patrick declared a public health emergency and implemented several policies aimed at curbing opioid abuse and preventing overdose deaths. The first step taken by the governor was to permit all first responders to carry and administer the opioid antagonist naloxone, which can quickly and effectively reverse the effects of opioid overdose.[91] Additionally, Governor Patrick expanded mandatory prescription monitoring and called on the Commonwealth’s Interagency Council on Substance Abuse and Prevention to recommend further steps to confront the problem of opioid abuse. In August 2014, the governor also signed into law a bill to implement the Interagency Council’s recommendations, which considerably expand the state’s response to the epidemic of opioid addiction. This is an important step, given the observed disparities in substance problems for non-Latino whites. [108] It also creates a commission to assess the public health risk of prescription opiates and to implement deterrents to abuse of prescription medications. Furthermore, the act significantly increases access and coordination of treatment for substance abuse by requiring insurers to cover up to 14 days of inpatient substance abuse treatment without preauthorization. The law requires providers to develop a coordinated discharge plan, emphasizing continuity of care that takes each patient’s individual situation and history of mental health and substance use problems into account. Unfortunately there is an incredible shortage of detox and residential facilities for substance abuse in Massachusetts (only two), so the policy may have no traction.

While current issues with high rates of opioid use and overdoses will not be solved immediately, Massachusetts has moved more aggressively than many other states to include policies that deter abuse, prevent overdose deaths, and increase access to substance abuse treatment. Furthermore, these new strategies to reduce opioid abuse are likely to help the population, including racial and ethnic minority groups and low-income populations, along with non-Latino whites who may have difficulty accessing inpatient addiction treatment services. What seems to be needed are a greater number of substance use treatment facilities and providers accepting Medicaid and MassHealth patients.

Improved Behavioral Health Coverage by Public Insurance

Given that racial/ethnic minorities in Massachusetts are more likely than non-Latino whites to use public insurance,[109] improvements in mental health

coverage by Medicaid and the Children's Health Insurance Program (CHIP) could be a mechanism for eliminating disparities in access to care, particularly for youth. Uninsurance among young adults (ages 19-25) fell markedly after the 2006 health care reform, dropping from 26% in 2003-2006 to 10% in 2007-2009.[110] However, Meara et al. (2014) found that young adults showed significant relative declines in use of inpatient care and emergency care for behavioral problems. The authors attribute the declines to lower relative rates of inpatient and emergency service use among young adults with substance use disorders, and suggest that care for behavioral problems had shifted to outpatient use with increased insurance rates among young adults, given the reimbursement levels for inpatient care. Studying in detail if there is a real continuum of care seems imperative since both inpatient, transitional and outpatient services are needed.

Interstate Medical Licensure

One proposed policy change that could increase access to care for underserved populations is the formation of the Interstate Medical Licensure Compact.[111] Currently, physicians who want to practice in more than one state must submit separate applications to the Board of Medicine of each state in which they wish to practice. This process is relatively slow and creates a barrier to practicing in multiple states, especially for specialists who practice telemedicine. Currently, 78% of providers have only 1 active license, 16% have two active licenses, and only 6% have three or more licenses.[112] The proposed Interstate Medical Licensure compact would create an interstate commission to allow for expedited applications to multiple states for already licensed specialty providers with at least 3 years of experience. While the providers would still have to pay fees for each state license, the process of licensure in multiple states would be simplified. This might be particularly relevant for behavioral providers, who could practice across states, particularly for immigrants who moved across state lines for jobs and lose their providers. In an editorial in JAMA, Dr. Robert Steinbrook suggests that facilitating licensure in multiple states would increase the number of providers who could practice telemedicine, making expert specialty care available in areas with fewer providers.[112] In Massachusetts, this could improve care for minority and rural populations by allowing specialists in other states where there might be greater capacity to offer services in Massachusetts.

Criminal Justice System

Racial and ethnic disparities have been documented across the criminal and juvenile justice systems, ranging from higher contact with law enforcement, to higher rates of arrest, harsher sentencing, and finally to the strikingly large numbers of minority inmates in U.S. prisons and jails.[43,44] At year end 2011, the population of prisoners under federal and state jurisdiction was about 38% black, 23% Latino, and 34% white.[45] Minorities were similarly overrepresented in the population under the jurisdiction of the Massachusetts Department of Correction. In 2012, 27.9% of Massachusetts prisoners were black, 25.2% were Latino, 1.3% were Asian, and 43.9% were white.[46] These numbers show that the proportion of blacks and Latinos in the Massachusetts prison population is two to three times higher than their proportional representation in the general population.

High rates of arrest and incarceration in black and Latino communities are linked to behavioral health disparities for several reasons. First, many individuals with mental illness or substance use disorders end up in jail or prison, especially if they are not receiving adequate treatment in the community.[113] Additionally, the high number of inmates with mental illness and substance use disorders (see Fazel & Danesh, 2002) is a possible indication that many minorities with behavioral health problems end up incarcerated, rather than receiving mental health or substance use treatment. One study showed that almost a quarter of people with serious mental illness were arrested over a 10-year period.[114] Second, many individuals who are incarcerated have or develop mental health or substance use problems, meaning that the criminal justice system must be equipped to handle these individuals as patients, and if possible to divert them for treatment rather than punishment.[115] Finally, the disproportionate impact of law enforcement and the criminal justice system on minority populations has a disruptive effect on minority communities, leading to increased stress and exacerbating existing neighborhood inequalities.[115-117]

Incarceration and involvement with the criminal justice system have also been linked to poor health outcomes and difficulties in accessing care and social services.[118] Furthermore, the disruption caused by incarceration ripples outward to affect the families and communities of those arrested and imprisoned. For example, studies of children and young adults with an incarcerated parent found that they had higher rates of depression, anxiety, post-traumatic stress disorder, behavioral problems, and substance use than those whose parents had not been incarcerated.[115,119] The direct and indirect effects of minority incarceration are thus an important factor to consider in mental health. Addressing the link between minority mental health and the criminal justice system requires innovative thinking from health care providers, the law enforcement and criminal justice systems; this is similar to the changes that are currently being implemented in New York. However, there are a range of innovative programs that have shown promise as a means to reduce the negative impact of the criminal justice system on minority communities and improve the treatment of the mentally ill by law enforcement and corrections officers.

Deinstitutionalization has led to increased interaction between police officers and individuals with serious mental illness.[120,121] Law enforcement personnel are consequently a crucial point of contact between people with behavioral health problems and the mental health and criminal justice systems.[122] Police officers must be aware of how to deal with individuals with mental illness in ways that balance the traditional law enforcement goal of maintaining public safety while avoiding the unnecessary use of force and incarceration of people with behavioral health problems.[121] Nationally, police departments use a variety of strategies to prepare for contacts with mentally ill persons, including: training and retraining of new and experienced officers in techniques for dealing with the mentally ill, establishing mental health response teams of officers with more specialized mental health training (Crisis Intervention Teams), or establishing specialized response teams of non-police mental health professionals to assist persons with mental illness.[121,123]

In a 2010 report, the Special Commission on Massachusetts Police Training highlighted the chronic underfunding of the Massachusetts Police Training Committee (MPTC), which is responsible for all training of new and

veteran officers, including mental illness training. According to 2008 data used in the report, Massachusetts pays the lowest amount for officer training of any state in the country, at only $187 per officer each year.[124] Nonetheless, an effort has been made to improve mental illness training within the current system. For example, starting in 2014 the MPTC began using a new 12-hour mental illness curriculum for basic training of new police recruits to replace the older 4-hour training. Additionally, a recent Department of Mental Health (DMH) grant of $168,000 to the Massachusetts chapter of the National Alliance on Mental Illness is allowing officers in some towns to participate in a 40-hour training program to create Crisis Intervention teams to respond to mental health crises.[125] Both of these efforts promise to improve the way that Massachusetts police officers interact with individuals with mental illnesses, and provide possible models for larger and more consistent training investment in the future.

Justice System Diversion Programs

SAMHSA and the John D. and Catherine T. MacArthur Foundation recently sponsored a joint policy academy/action network program to address behavioral health problems among youth involved in the justice system. Recognizing that many youths who have contact with the criminal justice system, especially racial/ethnic minority youth, have untreated mental health or substance abuse issues, the program encouraged policymakers from eight states (Arkansas, Kentucky, Michigan, Minnesota, Mississippi, New York, South Carolina, and Virginia) to find ways to divert youth into treatment and out of the justice system, where behavioral health issues are often compounded by mistreatment and lack of support during crucial periods of development.

Top priorities for the policy academy/action network program were to screen for behavioral health problems among youth involved in the justice system, reduce the disproportionate number of minority youth entangled in the criminal and juvenile justice systems, implement evidence-based practices to address mental health and substance abuse disorders, and address the role of exposure to violence and trauma in justice-involved youth. States involved in the program identified 3 areas for preventive/ interventional diversion: schools (eliminating the “school-to-prison pipeline”), law enforcement diversion (placing youth in treatment programs instead of sending them to jail/court), and probation-intake diversion to increase support for youth who have already been involved in the system to some extent. Massachusetts will be included in the 2014-2015 policy academy/action network programs to divert youth with behavioral health problems from the justice system.

Homeless and Housing Policies

The U.S. Department of Housing and Urban Development (HUD) estimated that there were 19,029 homeless individuals in Massachusetts in January 2013. The Treatment Advocacy Center estimates that 4,999 individuals with serious mental illness are homeless in Massachusetts,[126] many with substance abuse problems. This means that one of the most effective ways of improving mental health treatment and eliminating disparities for the seriously mentally ill is to improve services targeting homeless populations. Studies have demonstrated that greater coordination between different social service agencies

can improve outcomes for the homeless mentally ill, and that the effect is mediated by greater access to housing agencies.[127]

A review of studies on the impact of housing for the individuals with severe mental illness (SMI) found that it plays a significant role in quality of life.[128] However, the authors also found that merely housing individuals with mental illness is not sufficient and that homeless individuals with SMI often receive housing only temporarily and that the conditions are often poor, with overcrowding and other issues that reduce the positive impact of housing interventions. Furthermore, removing the requirement for treatment compliance and ensuring housing over the long-term may remove additional barriers to finding and maintaining housing for many individuals with SMI, allowing them to develop a more stable housing situation that could provide a better basis for treatment and recovery.[128] While the expense of providing long-term housing for currently homeless individuals with SMI deters many policymakers from aggressively dealing with this issue, one study suggests that it may lower overall service use costs. Larimer et al. (2009) found that housing chronically homeless individuals with severe alcohol problems reduced median social service spending from $4,066 per person per month to $1,492 per person per month.[129] While such policies should not be pursued only for cost savings, policymakers should take cost offsets into account to get a better sense of the real costs of addressing the homeless mentally ill. Massachusetts currently offers permanent supportive housing to individuals with serious mental illness and substance abuse problems. Nonetheless, due to an overall housing shortage, especially in larger urban areas, many individuals with SMI do not receive permanent housing. Evaluating the availability of supported housing is critical, given the central role it has on the quality of life.

Supported Employment for Adults with Mental Illness

Individuals with serious mental illness often have difficulty finding and keeping jobs that fit their skill sets and needs. However, many states have implemented supported employment programs that pair individuals with SMI with appropriate jobs. Studies of these types of supported employment programs have demonstrated that participants generally do well, satisfying the needs of both employers and individuals with SMI. The most common approach to supported employment is known as “individual placement and support (IPS).”[130] In this model, individuals with serious mental illness receive vocational and mental health services from the same source, and are often placed in jobs selected to match their abilities. Studies have demonstrated that the Individual Placement and Support model, an evidence-based approach to supported employment for people who have a severe mental illness (IPS) is more effective than job training that is separate from mental health treatment, with 40-60% of consumers in supported employment programs receiving employment, compared with about 20% of those not enrolled in such programs.[130] Individuals receiving IPS were also more likely to stay employed over an extended period of time.[131]

Between 1997 and 2008, the Massachusetts Department of Mental Health (DMH) ran 22 supported employment programs across the state, but the program was shut down in 2008 due to lack of funding.[132] According to data analyzed by Henry et al., the Massachusetts program was successful, placing 64% participants in jobs within 1 year of joining the program. Furthermore, 49% of

clients worked more than 19 hours per week and 37% made $8.00 per hour or more.[132] Currently, Massachusetts only offers supported employment for persons with intellectual disabilities through the Department of Developmental Services. However, given the demonstrated utility of the program that was eliminated in 2008, Massachusetts should consider reopening the supported employment program for the seriously mentally ill. Supported employment offers a chance for the seriously mentally ill to support themselves and develop a sense of self-efficacy, and has been shown to be effective even for patients in urban environments.[133] For these reasons, it could offer one tool to address socioeconomic inequality for the seriously mentally ill, particularly those from minority populations that are already disproportionately likely to be affected by poverty.

Meso Level Mechanisms: Formal Organizations or Lay Sectors

Lack of Linguistic Competence

One key indicator of access to care for minority patients, especially Latinos, Asians, Haitians, and other immigrant non-English speaking groups, is whether health care is available in the patient's native language, or whether an interpreter is readily available.[134] While language barriers are frequently identified as a significant impediment to receiving behavioral health care among immigrant groups,[135,136] patient-provider language differences and even use of interpreter services can also lead to lower quality care, even with competent providers.[137] Language barriers can be detrimental[138]; patients who do not speak the same language as their providers report worse outcomes[139] and higher dropout rates.[137,140] Errors in assessment can limit providers' ability to detect disordered or delusional thinking and lead to mistreatment or misdiagnosis of minority patients.[137] Our study with Brazilian populations being treated in ethnic-specific clinics as compared to mainstream clinics suggests that ethnic specific clinics, where patients feel understood, are linked to better outcomes as well as greater engagement and retention.[141] Some mixed evidence regarding ethnic match in substance abuse treatments [142-144] also raises the issue of its potential importance for retention in care. Improved access to racial/ethnic specific clinics that offer linguistic matching could be tested as a strategy to expand acceptance and entry into care, with an apprentice model of work with paraprofessionals that receive supervision and training. The model would follow the one used for dental assistants under the supervision of dentists.

Poor Quality of Care

Since 2003, the Agency for Healthcare Research and Quality has published reports showing that the measures of disparity in quality of behavioral healthcare are not improving for blacks, Asians and Latinos in the US. Campbell, Roland and Buetow's[145] argue that the most significant issues at stake in quality is getting minorities the care they need and care that is effective. There is evidence that minority patients in behavioral health treatment tend to receive lower quality treatment and receive treatment for a shorter period of time.[146] Once patients have accessed behavioral health care, racial and ethnic differences in the types of treatments received can be used as an indicator of

disparities in quality. Among children and youth, studies have found that white youth are more likely than minority patients to receive adequate care following a major depressive episode,[147] while minority youth are less likely to be prescribed psychotropic medications[148,149] even when differences in need are taken into account. This might explain the higher rates of diagnosed behavioral health problems in Latino youth, as well as the greater hopelessness and sadness in black and Latino youth but not sufficient recovery. Although the implementation of evidence-based guidelines in medicine has improved treatment in disadvantaged groups,[150] studies have shown that the treatment of minorities by health care providers frequently does not adhere to evidence-based standards of care.[151] Poor quality treatments could explain the premature termination in substance and alcohol treatments by minorities reported in the Brief. Variations in the effectiveness of therapy for youth of different racial and ethnic groups also highlight the influence of cultural competence on quality of care among behavioral health providers.[152] Research on cultural competency training interventions shows evidence of moderate benefits in patient outcomes, suggesting that this may be one of several causes for disparities in quality of behavioral health care.[153] There is no question that improving the quality of services is needed to retain minorities in care and avoid premature termination.

Lack of Early Identification

Following a recent district court ruling that mandated improved behavioral health screening for Medicaid-eligible children,[154] Massachusetts moved quickly to fund a new program of standardized behavioral health screening for children covered by MassHealth, the state Medicaid program.[155] Analysis of well-child visits from 2008-2009 showed a significant increase in behavioral health screenings for children enrolled in MassHealth. Only 16.6% of well-child visits in the first quarter of 2008 included a behavioral screen, compared with 53.6% in the same quarter of 2009. The number of children identified as being at risk increased from 1,600 to almost 5,000 over the same period, suggesting that a large number of children may have had previously undetected behavioral health issues.[155] Also of importance might be to augment caregiver's knowledge for accessing services and improving child outcomes, or engaging families to attend their first intake therapy session.[29] Such initiatives could account for why youth in MA, where data show higher rates of mental health service utilization among Latinos and no black-white or Asian-white disparities, show minimal disparities. So strategies for early identification, not only in the child population but also in the minority adult and older adult population are sorely needed.

Meso Level Policies and Recommendations

Meso Level: Interventions Targeting Organizations and Institutions

At the organizational level, policies to increase efficiency, improve outcomes, and reform the dominant fee-for-service payment system also present opportunities to reduce disparities.[156] Data and analytics could be used to identify patients at risk of receiving lower quality care based on demographic and illness related factors, and payment systems could reward providers for providing high-quality care to these patients.[157] While there is considerable debate over the utility of pay-for-performance measures in achieving specific goals at the level of

hospitals and the health system as a whole,[158] researchers found that many policymakers considered using pay-for-performance measures to reduce health disparities.[159] Massachusetts was one of the first health systems to implement pay-for-performance measures to address disparities as part of its 2006 reform bill, but some research has indicated that these changes did not have any significant impact on health disparities.[160] However, it is not clear whether pay for performance could have an impact that explains the reduced level of access disparities described in this Brief.

Improved Collection and Use of Data and Analytics

Achieving health equity requires that researchers and policymakers first understand which racial and ethnic groups are affected by disparities, and for which health outcomes. Important differences within racial and ethnic groups have been found in studies like the National Latino and Asian American Survey (NLAAS), which collected more detailed information on racial and ethnic background, including nationality, sub-ethnic group, language spoken, and age at immigration.[161] In 2009, the Institute of Medicine (IOM) released a report suggesting that health data sources should routinely collect this type of granular ethnicity and language data to better target efforts to eliminate disparities.[162] Improved reporting requirements were included as part of the 2010 Patient Protection and Affordable Care Act (PPACA). In Massachusetts, the state Department of Public Health released guidelines calling for collection of detailed race and ethnicity data in 2006. Scholars have long argued that tackling disparities requires improved data collection on health outcomes in minority populations, particularly in the large population-based studies used to look at treatment patterns and generate disease prevalence estimates.[30] The federal government has made some progress in this area, incorporating improved reporting standards in the 2010 Patient Protection and Affordable Care Act and national survey results now include more detailed information, although these data are not always published in summary statistics.

Private organizations involved in health care have also improved reporting and use of race and ethnicity data to improve health outcomes and eliminate disparities. In 2009, approximately half of private health plans collected race, ethnicity, and language data for enrollees. As a result, some insurers are aware of health disparities and a few are working on programs to address insurance-side contributions to such inequalities such as adjusting reading levels of materials, translation of health materials, as well as providing educational and outreach tools for covered individuals and families and other services such as care management and “Wellness” programs .[163] Nonetheless, having data available for analysis at the state level was an obstacle to corroborate and triangulate our findings using national data sources that included Massachusetts.

Accountable Care Organizations

Accountable Care Organizations (ACOs) may also provide opportunities to eliminate disparities. ACOs are voluntary groupings of health care providers, clinics, and hospitals that are held jointly responsible for the care provided to a specific patient population. ACOs are rewarded for efficient use of resources and positive outcomes and penalized for inefficiency and poor results.[164] As part of the 2010 Affordable Care Act, the federal government established guidelines for

the creation of ACOs for Medicare providers, and some private sector ACOs have also been created.[165] Whether ACOs will reduce disparities remains unknown but an important topic of study since it might provide flexibility and innovation in service delivery models. In particular, the innovative payment structure could be modified to incentivize high-quality care for specific groups at risk of receiving low-quality care based on socioeconomic status, lack of or type of insurance, behavioral health problems or race/ethnicity.

Interventions for Communities and Individuals

A growing body of literature reveals the intersection between disparities in behavioral health and other types of disadvantage that disproportionately affect minority populations.[166] Differences in the overall conditions in which different populations live, typically called the "social determinants of health," include factors such as poverty, lack of economic opportunity, food insufficiency, inadequate housing, discrimination, social exclusion, low access to educational opportunities, and neighborhood factors, among others.[167] Recognizing that disparities arise partly due to differences in social determinants of health means that policies to eliminate behavioral health disparities should target underlying sources of social inequality as well as the behavioral health care system. To address social determinants contributing to health disparities, recent research has argued for a new generation of health equity research that prioritizes multilevel interventions, addressing structural and contextual factors at the community, organizational, and individual levels.[168-170] Scholars have proposed various ecological models that attempt to trace the complex interactions between health and an individual's physical and social context. In this section of the report, we identify policies and programs that have worked well in Massachusetts, as well as policies and proposals from across the country that could be implemented in Massachusetts to reduce behavioral health disparities and create a more equitable health care system.

Targeting Neighborhood-Level Social Determinants of Health

Both at the national and state level, a combination of policy and individual factors, along with a history of discrimination, have led to widespread residential segregation by race, ethnicity, and social class,[171] a problem that is present in Massachusetts. Racial and ethnic minority populations are much more likely to be concentrated in high-poverty neighborhoods with low resources and few opportunities, which can contribute to behavioral health disparities,[172] such as the feelings of hopelessness and depression observed for some minority youths. For example, one third of black low-income working families and one fifth of low-income Latino families live in high-poverty neighborhoods, as compared with only 3 percent of whites.[173] Interventions to increase the sense of community and social connection in low-income minority neighborhoods could reduce disparities in behavioral health by increasing behaviors that have a positive or protective effect on health such as exercise, community engagement, and personal and collective ability to solve problems.[174] This is one of the key areas that could be considered for disparities reduction approaches in MA. A report from the IOM Roundtable on Health Disparities describes community approaches to addressing health disparities that favor a 'hybrid' approach combining clinical, community and other sources such as public health interventions that "have the

virtue of empowering and mobilizing community resources and residents, but at the same time implementing systematic, sustainable, and clinically sound approaches."[96]

Learning from low and middle income countries

Innovative approaches from other countries, particularly low and middle income countries, should be considered as supplementary, short-term measures to improve care in low-resource areas.[175] For example, in Chile, a stepped-care program for depression similar to what is suggested above showed significant benefit compared with usual care provided by a primary care doctor. Patients were enrolled in a psycho-education groups to educate them about depression and provide strategies and support for recovery. Continuous monitoring of depressive symptoms allowed patients with more severe depression to receive additional specialty care and medication. After 6 months, over 70% of participants in the stepped care program had recovered[176] and they reported 50 additional depression-free days compared with those who only received usual care. The cost of each additional depression-free day was calculated to be about $1.04.[177] A randomized trial of a similar stepped care intervention led by lay health counselors for a wider range of depressive and anxiety disorders showed particular success in public health care settings in India. In public settings, there was a 30% decrease in prevalence of mental health disorders among study patients after a year of participation. The intervention had no significant effect on patients receiving care in private health care settings, suggesting that it may be most effective in lower-income populations that are less likely to receive high quality care.[178]

Simple technological improvements, such as the use of text messaging for appointment and medication reminders, have shown potential to reduce missed appointments and increase medication adherence. One review of literature on the subject found that 77% of studies on the use of text messaging service component of phone, Web, or mobile communication systems in health care settings could improve care in a wide range of populations.[179]

Addressing Substance Use Problems at the Local Levels

To prevent and treat substance abuse over the long-term particularly for whites, the state may need to invest in programs that take a comprehensive, community-based approach to the issue and that build infrastructure for prevention and intervention. Vermont's New Directions program offers a model of a carefully planned and rigorously evaluated state-level approach to the prevention of substance use in adolescents that Massachusetts could adapt for this purpose.[9] Rather than funding a single program with a fixed goal, in 1998 Vermont organized a network of 23 community coalitions, composed of existing service agencies and organizations from across the state. These coalitions hired staff to coordinate prevention activities and apply evidence-based strategies to prevent youth substance use. The design of the New Directions program also allowed for the comparison of communities that had received funding for prevention efforts with control communities that had not participated. Although the detectable effects of the coalitions were small, given the relative flexibility of

groups to develop and implement different programs, all nine substance use prevalence measures included in the Youth Risk Behavior Survey showed relatively greater declines in participating communities. [9]

Investing in Social Capital in Minority Neighborhoods using Community-Based Participatory Prevention Projects

Community-Based Participatory Research (CBPR) involves communities in the process of developing and implementing interventions.[180] This technique is especially promising as a strategy to address health disparities because it allows for investment in social capital alongside targeted efforts to study and improve specific health outcomes.[180] An excellent example of a broad CBPR research effort is the Poder es Salud/ Power for Health project.[181] Rather than taking a narrow and disease focused approach to public health interventions, the Power for Health project invested in developing intervention infrastructure and training a network of Community Health Workers (CHWs) who could then work within African American and Latino communities to identify areas for intervention. Some of the specific interventions initiated by the project included development of a business incubator, a homework club and an environmental health project employing photovoice methodology. In depth interviews before and after the implementation of the project showed statistically significant increases in social support and decreased loneliness, isolation, and depressive symptoms.[181] This strategy might be particularly relevant in addressing the high rates of depression, hopelessness and sadness reported by minority youth.

In Massachusetts, CBPR studies like the Chelsea STAR Study[182] took a similar approach to studying neighborhood and environmental effects on health. However, one potential avenue for disparities reduction is the creation of a larger and longer-lasting infrastructure for CBPR in minority neighborhoods around MA, expanding on existing CBPR efforts to create consistent pathways for prevention projects and advocacy related to minority health and conditions in minority neighborhoods.[183] A model for this type of sustained CBPR partnership with minority communities can also be found in Detroit, where the Detroit Community Academic Urban Research Center provides long-term connections between local government, health care providers and community organizations.[12] The program has led to numerous public health initiatives and CBPR studies focusing on health problems like mental health.[184] Establishing a research coalition of this type and size in Massachusetts could facilitate community-based prevention projects.

Micro Level Mechanisms: Providers and Patients

Minority patients may infer prejudice or perceive a negative attitude from their provider, thus reducing the likelihood of receiving quality care.[185] Clinicians face new demands connecting with patients with different customs, values and experiences, and addressing these challenges will likely improve patient-centered quality care. Tackling these barriers requires new, innovative interventions at the provider and patient level.

Micro Level Recommendations

Patient and Provider Interventions to Improve Communication and Self-Efficacy

We conducted a randomized trial in MA that found that a patient intervention (DECIDE-PA) significantly improved activation and self-management in mental health care[15,186-188] as compared to controls. However, minority patients expressed concern that becoming 'activated' threatened the relationships they had developed with their providers. This feedback meshes with prior studies showing that providers working under strict time constraints and immediate treatment priorities may choose to be more directive and limit patient-initiated talk.[189] Considerations of cultural, socio-economic, and clinical factors for patients is necessary to have effective care (see Polo et al. 2012 for details).[190] Ensuring quality in behavioral health treatments is a critically important goal, for racial/ethnic minorities given that they receive less quality behavioral health care[146,191] and experience more severe consequences from behavioral health disorders than non-Latino Whites.[49-51,192] Yet, quality behavioral health care is contingent upon effective communication and strong therapeutic alliance.[52,193] The DECIDE-PA intervention has potential to impact quality given the centrality of tailoring behavioral provider practices to respond to patient preferences and concerns[53] and its strong correlation with perceived quality of care.[194] By improving patient-centered communication and forming strong therapeutic bonds, we may overcome cultural and social differences across patients and providers allowing for quality care that reduces disparities in service delivery.[33,38,54]

Conclusion

The prevalence of behavioral health problems for adults in Massachusetts varies according to race/ethnicity. Non-Latino whites demonstrate higher prevalence rates for drug use problems as compared to minorities. In contrast with national data, which shows lower rates of depression and most mental health problems among minority populations, both blacks and Latinos have similar rates of past-year depression in Massachusetts when compared with whites and report poor overall mental health. Asians consistently display lower prevalence rates for most behavioral problems, except for alcohol problems, as compared to whites. The higher rates of reported feelings of sadness or hopelessness and suicidal ideation by Latino, Native American and multiracial youth, and the higher rates of suicide attempts by Latinos and Native Americans as compared to whites present a disturbing picture. Also of concern are the greater parental reports of behavioral problems in Latino youth in Boston, when national data suggest that disorder prevalence is similar among ethnic/minority youth relative to whites.[195]

The analysis of service use also reveals important information. One of the most positive indicators, providing evidence that disparities can be reduced through effective and targeted policies, is that black adults in Massachusetts are accessing care at almost the same rate as whites whereas disparities are significant in other parts of the U.S. The lower use of mental health services by Latino youth is concerning, given their higher prevalence of mental health problems. Also, almost 20% fewer Latino adults in need received services compared with similar whites, suggest significant differences, possibly related to culture, nativity or documentation status, that reduce Latino access to care. To address this issue, Massachusetts would need to make significant outreach efforts in the Latino community and establish access to regular preventive care and mental health specialty care for adults in need, regardless of citizenship, documentation status or insurance eligibility. Lower rates of treatment completion for illicit drug abuse among Latinos and Asians, and lower rates of treatment completion for alcohol abuse among blacks and Native Americans are also of concern.

Given the racial and ethnic variations in prevalence of behavioral health problems, as well as differences in treatment access and use, Massachusetts should continue to prioritize prevention of mental health problems in the general population from an early age. It also should further investigate whether the problems of ethnic/racial residential segregation and concentrated neighborhood disadvantage[171,196] are linked to the higher rates of behavioral problems for some minority groups.

One proposal is to build resource bridges between community partners, health care providers and researchers for improving behavioral health outcomes as part of local healthcare systems' preventive agenda. Access to care must be improved. We currently lack the personnel readily trained in evidence-based care to offer behavioral health treatments in languages other than English. Yet similar challenges have been successfully addressed in lower-income countries facing more severe workforce constraints through training of less specialized health workers, including peer providers. Community Health Workers (CHWs) could successfully deliver evidence-based treatments, tackling personnel shortages, increasing diversity, and addressing the lack of bilingual/bicultural clinicians as a potential strategy to reduce disparities.[197]

Greater success in access to behavioral health care for blacks in Massachusetts deserves attention and further study. Facilities that have deepened their outreach to black neighborhoods, like Boston Medical Center, along with a well-organized network of community health clinics in mainly black neighborhoods, could explain these positive results, as could the increased access to health insurance coverage. The collection of detailed race and ethnicity data by health care providers, implemented during the 2006 reform, could be providing more immediate oversight of disparities by shedding light on progress as well as areas of deficiency. Nonetheless, we are unable to judge the relative quality of much of the behavioral care provided to minority patients and must interpret these results cautiously.

Furthermore, while much of this report has focused on the largest minority groups, for whom there is available data for analysis, we must not ignore the fact that data for Native American and multiracial populations seem to show significantly higher prevalence of behavioral health issues and problems in accessing care. More resources should be devoted to studying the issues faced by these smaller minority groups (Portuguese, Haitians, Native Americans, Africans), in order to provide more effective prevention and treatment. Massachusetts is on the cutting edge of disparities reduction and innovation in health care. Let us continue our leadership in health and social equity by making behavioral health care services accessible to all residents, regardless of age, race, ethnicity, background or legal status.

Sidebar #1: Demographics of Massachusetts residents

Massachusetts (MA) has become an increasingly diverse state with a quarter of the population self-identifying as black (8.1%), Latino (10.5%), Asian (6%), or of mixed race (2.1%).[1] Additionally, 14.8% of the state population is foreign-born and 21.7% speaks a language other than English at home.[1] Among children and youth, 16% identify as Latino, 8% as black, 6% as Asian, and only 66% are non-Latino white.[2] The U.S. Census Bureau projects that minority populations will make up an increasingly large proportion of the state population over the next four decades.[3]

In terms of subgroups, the Massachusetts' black population includes African Americans and large numbers of immigrants from Caribbean nations, as well as smaller numbers of immigrants from African countries. Haitians form the largest black subgroup, accounting for about 14-15% of the black population in the Commonwealth. [35]

Also relevant is the fact that approximately 6% of Massachusetts population is of Asian descent, with considerable diversity. Chinese account for just over a third of the total, with large numbers of people of Indian, Vietnamese, Cambodian, and Korean descent, as well as numerous other subgroups with smaller, but still significant, populations.[39] Unfortunately, Asian Americans are often ignored in studies of population health and behavioral health, and differences between subgroups are rarely explored given the relatively small size of the overall Asian population and the misleading perception that Asians tend to be healthier than other minority groups.[41,42]

Massachusetts is also home to large numbers of people of Azorean, Cape Verdean and Brazilian descent who are not easily fit into typical U.S. racial and ethnic categories. Azoreans and Cape Verdeans are typically classified as "Portuguese" in census data. In 2012, there were an estimated 312,418 people (3.7% of the state population) of Portuguese descent and 62,732 people of Brazilian descent (.7% of the state population) in Massachusetts. Few studies have assessed the behavioral health of these groups on the national or state levels, but it is likely that many Portuguese speakers face similar barriers to care as Spanish-speakers.[43]

Appendix #1: Overview of Methods for Massachusetts Mental Health and Substance Use Epidemiology and Service Use Data

This study brings together a number of data sources in order to describe racial/ethnic disparities in mental health, mental healthcare, substance use, and substance use treatment in Massachusetts. The lack of reliable datasets with sufficient samples to describe racial/ethnic populations is a limitation of analyses of national datasets. These problems of small sample sizes are compounded when assessing disparities within Massachusetts. For that reason, we rely on data from a number of sources, as well as published research, to maximize the information brought to bear on the analysis. At the same time, we use the following criteria to ensure the reliability of the estimates: First, we only report rates large enough to provide reliable estimates. Second, when possible, we verify results across multiple data sources. Third, we use data from a number of different sampling frames including random samples of the Massachusetts population, random samples of pupils within schools in Massachusetts, restricted data from nationally representative surveys that include state indicators so that Massachusetts residents can be identified. Finally we use data collected for Boston. To the extent possible, we assess the reliability of the sampling design and the mental health, substance use and service use measures used in these studies. We are limited by the lack of a population-based survey of the behavioral health and behavioral health care of residents of Massachusetts.

Datasets

National Survey of Drug Use and Health

The NSDUH provides a data source (see Table 1) from which we can determine and compare rates of illicit drug and alcohol use among the Massachusetts and general U.S. population. Substance use disorders are elicited in the NSDUH using an instrument concordant with DSM-IV criteria.

Standard errors in NSDUH comparisons account for the sampling design of the NSDUH and allow for tests of statistical significance by racial/ethnic group within states. Mental illness (MI) was determined using a prediction protocol developed by SAMHSA[198] to identify any MI and severity of MI combining data from the Kessler-6[199] and the WHO-Disability Assessment Schedule (WHODAS)[200] impairment scale. Predictions were generated from a statistical cut point model that identifies mental illness at three levels of functional impairment (mild, moderate, and serious). The highest level, SMI, is defined as "a mental, behavioral, or emotional disorder diagnosable within the past year, of sufficient duration to meet diagnostic criteria specified in the DSM-IV, and resulting in serious functional impairment, which substantially interferes with or limits one or more major life activities."[198] Past year major depressive episode (MDE) is captured in the NSDUH using a module based on the Composite International Diagnostic Interview (CIDI), a widely-used assessment measuring depression diagnosis.[201]

For youth age 12-17, the NSDUH contains no comprehensive markers of mental illness (only of depressive disorders) We instead compared rates of any mental health care access in the full sample after adjustment for age, sex, and MDE diagnosis[c]. We identified significant differences in access to mental health care for Asians in the U.S. but higher rates of mental health service utilization among Latinos and no black-white or Asian-white disparities in Massachusetts (lower rates among Asians compared to whites were not statistically significant) as seen in Figure 10.

Treatment Episode Data Set TEDS

The 2013 Treatment Episode Data Set (TEDS) describes treatment received in publicly funded treatment centers (comprising 65% of all treatment admissions) in Massachusetts and the U.S. The large sample sizes of this dataset allow for comparisons across multiple racial/ethnic groups.

Youth Risk Behavior Surveillance System (YRBSS)

In the 2013 Youth Risk Behavior Surveillance System (YRBSS), a nationally representative sample of 13,583 9th-12th graders were surveyed regarding a number of health risk factors, including factors related to mental illness and substance use. Students from areas with large black and Latino populations were oversampled to ensure adequate representation of minority youth in the final dataset.

Boston Survey of Children's Health

The Boston Survey of Children's Health (BSCH) is the result of a collaboration between the Boston Public Health Commission and Boston Children's Hospital. The 2012 BSCH surveyed 2,100 parents and caregivers of youth living in Boston to collect data on a

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[c] To do so, we estimated a multivariate linear regression of any mental health care access conditional on race/ethnicity, state, age, sex, and depression, and then used a predictive margins approach[202] to predict the probability of mental health care access for each of the race/ethnicity groups for the U.S. and MA.

number of child health outcomes, including mental health diagnoses. One limitation of the Boston study is that it relies on parent reports of whether or not youth were given a diagnosis of mental illness by a provider. Youth who did not see a provider or whose mental illness was not recognized by providers would not be counted. Since the data are not validated with information from medical records, under or over reporting of children's diagnoses might be a problem.

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