Common Health for the Commonwealth

Massachusetts Report on the Preventable Determinants of Health - 8th Edition

2014
# Table of Contents

- Acknowledgements and Research Collaborators........ 2-3
- Message from the Executive Director and President........ 4
- A Note on the Data.............................................................. 5
- Executive Summary............................................................. 6-9
- Access to Care................................................................. 10-14
- Asthma ............................................................................ 15-19
- Blood-Borne Pathogens (HIV/AIDS, Hepatitis C) ...... 20-26
- Education........................................................................ 27-31
- Obesity and Overweight................................................ 32-39
- Oral Health....................................................................... 40-48
- Poverty ............................................................................ 49-53
- Substance Abuse (Alcohol, Drugs) ......................... 54-66
- Tobacco............................................................................ 67-73
- Violence ........................................................................... 74-81
- Notes ...................................................................................... 82
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Graphics and Layout

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Message from the Executive Director and President

We proudly release the 8th Edition of the Massachusetts Health Council’s nationally recognized report, “Common Health for the Commonwealth: Massachusetts Data for the Preventable Determinants of Health.” We are pleased to bring this important information to the forefront of Massachusetts health policy and hope it stimulates not only debate but action on these indicators that negatively affect health status. There is some good news and some bad news in the report but even where there is improvement in the health status of the indicator since our last edition in 2012, we still have a long way to go to lower or eliminate the presence of these critical, costly and preventable health indicators. The Council is dedicated to promoting prevention as this is the best way to avoid health care problems and their associated high costs.

Since 1999, the Massachusetts Health Council has released this biennial report tracking costly and preventable public health problems. These include societal issues, such as poverty, lack of education and other social determinants that have real and profound impacts on our “common health.” The Council reiterates its commitment to prevention and wellness as the way to improve the health status of the residents of the Commonwealth. The report provides evidence-based research as a means to measure and propel activities to address health care trends both as individuals and as a state.

In these pages, you will find information on health care trends, a compilation of the progress made in our public health goals, and a series of focused perspectives provided by experts in each field highlighted in the report. These determinants of health and their measures should continue to guide the dialogue with policymakers, academicians, researchers, clinicians, providers and others in creating programs to support improving our collective health.

One goal of the report is to support the enhancement of the public health infrastructure and to focus on the disparities that exist between those who have access to care and prevention and those who do not. We must change our priorities from a predominately “sickness response system” to one that supports an increasing and effective investment in prevention and wellness that can reduce the utilization and costs of the health care system, save lives and reduce suffering.

The 8th Edition continues to measure rates of poverty, access to care, lack of education, air pollution/asthma, tobacco use, obesity, violence, poor oral health, substance abuse, infectious blood-borne disease; all preventable indicators that affect the health status of Massachusetts residents. No single issue can be considered in a vacuum and the fiscal challenges created by the country’s economic problems make new state funding for programs more difficult. However, not all preventive action requires new money as demonstrated in the recommended policy directions.

The Massachusetts Health Council encourages the use of this report and its expanded policy perspectives. It can be a guide to concretely address those initiatives that reduce and eliminate poor health, especially among our most disadvantaged communities. A common theme running through our policy recommendations is prevention. We need to do a better job of getting the prevention message to the public — that lifestyle is closely linked to health and that individuals can take steps to improve their health and the health of their loved ones. We need to find creative ways to deliver that message in schools and workplaces — by providing toolkits to teachers and employers for example. Every indicator we track is preventable and sound approaches to dealing with these problems are documented in the report. We just need to get the word out. Prevention today for a lifetime of health!

Susan H. Servais
Executive Director

Marc Hymovitz
President
A Note on the Data

All of the data cited in this report are publicly available; most come from reports issued by state and federal agencies. All data sources are indicated in the text by italicized numbers in parentheses; these numbers correspond to the numbers of the sources listed at the end of each section.

In some cases, more than one data source exists for an indicator. For example, both the Massachusetts Department of Elementary and Secondary Education and the Massachusetts Department of Public Health conduct surveys among high school students on health and risk behaviors. Many of the questions are the same or similar in the two surveys; in addition, the Department of Public Health Survey includes some additional topics and also gathers data from middle school students. Although the two surveys are administered at the same schools, they are administered in separate classes to different groups of students. Since the samples for each survey are different, the results, while generally similar, may not be exactly the same.

The Department of Public Health also produces a report based on health encounter data collected by school nurses in schools participating in the Essential School Health Services Program. As these data are collected by school nurses based on actual encounters, they may be more accurate than survey data based on students’ self reports. However, not all school districts participate in this program, so the data do not reflect all schools in the state.

Data from different sources may thus be based on different methods of data collection and different samples, and the questions asked or information collected may not be exactly the same. This report cites data from a variety of sources; variations in statistics for certain indicators cited in this report may thus reflect differences among the sources.

This report is designed to highlight trends in health and health-related indicators and thus notes year to year changes. Not all year to year differences may rise to the level of statistical significance – that is, to a 95 percent level of certainty that differences are not the result of chance. This may be especially true in cases where changes are small or based on smaller sample sizes. However, where possible, the report also describes multi-year trends. We believe that the annual data combined with longer term trend data should provide a useful picture of Massachusetts’ progress in addressing some of the major factors that impact the health of residents of the state.
<table>
<thead>
<tr>
<th>RISK FACTOR</th>
<th>ACCESS TO CARE</th>
<th>ASTHMA</th>
<th>BLOOD-BORNE PATHOGENS HIV/AIDS</th>
<th>PATHOGENS HEPATITIS C</th>
<th>EDUCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDICATOR:</td>
<td>Average Wait Time for Patient Appointment</td>
<td>Lifetime Asthma Rates: Adults and High School Students</td>
<td>Number Newly Diagnosed with HIV/AIDS</td>
<td>Number of Newly Diagnosed Confirmed or Probable Cases</td>
<td>High School Dropout Rate</td>
</tr>
<tr>
<td>TREND:</td>
<td>Fluctuating</td>
<td>Rising</td>
<td>Falling</td>
<td>Falling</td>
<td>Falling</td>
</tr>
<tr>
<td>MOST RECENT ESTIMATE:</td>
<td>&gt; 35 days in internal medicine, family medicine, and OB/GYN (2013)</td>
<td>Adults 15.5% (2012); High school students 24.9% (2013)</td>
<td>694 (2012)</td>
<td>7,963 (2013)</td>
<td>2.2% (2012-2013 school year)</td>
</tr>
</tbody>
</table>
| HIGH RISK GROUPS:  | • People seeking care in internal or family medicine  
                    • People on MassHealth seeking primary care in certain counties  
                    • Low and middle income adults  
                    • Women  
                    • School age children  
                    • People with disabilities  
                    • Adults with lower incomes  
                    • Adults with lower levels of education  
                    • Adults ages 18-34  
                    • Hispanic children and adults | • Blacks and Hispanics, especially women  
                    • Gay and bisexual males  
                    • IV Drug users | • Young adult injection drug users  
                    • Baby Boomers (via earlier undetected infection) | • Black and Hispanic students  
                    • Low income students  
                    • English language learners |
| KEY ISSUES:        | • Labor shortages in certain specialties  
                    • Unsatisfying practice environment for physicians and problems retaining physicians  
                    • Affordability of care for low and middle income adults  
                    • Impact of primary care physician shortages on access to care despite 94% of state residents having insurance | • State rates above national averages  
                    • High number of days exceeding ozone standard in 2012  
                    • Most commonly reported special health care need to school nurses  
                    • Preventable triggers of asthma, including environmental irritants, second-hand tobacco smoke, and allergens | • Large racial disparities in incidence  
                    • Growing number of people living with AIDS because of longer survival rates  
                    • Decline in certain protective behaviors, such as teaching students about HIV/AIDS in school | • High overall volume of cases  
                    • Rapid increase in incidence among 15 to 24 year olds due to injection drug use | • Continuing disparities among racial and ethnic groups  
                    • Continuing disparities among school districts  
                    • High dropout rates among English language learners |
## Summary Part 1
### & Health Risk Behavior Indicators

<table>
<thead>
<tr>
<th>OBESITY</th>
<th>ORAL HEALTH</th>
<th>POVERTY</th>
<th>SUBSTANCE ABUSE</th>
<th>ALCOHOL</th>
<th>DRUGS</th>
<th>TOBACCO</th>
<th>VIOLENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults Who Are Overweight Or Obese</td>
<td>Adults Without a Dental Visit in Past Year</td>
<td>MA Poverty Rate</td>
<td>Adult Binge Drinking</td>
<td>Fatal Opioid Overdoses</td>
<td>Adults Who are Current Smokers</td>
<td>Number of Violent Crimes</td>
<td></td>
</tr>
<tr>
<td>Stable</td>
<td>Stable</td>
<td>Stable/Rising</td>
<td>Stable</td>
<td>Rising</td>
<td>Falling</td>
<td>Falling</td>
<td></td>
</tr>
</tbody>
</table>

- Older adults
- People with lower incomes
- People with lower levels of education
- People with disabilities

- Children
- Elderly
- People with low incomes,
- People with disabilities
- People with HIV/AIDS
- MassHealth members

- Lack of access to care for high-risk groups
- Lack of community water fluoridation in many communities
- Low percentage of dentists treating MassHealth patients
- Lack of insurance coverage for fluoride varnish treatments by medical providers for some populations
- Low number of public health hygienists

- Continuing racial disparities in poverty rates
- High percentage of children living in poverty
- Higher poverty rates since the recession
- Females of all races more likely to live in poverty
- 213,611 children in the state living below the poverty level
- Minimum wage jobs with part-time hours and no benefits in addition to high costs of day care and housing

- Underage and binge drinking by adolescents and young adults
- Significant role of alcohol abuse in accidents, homicides, and suicides
- White males ages 21-39
- Unemployed
- Homeless
- People with mental illness
- Young injection drug users
- 90% increase in fatal opioid overdoses between 2000 and 2013
- Rising rates of Hepatitis C among youth due to injection drug use
- Rise in admissions for substance abuse treatment
- Triple the national rate of babies born with opiates in their systems
- 213,611 children in the state living below the poverty level
- Minimum wage jobs with part-time hours and no benefits in addition to high costs of day care and housing
- 23% of high school students who have bought or been offered illegal drugs at school

- People with poor mental health
- People with lower incomes and levels of education
- People with disabilities
- LGBTs
- Exposure to second hand smoke, especially among those with lower incomes and levels of education
- Marketing of e-cigarettes to young people
- Lack of regulation for e-cigarettes
- Rise in use of smokeless tobacco, cigars, and other tobacco products
- Estimated $4.5 billion in annual healthcare costs attributable to tobacco use
- Increased bullying in school, including cyber-bullying
- Dating violence and sexual assaults among high school and college students
- Youth experiencing or witnessing violence
- 10.4% of middle school students who have been hurt by a family member
- 15% of high school students who report carrying a weapon
- Lack of access for urban teens to mental health services

Massachusetts Health Council
<table>
<thead>
<tr>
<th>RISK FACTOR</th>
<th>ACCESS TO CARE</th>
<th>ASTHMA</th>
<th>BLOOD-BORNE PATHOGENS</th>
<th>HEPATITIS C</th>
<th>EDUCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLICY DIRECTIONS:</td>
<td>• Address issue of low-income insureds for whom cost-sharing continues to be a barrier to seeking care</td>
<td>• Continue state efforts to train Community Health Workers (CHWs) to provide care coordination services</td>
<td>Aim at the goal of zero new infections by doing the following:</td>
<td>• Follow federal guidelines that promote educating patients and health professionals, increasing diagnosis rates through Hepatitis C antibody testing, and optimizing care models for underserved populations</td>
<td>• Work across sectors to focus on both dropout prevention and recovery</td>
</tr>
<tr>
<td></td>
<td>• Improve practice environment and workflow for physicians, e.g. reduce administrative burden to allow more time for patient care; develop better metrics for both physicians and the public to assist in health care decision-making; collaborate across stakeholders to implement reliable inter-operable technology for timely, accurate information</td>
<td>• Reimburse non-licensed individuals, including CHWs, who provide home visiting and preventive services to pediatric asthma patients</td>
<td>• Continue state and federally supported HIV prevention efforts, testing, access to sterile injection equipment, and prompt linkage to care</td>
<td>• Develop appropriate strategies for using curative antiviral regimens given their high cost</td>
<td>• Motivate disengaged students to stay in school with programming relevant to their interests and needs, for example through career exposure and real-life applications of learning</td>
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<tr>
<td></td>
<td>• Continue to implement reforms to reduce the cost and increase the affordability of care</td>
<td>• Provide patients with Asthma Action Plans</td>
<td>• Make it easier for medical providers to offer routine HIV testing and more accessible for residents to receive testing</td>
<td>• Expand screening and routine testing in medical settings</td>
<td>• Reach out to dropouts with specialized student support and teaching strategies</td>
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<tr>
<td></td>
<td>• Provide incentives for new physicians to stay in Massachusetts</td>
<td>• Invest in school district programs on asthma education and management</td>
<td>• Promote prophylactic treatment with new drugs that prevent infection among those who are HIV-negative</td>
<td>• Increase education and outreach to youth and the elderly population</td>
<td>• Create safe, positive school environments that address students’ social, emotional, and health needs</td>
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<td></td>
<td>• Address the issue of medical student debt</td>
<td>• Reduce exposure to mold and other triggers in schools, housing projects, and child care settings</td>
<td>• Promote treatment regimens that prevent disease transmission among those who are HIV-positive (“treatment as prevention”)</td>
<td>• Educate primary care providers in diagnosing and treating Hepatitis C</td>
<td>• Enforce anti-bullying and anti-cyber-bullying legislation</td>
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<tr>
<td></td>
<td>• Address professional liability issues for all types of medical providers</td>
<td>• Increase statewide and local partnerships with schools and business and community leaders to provide asthma education and advocacy</td>
<td>• Make treatment accessible and affordable</td>
<td>• Make treatment accessible and affordable</td>
<td>• Recognize dropping out of school as a public health and social justice issue that needs to be addressed</td>
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<td></td>
<td>• Support school based health centers and school nurses as an alternative to hospital ERs as a first line of defense for ill children</td>
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</tbody>
</table>

Massachusetts Health Council
### Summary Part 2

#### Health Risk Behavior Indicators

<table>
<thead>
<tr>
<th>OBESITY</th>
<th>ORAL HEALTH</th>
<th>POVERTY</th>
<th>SUBSTANCE ABUSE ALCOHOL</th>
<th>DRUGS</th>
<th>TOBACCO</th>
<th>VIOLENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Ban unhealthy food and beverage advertising targeted to children</td>
<td>• Maintain expanded MassHealth coverage of adult dental benefits in view of the suffering caused by untreated disease and associated costs of poor oral health and lack of coverage</td>
<td>• Acknowledge the impact of poverty on quality of life and child development</td>
<td>• Promote prevention of drunk driving by requiring ignition locks for first-time offenders and allowing immediate reinstatement of drivers' licenses</td>
<td>• Adopt early intervention principles to reduce adolescent risk behaviors</td>
<td>• Improve the enforcement of laws prohibiting the sale of tobacco products to minors</td>
<td>• Embed trauma specialists in community programs to develop relationships with youth to facilitate referrals or provide trauma remediaion</td>
</tr>
<tr>
<td>• Develop interprofessional nutrition education and training programs</td>
<td>• Reestablish dental public health advisory committee</td>
<td>• Provide prenatal care and good nutrition to improve odds of healthy full-term pregnancies</td>
<td>• Support coalitions representing multiple community sectors and residents to promote addiction prevention and recovery support; include police, educators, health care providers, houses of worship, businesses, media, elected officials and the recovery community</td>
<td>• Ban the sale of e-cigarettes and other Electronic Nicotine Delivery Systems (ENDS) to minors</td>
<td>• Increase buy-back and take-back programs</td>
<td>• Increase monitoring of known gang members and problem areas in cities</td>
</tr>
<tr>
<td>• Collect childhood obesity and overweight data, such as BMI, from different sources in a consistent and coordinated way</td>
<td>• Make fluoridation and population-based prevention a higher priority</td>
<td>• Continue the WIC program, providing healthy food for low-income pregnant women and children</td>
<td>• Expand Screening, Brief Intervention, and Referral to Treatment (SBIRT) program for PCPs seeing youth and young adults</td>
<td>• Close loopholes in the state tobacco law and tax code that allow making fruit- and candy-flavored cigars and other ENDS more attractive to price-sensitive youth</td>
<td>• Promote the use of ENDS in smoke-free workplaces</td>
<td>• Develop policies to respond to the burgeoning use of digital technology in violence, cyberbullying, harassment, and sexual harassment</td>
</tr>
<tr>
<td>• Extend CMS obesity counseling reimbursement to other professions and to multidisciplinary weight loss programs</td>
<td>• Encourage organized dentists and dental hygienists to play a stronger role in educating the public about the benefits of prevention and fluoridation</td>
<td>• Continue to provide and adequately fund SNAP, school lunch programs, and MassHealth</td>
<td>• Make it easier for low-income parents to work by providing affordable child care, job training and reliable transportation</td>
<td>• Publicize the Good Samaritan Law which protects people from arrest for simple drug possession if they call 911 to save a life</td>
<td>• Increase availability of smoking cessation services and medications</td>
<td>• Establish penalties for schools that do not acknowledge and respond immediately to reported incidents, have support teams available, and track incidents over time</td>
</tr>
<tr>
<td>• Continue legislators' efforts to engage academicians in supporting evidence-based initiatives and policies</td>
<td>• Create school fluoride rinse/tablet/ varnish programs in non-fluoridated communities</td>
<td>• Stabilize neighborhoods and provide access to affordable, safe, well-maintained housing</td>
<td>• Work with law enforcement to conduct compliance checks with alcohol retailers and remove licenses of those who sell to minors</td>
<td>• Make Narcan more accessible to medical professionals, law enforcement officers, firefighters, EMTs, and parents of at-risk heroin users</td>
<td>• Increase funding of the state Tobacco Control Program which educates the public, especially youth, through anti-smoking campaigns</td>
<td>• Update campuses’ written rules and procedures to deal with assaults</td>
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<tr>
<td>• Connect practitioners and leaders with trained activists in partnerships to leverage funding and make community environments healthier</td>
<td>• Promote greater use of public health dental hygienists in high-risk communities</td>
<td>• Provide all children with developmentally appropriate education and the opportunity to attend a good school that helps them graduate on time and go on to college or meaningful work</td>
<td>• Encourage collaboration among community leaders, schools, and parents on education to prevent student access to alcohol</td>
<td>• Combat stigma by encouraging people in recovery and family members to speak up for positive changes</td>
<td>• Increase availability of smoking cessation services and medications</td>
<td>• Promote community policing to develop trust and open channels of communication between officers and residents to help avoid friction and improve public safety</td>
</tr>
<tr>
<td>• Test new strategies and opportunities, such as increasing access to fresh, local foods and promoting walking and biking to school</td>
<td>• Create incentives to increase the number of dentists treating MassHealth patients</td>
<td>• Increase access to adult basic and higher education</td>
<td>• Require pharmacies to educate parents with controlled substance prescriptions to purchase a lock-box or keep prescriptions out of medicine cabinets</td>
<td>• Require all communities to offer take-back programs for expired or unused prescription or OTC drugs</td>
<td>• Increase availability of rehabilitation services</td>
<td>• Increase mentoring programs so at-risk youth can develop strong relationships with caring, inspirational adults</td>
</tr>
<tr>
<td>• Provide daily physical activity in schools</td>
<td>• Implement a statewide strategy in response to the great unmet needs of seniors, especially the homebound or those in extended care facilities</td>
<td>• Protect Social Security to prevent increased senior poverty</td>
<td>• Require medications for education parents with controlled substance prescriptions to purchase a lock-box or keep prescriptions out of medicine cabinets</td>
<td>• Require all communities to offer take-back programs for expired or unused prescription or OTC drugs</td>
<td>• Increase availability of rehabilitation services</td>
<td>• Toughen penalties for those caught with illegal firearms</td>
</tr>
<tr>
<td>• Label menus</td>
<td>• Fill the state dental director position and better fund the Office of Oral Health</td>
<td>• Increase access to adult basic and higher education</td>
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<tr>
<td>• Place excise tax on sugar-sweetened beverages and candy like other non-food items</td>
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</table>
Peopel's ability to access needed health care depends on a number of factors, including insurance coverage, availability of doctors and other health care professionals, affordability of out-of-pocket costs, awareness of available resources, and ethnic and cultural attitudes regarding health care.

Massachusetts, with almost 95 percent of its non-elderly adults insured, continues to have the highest rate of insurance coverage of any state. According to a report from the Blue Cross Blue Shield of Massachusetts Foundation, “This [increase in coverage] is a significant improvement over 2006, when 85.9 percent of non-elderly adults had insurance, and much higher than the current national level of 79.7 percent. In addition, gaps in coverage have lessened: 88 percent of adults in Massachusetts reported being covered for the entire year, much higher than the national level of less than 75 percent. This means that one in four adults in the nation experienced a gap in coverage during the previous 12 months, more than twice the frequency in Massachusetts. The proportion of people in Massachusetts who are “persistently uninsured” has been cut by nearly three-quarters, falling from 9.3 percent in 2006 to 2.7 percent in 2012.” (3)

Despite these gains, however, challenges remain. Health insurance coverage has not eliminated cost concerns, and the high cost of care continues to limit access and burden individuals and families. According to the BlueCross Blue Shield report, nearly 4 in 10 non-elderly adults who were insured for the full year reported that they had problems with health care spending. (3) Chapter 224 of the Acts of 2012, An Act Improving the Quality of Health Care and Reducing Costs through Increased Transparency, Efficiency and Innovation, has been transforming the delivery of care and linking payment to outcomes. We anticipate this will lead to a reduction in overall health care system costs that will reduce the burden on consumers.

Trends

Since the implementation of Chapter 58, the Massachusetts Health Care Reform Act in 2006, and national health care reform in 2010, the percentage of Massachusetts residents who have health insurance has continued to rise. Between the Fall of 2006 and the Fall of 2012, the percentage of non-elderly adults in the state who had coverage at the time they were surveyed rose from 85.9 percent to 94.6 percent. (3) A survey conducted by the Department of Public Health found that in 2013, 95.1 percent of adults in the state were insured. (5)

Between December 2013 and March 2014, during which time key provisions of the national Patient Protection and Affordable Care Act (ACA) were implemented, overall health care insurance enrollment in Massachusetts rose by 215,000. The increase was due to increased enrollment in MassHealth. Based on these figures, as of March 2014 the percentage of uninsured state residents was less than 1 percent. (2) Questions exist about the figures, however, because most of the new enrollees are in a temporary coverage plan created for people who had difficulties applying for coverage through the state’s online health care exchange, which was modified to adapt to requirements of the ACA. It must still be determined whether people enrolled in this temporary program will qualify for public insurance programs or subsidies to purchase private insurance and whether they will ultimately obtain permanent coverage. (1)

Increased insurance coverage has enabled individuals and families to seek both needed and preventative care, but having so many newly insured people has presented new challenges. One of the most critical concerns is the availability of providers to treat patients when they seek care. A survey of non-elderly adults ages 19-64 indicates that most people were able to access care. In 2012, nearly 9 in 10 people in Massachusetts (87.8%) said they had
In 2013, practitioners had greater difficulties recruiting and retaining physicians, a change from the previous five years during which conditions had improved. Responses to four questions regarding the recruitment and retention of staff indicated that conditions had worsened from the previous year: the percentage reporting that they had difficulty filling vacant positions rose from 54% in 2012 to 59% in 2013, the percentage reporting an inadequate applicant pool rose from 50% in 2012 to 55% in 2013, the percentage reporting difficulties retaining staff rose from 30% in 2012 to 36% in 2013, and the percentage reporting that they needed to alter the services they provided because of staffing problems rose from 29% in 2012 to 32% in 2013. However, the percentage reporting an increase in the time necessary to recruit staff stayed the same, with 39% indicating this was a problem in both 2012 and 2013, as did the percentage reporting that they had to adjust staffing patterns because of shortages (37% in 2012 and 36% in 2013). (7)

Physicians’ fear of being sued and liability costs also had an impact on access to care. More than a third of specialists (38.3%), family and internal medicine practitioners (33.7%), and pediatricians (34.3%) said that the fear of being sued caused them to alter or limit their scope of practice. In addition, 14.2% of specialists, 9.8% of family and internal medicine practitioners, and 7.6% of pediatricians said that liability costs caused them to limit their scope of practice. (7)

According to the survey of physicians, in 2013 a shortage of doctors existed in four medical specialties: the shortage was critical in family medicine and severe in internal medicine, neurology, and gastroenterology. The situation was particularly serious in the specialties of family medicine and internal medicine. The number of specialties with critical or severe shortages in 2013 is significantly lower than in the previous two years (10 specialties in 2011 and 8 in 2012). However, some specialties that had critical or severe shortages in previous years were not included in the data because of inadequate survey responses, so the figure for 2013 may not fully reflect labor market conditions. (7)
only 24.1% of adults said they had problems paying non-health care bills. (4) The financial burden of obtaining health care has not changed greatly since 2006, prior to state health care reform. In 2006, 23.0% of families reported spending 5% or more of family income on health care; in 2012 the figure had fallen only slightly to 22.3%. The figures for those spending more than 10% of their income on health care were 10.3% in 2006 and 8.4% in 2012. (3)

**Groups at Risk**

People seeking care from specialists in internal and family medicine were most likely to have difficulty accessing a physician. Both specialties have been identified as having critical or severe physician shortages for the last eight consecutive years. (7) These specialties also had among the highest wait times for new patients to get an appointment (in 2013, 50 days in internal medicine and 39 days in family medicine) and the lowest percentages of physicians accepting new patients (in 2013, 45% in internal medicine and 51% in family medicine). However, availability varied widely by county. For example, in 2013 the wait time to get an appointment in internal medicine was longest in Bristol County (128 days) and shortest in Worcester County (26 days). In family medicine, the longest wait time was in Franklin county (106 days) and the shortest in Suffolk County (16 days).

In some counties, people covered by MassHealth seeking care in these specialties also faced particular barriers. In internal medicine, fewer than two thirds of physicians accepted Mass Health in six counties; in three counties only a half or fewer accepted MassHealth (Barnstable, Essex, and Worcester). In family medicine, fewer than two thirds of physicians accepted MassHealth in four counties; in two counties fewer than half accepted the insurance (40% in Barnstable and 30% in Plymouth). (6)

While affordability was of particular concern to people who were uninsured, having insurance did not eliminate this concern; more than a third of those with health insurance coverage for the entire year (38.7%) also had problems. Problems affording health care were most prevalent among low- and middle-income adults. About half (46.5%) of low-income adults (incomes at or below 138% of the federal poverty level) had problems with health care costs, as did over half (53.9%) of middle-income adults (incomes between 139% and 400% of the poverty level). However, even among higher-income adults (incomes at or above 400% the poverty level), almost a third (31.7%) had problems paying for health care. In addition, more than half (51.9%) of people with public or other coverage reported problems paying for care, compared to 35.6% of those with employer-sponsored coverage. (4)

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**Sources**


Massachusetts continues to lead the nation in health care coverage, something to be very proud of. We also hold a leadership position in the realm of quality of care. While having health insurance makes it more likely that Massachusetts residents will enter our excellent health care system for needed services, unless we ensure an inviting practice environment, we risk not guaranteeing comprehensive access to care.

According to our 2013 Physician Workforce Study, physician satisfaction has remained relatively consistent over the last few years, with approximately 42% responding they are very satisfied or satisfied, and a similar percentage (41%) responding they are either very dissatisfied or dissatisfied. Physician attitudes concerning the profession of medicine as a career remain very high, with more than three quarters of physicians rating the profession as very rewarding or rewarding. Therefore, Massachusetts must support a similarly rewarding and inviting practice environment to retain and recruit physicians. Salient issues continue to include trade-offs between time devoted to patient care and administrative related duties. Of note, for the third year in a row, 53% of physicians surveyed reported being dissatisfied or very dissatisfied with the tradeoff between patient care and administrative tasks. In aggregate, in 2013, 7.4% of respondents to the survey indicated that they are planning to move out of the state as a result of the practice environment. Moreover, approximately 20% of physicians currently practicing in Massachusetts responded that they are planning to move out of the state if the current practice environment does not change. Medical student debt must also be addressed, in order to keep young physicians in Massachusetts, especially considering the high cost of maintaining a practice and the high cost of living in Massachusetts. If you include undergraduate loans, some medical students can enter the workforce with $300,000+ in debt.

Physicians responding to the 2013 survey continue to show significant familiarity with accountable care organizations (ACOs) with 71% either very familiar or familiar with ACOs. Those well into practicing medicine show the highest familiarity, as well as those in larger group practices. The continued education about cost trends, health reform and new payment/organizational structures, is essential to implementing innovative reform that ensures the highest quality of care.

Massachusetts continues to be a model for health care reform for the nation. Universal health insurance coverage can only be maintained if there is a strong physician workforce. In order to secure a strong physician workforce in Massachusetts, the following recommendations for health care stakeholders are key:

- Work collaboratively to advocate for policies that secure an inviting practice environment, including fair and meaningful metrics to be shared with both physicians for quality improvement and the public to assist with health care decision making.
- Work across health care stakeholders to reduce administrative burden on physicians allowing physicians more time for patient care.
- Work across stakeholders to implement reliable inter-operable technology that provides timely and accurate information.

Elaine Kirshenbaum  
VP Policy, Planning and Member Services  
Massachusetts Medical Society
Access to Care continued

Affordability Issues Among Non-Elderly Massachusetts Adults: 2012

- Health care costs a problem in past year: 42.5%
- Health care costs a problem among insured: 38.7%
- Problems paying medical bills in past year: 17.9%
- Had medical debt: 20.3%
- Out-of-pocket spending 5% or more of family income: 22.3%
- Went without care because of costs: 16.4%

Source: Blue Cross Blue Shield of Massachusetts Foundation

Average Days Wait for a New Patient Appointment in Massachusetts, by Medical Specialty: 2010-2013

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<th>Medical Specialty</th>
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<td>Orthopedic Surgery</td>
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<td>26</td>
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</table>

Source: Massachusetts Medical Society, Physician Workforce Study
Asthma

Asthma, a lifelong disease, is a chronic inflammatory disorder that affects the respiratory tract and airways that carry oxygen in and out of the lungs. It is a leading chronic illness among children and youth in the United States and is one of the leading causes of school absenteeism. Though asthma can begin at any time and impacts people of all ages, it often starts in childhood and is more common in children than adults. Symptoms include wheezing, breathlessness, chest tightness, and coughing.

Trends

Asthma rates include both the percentage of people who have ever had asthma and the percentage who currently have asthma. In 2013, among Massachusetts adults, 16.8% reported ever having asthma and 11.4% reported currently having asthma. These figures were higher than in both 2012, when 15.5% of people reported ever having asthma and 10.8% reported currently having asthma, and 2011, when the comparable figures were 15.3% and 10.7%. Massachusetts rates of lifetime asthma prevalence are among the highest in the country, above the 2012 national rate of 13.2%.

Among children, based on survey data, in 2013, 22.8% of middle school children and 24.9% of high school children reported ever having asthma; this compared to 19.6% of middle schoolers and 24.3% of high schoolers who reported ever having asthma in 2011. In addition, in 2013, 13.9% of middle school children and 14.0% of high school students reported currently having asthma. Data on asthma among children in elementary school (kindergarten through eighth grade) based on reporting by schools indicate that prevalence rates were similar to those in the previous year; the overall prevalence rate for elementary school students was 12.1% in the 2012-2013 school year, compared to 11.9% in 2011-2012. However, in both 2011-2012 and 2012-2013, asthma rates generally increased by grade level. For example in 2012-2013, the asthma rate for kindergarteners was 9.9%, rising to 13.2% for students in the seventh grade.

In the 2011-2012 school year, based on health encounter data collected by school nurses in the 72 school districts participating in the Essential School Health Services Program, asthma was by far the condition most frequently reported to school nurses by students with special health care needs; the asthma rate was 127.6 per 1,000 students. For comparison purposes, the next most frequently reported condition was ADHD/ADD, with a rate of 62.3 per 1,000. Asthma medications were also the most common “as needed” prescription medications managed by school nurses in the 2011-2012 school year.

Groups at Risk

Among adults, in 2013 women were more likely to report currently having asthma than men (13.7% vs. 8.8%). Adults between the ages of 18 and 34 had the highest rates and adults 75 and older had the lowest rates. Rates also varied among racial and ethnic groups: among adults, Hispanics had the highest rate of current asthma prevalence (12.8%) and Asians the lowest (7.0%), with the rate for whites (11.7%) and blacks (11.2%) falling in between. Adults with disabilities were much more likely to have asthma than those without disabilities (19.1% vs. 8.7%). Rates also varied by educational and income levels. In 2013, among those with less than a high school education, 17.2% reported currently having asthma, compared to 9.6% of those with four years or more of college. Among income groups, adults in households earning less than $25,000 had the highest rate of current asthma at 16.0%, compared to 9.3% of adults earning $50,000 or more.

With respect to geography, in 2012 13.9% of adults in the Western part of Massachusetts reported currently having asthma, compared to 9.2% in the MetroWest region and 9.8% in Boston.
Among occupational groups in 2012, people working in the health care support service industry and the personal care and service industry had the highest rates of current asthma (18.4% and 17.1%), while those in the construction and extraction industries had the lowest (5.8%). (3)

Among both middle school and high school students, fewer white students reported currently having asthma than blacks or Hispanics. For middle schoolers, 13.4% of white students reported currently having asthma, compared to 15.1% of blacks and 17% of Hispanics. Among high school students reporting that they currently had asthma, 13.5% were white, compared to 17.5% of blacks and 16.5% of Hispanics. Hispanic students also had the highest rates of ever having had asthma: 30.6% of middle schoolers compared to 21.1% of whites and 23.9% of blacks, and 31.3% of high schoolers, compared to 23% of whites and 28.1% of blacks. (4)

**Risk Factors**

While there is no cure for asthma and it is not clear how to prevent it from developing, most people control their symptoms and prevent attacks by avoiding asthma triggers and using prescribed medicines such as inhaled corticosteroids. Triggers differ depending on the individual, but may include second-hand tobacco smoke, outdoor air pollution, allergens (mold, dust, pollen, pet dander), and respiratory viral infections, in addition to the damaging effects of obesity and smoking. Environmental irritants, in particular ground-level ozone pollution (‘smog’) and particle pollution emanating from fossil fuel-burning power plants and motor vehicles, produce unhealthy air days that exacerbate symptoms of many asthma sufferers and pose a health risk to those with chronic obstructive pulmonary disease (COPD), emphysema, bronchitis, and cardiovascular disease. In 2012, Massachusetts experienced 17 days that exceeded the 2008 ozone standard, the highest number of days since 2008. (2)

**Sources**


5. Massachusetts Department of Public Health, Asthma Prevention and Control Program.


The Guide to Community Preventive Services recommends “the use of home-based multi-trigger, multicomponent interventions with an environmental focus for children and adolescents with asthma” based on strong evidence that these services can improve asthma management, decrease urgent care utilization, decrease allergens in the home, reduce missed school and work days, and lessen caregiver stress. Researchers estimate that asthma costs the U.S. healthcare system $56 billion annually in both direct healthcare expenditures and indirect costs from lost productivity. With improved asthma management among vulnerable populations, researchers project that as much as 25% of total asthma costs could be saved, and it could help millions of children lead healthy, active lives.

Massachusetts is a leader in the realm of community-based interventions. There are numerous innovative policies and practices in public school districts—focusing on promoting healthy indoor environments and knowledge to promote improved asthma control for the students/staff. More significant is MA’s great strides in: 1) developing a certification process for Community Health Workers (CHWs); and 2) the reputable network of clinical and non-profit providers which offer evidence-based asthma home visiting services delivered by well-trained CHWs to pediatric asthma patients. With these services soon being available via programs funded by the Prevention and Wellness Trust and the MassHealth Children’s High-risk Asthma Bundled Payment Demonstration Program, capacity is expanding across the State. Despite their success, they are rarely reimbursed by insurers, and when grant funding runs out, programs are forced to shut down.

MA has several opportunities to make policy changes that will encourage the development of long-term sustainable systems to help manage and ultimately reduce the burden of asthma for low income and medically underserved populations. Most opportune is a 2013 Centers for Medicare and Medicaid (CMS) ruling which allows states to reimburse for preventative services provided by non-licensed individuals (including CHWs) as long as they are recommended by a licensed practitioner. In order to implement this, State Medicaid Offices must submit a State Plan Amendment to CMS. With numerous evidenced-based programs, and a strong CHW Asthma Home Visiting Training program in the state, MA is in a strong position to have MassHealth request to allow payment for asthma services delivered by well-trained CHWs in the home and other non-clinical settings. Finally, it would be strategic for school districts to invest in asthma education and management programs, which have been demonstrated to reduce absenteeism.

Stacey Chacker
Director, Asthma Regional Council of New England
New England Asthma Innovations Collaborative Health Resources in Action

3 CMS Ruling - http://www.thecommunityguide.org/asthma/index.html - 2013
4 The Asthma Home Visiting Training for Community Health Workers, a product of the Massachusetts Department of Public Health, was developed and is delivered by the Boston Public Health Commission.
Asthma continued

Percentage of Adults Who Have Ever Had Asthma: Massachusetts and U.S. 2001-2012

Source: Massachusetts Department of Public Health, U.S. Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System

Ozone Levels EPA Exceedance Days: Massachusetts, 2001-2012*

Source: U.S. Environmental Protection Agency
*Recalculated per 2008 standard, 0.075 ppm
Asthma Prevalence Among Massachusetts Students by Grade in School: 2012-2013 School Year

Source: Massachusetts Department of Public Health, Pediatric Asthma Survey
Infection with the human immunodeficiency virus (HIV), without effective antiviral treatment, can damage the immune system, leaving the infected person susceptible to the acquired immunodeficiency syndrome (AIDS) and a host of opportunistic infections and associated malignancies, such as Kaposi’s sarcoma, pneumocystis pneumonia (PCP), invasive cervical cancer, and certain lymphomas. HIV is transmitted primarily through unprotected sex and the type of blood contact that comes with sharing contaminated injection equipment.

Hepatitis C, the most common blood-borne infection in the U.S., is a viral disease that targets the liver, causing inflammation, scarring (cirrhosis), and in some cases cancer. Similar to HIV infection, the hepatitis C virus (HCV) is spread by direct contact with the blood or bodily fluids containing blood of an infected person. Symptoms of acute illness usually appear between six weeks and six months after infection, although people are often asymptomatic during this phase. Most people will go on to have chronic HCV infection and those individuals can be asymptomatic for years or decades.

Blood transfusions were a major source of hepatitis C infection until July 1992, when widespread screening of the blood supply was instituted. Today, the dominant mode of HCV transmission is injection drug use. Sharing injection equipment (including needles, cookers, cotton, and rinse waters) with an infected person can spread the virus. Unprotected sex with an infected person is also a feasible mode of transmission, although a relatively inefficient one. Citing the growing health burden and increasing death rates from HCV infection, especially among “baby boomers,” in August 2012 the CDC recommended that all Americans born from 1945 through 1965 get a one-time test for the hepatitis C virus. The CDC further recommended that all people found to be infected with HCV should receive a brief alcohol screening and intervention if indicated to support liver health.

### Trends: HIV/AIDS

As of December 31, 2013, the number of people with HIV/AIDS living in Massachusetts who were diagnosed in the state was 19,165. An additional 3,162 people were first diagnosed in another state. This compared to 18,698 people diagnosed in the state as of December of 2012, and an additional 2,615 people who were diagnosed in another state. It is estimated that 18% of people in the state with HIV infections, or 4,983 people, do not know their status, and an estimated 3,382 people know their status but their cases have not been reported to the state. Overall, it is estimated that at the end of 2013, 29,000 to 31,000 people living in the state have the disease. (4)

Since 2000 the number of people living with HIV/AIDS in Massachusetts has increased as survival rates have increased, while the number of people diagnosed with the disease has decreased. In 2012, 694 people were diagnosed with HIV. This is a slight increase compared to the 682 people diagnosed the previous year. (4) However, between 2003 and 2013, while the number of people living with HIV/AIDS increased by 30%, reported HIV infection diagnoses decreased by 41%, and deaths among people reported to have HIV/AIDS decreased by 34%. (5)

### Groups at Risk: HIV/AIDS

Men were more likely to have HIV/AIDS than women: as of December 31, 2013, 71% of people living with HIV/AIDS in the state were male and 29% were female. (4)

While more non-Hispanic white people have HIV/AIDS than non-Hispanic blacks or Hispanics (43% v. 30% and 24%), rates for blacks and Hispanics are disproportionately high given their representation in the population. On an age-adjusted basis, the prevalence rate per 100,000 residents for blacks is 10 times higher and for Hispanics 7 times higher than for whites. Among women the disparity is even greater: the age-adjusted rate for black women is 25 times higher than for white women, and the rate for
Hispanic women is 12 times higher. In 2013, among males diagnosed with HIV, 51% were white, while 24% were black and 23% were Hispanic. However among females, only 25% were white, while 46% were black and 27% Hispanic. (4)

**Risk Factors: HIV/AIDS**

In 2013, the primary mode of exposure among those diagnosed with HIV was male-to-male sex (37%) and injection drug use (19%). (4) However, the primary mode of exposure varied greatly depending on gender and ethnicity. While among men diagnosed with HIV, the primary mode of exposure was male-to-male sex (52% of the cases), among women heterosexual sex (35%) or presumed heterosexual sex (31%) were the primary modes. Mode of exposure also varied by race and ethnicity. Among whites the predominant mode of exposure was male-to-male sex (59%), while among Hispanics the predominant mode was injection drug use (31%). Among blacks, the largest proportion had an undetermined mode of exposure (24%), followed by heterosexual sex (21%). The primary exposure mode for white (non-Hispanic) females was injection drug use (43%), while for black females the primary mode was sex with men of unknown risk and HIV status (44%) and for Hispanic females sex with men of known risk (42%). (5)

A survey of high school students also indicated declines in some risk behaviors associated with contracting HIV. In 2013, 38% reported ever having had sex, 3% reported first intercourse before age 13, and 9% reported four or more lifetime sexual partners; these percentages have all declined since 2005. However, the survey also showed declines in certain protective behaviors; 58% reported use of condoms at last intercourse in 2013, the same as in 2011 but down from 65% in 2005, and 85% reported being taught about HIV/AIDS in school, about the same as in 2011 but down from 93% in 2005. (2)

**Trends: Hepatitis C**

Although there has been a decline in the number of newly diagnosed confirmed Hepatitis C cases reported in Massachusetts since 2004, the overall number of cases is high; since 2007, about 8,000 to 9,000 newly diagnosed confirmed and probable cases have been reported annually, and Hepatitis C continues to be one of the highest volume reportable infections. In 2012, 8,468 people were newly reported to have Hepatitis C, and the incidence rate per 100,000 population was 129.33; in 2013, 7,963 were reported with the disease, with an incidence rate of 121.62. It is estimated that the number of people living with chronic Hepatitis C infection in the state is approximately 197,000. (8)

**Groups at Risk: Hepatitis C**

In the past, the greatest number of confirmed and probable Hepatitis C cases occurred in people between the ages of 44 and 50. In 2013, however, the greatest number occurred among people in the 20 to 29 year old age range. This age group now has the highest incidence rate of confirmed cases per 100,000 residents, at 235.7; the rate for this age group has increased steadily since 2007, when it was 188.4. The age group with the next highest incidence rate was people between the ages of 30 and 39. The incidence rate for this group in 2013 was 197.1, a rate which has fluctuated since 2007. (8)

Between 2007 and 2013, 61% of reported cases were among males and 38% among females. However, in the 15 to 25 year old age group, in every one of those years but one, more cases were reported among females. In 2013, 736 confirmed and probable cases among 15 to 25 year olds were female, while 697 were men. (8)

*Along with the fact that ethnic groups may comprise different percentages of the population, the age composition within each ethnic group may differ from the age composition of the overall population. In Massachusetts, for example, the median age of blacks and Hispanics is younger than the median age of whites. Since disease rates are generally not evenly distributed among age groups, age adjustment of rates minimizes the distortion caused by such differences in the age composition among groups.
Between 2007 and 2013, the highest number of cases were reported in Middlesex County (8,719) and Suffolk County (7,643), while the highest incidence rates occurred in Hampden County (1,132.5 per 100,000 population), Suffolk County (1,058.6), Barnstable County (981.53) and Bristol County (962.27). These counties also had the highest incidence rates in 2013. (8)

**Risk Factors: Hepatitis C**

The Hepatitis C virus is spread primarily through contact with the blood of an infected person. Practices associated with a higher risk of contracting Hepatitis C include injecting drugs and having sex with multiple partners without using condoms.

The rate of HIV infections attributed to injection drug use has declined dramatically over the last decade; the percentage of people with an HIV diagnosis attributable to injection drug use fell from 18% in 2002 to 8% in 2011. (4) However, there has not been a similar decline in the rate of Hepatitis C cases among injection drug users, especially among younger people. Between 2010 and 2013, the Department of Public Health estimated that the annual incidence of HCV among people under 30 was approximately 8,937, with most of these cases likely attributable to injection drug use. (8) Between 2002 and 2009 diagnoses among injection drug users ages 15 through 24 increased by 74%. These increases probably reflect an increase in opiate use among younger populations. (7) In 2013, the counties with the highest incidence of confirmed and probable Hepatitis C cases among 15 to 25 year olds were Barnstable (519.0 per 100,000 residents), Plymouth (323.05), Franklin (249.83), and Bristol (239.41). (8)

While both HIV and Hepatitis C can be transmitted through the use of injection drugs, Hepatitis C is much more likely to be acquired through this exposure for a variety of reasons, including that it is almost ten times as infectious as HIV and the virus is so widely spread among injection drug users that exposure through shared drug injection equipment is more likely than with other types of infection. In addition, while bleaching used syringes has been demonstrated to be effective as an HIV prevention method, it has not been demonstrated to be effective in preventing Hepatitis C. (7)

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**Sources**

8. Massachusetts Department of Public Health, Bureau of Infectious Disease Prevention, Division of Epidemiology and Immunization.
As we succeed in improving treatment and life longevity for people living with HIV, the total number of people living with the virus continues to grow. According to Department of Public Health reports, as of 2012 there were 694 new diagnoses of HIV reported in Massachusetts, down 41% from 2000. As of January 1, 2014, there are currently 19,165 Massachusetts residents living with HIV, and an additional 3,162 individuals living here who were first diagnosed in another state.

As we see success in reducing new infections in Massachusetts, we are also seeing promising developments in HIV research. Multiple clinical trials have demonstrated that HIV-negative individuals taking anti-HIV medication prophylactically can significantly reduce their risk of getting infected. Known as pre-exposure prophylaxis (PrEP), large-scale trials show a greater than 90% reduction in transmission, but adherence to the daily medication regimen is a significant factor, with lower adherence leading to lower protective levels. The Centers for Disease Control and World Health Organization have both issued guidelines on the use of PrEP, the Food and Drug Administration has approved one oral HIV medication, Truvada, for this purpose, giving individuals in high-risk populations another tool to prevent getting infected.

Similarly, there is promising news on the treatment of people living with HIV, with mounting data showing treatment of people living with HIV is in fact able to prevent transmission of the virus. Treatment as prevention was clearly demonstrated in HPTN 052, published in the New England Journal of Medicine, which showed a 96% reduction in transmission rates in couples where one was infected but on antiretroviral therapy and the other was uninfected. The implication is that people with HIV can not only improve their health by adhering to medication, but can reduce the likelihood of transmitting the virus as well.

With the recently demonstrated efficacy of both PrEP and treatment as prevention, we can build off of the success Massachusetts has already seen in reducing new infections, and we can begin to move towards the ultimate goal of zero new infections. It will require renewed focus on ensuring testing, access to treatment, and access to PrEP, but the evidence is mounting that getting to zero infections is possible.

Carl Sciortino
President & CEO
AIDS Action Committee
Hepatitis C virus (HCV) infection kills up to three times as many people each year in the US as HIV and is associated with a number of devastating complications including liver failure and liver cancer. These people tend to be young - the median age of death in people with HCV infection who die in Massachusetts is 53 years. Baby boomers, people who were born between 1945 and 1965, comprise 75% of the over 3 million people living with HCV, but Massachusetts was the first state to characterize a second wave of new infections in our youth, sparked by the prescription opiate epidemic and fueled by a transition to cheap injected heroin.

In contrast to most other chronic diseases that lead to expensive complications, hepatitis C infection is curable with antiviral therapy. If people are diagnosed and cured, their risk of liver failure and liver cancer decreases by over 80% even if they have already developed cirrhosis. By the fall of 2014, we will have direct-acting antiviral (DAA) regimens of 8 to 24 weeks duration that are associated with cure rates of over 90% and will be effective for most people living with HCV infection. In an ideal world we would aggressively seek the 75% of people living with HCV who have not been diagnosed, and use treatment as prevention models to integrate HCV treatment into our methadone clinics, prisons, and street-based outreach programs.

Government agencies covering over a dozen sectors have responded to this epidemic and the transformative potential of treatment by issuing an Action Plan for the Prevention, Care and Treatment of Viral Hepatitis that addresses education gaps for patients and health professionals, the need to increase diagnosis rates, and optimizing models of care for underserved populations. Massachusetts recently passed a law requiring that every person born from 1945 through 1965 be offered a hepatitis C antibody test. Unfortunately, these national and state efforts risk being derailed by concern about the price of the new treatment regimens. Appropriate discussions of how to prioritize the volume of people who need premium-priced treatment risk being undermined by questions about who deserves to be cured. We have near-universal health insurance coverage in MA, but insurance is not public health. In order to achieve this unique opportunity to potentially eradicate a chronic disease, we need commitment, creativity, and a belief that everyone deserves to be cured.

Camilla Graham, MD
Co-Director Viral Hepatitis Center
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Harvard Medical School
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Blood-Borne Pathogens — HIV/AIDS, Hepatitis C

People Living in Massachusetts with HIV/AIDS by Gender and Race/Ethnicity: 2013*

Source: Massachusetts Department of Public Health, Bureau of Infectious Diseases, HIV/AIDS Surveillance Program
*Data as of December 31, 2013

Age-Adjusted HIV/AIDS Prevalence Per 100,000 Massachusetts Residents by Race/Ethnicity and Gender: 2013*

Source: Massachusetts Department of Public Health, Bureau of Infectious Diseases, HIV/AIDS Surveillance Program
*Data as of December 31, 2013

People Living in Massachusetts with HIV/AIDS by Health Service Region: 2013*

Source: Massachusetts Department of Public Health, Bureau of Infectious Diseases, HIV/AIDS Surveillance Program
*Data as of December 31, 2013
Dropping out of high school is associated with a range of negative life outcomes, including adverse health outcomes; conversely, the more schooling people have, the better their health is likely to be. For example, more education is associated with lower death rates, while less education is associated with higher levels of a range of risky health behaviors, including smoking, being overweight, or having low levels of physical activity.

**Trends**

The annual high school dropout rate is the percent of students who drop out of school in any given year. In the 2012-2013 school year, the annual dropout rate for 9th through 12th graders in Massachusetts was 2.2%. The rate has declined in every year since 2006-2007 and the 2012-2013 rate is the lowest in three decades. Drop-out rates declined among almost all racial and ethnic groups. Conversely, the graduation rate improved for the seventh consecutive year, with 85% of students who entered as 9th graders in 2009-2010 graduating in 2013.

**Groups at Risk**

While dropout rates declined among all racial and ethnic groups in 2012-2013, large disparities continue to exist among groups. The rate for black students was three times higher than the rate for white students (3.9% vs. 1.3%); the rate for Hispanic students was more than four times higher (5.4% vs. 1.3%).

Boys dropped out more frequently than girls, both overall (2.6% vs. 1.7%) and among all racial and ethnic groups. Students with disabilities had higher rates than students without disabilities (3.3% vs. 1.9%), and low-income students dropped out at rates almost three times higher than non-low-income students (3.8% vs. 1.3%).

Large disparities in dropout rates were between English language learners and non-English language learners (6.5% vs. 2.0%), and between high need and non-high need students (3.8% vs. 0.9%).

Large disparities in dropout rates also existed among schools. Nine percent of schools had no drop-outs and 35% had dropout rates between 0.1 and 1.0%; however 14% of schools had rates between 2.6% and 5.0%, and 7% of schools had rates above 10%. Schools in cities had dropout rates more than 3½ times the rates of schools in towns (3.4% vs. 1.0%) (5); however, in the past five years urban school districts made the largest gains in reducing the number of drop outs. Between the 2008-2009 and 2012-2013 school years, the rate for Boston dropped 1.3 percentage points, from 7.3% to 5.9%. (6) (Boston, which calculates its dropout rate differently than the state, reported its dropout rate as 4.5%). (1) The rate in Springfield dropped 3.1 percentage points; the rate in Lawrence 4.4 percentage points; the rate in Worcester 1.7 percentage points; and the rate in New Bedford 2.6 percentage points.

**Risk Factors**

Dropping out of school is strongly associated with family poverty. Poverty within schools and communities also plays a role. Students are more likely to drop out of high poverty schools (where 75% or more of students are eligible for free or reduced price lunches) than other schools. In addition, students from disadvantaged communities also drop out at higher rates; for example students in poor communities are more likely to have friends who have dropped out, which increases the likelihood that they will drop out as well. Research has also shown that the racial/ethnic and class composition of schools is more important than a student’s own race, ethnicity or social class in explaining educational outcomes.
Other factors that increase a student’s likelihood of dropping out include high rates of absenteeism, low levels of school engagement, low parental education, work or family responsibilities, moving to a new school in the 9th grade, being held back in school, and attending a school with lower achievement scores.

Health behaviors can also directly and indirectly affect dropout rates, while dropping out of school has an impact on health. For example, substance use is associated with dropping out of school, as is pregnancy, which may be the result of risky sexual behaviors such as early age of intercourse. Not feeling safe in school, for example because of bullying, is also associated with dropping out. In addition, addiction, chronic diseases, or mortality among parents may also have an impact by forcing young people to cope with family physical or mental illness. (3)

Dropping out of school may also negatively affect young people’s health by reducing their access to health information, such as smoking cessation and violence prevention programs or information about preventing HIV/AIDS. (3)

Some of these factors, such as substance use among students and rates of bullying in schools, are addressed in other sections of this report.

Sources

1. Boston Public Schools Focus on Children, BPS cuts high school dropout rate to the lowest level since at least 1977, January 27, 2014.


Over the last ten years, the Commonwealth has cut its high school dropout rate considerably, from 3.8% to 2.2%. 6,248 students left high school last year, compared with 11,436 students in 2007. This 45% drop did not happen by accident. Educators, non-profits, public agencies, and philanthropic partners worked together to pilot a new generation of collaborative dropout reduction activities at the state and local levels.

In Boston, we have been at this work for ten years, cutting our dropout numbers in half. Through a collective strategy we:

- used data to identify students in need of help, such as chronic absentees;
- tried fresh approaches, such as re-engaging dropouts in school;
- engaged community partners to provide social supports like mentoring;
- shared what we learned with key leaders.

We’ve learned that some students leave because they fall so far behind academically that they give up, while others leave because life circumstances distract them so much that they cannot concentrate. Once young people drop out, they drastically limit their prospects for employment, community engagement, and robust health. Our most surprising finding was that dropouts want to return to school, regardless of why they left or what their background is. They can succeed if given the right support.

The problem requires stepping up both prevention and recovery methods. Prevention motivates disengaged students to stay in school with programming relevant to their interests. For example, career exposure engages students and provides real-world applications of classroom learning. Recovery starts with reaching out to dropouts and severely disconnected students. Most can thrive, but need specialized student support and innovative teaching strategies. To catch up, they need to access alternative education pathways that advance them for demonstrating mastery rather than for time spent in classroom seats.

Though we’ve made great progress, 6,248 is still too many dropouts. The findings show that low income communities and communities of color are disproportionately impacted, which warrants a continued call to action. To make the next big reduction in dropouts, we need to work together across sectors and to focus on both dropout prevention and recovery.

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Education continued

Massachusetts Annual High School Dropout Rate: 2002-2013

Source: Massachusetts Department of Elementary and Secondary Education

Massachusetts Annual High School Dropout Rate by Race/Ethnicity: 2012-2013 School Year

Source: Massachusetts Department of Elementary and Secondary Education
Massachusetts Annual High School Dropout Rate by Income Status: 2012-2013 School Year

<table>
<thead>
<tr>
<th>Income Status</th>
<th>Dropout Rate</th>
</tr>
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<tbody>
<tr>
<td>Low Income</td>
<td>3.8%</td>
</tr>
<tr>
<td>Non-Low Income</td>
<td>1.3%</td>
</tr>
</tbody>
</table>

Source: Massachusetts Department of Elementary and Secondary Education
Obesity and Overweight

Obese and overweight adults and children are at increased risk for developing a wide range of diseases, including type 2 diabetes, hypertension, cardiovascular disease, sleep apnea, respiratory problems, and gall bladder disease. Obese children and adolescents also face a heightened risk of experiencing a variety of social and psychological problems, such as discrimination and poor self-esteem, conditions that can continue into adulthood. In addition, obesity results in significant social costs; a recent study estimated that annually over $3.5 billion of medical expenses in Massachusetts are attributable to adult obesity. (9)

Data in recent years indicate that rates of obesity and overweight among children have started to fall, an encouraging development that validates efforts that have been taken to reduce unhealthy eating and promote physical activity. (4) However this should not be taken as a signal to reduce efforts in these areas. In the 2011-2012 school year, 36.8% of 4th-grade boys and 32.9% of 4th grade girls were obese or overweight. (8) It took a long time to arrive at these dangerous levels of obesity and overweight and sustained efforts will be needed for years to come to further reduce these unhealthy levels.

Trends

In 2012, among the 50 states and Washington D.C., Massachusetts had the fifth lowest rate of adults who were obese or overweight. (3) Nonetheless, in 2013 over half of adults in the state were either overweight (34.4%) or obese (23.6%). These rates varied only slightly from rates in 2012, when 35.9% of adults were overweight and 22.9% were obese. (6) Measurement of obesity is based on Body Mass Index. Because of changes in survey methods, rates starting in 2011 cannot be compared with earlier years.

In a survey of school children, rates of obesity and overweight were calculated based on students' reports of their heights and weights. Based on this survey, in 2013 obesity rates among high school and middle school students were only slightly lower compared to 2011. Among high school students in 2013, 13.3% were overweight and 9.7% were obese; this compared to 2011 rates of 14.2% and 10.2%. For middle-schoolers (6th through 8th grade), 12.8% were overweight and 8.9% obese in 2013, while in 2011 these rates were 15.0% overweight and 9.0% obese. (7) Screening by nurses in the schools participating in the Essential School Health Services Program suggest that rates of overweight and obesity may be higher. For example, among students in grade 10, based on these screenings, 16.3% of boys and 16.0% of girls were overweight, and 18.0% of boys and 13.1% of girls were obese. For students in grade 7, 16.7% of boys and 16.9% of girls were overweight and 19.0% of boys and 15.3% of girls were obese. It should be noted, however, that the Essential School Health Services Program does not include all school districts in the state. (8) Moreover, data from the Department of Public Health based on annual weight and height screenings suggest that the percentage of the state’s public school students who are obese or overweight has fallen over the past five years, from 34.3% in 2009 to 30.6% in 2013. (4)

Among both high schoolers and middle schoolers, based on survey data, a somewhat higher percentage of students said they perceived themselves as being overweight than were actually overweight or obese; for example, while 23% of high schoolers were overweight or obese, 29% viewed themselves as overweight. In addition, a much higher percentage of high schoolers said they were trying to lose weight (45%) than were actually overweight or obese (23%). (5)
Groups at Risk

Among adults, in 2013 men were more likely to be overweight or obese than females (67.4% vs. 48.7%). Among age groups, rates of overweight or obesity generally rose as people aged, with 36.4% of 18 to 24 year olds experiencing these conditions compared to 66.0% of 65 to 74 year olds. However, rates for those 75 and older were somewhat lower (57.9%). (6)

Among racial and ethnic groups, blacks and Hispanic adults had the highest rates (68.9% and 65.8% respectively), compared to 58.2% among whites. Asians had significantly lower rates, with only 32.7% being overweight or obese. (6)

Rates also varied based on educational level and household income; 65.7% of those with less than a high school education were overweight or obese, compared to 51.4% of those with four or more years of college, and 61.1% of those with a household income less than $25,000 compared to 55.0% of those with incomes of $75,000 or more. (6)

Adults with disabilities also had higher rates than those without disabilities (66.7% vs. 55.2%). (6)

Among geographical areas in the state, in 2012 the lowest rates of overweight and obesity were in the Metro West and Boston regions (53.2% and 54.9%), while the highest rates were in the Western and Central regions (62.9% in both regions). (6)

Among both middle and high school students, based on self-reported heights and weights, males were more likely to be overweight or obese than females. For middle schoolers, the rates were 25.0% for males compared to 18.2% for females. Among high schoolers, the rates were 26.2% vs. 19.8%. (7) However, male high school students were less likely to view themselves as overweight than female high school students (24% vs. 35%), and much less likely to report they were trying to lose weight (28% vs. 61%). (5) Data based on health screenings by school nurses also suggested that boys had higher rates of overweight and obesity than girls; these data indicated rates of overweight that were much more similar between the genders but that obesity rates were higher among boys. Based on these data, 35.7% of seventh grade boys were overweight or obese compared to 32.2% of girls; for 10th graders, the figures were 34.3% of boys and 29.1% of girls. (8)

Black and Hispanic students also tended to have higher rates than whites. Among middle schoolers, based on survey data, 31.3% of blacks and 32.1% of Hispanics were overweight or obese, compared to 19.0% of whites. Among high schoolers, the rates were 34.5% of blacks and 29.2% of Hispanics compared to 21.0% of whites. (7)

Risk and Protective Factors

A range of factors can increase or reduce people’s risk of becoming overweight or obese. For example, consumption of sugary drinks and less healthy foods and lack of daily physical activity make it more difficult to maintain a healthy weight. These factors are in turn affected by a variety of social and environmental factors, such as whether healthy foods are available in schools and communities, whether daily physical activity is provided in schools, and whether communities have safe places where people can play or be active. In addition, spending a lot of time watching television or videos is a contributing factor to childhood obesity because it can take away from time spent participating in physical activities and increase the likelihood of snacking or overeating.

In 2012, 80.2% of Massachusetts adults said they had participated in a leisure time physical activity in the last 30 days. People generally were less likely to participate in physical activities as they aged; 87.5% of 18 to 24 year olds said they had engaged in a physical activity in the last 30 days compared to 75.1% of those between the ages of 65 and 74 and 67.8% of those 75 and older. People with disabilities were less likely to have participated in a physical activity than those without a disability (63.7% vs. 84.6%). (6)
Among racial and ethnic groups, whites were the most likely to have participated in a physical activity (83.0%) and Hispanics the least likely (65.6%), with blacks and Asians falling in between these figures. (6)

People with less education and lower household incomes were also less likely to report engaging in a leisure time physical activity in the last 30 days. Only 62.9% of those with less than a high school education engaged in such an activity, compared to 89.4% of those with four or more years of college. Similarly, only 68.3% of those with a household income less than $25,000 reported engaging in a leisure time physical activity compared to 90% of those with incomes of $75,000 or higher. (6)

Among Massachusetts school children, in 2013, only 22.6% of middle schoolers and 20.7% of high schoolers reported meeting the guidelines for physical activity of 60 minutes per day in the previous week (6), and only 44% of high schoolers and 52% of middle schoolers said they were physically active for 60 minutes at least five days a week. In addition, 44% of high schoolers said they did not attend any physical education classes; only 24% said they attended either four or five days a week. (5)

About 17% of both middle and high schoolers reported consuming three or more sugar-sweetened beverages in the previous day. These rates of consumption were higher than in 2011, when 14.8% of middle schoolers and 14.6% of high schoolers reported drinking these beverages. In 2013, boys were significantly more likely than girls to have consumed sweetened beverages. Blacks and Hispanics were also more likely to report consuming these drinks (24.2% and 25.5% respectively) compared to whites (14.5%). With respect to healthy dietary behaviors, 67.5% of middle schoolers and 57.8% of high schoolers reported eating three or more servings of fruits and vegetables on the previous day. These rates tended to decline as students got older; 71.3% of 6th graders ate three or more servings a day, compared to only 54.8% of 12th graders. Among middle schoolers, the rates of consuming three or more servings a day of fruits and vegetables did not differ greatly among whites, blacks, and Hispanics; however, among high schoolers 60.7% of whites said they had three servings a day compared to only 47.5% of blacks and 50.7% of Hispanics. (7)

In addition, 61.0% of middle schoolers and 66.9% of high schoolers reported spending three or more hours in an average day watching television or using computers for purposes other than school work. Rates did not vary greatly between boys and girls. However, hours of screen time tended to increase in higher grades; 53.9% of 6th graders reported three or more hours of screen time in an average day, compared to 69.5% of 12th graders. Black and Hispanic middle and high schoolers also had higher rates than whites. Among middle schoolers, 70.6% of blacks and 73.6% of Hispanics spent three or more hours a day in front of screens compared to 57.9% of than whites. For high schoolers, the figures were 76.1% of blacks and 72.4% of Hispanics, compared to 64.3% of whites. (7)

**Obesity and Diabetes**

Obesity, poor diet, and physical inactivity are themselves major risk factors for type 2 diabetes, a disease in which the body does not properly use insulin. Diabetes has now reached epidemic proportions in the United States.

Overall, the risk for death among people with diabetes is about twice that of people without diabetes of a similar age (6), and an increasing frequency of both type 1 and type 2 diabetes in youth has been one of the most concerning aspects of the epidemic. (7) Diabetes also imposes an enormous economic burden on our society. The total costs of diagnosed diabetes in the United States rose to $245 billion in 2012 from $174 billion in 2007, a 41 percent
increase over a five year period; in Massachusetts in 2012, the medical and indirect costs of the disease were $6.07 billion. (10)

In 2013, 8.5% of adults reported having diabetes and 7.2% had pre-diabetes, a condition in which people have high blood glucose levels but do not yet have diabetes. This compared to 8.3% of adults who reported having diabetes in 2012 and 6.2% who had pre-diabetes. Rates increased as people aged; they were also higher for people with less education and lower household incomes. For example, 15.6% of people with less than a high school education reported being diabetic, compared to 4.9% of people with four or more years of college. (6)

Among students, 1.0% of middle school students and 1.3% of high school students reported being diabetic. (7) According to data from schools participating in the Essential School Health Services program, the rate of students with type 2 diabetes per 1,000 students did not change much between 2010 and 2012 (0.5 and 0.6 per 1,000 students respectively). However, data on medications managed by school nurses show that the administration of insulin to students with diabetes in the schools has increased steadily since the 2000-2001 school year. In 2000-2001, the scheduled medication rate for insulin was 0.2 per 1,000 students; by 2011-2012 it had risen to 2.3 per 1,000 students. Insulin doses administered on an as-needed basis rose fourfold in the same time period, from 0.5 to 2.0 per 1,000 students. (8)

Sources

6. Massachusetts Department of Public Health, A Profile of Health Among Massachusetts Adults, 2013, August 2014 and A Profile of Health Among Massachusetts Adults 2012, April 2014.
7. Massachusetts Department of Public Health, A Profile of Health Among Massachusetts Middle and High School Students 2013, June 2014.
Population health implications of the obesity crisis are staggering as chronic diseases account for approximately three-quarters of the United States’ $2.7 trillion in annual health care spending. Nutrition is also a major contributor to the top five causes of chronic disease and seven of the top 15 causes of mortality. In 2007, three states (Alabama, Mississippi and Tennessee) reported adult obesity rates at or above 30%; by 2012, that number had grown to 13 states. Unfortunately, these rates remain high and the prevalence of associated conditions, such as type 2 diabetes, are still increasing.

Signs of Progress on Childhood Obesity in Massachusetts: Last year, the CDC showed that between 2008 and 2011, 18 states (including Massachusetts) and one U.S. territory experienced a significant decline in obesity rates among low-income 2-4 year old children (from 16.7% to 16.4%). New data from Massachusetts show similar declines in middle and high school aged children, while weight status awareness and engagement in weight loss behaviors are on the rise.

Massachusetts has already adopted key public policies such as nutritional standards for competitive foods and water availability in schools, and farm to school programs. To further advance nutritional gains, Obesity Medicine specialists and academicians recommend menu labeling and daily physical activity requirements in schools, developing a tax on sugar sweetened beverages, increasing access to healthy food and physical activity resources, banning food and beverage advertising targeted to children, developing inter-professional nutrition education and training programs, and extending CMS obesity counseling reimbursement to other professions and multidisciplinary weight loss programs.

In order to achieve these recommendations, Massachusetts State legislators need to continue to engage academicians in supporting evidence-based initiatives through effective policies that advance progress in decreasing obesity prevalence in adults and children in Massachusetts and the United States.

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1 National Vital Statistics Reports, Vol. 61, No. 6, October 10, 2012  
It is clear that the data for working on the issue of reducing obesity is compelling -- 21% of our national medical spending is due to obesity (Cawley and Meyerhoefer, 2012). One in three children are overweight or obese (Tipping the Scales, 2008) and many of these children will suffer from health problems and poor self-image throughout childhood. The chronic conditions they will develop as adults will further strain our health care system, creating astronomical costs – in both financial and human terms. Reversing this trend requires broad social change. So, what can be done?

Since 2007, the Harvard Pilgrim Health Care Foundation has been focused on supporting programs and policies that make environments healthier for kids between the ages of 6 and 12. The Foundation set out to fund initiatives that were evidence-based, that would change the environments relative to food and physical activity, that were consistent and committed over time, and that were supported by other funders and partners. We also found it critically important to test new strategies and opportunities, such as increasing access to fresh, local foods, promoting walking and biking to school, and engaging local sports teams in schools and afterschool programs.

Through this work, the Foundation helped to bring about some important policy changes in Massachusetts, including the passage of statewide legislation requiring BMI reporting (2009). The Foundation was able to accomplish this by working with schools, afterschool programs, pediatricians and government agencies as well as other partners throughout the region, providing funds for:

- an obesity task force that resulted in Mass in Motion, a statewide effort to help people eat better and move more;
- educational programs resulting in the passage of the Massachusetts School Nutrition law;
- ten school districts to buy equipment or training to meet the new federal guidelines on healthy school food;
- gardens and gardening instruction at school and afterschool programs

What we found is that it is critical to harness the power of connecting engaged leadership to trained and resourced citizen activists to form partnerships – among businesses, foundations, and state and local officials -- to leverage funding and make community environments healthier.

In order to keep the momentum and progress made to date, we must stay engaged, connected, and focused on finding creative solutions to reducing childhood obesity and creating healthy communities and families throughout the Commonwealth.

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 Obesity and Overweight  continued

**Obesity Among Massachusetts High School Students by Race/Ethnicity and Gender: 2013**

![Bar chart showing obesity rates by race/ethnicity and gender.](chart1)

Source: Massachusetts Department of Public Health, Youth Health Survey

**Weight and Weight Perception Among Massachusetts High School Students: 2005-2013**

![Bar chart showing weight and weight perception rates from 2005 to 2013.](chart2)

Source: Massachusetts Department of Elementary and Secondary Education, Youth Risk Behavior Survey
Oral Health

Oral health is an integral part of total health. Oral diseases affect nutrition, digestion, speech, social mobility, employability, self-image, self-esteem, and quality of life. At some point almost everyone has oral diseases, but they are often not treated; for this reason oral diseases have been called “a neglected epidemic” or “a silent epidemic.”

Access to oral disease prevention and treatment is affected dramatically by the social determinants of health, such as race, ethnicity, income, and education, with the most vulnerable populations suffering the most severe consequences. Community water fluoridation (CWF) is the most cost effective preventive measure; it benefits everyone and should be the foundation for better oral health. (1,3,21)

Trends

In 2012, 23.8% of adults had not seen a dentist in the past year, higher than the 2010 figure of 19.4%. Figures have fluctuated since 2000, when 24.2% of adults had not seen a dentist in the past year. In 2012, 14.9% of adults had six or more teeth missing, higher than in 2010, when 13.0% of adults were missing six or more teeth. This percentage has fluctuated only slightly since 2004, when 15.1% of adults had lost six or more teeth. (10)

Among children, 26.9% of middle schoolers in 2013 had a cavity in the previous year, as did 29.6% of high schoolers. These figures were lower than in previous years; in 2007 32.0% of middle schoolers had a cavity in the past year, as did 35.0% of high schoolers. (11)

No surveys have been conducted or data collected to track the impact of dental caries and other oral health diseases in the elderly since 2009. According to those data, which are the most recent statewide data available, 59% of nursing home seniors had untreated tooth decay; 74% of seniors in long-term care facilities had gingivitis, with 34% having major to urgent dental needs; 79% of seniors at meal sites did not have dental insurance; 35% of seniors at meal sites had untreated decay, with 17% having major to urgent dental needs; and nearly 20% of seniors at meal sites had not had a dental visit in more than five years. (13)

In addition, at the end of 2013 over 2.6 million residents did not have community water fluoridation (CWF) (2), and in FY 2013 only about 1,439 Massachusetts dentists were active MassHealth (Medicaid) providers (billing over $10,000 a year) (16), about 21% of all licensed dentists.

Groups at Risk

Disparities in the prevalence of oral diseases have always been extensive and continue to exist due to lack of access to prevention programs, dental treatment, and dental providers. Groups at highest risk include children and the elderly, as well as racial, cultural, and linguistic minorities. Other groups at risk include MassHealth members and the uninsured; people who are homebound, homeless, institutionalized or medically compromised; people who have low incomes, low levels of education, or developmental challenges; and people in certain geographic locations with shortages of dental professionals.

Access is a serious problem for children on MassHealth; about 51% of all children eligible for MassHealth did not receive any dental services in FY 2013 and only 29% of all eligible children received restorative treatment. (16)

Among adults in 2012, 35.5% of blacks, 40.4% of those with less than a high school education and 40.5% of those with incomes less than $25,000 had not been to a dentist in the last year. This compared to 21.8% of whites who had not had a dental visit in the last year, 14.5% of those with a college education, and 12.0% of those making more than $75,000 a year. Almost a third of adults with a disability (31.1%) and with less than a high school
education (32.4%) had six or more missing teeth, compared to 11.0% of those without a disability and 5.6% of college educated adults. (10)

Seniors in long-term care facilities also face particular problems accessing dental care; the three major barriers are the cost of dental care, lack of insurance, and lack of available dentists. The lack of basic dental care benefits in Medicare increases the barriers for all seniors to accessing treatment.

People living in certain geographic locations are also more likely to have difficulty accessing dental care. In 2014 about 412,604 Massachusetts residents live in 42 cities and towns that are federally designated as Dental Health Professional Shortage Areas (DHPSAs). This represents a decrease from the 57 communities with 612,257 residents designated as DHPSAs in 2012, or a 33% decrease in the DHPSA population. (15)

**Risk and Protective Factors**

**Community Water Fluoridation**

Community water fluoridation (CWF) prevents tooth decay for people of all ages; every dollar spent on fluoridation results in a $38 benefit in better oral health. (7) Over 4 million people in 140 Massachusetts communities in 2014 had the health and economic benefits of CWF. However, Massachusetts ranked 37th in the nation with respect to CWF; at the end of 2013 only about 62% of the state’s population was on a public water supply with CWF, compared to 74.6% for the United States. (2) The Healthy People 2020 national goal is 79.6%.

Most of the fluoridated communities in Massachusetts are in the eastern part of the state, with few fluoridated communities in western Massachusetts or Cape Cod. Of the 25 largest cities and towns in our state, all have CWF except five; these communities – Barnstable, Brockton, Chicopee, Worcester and Springfield – have a total population of 529,602. (2)

In 2013 CWF was questioned or challenged in seven Massachusetts communities; in all of them the challenges were rejected by a town meeting or board of health vote. However, by August 2014, CWF was again being challenged in at least 13 communities with a total population of over 310,000 residents. Unfortunately these challenges may be due to misinformation and inaccurate science, which are much more abundant on the Internet and social media than credible sources. (17) Local boards of health in both fluoridated and non-fluoridated communities need to be better informed of the benefits of CWF; in a 2010 survey of local boards of health without CWF, 74% of respondents did not know that CWF was the most cost-effective program for preventing tooth decay. (4) In addition, in 2011 the U.S. Department of Health and Human Services proposed changing the recommended fluoride level in water supplies from 0.7-1.2 ppm (parts per million) to 0.7 ppm because recent studies showed that water intake of fluoride is the same regardless of mean annual temperature and a range is not necessary. Opponents of fluoridation are using this proposed change to challenge CWF. Before the recommendation is finalized, an educational program is needed to help people better understand the reason for the change. (2)

Reputable scientific studies and reports continue to show that CWF is the most cost effective measure for preventing tooth decay. (19,8) The quality of CWF in those communities that do fluoridate is excellent; beginning in 2006, Massachusetts received the State Fluoridation Quality Award eight years in a row.

**MassHealth Coverage and Safety Net Providers**

Access to dental services for vulnerable adults has frequently depended on whether MassHealth covered these services. Historically, coverage has fluctuated. In 2010, adult dental coverage for MassHealth members aged 21 or older was eliminated except for cleanings and extractions. (6) As a result, community health centers saw a dramatic increase in the number of emergency adult dental patients, with 22,047 new patients in
By 2012, emergency room dental visits at Boston Medical Center increased by 16%. In 2012, MassHealth restored adult dental coverage for white fillings in front teeth; in 2013, it added coverage for fillings in all teeth, effective July 1, 2014. Coverage for complete dentures will start on May 15, 2015. The dental program represented only about 3.6% of the MassHealth budget in FY 2013.

The primary dental safety net in Massachusetts consists of approximately 53 community health center dental programs and satellites, which had about 600,000 patient visits in FY 2013. However, they are severely stretched beyond their capacity due to cutbacks in adult MassHealth coverage, the increase in the number of MassHealth members, and the great unmet need of vulnerable populations. Many of these programs need financial support to expand, improve efficiencies and make better use of support personnel. One issue is the number of dentists who accept MassHealth insurance. In FY 2013, only 1,439 dentists were active providers (that is, providers who billed more than $10,000 a year for treatment); this was a 13% increase since FY 2011. However this represents only about 21% of dentists licensed in Massachusetts and 60% of the 2,386 dentists enrolled as MassHealth providers. That only 29% of children on MassHealth received restorative treatment and basic dental care in 2013 is an indication of the need for better access to care for MassHealth members.

Fluoride Varnish and the Medical Workforce

The application of fluoride varnish is an effective measure for preventing tooth decay. In April 2012, the Massachusetts Department of Public Health began to allow non-licensed individuals such as medical assistants to administer fluoride varnish under the supervision of a licensed individual, such as a physician or nurse, to patients between the ages of 6 months to 21 years, and included MassHealth reimbursement for the services. This change improved access to fluoride varnish for high-risk children, who often do not see a dental professional on a regular basis.

In 2013, 149 medical providers delivered fluoride varnish, a 30.7% increase from 2011. They provided this service to 5,758 MassHealth members in their medical offices, a 173% increase from the 2,109 members who received the service in FY 2011. Fluoride varnish should be included as a benefit for seniors covered by MassHealth, and third party insurers should include this as a benefit for all members, including children. It should also be promoted in an ongoing way to the medical profession.

Public Health Dental Hygienists

In 2009 Massachusetts passed a law that allowed dental hygienists who had received additional training and had a written collaborative agreement with a licensed dentist to work without supervision in public health settings, and to receive MassHealth reimbursement. The goal was to increase access to preventive services for high risk populations. Over 6,500 hygienists are licensed in Massachusetts. In 2011, of those responding to a statewide survey, 30% indicated they were likely to practice as a public health dental hygienist in the next five years. However in FY 2014, only 33 public health hygienists provided services to 9,000 residents, receiving $1.3 million in MassHealth reimbursements. About half of the residents were school age; very few were residents of nursing homes.

The law, although a step in the right direction, has had a limited impact for a variety of reasons; it does not allow reimbursement by self-payers or other third party insurers, it limits services to those provided by hygienists in private practice, and it requires hygienists to have three years of prior clinical experience. Also, it does not include incentives or programs to encourage hygienists
to work with vulnerable populations, especially seniors. In addition, requirements imposed by the State Dental Board have increased the barriers to becoming a public health hygienist.

Sources

11. Massachusetts Department of Public Health, A Profile of Health Among Massachusetts Middle and High School Students, 2013, June 2014.
Oral Health continued

Policy Perspectives

Although poor oral health continues to burden many residents of Massachusetts and the US, some improvements have occurred. There has been a steady increase across multiple states in access to oral health care for children who are covered by Medicaid and implementation of the Affordable Care Act continues with mandated offering of a pediatric dental benefit through the health insurance marketplaces. Massachusetts was the only state to report increases in access to oral health care for low income adults due to the expanded benefits offered through health reform in 2006. The overall impact of those changes will become clearer as the decade progresses.

In Massachusetts, the 2015 budget maintains MassHealth adult dental coverage of fillings for all teeth; restores coverage for dentures by May 15, 2015 (line item 4000-0700) and requires EOHHS to report to the Department of Administration and Finance and the Committees on Ways and Means prior to making any changes in the dental program (Section 213). The DPH Office of Oral Health saw a modest increase, with $550,000 additional going to provided sustainability for state’s program to provide dental care for adults with developmental disabilities, administered through Tufts Dental Facilities.

As state legislatures grapple with budget constraints, programs and services deemed non-essential frequently come under fire. Within Medicaid programs, a familiar target over the years has been dental benefits which are considered ‘optional’ benefits for adult members. Since 2002, adult Medicaid dental benefits have slowly eroded, with some states scaling back the dental benefits they offer to adults and other states eliminating adult dental benefits altogether. Advocacy from varying sources at the local, state, and national level emphasizing the importance of oral health in overall health, the associated pain and suffering caused by untreated dental disease, and the societal impact and associated costs of poor oral health and lack of coverage (most importantly the rise in ER expenditures) has prompted several states to revisit their support of adult dental Medicaid benefits. Within the first six months of 2014 California, Colorado, Idaho, Illinois, Massachusetts, South Carolina, and Washington have all expanded benefit packages. Other states appear poised to do the same in the coming months. Missouri and Virginia were forced to roll back efforts.

The political and economic landscapes at the state and national level are ever-changing, creating both the need to stave off further cuts to benefits in some instances as well as opportunities to advocate for expansion of benefits in others.

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Oral health must be an integral component of total health and a much higher priority in the development and implementation of all health policies and programs, especially for vulnerable population groups. In order to achieve better oral health for all, the following are recommended:

1. The Massachusetts Department of Public Health (MDPH), Office of Oral Health needs to be better funded and staffed to respond to the great unmet needs of Massachusetts residents. The state dental director position, which has been vacant for about 2 years, should be filled with a full time oral health professional trained and experienced in public health. Also, a dental public health advisory committee with recognized experts in dental public health should be implemented once again.

2. Community water fluoridation must be the foundation for improving the oral health of every community in our state, as tooth decay eventually affects about 96% of adults. CWF is the most cost effective prevention measure for one of the most common diseases (tooth decay) in Massachusetts and should be the highest priority to improve oral health in our state. As Massachusetts is ranked 37th in the United States and only 63% fluoridated with 20 challenges in the last 19 months, the following also needs to be done:

   • The Massachusetts Department of Public Health (MDPH) needs to make fluoridation and population-based prevention a much higher priority. A state dental director is needed to work with local boards of health, and other organizations, institutions and agencies on fluoridation, and other population-based prevention measures and programs.

   • Organized dentistry and dental hygiene must play a stronger role in educating the public, community leaders and their members on their role in educating their patients and communities about the safety and benefits of prevention and fluoridation in both fluoridated and non-fluoridated communities.

   • Dental schools, dental hygiene and dental assistant schools, should be educating their students about the safety and benefits of fluoridation and their role in educating their patients and communities.

   • In non-fluoridated high-risk communities, school fluoride rinse/tablet/varnish programs are recommended. Currently there are only 40,000 children participating in these programs a 23% decrease since 2012. This needs to be addressed.

   • School-based sealant prevention programs for high-risk children ages 6–8 and 12–14 years old also need to be documented and promoted statewide for preventing tooth decay on the biting surfaces of the 6-year and 12-year molars, which are most susceptible to tooth decay.

3. More dentists and hygienists need to become members of the local boards of health in their communities or play a more active role in their community.

4. The use of public health dental hygienists must be supported and encouraged for population-based prevention programs in high risk communities and especially for homebound seniors and those in extended care facilities. There also needs to be fewer restrictions and some incentives for one to become a public health hygienist.

5. The adult MassHealth dental program budget needs to be completely restored with a reasonable fee schedule so that adults in need may obtain necessary treatment. The number
of dentists actively treating MassHealth patients’ needs to be increased and a higher percentage of children should receive treatment. Fluoride varnish should be included for high-risk seniors on the MassHealth fee schedule and by other 3rd party payers. The regulation that allows physicians’ offices to administer fluoride varnish as a preventive measure for high risk children should include high risk seniors and be better promoted to the medical profession.

6. A state wide strategy needs to be developed and implemented to respond to the great unmet oral health needs of seniors, and especially the homebound and those in long term care facilities.

7. The oral health status of all age groups and vulnerable populations needs to be assessed periodically to help direct scarce resources and include an interface with chronic disease surveillance.

8. Community and professional organizations, leaders, decision-makers, local boards of health, and the public must be better informed and educated about the importance of oral health, population-based prevention programs and services, and vulnerable populations, with all of them working together to improve oral health for all residents in Massachusetts.

9. Fluoride varnish needs to be included as a benefit for seniors and children by all third party health insurers as well as MassHealth and be continuously promoted to the medical profession.

Myron Allukian Jr., DDS, MPH
President
Massachusetts Coalition for Oral Health

For additional information about fluoridation. See the following:

U.S Centers for Disease Control and Prevention (CDC), www.cdc.gov/fluoridation

American Dental Association (ADA),
http://www.ada.org/~/media/ADA/Member%20Center/FIles/fluoridation_facts.ashx

Massachusetts Department of Public Health (MDPH),

American Academy of Pediatrics (AAP), http://www.ilikemyteeth.org/
Percent of Massachusetts Adults Ages 18 and Over Who Did Not Have a Dental Visit in the Past Year by Race, Income and Education: 2012

Percent without dental visit in past year

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Income</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>Black 35.5%</td>
<td>Hispanic 32.2%</td>
</tr>
<tr>
<td></td>
<td>Asian 40.5%</td>
<td>$25,000-34,999</td>
</tr>
<tr>
<td></td>
<td>$35,000-49,999</td>
<td>$50,000-74,999</td>
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<td>$75,000</td>
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<tr>
<td></td>
<td>High school</td>
<td>College 1-2 years</td>
</tr>
<tr>
<td></td>
<td>College 4+ years</td>
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</tr>
</tbody>
</table>

Source: Massachusetts Department of Public Health, Behavioral Risk Factor Surveillance Survey

Percent of Massachusetts Adults Ages 18 and Over Missing Six or More Teeth by Race, Income and Education: 2012

Percent Missing Six or More Teeth

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Income</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>Black 15.5%</td>
<td>Hispanic 16.9%</td>
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<tr>
<td></td>
<td>$25,000-34,999</td>
<td>$35,000-49,999</td>
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<tr>
<td></td>
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<td>High school</td>
</tr>
<tr>
<td></td>
<td>College 1-2 years</td>
<td>College 4+ years</td>
</tr>
</tbody>
</table>

Source: Massachusetts Department of Public Health, Behavioral Risk Factor Surveillance Survey
Oral Health continued

Commonwealth of Massachusetts Fluoridation Status

[Map showing the fluoridation status of Massachusetts communities, with labels for non-fluoridated, partially fluoridated, fluoridated, and no community water supply communities.]
Research has found that living at less than 200% of the federal poverty level reduces quality-adjusted life expectancy more than any other risk factor, including smoking and obesity. The negative impact of poverty and low family incomes on children has been especially well documented; children who live in poor families are at greater risk of experiencing inadequate nutrition and food insecurity, lack of access to health care, behavioral and socio-emotional problems, physical health problems, and developmental delays.

The impact of poverty affects not only the children who experience it, but also the society as a whole; before the recession economists estimated that child poverty cost the United States $500 billion a year in lost productivity and spending on health care and criminal justice. (2)

**Trends**

Prior to 2010, the state’s poverty level had remained relatively stable at around 10%; however the rate jumped to 11.4% in 2010 and has not returned to previous levels since then. In 2012, 11.9% of the state’s population was living below the poverty level, about the same as 2011, when the poverty rate in Massachusetts was 11.6%. (3)

In 2012 the poverty threshold for a family of four was $23,283, although research indicates that families need an income of about twice the federal poverty threshold to meet their most basic needs. (6) In 2012, 15.2% of the state’s population was living below 125% of the poverty threshold (3) and 30% of children were living in families with incomes below twice the poverty threshold. (6)

While the state poverty rate did not decline, the median income grew slightly from $64,171 in 2011 (adjusted to 2012 dollars) to $65,339 in 2012, a 1.8% increase, although this was still 5.4% lower than it was before the recession began. (11) However in June of 2014, the unemployment rate in the state fell to 5.5%, the lowest since August of 2008. (4)

**Groups at Risk**

In 2012, women in Massachusetts were more likely to be living in poverty than men (13.0% vs. 10.7%). Among racial and ethnic groups, blacks, American Indians, and Asians all had higher rates of poverty than whites: 23.4% of blacks were living in poverty, 29.1% of American Indians, and 16.0% of Asians, compared to 9.3% of whites. Hispanics of any race also had high rates — 30.9% were living below the poverty level. (7)

Not surprisingly, people with lower levels of education also had higher poverty rates: 25.6% of those with less than a high school education were in poverty compared to 4.2% of those with a bachelor’s degree or higher. With respect to employment status, among those ages 16 and older, 23.1% of unemployed people and 13.0% of those working part time lived below the poverty level, compared to only 1.2% of those working full time. (7)

With respect to age, the group most affected by poverty was children: 15.4% of children under the age of 18 and 17.5% of children under the age of 5 were living in poverty compared to 11.3% of those aged 18 to 64, and 9.3% of those 65 and older. This translates into 213,611 children under the age of 18 living below the poverty level. (7,10) According to the Boston Globe, “Child poverty rose in the state even as it is dropping nationally... The poverty rate for children in Massachusetts increased more than three percentage points between 2009 and 2013 — to 16.3 percent — even as the reported unemployment rate declined.” (13)

Among poor children, 14% lived in families with at least one parent who was employed full-time year-round, and 41% lived in families with at least one parent who was employed either part-year or part-time; 44% of poor children lived in a family without an employed parent. Looking at children in low-income families — that is families with incomes below twice the poverty level — more than a third (35%) had at least one parent employed full-
time year-round. Only about a quarter of children in low income families (27%) had a parent or parents who were unemployed. Almost three-quarters of poor children (74%) and 61% of low-income children lived in a family with an unmarred parent; this compared to only 22% of non-poor children and 17% of non-low-income children. More than one in five poor children (22%) lived in a family that had moved within the last year; this compared to 9% of children in non-poor families. Among children in low-income families, 19% had moved in the previous year. (6)

Among children whose parents did not have a high school degree, more than half (55%) lived in poor families and 80% lived in low-income families. For children whose parents had a high-school degree but no college education, 29% lived in poor families and 56% in low-income families. However, nearly 1 in 5 children (19%) who had a parent with at least some college education also lived in a poor family. (6)

With respect to geography, poverty rates in the state varied among counties. In 2012, the counties with the highest poverty rates overall and the highest rates for children under the age of 18 were Suffolk (20.5% and 26.2% respectively) and Hampden (19.1% and 30.5%); those with the lowest rates were Nantucket (7.5% and 9.4%), Norfolk (7.5% and 8.0%), Plymouth (7.8% and 10.7%), and Middlesex (8.4% and 9.5%). (10) The overall poverty rate for the Boston-Cambridge-Quincy Metropolitan Area in 2012 was 10.7%. (3) A recent study by the Federal Reserve Bank of Boston also noted that nearly 2 million people living in suburban communities surrounding New England’s major cities had low or barely moderate incomes and struggled with the same problems as the urban poor but without the same services and safety nets; this included about 80,000 children under the age of 5 in Eastern Massachusetts. (12)

Sources

7. U.S Census Bureau, American Fact Finder, Poverty Status in the Past 12 Months (Massachusetts), 2012 American Community Survey 1-Year Estimates.
Policy Perspective

Every child should have a chance to succeed in life, even children born poor. In Massachusetts, fewer of our children grow up in poverty than in most other states. But even so, one in seven Massachusetts children is poor. These children don’t have to be destined to a future that is forever limited by the circumstances of birth. Giving every child a fair chance to grow up healthy and have a life full of opportunity is hard, but research shows that there are specific strategies that can make a big difference.

Give every child the best start. Proper prenatal care and good nutrition can improve the odds of a healthy full-term pregnancy. Access to regular affordable health care is the best public policy to help insure a healthy pregnancy.¹ The Supplemental Nutrition Program for Women, Infants and Children (WIC) targets low-income pregnant women and children, and provides healthy food as a "prescription" for a healthy pregnancy.

Set every child on a path to learning. Learning starts from birth.² For working parents, access to affordable high-quality child care and developmentally appropriate education is essential for a child’s healthy brain development.

Make sure every child has a safe and stable home. There is a direct connection between poor quality housing and the emotional well-being of children.³ Access to affordable and well-maintained housing makes a difference in the health of parents as well as children.⁴

Give every child the tools to succeed. When children live in safe and stable neighborhoods and go to good schools, they are more likely to graduate on time and move on to college or meaningful work.⁵

These are all goals that are within our reach, if we choose to make these effective investments in our children. We are not a poor state. We are a state with poor children. We can choose to make sure that every child has access to a life that gives them the best future possible. Together, as a Commonwealth, we can have a significant impact on children at every stage of their lives.

Nancy Wagman
KIDS COUNT Project Director
Massachusetts Budget and Policy Center

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**Poverty continued**

Percentage of People in Poverty Massachusetts the United States: 2006-2012

![Graph showing poverty percentage](image)

Source: U.S. Census Bureau, American Community Survey

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Percent of Massachusetts Population Age 25 and Older in Poverty by Educational Attainment: 2012

<table>
<thead>
<tr>
<th>Educational Attainment</th>
<th>Percent in Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor’s degree or higher</td>
<td>4.2%</td>
</tr>
<tr>
<td>Some college, associate's degree</td>
<td>9.1%</td>
</tr>
<tr>
<td>High school graduate*</td>
<td>12.7%</td>
</tr>
<tr>
<td>Less than high school graduate</td>
<td>25.6%</td>
</tr>
</tbody>
</table>

*Includes high school equivalency
Source: U.S. Census Bureau, 2012 American Community Survey
Percentage of Massachusetts Population in Poverty by Family Type and Age 65 and Older: 2012

- Female household families: 27.1%
- All families: 8.5%
- Married couple families: 3.1%
- Age 65 or older: 9.3%

Source: U.S. Census Bureau, 2012 American Community Survey
Substance Abuse — Alcohol and Drugs

Substance abuse — including abuse of alcohol and drugs such as amphetamines, cocaine, hallucinogens, opioids, sedatives, hypnotics, and anxiolytics — is a behavioral disorder with public health and public safety implications reaching far beyond affected individuals and their families. Among the manifestations are recurrent failure to fulfill major obligations at work, school, or home, such as unexcused absences or neglect of children while intoxicated; repeated use of substances in hazardous situations, such as driving an automobile while under the influence; repeated substance-related legal problems, such as arrests for disorderly conduct; and persistent social or interpersonal problems, such as dissolution of a marriage or engaging in physical fights. Abuse of alcohol and drugs can also result in unintentional injuries, motor vehicle accidents, and deaths, and is a contributing factor in the incidence of violence and suicide.

Abuse of alcohol can lead to chronic health problems, such as cirrhosis of the liver, pancreatitis, high blood pressure, stroke, and certain cancers.

Abuse of drugs is associated with a range of negative health outcomes, including HIV/AIDS, Hepatitis C, and other sexually transmitted diseases. Use of opioids can also result in unintentional overdose deaths, and babies of mothers who use opioids may have low birth weights and/or be born drug-addicted and suffer severe withdrawal symptoms, such as difficulty feeding and breathing, diarrhea, and vomiting.

Trends: Alcohol Abuse

In 2013, 19.4% of adults in Massachusetts reported binge drinking and 7.5% reported heavy drinking. (Binge drinking was defined as having five or more drinks for men and four or more for women on any one occasion in the past month. Heavy drinking was defined as the consumption of more than 60 drinks in the past month for men and more than 30 drinks in the past month for women.) These rates did not change greatly since 2012, when 19.7% of adults reported binge drinking and 7.4% reported heavy drinking. (7) The 2012 Massachusetts percentages were higher than the national rates: in the United States in 2012, 16.9% of adults reported binge drinking and 6.1% reported heavy drinking. (1)

Among students, 18.1% of high school students and 2.1% of middle school students reported binge drinking in 2013, lower than the rates in 2011, when 22.7% of high school students and 2.8% of middle school students reported this behavior. Among high school students in 2013, over a third (33.5%) reported current alcohol use in 2013, as did 5.7% of middle schoolers. (Current alcohol use was defined as having drunk alcohol within the past 30 days.) This represented a decline compared to 2011, when 40.6% of high schoolers and 8.7% of middle schoolers reported current alcohol use. The percentage of students who reported ever having drunk alcohol also declined, from 68.0% of high schoolers in 2011 to 62.2% in 2013, and from 20.3% of middle schoolers in 2011 to 18.6% in 2013. (8,9)

The number of traffic fatalities that resulted from drivers who were alcohol-impaired has fluctuated only slightly since 2008. In 2008, 120 fatalities resulted from alcohol-impaired drivers, while in 2012 the figure was 123. The only year in which the figure was notably lower was 2009, when 106 people died in alcohol-related traffic accidents. (12) However, among students, the likelihood of both driving with an intoxicated driver and driving after drinking have declined since 2005. In 2013, 18% of high school students said they had ridden with an intoxicated driver in the past 30 days, compared to 23% in 2011 and 27% in 2005. In 2013, 7% of high school students said they drove after drinking in the previous 30 days; this was the same as in 2011 but a decline since 2005, when 11% of students said they had driven after drinking. (6)

Groups at Risk: Alcohol Abuse

Among adults, rates of binge drinking and heavy drinking were higher for younger adults and
then declined consistently with age. In 2013, 36.4% of 18 to 24 year olds and 30.6% of 25 to 34 year olds reported binge drinking, compared to 12.7% of 55 to 64 year olds and 5.5% of 65 to 74 year olds. Heavy drinking also declined with age, from 11.8% of 18 to 24 year olds to 6.3% of 65 to 74 year olds. With respect to gender, men had much higher rates of binge drinking than women (25.5% vs. 13.8%), as well as higher rates of heavy drinking (8.3% vs. 6.8%). (7)

Among racial and ethnic groups, whites had the highest rates of binge drinking (20.4%, compared to 14.8% of blacks, 18.9% of Hispanics, and 13.1% of Asians), and the highest rates of heavy drinking (8.4% of whites, 5.1% of blacks, and 3.5% of Hispanics). (7)

Rates of binge and heavy drinking tended to rise with both increased educational levels and increased household income. For example, 16.6% of those with less than a high school education reported binge drinking, compared to 18.7% of adults who completed high school and 21.4% of those with one to three years of college. Among those with four or more years of college, however, the figure was slightly lower, at 19.4%. Similarly 16.6% of those with household incomes under $25,000 reported binge drinking, compared to 17.6% of those with incomes between $25,000 and $34,999. For those with higher incomes, rates ranged from 20.2% to 22.9%. (7)

People without disabilities also had higher rates of binge drinking than people with disabilities (20.1% vs. 17.5%). (7)

Among students, boys had higher rates of binge drinking than girls (20.8% of boys in high school compared to 15.6% of girls, and 2.4% of boys in middle school compared to 1.7% of girls). Among high schoolers, whites had higher rates of binge drinking than blacks or Hispanics (20.2% vs. 7.9% and 17.5% respectively), although among middle schoolers, Hispanics had higher rates than whites (5.8% vs. 1.2%). Rates of binge drinking increased by grade level: for example 2.2% of 7th graders and 3.2% of 8th graders reported binge drinking, compared to 21.8% of 11th graders and 28.1% of 12th graders. With respect to current alcohol use, the rates between the genders were similar for both middle and high schoolers, but rates rose by grade level, from 2.3% of 6th graders to 46.2% of 12th graders. Among both middle and high schoolers, Hispanics had the highest rates of current alcohol use (10.3% and 38.2% respectively). Whites had the lowest rates among middle schoolers (4.7%), but blacks had the lowest rates among high schoolers (27.9%). (8)

**Trends: Drug Abuse**

In 2011-2012 the rate of illicit drug dependence or abuse in Massachusetts among people ages 12 and over was 2.5%, similar to the national rate of 2.7%. The rate has fallen since 2008-2009, when 3.5% of those 12 or over in the state were dependent on or abused illicit drugs. In the 2008 to 2012 period, about 173,000 people a year in this age group were dependent on or abused illicit drugs, approximately 3.1% of all persons in this population. Based on a single day count, in 2012 45,727 people were enrolled in substance abuse treatment in the state (treatment for drug problems, alcohol problems, or both). The number in treatment rose sharply between 2009 and 2011, from 36,815 to 46,891, before falling slightly in 2012. Between 2008 and 2012, among those over age 12 who used illicit drugs, 14.1% received treatment, similar to the national rate. (16)

In FY2012, 105,189 people were admitted for substance abuse treatment services in the state; this number included 2,298 admissions of people under the age of 18. The comparable figures in FY2011 were 102,789 admissions, including 2,233 admissions of people under 18. The number of adult admissions for substance abuse services has been generally stable since FY2004. (11)

However, the number of admissions in FY2012 among people 18 and older who reported using heroin was 47,762, up from 42,999 in FY2011. The number of admissions in FY2012 was close to the numbers in the period FY2001 to FY2003, when admissions ranged from 48,659 to 51,445, but higher than in the period FY2004 to FY2011, when
admissions ranged from 41,503 to 45,150. (12) In addition, the rate of unintentional opioid-related deaths in 2012, which includes deaths related to heroin, was 10.1 deaths per 100,000 residents, the highest rate ever recorded in the state; this figure translates to 668 deaths. In 2013, based on preliminary data for the first six months of the year, it is expected that the figure will be even higher; estimates are for 674 deaths. The 2012 rate was higher than the rate of 9.2 deaths per 100,000 residents in 2011 and reflected a fluctuating but generally increasing rate since 2000, when 5.3 residents per 100,000 (or 338 people) died from unintentional opioid overdoses. Between 2000 and 2013, the number of fatal opioid overdoses increased by 90 percent. (10)

In addition, data from a collaborative of hospitals in the state suggested that in 2013 the number of babies born in Massachusetts with opiates in their system was more than triple the national average. According to the data, in 2013 more than 1,300 babies in the state, or about 17.5 per 1,000 hospital births, were born with narcotics in their system. This figure is much higher than the national rate in 2012 of 5 babies per 1,000. The 2013 rate in Massachusetts compared to a rate of 13.2 per 1,000 births in 2011, and to 8.5 per 1,000 births in 2008. Based on the hospitalization data, the rate of babies born in the state with opiates in their system doubled from 2008 to 2013. (4,14)

In the 2012 edition of Common Health for the Commonwealth, the Massachusetts Health Council highlighted the growing problem of opioid addiction and overdose deaths as a threat that was already affecting a number of towns and cities throughout the state. The rapid increase in deaths led Governor Deval Patrick to declare in March of 2014 that opioid abuse had become a public health emergency. (10) On August 6, 2014, he signed a law that requires insurers to provide coverage for inpatient addiction treatment.

Among students, in 2013, 42.5% of high school students and 11.6% of middle school students reported that at some point they had used illegal drugs. (8)

The most commonly used drug was marijuana: 41% of high schoolers and 8% of middle schoolers reported using the drug at least once in their lives, and 25% of high schoolers and 3% of middle schoolers reported they had used the drug in the past 30 days. Lifetime use of marijuana among both high schoolers and middle schoolers, while fluctuating, has not changed greatly since 2007. (6)

With respect to the use of other illicit drugs, the reported use of cocaine and methamphetamines among high school students declined slightly but significantly between 2011 and 2013: from 5% to 4% in the case of cocaine, and from 3% to 2% for methamphetamines. Use of cocaine, ecstasy, methamphetamines and steroids have all declined somewhat since 2005. The use of heroin in that time period has fluctuated, but lifetime use declined from 2% of high schoolers in 2011 to 1% in 2013.

Among middle schoolers, 6% reported ever using other illicit drugs. The figure was 7% in 2011 (7%); however the percentage has declined steadily since 2007, when 10% of middle schoolers reported use of other illicit drugs. (6)

In 2013, 23% of high school students reported that they had sold, been offered, or been given drugs at school in the past year; this represented a decline from 27% in 2011 and 30% in 2005. (6)

Groups at Risk: Drug Abuse

With respect to admissions for substance abuse treatment, among adults 18 years of age and over, the groups most likely to be admitted were men (68.8% of all admissions), whites (81.2% of admissions), and people between the ages of 21 and 39 (61.0%) of admissions. More than 8 in 10 (80.1%) of those admitted were unemployed, almost 2 in 10 (19.3%) were homeless, 42.5% had received prior mental health treatment, and 42% reported injection drug use in the past year. (11) Among those enrolled in treatment for heroin addiction, 67.9% were men, 83.2% were white, 74.1% were between the ages of 21 and 39, 90.0% were unemployed, 25.8% were...
homeless, 41.3% had received prior mental health treatment, and 83.3% reported injection drug use in the past year. (12)

Cities and towns in which the number of unintentional opioid overdose deaths more than doubled between the 5-year periods 2003-2007 and 2008-2012 included Attleboro, Bourne, Carver, Holyoke, North Attleboro, Pembroke, Stoughton, Tewksbury, and Webster. Some of the larger towns and cities that saw an increase of 20 or more deaths included Quincy (57 deaths in 2003-2007 and 94 deaths in 2008-2012), Springfield (66 deaths vs. 86 deaths), Weymouth (36 deaths vs. 56 deaths), and Worcester (90 deaths vs. 114 deaths). (10) More recently Worcester, like many communities across the state, experienced a sudden spike in deaths from heroin overdoses; in the first week of August 2014, at least nine people died in Worcester from overdoses. This led police to speculate that the heroin might have been contaminated with additional lethal substances. (14) Some of the cities that saw a notable decrease in the number of deaths included Boston, Cambridge, Gloucester, Lawrence, Lynn, and Salem. (10)

Among students, boys in both high school and middle school were more likely to be current marijuana users than girls (29.4% of high school boys and 18.6% of high school girls, and 4.7% of middle school boys and 2.1% of middle school girls). Among middle schoolers, Hispanics were much more likely than whites to be current marijuana users (6.8% vs. 2.9%). However among high schoolers, rates for whites, blacks, and Hispanics tended to be similar (24.3% of whites, 25.4% of blacks, and 27.3% of Hispanics). (8)

**Protective Factors**

Individual communities hard-hit by opioid overdoses and deaths have begun to mobilize, creating coalitions to address the crisis. After creating such a coalition, the city of Taunton, which had experienced nine deaths in 11 weeks, saw a dramatic improvement; it recorded only one opioid-related death in the 18-week period from March 29 through August 3, 2014. Taunton officials noted that the community rallied to address the crisis, engaging residents, the schools, police, elected officials, the local hospital, other health and human service providers, the Department of Public Health, and Taunton residents in frank discussions about the problem, helping to spread awareness about the dangers of opioid abuse and inform people about available resources to address it. City officials suggested that, along with these actions, other factors may have contributed to the turnaround. Due to increasing pressure on them, drug dealers may have reduced the lacing of heroin supplies with fentanyl, a potentially deadly additive. An increasing awareness about, availability of, and trainings in the use of Narcan (naloxone), a medication that reverses the life-threatening effects of an overdose, may also have played a role. (5)

### Sources


12. Massachusetts Department of Public Health, Bureau of Substance Abuse Services, Substance Abuse Treatment Fact Sheet – FY2012 Heroin Users.


15. Substance Abuse and Mental Health Services Administration, Behavioral Health Barometer: Massachusetts, 2013.
Over the past 10 years a significant shift has occurred in the addiction treatment system in Massachusetts; the individuals seeking treatment are significantly younger. They are young adults that often started using alcohol and legal/illicit substances at 11 or 12 years of age and now have chronic substance use disorders.

The adolescent years are a vulnerable time for experimenting with substances and the development of substance use disorders. The brain systems that govern emotion and reward-seeking are fully developed but the circuits that govern judgment and self-inhibition are not, which is why adolescents can act impulsively and be easily swayed by peers to participate in risk taking behaviors. Because critical neural circuits are also still forming, the adolescent brain is susceptible to being modified in a lasting way, thereby making the development of a lifetime substance use disorder much more likely.

Drug use during adolescence interferes with crucial social and developmental skills and compromises cognitive development. Most young people do not appreciate the risks posed by addictive substances to their brains, so there is an urgent need to intervene as early as possible. Parents are frequently unaware that their adolescents are using drugs or alcohol, or dismiss such use as a normal part of growing up - a rite of passage into adulthood.

The National Institute on Drug Abuse (NIDA) developed a list of prevention principles based on research. This document is reprinted on the following pages and is available at http://www.drugabuse.gov/publications/preventing-drug-use-among-children-adolescents. Parents, educators, and community leaders should use these principles to guide their thinking, planning, selection, and delivery of prevention programs at the community level. NIDA’s prevention research focuses on risks for drug use and other problem behaviors that occur throughout a child’s development, from pregnancy through young adulthood. Research shows that early intervention can prevent many adolescent risk behaviors.

Vicker V. DiGravio III
President/CEO
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Constance Peters
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The principles listed below are the result of long-term research studies on effective prevention programs, and were developed by the National Institute on Drug Abuse to address drug use among children, adolescents, and young adults in communities across the country. Parents, educators, and community leaders can use these principles to help guide their thinking, planning, selection, and delivery of prevention programs at the community level.

NIDA's prevention research focuses on risks for drug use and other problem behaviors that occur throughout a child's development, from pregnancy through young adulthood. Research shows that early intervention can prevent many adolescent risk behaviors.

**Principle 1** - Prevention programs should enhance protective factors and reverse or reduce risk factors. The risk of becoming addicted to drugs involves the relationship among the number and type of risk factors, such as deviant attitudes and behaviors, and the protective factors such as parental support. The impact of such factors changes with age. For example, risk factors within the family have greater impact on a younger child while association with drug-using peers may be a more significant risk factor for an adolescent.

**Principle 2** - Address all forms of substance use including the underage use of legal drugs such as tobacco and alcohol or the use of illegal drugs like marijuana or heroin and the inappropriate use of legally obtained substances, prescription medications, or over-the-counter drugs.

**Principle 3** - Prevention programs should address the type of substance use problem in the local community, target modifiable risk factors, and strengthen identified protective factors.

**Principle 4** - Prevention programs should be tailored to address risks specific to population or audience characteristics such as age, gender and ethnicity, to improve program effectiveness.

**Principle 5** - Family-based prevention programs should enhance family bonding and relationships and include parenting skills such as practice in developing, discussing, and enforcing family policies on substance use; and training in drug education and information. Family bonding is the bedrock of the relationship between parents and children and can be strengthened through skills training on parent supportiveness of children, parent-child communication, and parental involvement. Parental monitoring and supervision are critical for substance use prevention. These skills can be enhanced with training on rule-setting, techniques for monitoring activities, praise for appropriate behavior, and moderate, consistent discipline that enforces defined family rules. Drug education and information for parents or caregivers reinforces what children are learning about the harmful effects of drugs and opens opportunities for family discussions about the inappropriate use of legal and illegal substances. Brief, family-focused interventions can positively change parenting behavior that can reduce risky substance use.

**Principle 6** - Prevention programs can be designed to intervene as early as infancy to address the risk factors for substance use, such as aggressive behaviors, poor social skills, and academic difficulties.
Principle 7 - Prevention programs for elementary school children should target improving academic and social-emotional learning to address risk factors for drug use, such as early aggression, academic failure, and school dropout. Education should focus on self-control, emotional awareness, communication, social problem-solving and academic support skills, especially in reading.

Principle 8 - Prevention programs for middle or junior high and high school students should increase academic and social competence with good study habits and academic support, communication, peer relationships, self-efficacy and assertiveness, drug resistance skills, reinforcement of anti-drug attitudes and strengthening personal commitments to not use substances.

Principle 9 - Prevention programs aimed at key transition points, such as the transition to middle school, can produce beneficial effects even among high-risk families and children. Such interventions do not single out risk populations and, therefore, reduce labeling and promote bonding to school and community.

Principle 10 - Community prevention programs that combine two or more effective programs, such as family-based and school-based, can be more effective than a single program alone.

Principle 11 - Community prevention programs reaching populations in multiple settings - for example schools, clubs, faith-based organizations, and the media - are most effective when they present consistent, community-wide messages.

Principle 12 – Prevention programs should retain core elements of the original research-based intervention which include structure (how the program is organized and constructed), content (the information, skills, and strategies of the program) and delivery (how the program is adapted, implemented, and evaluated).

Principle 13 - Prevention programs should be long-term with repeated interventions to reinforce the original prevention goals. Research shows that the benefits from middle school prevention programs diminish without follow-up programs in high school.

Principle 14 - Teacher training on good classroom management practices, such as rewarding appropriate student behavior, is critical. Such techniques foster students’ positive behavior, achievement, academic motivation, and school bonding.

Principle 15 - Prevention programs are most effective when they employ interactive techniques, such as peer discussion groups and parent role-playing that allows for active involvement in learning about drug use and reinforcing skills.

Principle 16 - Research-based prevention programs can be cost-effective. Recent research shows that for each dollar invested in prevention, a savings of up to $10 in treatment for alcohol or other substance abuse can be seen.
The attraction to drugs and addiction to drugs has been an issue since the beginning of time. Generally, drug addicts start because of the allure, an emptiness inside, peer pressure, availability, and/or a prescription. Actions are finally being taken to address the problem, as we see more and more lives lost from the rise in opioid and other drug addictions.

In early spring of 2014, three concurrent moves occurred:

- the Massachusetts Senate conducted hearings to find out why sectioning (involuntary commitment of a person by a court order) was growing in leaps and bounds
- Governor Deval Patrick declared that Massachusetts is suffering from an Opiate epidemic and authorized an Opioid Task Force to come up with recommendations to address the crisis
- The Joint Mental Health and Substance Abuse Committees held hearings around length of stay for inpatients and insurance issues. Persons in recovery and their families shared their experiences in being unable to access the care they needed.

By the end of the 2014 legislative session, a bill was signed into law that insurance companies need to allow at least 14 days of inpatient treatment when deemed Medically Necessary by the treating clinician.

It also included acknowledging that Licensed Alcohol and Drug Clinicians I services should be insurance reimbursed. It is ironic, that it is the only Masters level clinical profession that requires the skills and education to treat addiction.

It further requires improved prescription monitoring — ascertaining that all doctors must sign on to the MA Prescription Monitoring Program (PMP) and fulfill the pain medication course requirements.

Governor Deval Patrick’s Opiate Task Force came out with recommendations to further prevent drug addiction and reinforce recovery by increasing prevention coalitions, representing community sectors with local residents who are living and breathing the perils of drug addiction talking with one another, living out a commitment to make the positive changes from prevention to recovery support.

Coalitions need to collaborate with police, educators, health care givers, first responders, and recovery community to move towards really making a difference in preventing and reducing the incidence of drug addiction and deaths. The Good Samaritan Law needs to be publicized “…that protects a person from arrest for simple drug possession if that person calls 911 to save a life.”… and allows the medical profession to prescribe narcan, (naloxone, a medication that prevents a fatal opioid overdose). This is to reduce the fear of arrest and hopefully to break the stigma.

Through this all — if we want to really prevent drug use in the beginning — we really have to foster the support of families, who will call for the discussions, in their school, places of worship, and recreation systems — so it becomes every day discussion about inspiring confidence in our youth to make healthy choices. We need to inspire strength in our youth — so they can talk openly about their challenges. Some might use the federal government term, “Recovery Oriented System of Care”

People in recovery and their family members willing to speak up to make positive changes is the way to combat stigma. It is parallel to the need to talk in a helpful, open and honest way about drugs and addiction. With that — we need the correct information that can be inspired by education from coalitions, effective research, and positive activities. If we learn our lessons from the Opioid (All drugs) Epidemic, we can build a brighter future for our communities.

Maryanne Frangules
Executive Director
MA Organization for Addiction Recovery
Underage drinking and binge drinking, by both adolescents and young adults, continue to be serious health problems, nationally and in Massachusetts. Although state and community prevention efforts in recent years have focused on opioid overdoses and non-medical use of prescription drugs, tools for Screening, Brief Intervention, and Referral to Treatment (SBIRT) — for both alcohol and drug abuse — have seen increasing use. Screening and Brief Intervention (SBI) is a proven approach to identifying and reducing alcohol abuse, promoted by both the American Medical Association and American Society of Addiction Medicine. When referrals are needed for specialty treatment, medical staff may provide information or may help the patient connect with the referral.

Although yet to be proven as effective in identifying and reducing drug abuse, including non-medical use of prescription drugs, SBIRT appears promising in this regard. Concurrent use of alcohol and opioids — both of which depress breathing — is especially dangerous because each can reinforce the other’s depressive effects. Screening is a useful way to identify and intervene with youth and young adults who may be using both substances to enhance their respective effects. Research has found that four of five individuals who use heroin started with prescription opioids, indicating the importance of physician offices as screening locations.

SBIRT can complement the work being done by Massachusetts communities to address opioid overdoses, which includes working with local prescribers to encourage appropriate prescribing of opioids, and the provision of naloxone, and training in its use, to individuals addicted to opioids and their families and friends. For example, local prescribers could be encouraged to screen patients for drug misuse and abuse as well as alcohol abuse. Similarly, SBIRT can enhance the work of communities funded to address youth non-medical use of prescription drugs, through implementation by local prescribers and through the use of screening in middle and high schools.

For more information about SBIRT, visit http://attenetwork.org/national-focus-areas/?rc=sbirt.

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Two years ago when I contributed a policy perspective, 17 states had ignition interlock laws for all convicted OUI (Operating Under the Influence) offenders. Since that time 7 more states have joined those ranks bringing the total number up to 24. Additionally, 16 states require interlocks for those convicted with a BAC of .15 or greater. Meanwhile, and as per usual, Massachusetts remains one of the last states to join the party of proven, effective, lifesaving traffic safety measures as one of a handful of states that require interlocks for only repeat offenders.

According to the National Highway Traffic Safety Administration, over 10,000 people were killed nationally as a result of drunk driving in 2012. In Massachusetts, 123 people were killed in OUI crashes in Massachusetts, representing 35% of the total motor vehicle traffic fatalities in the Commonwealth. When Massachusetts passed Melanie’s Law in October of 2005, which among other things required interlocks for repeat offenders, that was progress. In the almost 10 years since the passage of that landmark legislation we have done nothing from a public policy standpoint to reduce or eliminate drunk driving deaths, which are 100% preventable.

While we have seen a 20% reduction in drunk driving fatalities since 2005 because of Melanie’s Law and the vigilance of law enforcement in enforcing our OUI laws, more must be done to ensure that as a Commonwealth we are doing everything we can to keep people safe and save lives. Oregon, Arizona, Louisiana and New Mexico have all seen their drunk driving deaths drop by more than 30 percent after all-offender interlock laws were passed. Research from the Center for Disease Control finds reductions in repeat offenses of about two-thirds due to interlocks. In Massachusetts, only 2% of the thousands of offenders that have been through the interlock program have been arrested again for OUI.

About one-third of the drunk driving problem – arrests, crashes, deaths, and injuries – comes from repeat offenders. At any given point we potentially share the roads with 2 million people with three or more drunk driving offenses. Just think, if about a third of the drunk driving problem that kills over 10,000 people each year and injures about 350,000 more comes from repeat offenders, and we can reduce their repeat offenses by two-thirds, we can save thousands of lives and prevent tens of thousands of injuries each year.

Unfortunately in Massachusetts we continue to have no meaningful sanctions in place for the first offender as we continue to view first offences as single, isolated incidents committed by good, law abiding citizens who simply “made a mistake”. The truth couldn’t be further from that view. Each day across America there are almost 300,000 drunk driving trips, while fewer than 4,000 are arrested—roughly 1%. In Massachusetts, between 16,000-17,000 people are arrested for OUI annually. That’s 43-46 arrests per day. Assuming those trips represent 1% of all the drunk driving trips taken in a day, that’s between 4,300-4,600 trips per day and about 1.5 million drunk driving trips per year. Conservative estimates show OUI offenders have driven drunk at least 80 times before they are arrested. Additionally, research has found that first offenders’ patterns of recidivism are generally similar to a repeat offenders.

MADD supports immediate reinstatement of driving privileges for drunk drivers providing the offender uses an ignition interlock. An interlock is more effective than license suspension alone, as 50 to 75 percent of convicted drunk drivers continue to drive on a suspended license. Ignition locks let people convicted of drunken driving keep driving for work, school and other necessities, without putting others at risk. The shift — from suspended licenses to this proven technology — requires a philosophical shift from punishment to prevention. More important, it’s proven to stop drunken drivers and save lives in the process.

David Deluliois
Program Manager
MADD Massachusetts
Current Alcohol Use* and Abuse Among Adults
Ages 18-24: Massachusetts and U.S. 2012

*Current alcohol use is defined as having had at least one drink in the past 30 days.
Source: Massachusetts Department of Public Health, Behavioral Risk Factor Surveillance System

Alcohol Use Among Massachusetts
High School Students: 2005-2013

Source: Massachusetts Department of Elementary and Secondary Education, Youth Risk Behavior Survey

Alcohol Use Before the Age of 13 in
Massachusetts and the U.S.: 2003-2013

Source: Massachusetts Department of Public Health, Youth Health Survey
Rate of Unintentional Opioid Overdose Deaths per 100,000 Massachusetts Residents: 2000-2013

Source: Massachusetts Department of Public Health, Bureau of Health Information, Statistics, Research and Evaluation, Injury Surveillance Program

Lifetime Use of Selected Drugs Among Massachusetts High School Students: 2005-2013

Source: Massachusetts Department of Elementary and Secondary Education, Youth Risk Behavior Survey
Tobacco

Cigarette smoking remains the leading cause of preventable death in both the United States and Massachusetts. It has been causally linked to diseases of nearly all organs of the body and to diminished health status. More than 8,000 Massachusetts residents die each year from tobacco-related diseases, such as cancers of the lung, larynx, throat, esophagus and mouth; heart disease and stroke; and emphysema and other respiratory diseases. Tobacco kills more people each year than car accidents, AIDS, homicides, suicides and poisonings combined. In addition, tobacco use imposes a large economic burden on the state, resulting in more than $4.5 billion annually in direct health care costs. (12)

Environmental tobacco smoke (ETS), or secondhand smoke, is a serious collateral problem. ETS contains at least 250 chemicals known to be toxic, including more than 70 that can cause cancer (3), and is associated with many adverse health consequences, such as increased risk of heart disease and lung cancer. (12)

Trends

In 2013, 16.6% of Massachusetts adults reported currently smoking – that is, they had smoked at least 100 cigarettes in their lifetime and currently smoke either some days or every day. This was about the same as in 2012, when 16.4% of adults were current smokers, but a decrease from 2011, when 18.2% of adults reported currently smoking. (8) These rates were lower than the national rates; nationally, 19.6% of adults in 2012 and 21.2% of adults in 2011 were current smokers. (6) The percentage of adults who are smokers has generally declined since 2002, but because of changes in the way data were collected after 2010, it is not possible to compare rates after 2010 with earlier years.

Among youth, according to data from the Department of Elementary and Secondary Education, in 2013 3% of middle school students and 11% of high school students were current smokers. This percentage was unchanged for middle school students compared to 2011 but represented a decline for high school students, when 14% reported being current smokers. (7) Use of cigars has also declined among high school students, from 14.5% in 2011 to 10.8% in 2013, as did use of smokeless tobacco, from 6.8% in 2011 to 4.8% in 2013. (13)

Rates of cigarette smoking among youth have generally been falling since 2007, when 5% of middle school students and 18% of high school students were current smokers. The percentages of students reporting they have ever tried smoking a cigarette has declined steadily; for high schoolers the rate fell from 51% in 2005 to 32% in 2013, and for middle schoolers from 16% in 2007 to 9% in 2013. (7)

While the number of packs of cigarettes sold per capita in Massachusetts has fallen significantly since 2005, when the rate was 43, it has been roughly stable since 2009. In 2013, the number of current cigarette packs sold per capita was 32.2, a slight drop from 2012, when the per capita number was 33.5. (2)

Groups at Risk

Among adults, in 2013 people between the ages of 25 and 34 had the highest percentage of current smokers (20.8%); this compared to 12.7% of people 65 to 74 years of age who smoked and 5.7% of those 75 and over. (8)

Rates also differed significantly by level of education and household income; 25.6% of those with less than a high school education smoked, compared to 6.1% of those who had completed four or more years of college. Those with lower incomes also smoked at much higher rates than those with higher incomes – 26.5% of those with household incomes less than $25,000 currently smoked, compared to only 9.1% of those with household incomes of $75,000 or more. While rates varied among ethnic and racial groups, the differences were smaller – 21.6% of blacks were current smokers, 15.5% of Hispanics, and 16.9% of whites. (8)

People with disabilities smoked at much higher rates than those without disabilities (26.0% vs.
13.2%). Other groups with a higher likelihood of smoking included people in poor mental health (33.5%), people on MassHealth (31.8%), and LGBTs (27.7%).

In 2013, men smoked at slightly higher rates than women (18.7% vs. 14.7%). However, women who smoke during pregnancy are more likely to miscarry or give birth to babies with low birth weights than women who do not smoke. In 2012, 7.3% of births were to women who reported smoking during pregnancy; this percentage has fluctuated since 2007, when 7.5% of births were to women who smoked. Among those who gave birth, 9.2% of white women reported smoking during pregnancy, compared to 5.2% of black women, 4.9% of Hispanic women, and 1.2% of Asian women. In addition, 14.7% of women with less than a high school education smoked, as did 15.0% of those who completed high school, compared to 1.3% of those who graduated college and 0.4% of those with post-graduate education.

Among geographical regions in the state, in 2012 the Western and South East regions had the highest percentages of current smokers (20.0% and 19.3% respectively), while the Metro West and Boston regions had the lowest percentages (11.5% and 13.4% respectively). Among occupational groups, those in the food preparation and serving industry and in building and grounds cleaning and maintenance occupations had the highest percentages of current smokers (31.6% and 32.7%), while those in education, training and library occupations and in protective services had the lowest percentages (6.4% and 7.3%).

Among students, according to data from the Department of Public Health, boys were more likely to smoke than girls; in 2013, 11.1% of high school boys were current smokers, compared to 7.5% of girls. Rates of smoking increased steadily by grade; 1.1% of 6th graders were current smokers compared to 12.0% of 12th graders. Among middle schoolers, 6.6% of Hispanics reported being current smokers, compared to 1.9% of whites; however at the high school level, rates were much more similar, with 10.3% of whites and 10.1% of Hispanics reporting that they currently smoked.

Risk and Protective Factors

Environmental tobacco smoke (ETS), which is generally called secondhand smoke, has been linked to lung cancer deaths, heart disease, and respiratory illness. Nonsmokers who are exposed to secondhand smoke either at home or at work have a 25% to 30% greater risk of developing heart disease and a 20% to 30% greater risk of developing lung cancer. In 2013, 36.2% of adults reported being exposed to ETS, including 9.9% of adults who were not themselves smokers; 83.6% lived in households where smoking was not allowed. While the percentage of those exposed to ETS has not changed greatly in the last few years (36.4% in 2012 and 37.9% in 2011), the rate has fallen substantially since 2002, when 73.1% of Massachusetts adults were exposed to ETS.

Groups most likely to be exposed to ETS generally mirrored groups with higher percentages of current smokers; some of the greatest disparities in exposure to ETS related to age, education, and household income. For example, 76.7% of people with less than a high school education lived in a household where smoking is not allowed, compared to 92.2% of those with four or more years of college, while 44.0% of those with less than a high school education were exposed to ETS compared to 27.5% of those with four or more years of college. Among racial and ethnic groups, Hispanics were most likely to be exposed to secondhand smoke (42.2%); the rates for whites, blacks, and Asians were 35.0%, 37.8%, and 39.2% respectively.

Research has also shown that people who use smoking cessation medications are more likely to quit smoking than those who try to quit on their own, and combining medications with counseling support significantly increases the likelihood that people will stop smoking for good. In the first two and a half years after Massachusetts added a
tobacco cessation benefit to MassHealth in 2006, the smoking rate among MassHealth members fell by 10% a year. (12)

In addition, cigarette sales have dropped as taxes on cigarettes have increased. Between FY1992 and FY2012, the excise tax per pack of cigarettes in Massachusetts rose from $0.26 to $2.51 while the number of packs of cigarettes sold in the state dropped from 547 million to 221 million. (11)

E-Cigarettes

As defined by the U.S. Food and Drug Administration, “Electronic cigarettes, also known as e-cigarettes, are battery-operated products designed to deliver nicotine, flavor and other chemicals. They turn chemicals, including highly addictive nicotine, into an aerosol that is inhaled by the user. Most e-cigarettes are manufactured to look like conventional cigarettes, cigars, or pipes. As e-cigarettes are a relatively new phenomenon, usage data is just starting to become available.” (16) In September 2013, the Campaign for Tobacco-Free Kids said that “According to results from the National Youth Tobacco Survey, the percentage of high school students who reported ever using e-cigarettes jumped from 4.7 percent in 2011 to 10 percent in 2012.” (1) Other data from the Massachusetts Department of Public Health show that among high school students, the rate of those who used e-cigarettes in the past 30 days rose from 2.0% in 2011 to 3.7% in 2013. (13) At a recent meeting of the Massachusetts Health Council, Senator Jason Lewis, who co-chairs the Massachusetts Legislature’s Prevention for Health Caucus, stated, “High school kids are gravitating toward e-cigarettes like crazy.”

E-cigarettes are clearly not as safe as many people assume. Tobacco Free Mass summarizes the issue this way: “Some argue that ENDS [electronic nicotine delivery systems] help people reduce or quit smoking and are not as harmful as cigarettes. While ENDS are presumed safer than combustible cigarettes, they are not without harm. Nicotine increases blood pressure and heart rate, and recent studies indicate that levels of formaldehyde in vaped/smoked ENDS is near that of combustible cigarettes and results in exposures to both the user AND to those around him or her. We don’t have sufficient data yet on the health risks of e-cigarettes, both to their users and others exposed to the vapors they produce. We do know, however, that nicotine contained in e-cigarettes is not a safe substance.”

Sources


Tobacco continues to be the leading cause of preventable death and disease in the Commonwealth. Each year, nearly 9,000 Massachusetts residents die from its effects. Cigarette and cigar smoking and use of smokeless tobacco products account for nearly one-third of all cancer deaths, including cancers of the lung, larynx, throat, esophagus, and mouth.

Tobacco use accounts for 87% of lung cancer deaths in men and 70% of lung cancer deaths in women. Smoking exacerbates asthma symptoms and causes respiratory diseases such as chronic bronchitis and emphysema. Smokers are 12-13 times more likely than non-smokers to die from COPD (chronic obstructive pulmonary disease). Smokers are also at substantially (2 to 4 times) greater risk of heart disease, including stroke, heart attack, vascular disease, and aneurysm, as compared to non-smokers. In addition to the price paid in lives lost, tobacco imposes a heavy economic burden on the Commonwealth. In 2006 (most recent estimates available), the Massachusetts Department of Public Health (MDPH) estimated that the health care costs (e.g., hospital, nursing home, ambulatory care, prescription drugs, etc.) attributable to tobacco use was $4.3 billion annually, with an additional $1.7 billion or more in lost productivity. Tobacco’s principal psychoactive ingredient—nicotine—is highly addictive. Research on brain function sponsored by the National Institute on Drug Abuse suggests that the neural response to nicotine is particularly intense in adolescents and that the pleasurable effects of the drug dissipate quickly, requiring the smoker to continue dosing in order to prevent withdrawal. Other studies also indicate that nicotine primes the brain for addiction to other substances, including cocaine.

Massachusetts’ elected officials and administrators in public health service have taken steps to protect residents from the harm caused by tobacco and nicotine addiction. Smoking cessation programs for current users who want to quit smoking are well-established. The statewide smoke-free workplace law has been in effect since July 2004. MassHealth now covers all FDA-approved nicotine replacement therapies (e.g., gum, lozenges, inhalers, transdermal nicotine patches) and stop-smoking medications (Zyban, Chantix), as well as providing for one-on-one in-person and telephone counseling and support groups. The Affordable Care Act includes insurer provisions for comprehensive cessation services for nicotine addiction. Tobacco tax and minimum pricing laws also dissuade large numbers of people from smoking by preventing young people from starting and incentivizing smokers to quit. In 1992, the Massachusetts excise tax per pack of cigarettes was $0.26. In 2013, it was $3.51 (the second highest in

Sources continued


the U.S.). The excise tax on other tobacco products (e.g., dip, snuff, and other smokeless products) was raised to 210% of wholesale in 2013 (the highest in the U.S.). Over the same 20-year period, the number of packs of cigarettes sold in Massachusetts has decreased from 547 million (FY1992) to 182 million (FY2014), while revenues from the state’s excise tax on cigarettes have grown from $140 million (FY1992) to $621 million (FY2014).

Though cigarette consumption in the Commonwealth is on the decline, cigars, smokeless tobacco, and electronic nicotine delivery systems (ENDS) (e.g., e-cigarettes, e-hookah, and vape pens) are gaining in popularity, especially among younger users. Massachusetts tobacco laws do not yet include provisions banning the sale of ENDS to minors and their use in smoke-free workplaces.

And, a loophole in the Massachusetts tobacco law and tax code makes fruit- and candy-flavored cigars and ENDS more attractive to price-sensitive youth. Manufacturers have also increased the weight of some small cigars to qualify for a lower tax rate on large cigars, keeping them affordable to young smokers who are disinclined to buy cigarettes (currently costing approximately $10 a pack) in Massachusetts. Closing these tax loopholes could conceivably prevent thousands of Massachusetts youth from starting to smoke and could encourage tobacco users to quit.

Tami Gouveia, MSW, MPH
Executive Director
Tobacco Free Mass
Tobacco continued

Current Cigarette Use* Among Massachusetts Students by Grade Level: 2013

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Percent Current Smokers</th>
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<tbody>
<tr>
<td>6th</td>
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<tr>
<td>7th</td>
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<td>11th</td>
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<td>12th</td>
<td>12.0%</td>
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*Current cigarette use defined as reported smoking on one or more of past 30 days

Source: Massachusetts Department of Public Health, Youth Health Survey

Cigarette Use Among Massachusetts High School Students: 2005-2013

<table>
<thead>
<tr>
<th>Year</th>
<th>Current cigarette use</th>
<th>Smoked before age 13</th>
</tr>
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<tbody>
<tr>
<td>2005</td>
<td>21%</td>
<td>13%</td>
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<tr>
<td>2007</td>
<td>18%</td>
<td>12%</td>
</tr>
<tr>
<td>2009</td>
<td>16%</td>
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<tr>
<td>2011</td>
<td>14%</td>
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<tr>
<td>2013</td>
<td>11%</td>
<td>5%</td>
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</table>

Source: Massachusetts Department of Elementary and Secondary Education, Youth Risk Behavior Survey
Massachusetts Cigarette Consumption: Packs Sold Per Capita 2005-2013

Source: U.S. Department of Health and Human Services, Centers for Disease and Prevention

Smoking Prevalence Among Select Subpopulations of Massachusetts Adults: 2013

*Adults age 18-64  **Adults age 25+
Source: Massachusetts Department of Public Health, Behavioral Risk Factor Surveillance System
The health effects of violence can of course be immediate; homicide, for example, is the second leading cause of death for youths aged 15 to 24, and the leading cause of death for black youths. However, the health effects of violence can also be much longer term. Violence against children, which can impact their immediate health and development, can also negatively affect their health well into adulthood and increase their risk of further victimization. Violence against women can result in homicide, suicide, or injuries, but can also result in gynecological problems and sexually transmitted diseases; abdominal pain and gastrointestinal disorders; depression, stress, eating disorders, and emotional distress; and generally overall poor health.

**Trends**

Nationally, the number and rate of violent crimes fell steadily between 2008 and 2011; the number then rose slightly between 2011 and 2012, although the rate stayed the same. However, in Massachusetts, the number and rate increased somewhat between 2008 and 2010, but then declined in 2011 and 2012. In 2012, 26,953 violent crimes were committed in the state, at a rate of 405.5 per 100,000 residents, whereas in 2011, 28,232 violent crimes were committed, at a rate of 427.3 per 100,000 residents. In addition, the number of murders and non-negligent manslaughter fell from 184 in 2011 to 121 in 2012, although the number and rate of rapes stayed about the same (1,654 incidents in 2011 and 1,642 in 2012). Overall, between 2011 and 2012 the number of violent crimes in the state fell by 4.5% and the rate dropped by 5.1%. For comparison purposes, the number of violent crimes in Massachusetts in 2008 was 29,174 and the rate per 100,000 residents was 449.0. (3)

Hate crimes are crimes motivated in whole or part by bias against the victim’s perceived gender, race, religion, ethnicity, sexual orientation, or disability. In 2012, 291 hate crimes occurred in Massachusetts, a decline from the 367 hate crimes committed in 2011. Hate crimes motivated by race dropped from 166 in 2011 to 128 in 2012. (2)

In Boston, the number of fatal shootings in 2013 (based on the number of victims rather than the number of incidents) was 33 and the number of non-fatal shootings was 218; in 2012 the comparable figures were 40 fatal shootings and 207 non-fatal shootings. (1) Overall, while the number of violent crimes in Boston was similar in 2012 and 2011 (5,266 and 5,252 respectively), the number of violent crimes in the first six months of 2013 was somewhat higher than the number in the first six months of 2012 (2,524 and 2,455 respectively). The number of murders stayed about the same – 23 in the first six months of 2012 compared to 24 in the first six months 2013 -- while the number of rapes increased from 112 to 138. (3) In 2012, in the state as a whole, 16% of women and 5.5% of men reported experiencing sexual violence. In 2011, these figures were 20.1% and 4.6% respectively. (10)

Violent injury and death disproportionately affect adolescents and young adults in the United States. In 2013, according to data from the Department of Public Health, 10.4% of middle schoolers said they had been physically hurt by a family member in the past year. 7.3% of middle schoolers and 9.6% of high schoolers said they had been victims of dating violence in the past year, and 6.1% of high schoolers said they had been victims of sexual assault. It is difficult to detect clear patterns in these figures as compared to 2011. For example, in 2011 the percentage of middle schoolers saying they had been physically hurt by a family member in the past year was higher than in 2013 (11.4% vs. 10.4%), while the percentage saying they had been victims of dating violence was lower (5.3% vs. 7.3%). (11)

However, according to data from the Department of Secondary and Elementary Education, among high schoolers, while most indicators of physical violence -- such as carrying a weapon in the past 30 days or being a member of a gang -- stayed roughly the same between 2011 and
2013, the percentage involved in a physical fight dropped from 25% to 20%. In addition, while the percentage carrying a weapon or participating in a gang did not change greatly between 2011 and 2013, the rates have fallen since 2005. With respect to carrying a weapon, 15% of high schoolers reported doing so in 2005 compared to 12% in 2013, and 10% reported being in a gang in 2005 compared to 7% in 2013. (9)

In addition, according to Department of Public Health data, more than a third of middle school students (36.3%) and nearly a quarter of high school students (24.5%) said they had been victims of bullying in school in the past year; 13.6% of middle schoolers and 11.7% of high schoolers said they had been victims of bullying over the internet. Among middle schoolers, 8.1% said they had initiated bullying in school, and 4% said they had initiated bullying over the internet; among high schoolers, the figures were 9.3% and 5.9% respectively. For both middle and high schoolers, percentages reporting bullying in school were higher in 2013 than in 2011. For middle school students, 30.3% experienced bullying in 2011 compared to 36.3% in 2013, while for high schoolers the respective figures were 19.1% in 2011 compared to 24.5% in 2013. However, with respect to being victimized by bullying over the internet, about the same percentage of middle schoolers reported experiencing this type of bullying in 2011 and 2013, while a smaller percentage of high schoolers were cyber-bullied in 2013 compared to 2011 (11.7% vs. 15.9%). (11)

Groups at Risk

With respect to hate crimes, the greatest number have consistently been motivated by race, with sexual orientation the second most common motivation. In 2012, in Massachusetts 128 hate crimes were motivated by race and 80 by sexual orientation. (2)

In 2013, women were about three times more likely to experience sexual violence than men (16.2% vs. 4.8%). Rates of reported sexual violence were highest for women with one to three years of college (22.5%) and lowest for those with a high school education (12.4%). With respect to household income, the highest rate of sexual violence was reported by women with incomes between $35,000 and $49,999 (21.1%), the lowest rate by those earning between $25,000 and $34,999 (11.3%). (10)

In addition, an increase in sexual assault and rape on college campuses received much attention in Massachusetts in 2014 and administrators were asked to strengthen their responses to sexual violence complaints. At Harvard University, the number of reports nearly doubled between 2011 and 2012. (7,12)

According to Department of Public Health data, among middle school students in 2013, boys were more likely to report being hurt by a family member in the past year than girls (11.8% vs. 9.0%). Among ethnic groups, Hispanics and blacks had higher rates than whites (14.9% and 12.1% vs. 8.7%). With respect to dating violence, among middle schoolers boys reported higher rates than girls (8.1% vs. 6.0%), but among high schoolers girls had much higher rates than boys (13.0% vs. 5.8%). Hispanics generally reported the highest rates (13.0% of Hispanic middle schoolers said they had experienced dating violence compared to 5.5% of whites; 13.4% of Hispanic high schoolers experienced dating violence compared to 6.6% of blacks). (11)

Girls were also much more likely to be the victims of bullying at school than boys (42.5% vs. 30.4% for middle schoolers and 29.2% vs. 19.0% for high schoolers). The highest percentage of bullying was reported by 8th graders (37.9%) and the lowest by 12th graders (16.6%). Among racial groups, blacks were the least likely to report being bullied. Among high schoolers, 19.0% of blacks said they had been bullied compared to 24.5% of whites and 26.0% of Hispanics. These trends were generally the same with respect to experiencing cyber-bullying. For example, 19.2% of girls in middle school experienced cyber bullying, compared to 8.2% of boys, as did 16.1% of high school girls compared to only 6.6% of high school boys. (11)
Violence continued

Risk and Protective Factors

Risk factors for being victimized by or perpetrating violence vary depending on the type of violence, although many of the factors overlap.

Children are more likely to experience violence and abuse if they are under the age of 4, if they have special needs that make caretaking more difficult, and if their parents have substance abuse or mental health issues, experienced child maltreatment in their family of origin, lack an understanding of children’s needs and development, or are young, are single parents, or have low incomes and/or low levels of education. Children are also more at risk if they live in communities that have high rates of poverty and unemployment, a high density of alcohol outlets, high rates of violence, and weak social connections.

Risk factors for experiencing and perpetrating domestic and sexual violence overlap with many of the risk factors for child abuse. People are more at risk for both experiencing and perpetrating these types of violence if they have low levels of education, have been exposed to mistreatment as children, have witnessed family violence, abuse alcohol, and have attitudes that are accepting of violence and gender inequality. Among adolescents, some of the risk factors for experiencing dating violence include low self-esteem, isolation from family and friends, having their appearance or activities dictated by or monitored by their partners, and taking too much responsibility for fixing relationship problems.

Some of the factors that put youths at greater risk of committing violence include a history of being violently victimized; having learning disorders; involvement with drugs, alcohol or tobacco; being involved in a gang; and association with delinquent peers. Youths are also at greater risks if their parents are authoritarian and/or inconsistent, are not closely involved with their children, have a history of substance abuse or criminality, and/or have low levels of education and income. Youths are also at greater risk of committing violence if they live in communities with high concentrations of poverty, high levels of transiency, diminished economic opportunities, and low levels of community participation.

With regard to protective measures for reducing gun violence, the Massachusetts legislature, in the wake of the 2012 school shootings in Newtown, Connecticut and other school-based incidents of deadly violence across the nation, passed an extensive overhaul of the state’s gun law, which was signed on August 13, 2014. The bill, “An Act Relative to the Reduction of Gun Violence,” includes a number of provisions regarding, for example, reporting of mental illness and substance abuse commitments, new firearm crimes, sentences for gun crimes, and background checks for people seeking gun licenses. It also mandates the creation of school safety plans and the assignment of school resource officers to every school district, and requires schools to address students’ mental health needs.

Efforts to reduce the number of sexual assaults have included the development of new smartphone apps that allow students to reach out quickly to multiple friends when facing uncomfortable situations, thereby heading off possible assaults before they occur. (13)


**Sources**


According to MassINC, fully 75% of violent crime occurs in only 7% of the land area of Boston. Over time there is a virtual 100% certainty that youth from the hot spots will be witness to or victim of violence. Sadly, these youth are least likely to use mental health services. Most of the violence is gang related. Youth fear retaliation if they report what they see or know. Many parents share these concerns. Trauma-exposed youth, without intervention, suffer dramatic effects on their cognitive, emotional, academic and behavioral development.

An idea for effective intervention and prevention would be to embed experienced and culturally competent trauma specialists in our long trusted community programs. They would be part of the center’s daily operation and develop trusting personal relationships with the youth. When traumas occur, the embedded counselors will take the lead and facilitate referrals to health centers. If youth refuse these services/referrals, they will engage them in trauma remediation or supervise and support other center staff in these efforts. This will both increase trauma remediation and reduce staff burn out. There are good insurance-reimbursable efforts to increase services to treatment-resistant urban teens. But to reach more youth it’s critical to have grant-funded programs. The bureaucratic process for mental health intervention – referrals, evaluations, then prior authorization from the insurance company – limits the flexibility and immediacy that has been shown to support resiliency and ongoing recovery from trauma. Embedded trauma remediation specialists will increase services to youth and reduce staff burnout in our most violent neighborhoods.

A second idea to reduce crime and violence is to enact a law that requires phones and tablets sold in Massachusetts to be equipped with remote kill switches making them useless when stolen. At present, walking down the street with the latest smartphone is like waving 700 dollars at potential thieves.

A third idea is to place adult monitors in the last row of every bus that travels in high crime areas in our state. A school bus is a rolling schoolhouse. We are responsible for the physical and psychological safety of students on their way to and from school. A second best option is to install audio/video surveillance systems in school buses. Bullying, gang intimidation, parental interference and driver misconduct will be recorded and stopped.

**Emmett Folgert**
Executive Director
Dorchester Youth Collaborative
Prior to the turn of the century, digital communications (text messaging, social networking, digital pictures, etc.) may have played a secondary role in peer aggression, but in 2014, digital technology has become a primary method of communication between youth. A Pew study released in 2011 found that almost all teens use the Internet, and 78% own a cell phone.

Social networking is almost universal: a 2014 study of the same sample reported on here (400-plus 18- and 19-year-olds at the Massachusetts Aggression Reduction Center at Bridgewater State University) found that 97% have a Facebook (social networking) account. Three-quarters of teens “text” (i.e., use text messaging) and the median number of texts per day is sixty. Heavy digital use is found among all social classes, and is not a passing fad. In 2010, 44% of teens studied at the Massachusetts Aggression Reduction Center (MARC) listed text messaging as their most preferred type of communication, but by 2014, that proportion had risen to 65%.

Digital communications are largely used for positive interactions but are also, without dispute, one vehicle for harassment and threats between youth. Evidence suggests that at least some adults may underestimate peers as a significant source of online threats. A 2011 study from the University of New Hampshire noted (in common with other research) that most digital harassment (70%) came from peers, not from adult strangers. In the 2014 MARC study, two-thirds saw peer cyberbullying as the most potent threat online, but only 6% saw adult predators that way; the majority of freshman also reported that adults overestimate the danger from predators and underestimate the danger from peers.

Another form of student to student violence, campus sexual assault in high schools and colleges, has become a growing and serious problem. We lack both specific knowledge about behaviors that contribute to sexual assault on campus and about effective ways to handle sexual assaults that occur within these educational institutions. The potential importance of digital communications in the commission of a sexual assault and after should not be understated. We need to have a better understanding of digital communications happening between perpetrators or between perpetrators and victims; what follow-up, potentially traumatic communications could be going on; how digital communications might reinforce myths and beliefs that contribute to rape; etc. We are aware of severe forms of sexual harassment that occur in digital realms, but almost no research has examined these.

These trends argue loudly and persistently for a focus on digital behaviors and health within public health policy. Ignoring the public health impact of digital technology is tantamount to ignoring one of the most significant social trends in the last fifty years. Public health must begin to define the epidemiology of health problems resulting from the electronic revolution. By so doing, we can begin to understand and address problems such as cyberbullying, digital harassment, and digital sexual harassment, and the important role these play in traditional violence prevention today. On school campuses, officials must acknowledge and respond immediately to incidents when they are reported, have a support team available to gather as much information as possible - including details of any electronic communication - and support the victims of these crimes. Campuses also need to have written rules and procedures to deal with assaults on campus by members of their community and these policies need to be updated to include the burgeoning involvement of digital technologies in such incidents.

Elizabeth K. Englander, PhD
Professor of Psychology
Director, Massachusetts Aggression Reduction Center
Bridgewater State University
### Trends in Violent Crimes: Boston and Massachusetts 2011 and 2012

<table>
<thead>
<tr>
<th></th>
<th>All Violent Crime</th>
<th>Murder</th>
<th>Forcible Rape</th>
<th>Robbery</th>
<th>Aggravated Assault</th>
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</thead>
<tbody>
<tr>
<td><strong>Boston 2011</strong></td>
<td>5,252</td>
<td>63</td>
<td>271</td>
<td>1,904</td>
<td>3.014</td>
</tr>
<tr>
<td><strong>Boston 2012</strong></td>
<td>5,266</td>
<td>57</td>
<td>249</td>
<td>1,910</td>
<td>3.050</td>
</tr>
<tr>
<td>% change</td>
<td>+0.3%</td>
<td>-9.5%</td>
<td>-8.1%</td>
<td>+0.3%</td>
<td>+1.2%</td>
</tr>
<tr>
<td><strong>Mass. 2011</strong></td>
<td>28,232</td>
<td>184</td>
<td>1,654</td>
<td>6,768</td>
<td>19,626</td>
</tr>
<tr>
<td><strong>Mass. 2012</strong></td>
<td>26,953</td>
<td>121</td>
<td>1,642</td>
<td>6,552</td>
<td>18,638</td>
</tr>
<tr>
<td>% change</td>
<td>-4.5%</td>
<td>-34.2%</td>
<td>-0.7%</td>
<td>-3.2%</td>
<td>-5.0%</td>
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</tbody>
</table>

Source: U.S. Department of Justice, Federal Bureau of Investigation, Uniform Crime Report

### Hate Crimes in Massachusetts by Bias Motivation: 2009-2012

```
<table>
<thead>
<tr>
<th>Motivation for Hate Crime</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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<tr>
<td>Race</td>
<td>128</td>
<td>146</td>
<td>166</td>
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<td>Religion</td>
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<td>Sexual Orientation</td>
<td>28</td>
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<td>36</td>
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<tr>
<td>Ethnicity</td>
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<td>3</td>
<td>4</td>
<td>66</td>
</tr>
<tr>
<td>Disability</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>69</td>
</tr>
<tr>
<td>Total</td>
<td>291</td>
<td>316</td>
<td>322</td>
<td>367</td>
</tr>
</tbody>
</table>
```

Source: U.S. Department of Justice, Federal Bureau of Investigation, Hate Crime Statistics
Physical Violence Indicators Among Massachusetts High School Students: 2007-2013

- Member of a gang, past year:
  - 2013: 7%
  - 2011: 6%
  - 2009: 7%
  - 2007: 9%

- Carried a gun, past 30 days:
  - 2013: 3%
  - 2011: 3%
  - 2009: 4%
  - 2007: 4%

- Carried a weapon, past 30 days:
  - 2013: 12%
  - 2011: 12%
  - 2009: 13%
  - 2007: 15%

- Injured in a fight, past year:
  - 2013: 2%
  - 2011: 4%
  - 2009: 3%
  - 2007: 4%

- Involved in a fight, past year:
  - 2013: 20%
  - 2011: 25%
  - 2009: 29%
  - 2007: 28%

Source: Massachusetts Department of Elementary and Secondary Education, Youth Risk Behavior Survey

Bullied at School Among Massachusetts Middle School Students: 2009-2013

- 0 times:
  - 2009: 67%
  - 2011: 64%
  - 2013: 64%

- 1–7 times:
  - 2009: 27%
  - 2011: 28%
  - 2013: 28%

- 8 or more times:
  - 2009: 10%
  - 2011: 8%
  - 2013: 8%

Source: Massachusetts Department of Elementary and Secondary Education, Youth Risk Behavior Survey