

Massachusetts Health Council



Common Health

for the

Commonwealth

**Massachusetts Report on the
Preventable Determinants
of Health**

2012



Massachusetts Health Council

Common Health for the Commonwealth

Massachusetts Report on the Preventable Determinants of Health

2012

Supported by



MASSACHUSETTS
MEDICAL SOCIETY



Massachusetts Health Council
73 Oak Street - 1st floor Newton, MA 02464
617-965-3711
www.mahealthcouncil.org

Table of Contents

President and Executive Director’s Message	1
Acknowledgements and Research Collaborators.....	2-3
Executive Summary	4-5
Access to Care	6-11
Asthma	12-17
Blood-Borne Pathogens (HIV/AIDS, Hepatitis C)	18-25
Education.....	26-31
Obesity and Overweightness.....	32-37
Oral Health.....	38-43
Poverty	44-49
Substance Abuse (Alcohol, Drugs)	50-57
Tobacco	58-62
Violence	64-71
Notes	72

Message from the Executive Director and President

We proudly release the 2012, 7th 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 2010, 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 and lack of education, that have a real and profound impact on the health of our residents. The Council reiterates its commitment to prevention and wellness as the way to improve the health status of the residents of the Commonwealth.

This report again provides evidence based research as a means to measure and propel activities to address health care trends both as individuals and as a state. The Massachusetts Health Council's seventh edition corroborates that our "common health" continues to be affected by lack of access to health care providers and by social, economic, and environmental factors.

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 this 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.

This report 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. Our report provides a context and series of benchmarks for policymakers on Beacon Hill when they consider health care matters. Obviously, no single issue can be considered in a vacuum and the fiscal challenges created by the country's economic problems make new state funding or programs extremely difficult in the near future. 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; the solutions to 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


Paul Mendis, MD
President

Editor-In-Chief

Hollis Burkhart

Editors

Susan Servais

Kate Moylan

Nanette Vitali

Rita Aberbach

Principal Investigator

David Allan Levine, Ph.D., has written widely on management, health care issues, and history. We greatly appreciate the numerous hours he spent compiling and analyzing input from numerous data sources and contributors to produce a report that is relevant and readable.

Research Advisor

Bruce Cohen, Ph.D., Director of Research and Epidemiology, Massachusetts Department of Public Health, has given innumerable hours to ensure the accuracy and timeliness of the data in this seventh edition. He provided invaluable support for and was instrumental in the implementation of the first six editions as well.

Research Collaborators

Myron Allukian, Jr., DDS, MPH
Oral Health Consultant
MA League of Community Health Centers
Lutheran Medical Center

Caroline M. Apovian, MD, FACP, FACN
Associate Professor of Medicine
Boston University School of Medicine
Director, Center for Nutrition and Weight Management
Boston Medical Center

Cheryl Bartlett
Director, Bureau of Community Health and Prevention
MA Department of Public Health

Rachelle Engler Bennett
Director of Student Support
MA Department of Elementary and Secondary
Education

Nancy Carpenter
Executive Director
Massachusetts Association for School-Based Health Care

Stacey Chacker
Director of Environmental Health and
Asthma Regional Council
Health Resources in Action

Courtney Chelo
Oral Health Advocacy Task Force Coordinator
Health Care for All

Daniel Church, MPH
Epidemiologist, Viral Hepatitis Coordinator
MA Department of Public Health

Suzanne Condon, MS
Associate Commissioner and Director
Bureau of Environmental Health
MA Department of Public Health

Jenny Caldwell Curtin, MPP
Coordinator of Alternative Education and
Trauma Sensitive Schools
MA Department of Elementary and Secondary
Education

Research Collaborators, continued

David DeIuliis

Program Manager
Mothers Against Drunk Driving

Vicker V. DiGravio III

President and CEO
Association for Behavioral Healthcare

Elizabeth Englander, PhD

Program Director
Massachusetts Aggression Reduction Center
Bridgewater State University

Dawn Fukuda

Director, Office of HIV/AIDS
Bureau of Infectious Disease Prevention, Response & Services
MA Department of Public Health

Phillip O. González

Program Director, Roadmaps to Health Community
Community Catalyst

Carol Goodenow, PhD

Director, Coordinated School Health
MA Department of Elementary and Secondary Education

Rebecca Haag

President and CEO
AIDS Action Committee
HepatitisC Coalition

Marc Hymovitz

Director of Government Relations & Advocacy
American Cancer Society

Hilary Jacobs

Interim Director, Bureau of Substance Abuse Services
MA Department of Public Health

Elaine Kirshenbaum

Vice President of Policy, Planning, and Member Services
Massachusetts Medical Society
Publisher of the New England Journal of Medicine

Michael Monopoli, DMD, MPH, MS

Director, Policy and Planning
DentaQuest Foundation

Sarah Nolan

Senior Policy Analyst
MA Budget and Policy Center

Carlene Pavlos

Director, Violence and Injury Prevention
MA Department of Public Health

Connie Peters

Vice President for Addiction Services
Association for Behavioral Healthcare

Steve Shestakovsky

Executive Director
Tobacco Free Mass

Laurie Stillman, MMHS

Chief Strategy Officer, Health Resources in Action
Principle Investigator, CMS-funded New England
Asthma Innovations Collaborative

Special Thanks

The Massachusetts Medical Society deserves special recognition for publishing the report. The Massachusetts Health Council was founded through the efforts of the Society in 1920 and continues to enjoy its significant support.

Novo Nordisk generously funded the report's research and compilation. The Massachusetts Health Council is grateful.

Graphics and Layout

Robb Webb, Creative Manager

Executive Social, Economic, Environmental

RISK FACTOR	ACCESS TO CARE	ASTHMA	BLOOD-BORNE PATHOGENS HIV/AIDS	HEP C	EDUCATION
Indicator:	MA Average Wait for a Patient Appointment by Medical Specialty	Lifetime Asthma Rates for MA Adults; Lifetime Asthma Rates for MA High School Seniors	MA New Diagnosis of HIV Infection	MA Rate of Newly Diagnosed Confirmed HCV Cases	Annual MA High School Dropout Rate
Period:	2007–2012	2010 Adults; 2011 High School Seniors	2002–2010	2010	2002–2011
Most Recent Estimate:	8 of 18 physician specialties have workforce shortages	15.3% Adults/25% high school seniors	648	4,844	2.7%
High Risk Groups:	Younger women	School age children, adults ages 18–24, multi-racial & Black adults, adults with lower education, lower income level individuals	Black and Hispanic males; gay, bisexual, and other males having sex with males; IV drug users	Adolescents and young adults, IV drug users	Low income students, Hispanic and Black students, Special Education students
Key Issues:	- Physician shortages negatively impact access to care, despite 98% of MA residents having insurance - Only 50% of MA family practices accepting new patients - Only 10% of MA internal medicine practices accept Medicare 42% of physicians surveyed were dissatisfied with current practice environment	- Environmental irritants, second-hand tobacco smoke, allergens are preventable triggers associated with asthma attacks - Hospitalization charges attributable to asthma were \$113 million in 2010 - COPD, emphysema, bronchitis, and cardiovascular disease often comorbid with asthma - Current asthma prevalence rose 22% from 2000–2010 - Most commonly reported special health care need reported to school nurses was asthma (2009–2010) - Higher rates of asthma for those with lower education, lower income, Multi-racial, and Black individuals 23% of Black children report current asthma	- Black women's age adjusted HIV/AIDS prevalence rate was 26 times that of White females in 2011 - Estimated 8,000 MA residents unaware they are infected - Disparities in mode of transmission: White males through male-to-male sex, Black males through male-to-male sex, injection drug use, Hispanic males through injection drug use 84% of students said they had been taught about HIV/AIDS in school	- Growing number of adolescents and young adults with confirmed or probable hepatitis C infection - The number of newly diagnosed cases reported remains very high, between 7,000 and 10,000 annually - Middlesex County had the largest number of cases reported in 2010	- Disparities in on-time graduation rates among racial and ethnic groups significant - Dropout rate highest for low income students, students of color, and students with limited proficiency in English - High churn rates appear to be linked to underachieving academic performance - Percentage of students reporting having ever been taught in school about HIV/AIDS declined 17% of high school students reported being a victim of cyber-bullying, primarily females
Policy Directions:	- Administrative simplification through standardization is essential to ease the burden on physicians - Professional liability must be addressed - Financial assistance for sustainable IT updates and improvements to secure success in electronic medical record, registries, and access to timely data - Medical student debt must be addressed - Incentives for new physicians to stay in MA - Re-evaluate the Medicare Physician Pay formula so seniors do not lose access to physicians - Support Access to Physicians in the Medicare Act	- Expand Health Impact Assessment tools to continue exploring social, economic, and environmental triggers of asthma - Focus on a prevention agenda that improves care for those with uncontrolled symptoms - Link the medical home or Accountable Care Organization's prevention efforts to the school, workplace and community - Provide patients with Asthma Action Plans - Deploy trained Community Health Workers to provide care coordination services - Reduce exposure to mold and other asthma triggers in schools and child care settings - Increase statewide and local partnerships to provide asthma education and advocacy	- Continue with state- and federally-supported HIV prevention efforts, HIV testing services, access to sterile injection equipment, and prompt linkage to care - Expand access to care and treatment services through state health care reform, Medicaid expansion for HIV+ residents and the HIV Drug Assistance Program - Make routine HIV testing easier for medical providers to offer and more accessible for state residents to receive - Increase access to non-medical support services such as housing, mental health services, and peer support - Appropriate and continued funding of HIV/AIDS and HepC programs must be a priority. Present funding cuts will have a serious negative impact on progress made	- Expand screening and routine testing in medical settings - Increase education and outreach to youth and the elderly population - Integrate viral hepatitis services into HIV/AIDS programs - Educate primary care providers in diagnosing and treating HCV - Restore public funding for hepatitis services - Appropriate and continued funding of HepC programs	- Create safe, positive school environments that address students' social, emotional and health needs - Continue to develop regulations addressing wellness in school advisory committees including developing policies to improve nutrition and increase physical activity - Continue to establish school-based health centers and school nurses that offer a cost-effective alternative to hospital emergency departments - Develop local, state, and regional partnerships to cut school dropout rates - Recognize dropping out of school as a public health, social justice and economic issue needing to be addressed - Enforce anti-bullying and anti cyber-bullying legislation - Implement effective teen pregnancy prevention programs

Summary

& Health Risk Behavior Indicators

OBESEITY	ORAL HEALTH	POVERTY	SUBSTANCE ABUSE ALCOHOL DRUGS		TOBACCO	VIOLENCE
MA Adults Who are Overweight or Obese	Untreated Dental Decay in MA ages 2-4 and 6-8	MA Poverty Rate	Adult Binge Drinking	MA Youth Any Drug Use During Lifetime	MA Current Adult Smokers	Violent Crime in MA
2010	2010	2011	2010	2011	2010	2010
60.1% combined obese and overweight	Untreated Dental Decay in MA: ages 2-4 15%, ages 6-8 17%	11.6%	18%	8th graders 23%, 12th graders 66%	14.1%	30,553
Overweightness and Obesity high risk groups include Blacks, Hispanics, and multi-racial individuals; Diabetes high risk groups include Blacks, Hispanics, and Asians	Children, elderly, low income, developmentally disabled, mentally compromised, homebound or homeless, persons with HIV	Children under age 18, blacks, hispanics	White teenagers Young adults (ages 18–24); Adult males ages 25–44; Adult males in higher income brackets	Male White Unemployed adults ages 21–39; Hispanic middle school students; Male high school students	Youth 18–24 years old, multi-racial and White youth, less educated, lower income individuals	Female students (cyberbullying); Pre-teens, adolescents and young adults; Individuals with disabilities
- Correlations exist between overweight/obesity and hypertension, diabetes, heart disease, stroke, osteoarthritis, and certain cancers \$1.82 billion per year spent medically on adult obesity - In the fourth grade, 38% of males and 34% of females were either overweight or obese in 2010 - Obesity in adults has dropped from 23.6% to 22.7% but the obesity and overweight BMI combined has increased from 57.5% to 60.1%	24% of MA residents do not have access to dental benefits - MassHealth adults had dental benefits significantly cut, eliminating restorative care 58% of surveyed children ages 6–8 and 28% of children ages 2–4 had dental decay in 2010 2.5 million residents don't have community water fluoridation - Blacks, Hispanics, and non-high-school graduates had highest rates of tooth loss	- Poverty rate among Blacks was 22%; Hispanics 30% - Females of all races more likely to live in poverty than males - Educational level highly correlated with poverty status 13% of MA Children live in poverty (below 100% of Federal Poverty Level)	- Binge drinking more prevalent in higher income & educational groups - Binge drinking and heavy drinking in MA above the national average - Alcohol abuse plays significant role in accidents, homicide and suicide - Fetal exposure to alcohol greatly increases risk of neurological impairment - Auto fatalities involving alcohol impairment increased from 31% to 36% in 2010	- Heroin admissions (40%) exceeded alcohol admissions (39%) in FY10 - Boston Metropolitan Statistical Area had highest rate of ED visits involving illicit drugs of any of 11 major metropolitan regions in U.S. - MA Dept of Public Health estimated that in FY11 9.6% of MA population aged 12 or older were either dependent on or abused drugs or alcohol 30% of high school and 7% of middle school students report current use of drugs	- Smoking exacerbates asthma symptoms and causes respiratory diseases - Health care costs attributable to tobacco use estimated at \$4.3 billion annually - Steady increases in smokeless tobacco use, cigars, and other tobacco products offset decrease in cigarette smoking statistics - Nonsmokers exposed to second-hand smoke increase risk of heart disease and lung cancer	- MA highest rate of aggravated assault in the Northeast region - Certain crimes (sexual assaults, intimate partner violence, child & elder abuse) significantly under-reported - One in six MA high school students reported being cyberbullying victims in the past year - More than 10% of MA youth reported thinking seriously about or planning suicide in past year
- Provide tools and encourage medical and allied health professionals to discuss patient weight - Improve access to medication, devices and insurance coverage that help control obesity and overweightness - Improve access to healthy, fresh foods in all communities, eliminating food deserts - Require safe walkways and bike paths to encourage physical activity - Provide incentives for employers to create workplace wellness programs and healthy cafeterias - Create strict nutritious food guidelines for school vending machines and cafeterias under the School Nutrition Bill - Include BMI screenings for all students in grades 1, 4, 7 and 10	- Restore MassHealth adult dental benefits - Increase community water fluoridation programs - Promote school-based sealant prevention programs - Expand community health center dental programs - Promote oral health as a key indicator of systemic health	- Increase minimum wage to reflect changes in cost of living - Continue to provide and adequately fund safety net programs for the poor (SNAP, WIC, school lunch, MassHealth) - Provide funding for supportive interventions and programs through the Prevention and Wellness Trust Fund - Increase access to adult basic education and higher education - Increase access to affordable and quality childcare - Protect social security to prevent increased senior poverty	- Expand checkpoints by law enforcement for making OUI arrests - Require ignition interlocks for all convicted drunk drivers - Collaborate among federal government, state, cities and towns, local communities, schools, adults, parents to limit access to alcohol - Work with law enforcement to conduct compliance checks with alcohol retailers - Implement appropriate sanctions against retailers who sell to minors	- Develop coalitions of community groups to work with the state legislature, local departments of public health, schools, parents and community leaders to address and combat the growing problem of drug abuse - Promote the Good Samaritan law so the public is aware of "no penalty" for reporting drug overdoses - Require pharmacies to educate parents with controlled substance prescriptions to either purchase a lock-box or keep the prescriptions out of the medicine cabinet - Work with the medical community to control the over-prescribing of controlled substances such as opioids - Require communities to offer take-back programs for expired or unused prescription or OTC drugs - Increase the availability of rehabilitation services	- Expand access to Comprehensive Smoking Cessation Benefits in Commonwealth Care Plans - Increase taxes on cigarettes and other tobacco products - Restore funding to the Massachusetts Tobacco Cessation and Prevention Program to educate the public, especially youth, with anti-smoking campaigns - Better enforcement of laws prohibiting the sale of tobacco products to minors - Increase availability of free or low cost smoking cessation services and medications - Educate parents on the latest youth trends of use of other nicotine products such as nicotine-laced gum and candy	- Support programs such as Governor's Safe and Successful Youth Initiative - Convene high-level policymakers through Governor's Council to address sexual abuse and domestic violence - Create a school climate of respect, promoting healthy relationships and healthy sexuality and educating about trauma, peer abuse and cyberbullying - Restrict access to weapons and toughen penalties for those caught with illegal firearms - Increase mentoring programs so at-risk young people have a strong relationship with a caring, inspirational adult

Access to Care

While having health insurance makes it more likely that Massachusetts residents will enter the health care system for needed services, being insured is no guarantee of access to care.

Since health care reform in Massachusetts was signed into law in June 2006, the state has achieved near-universal coverage of its adult and child populations, and currently leads the nation in lowest rate of uninsured residents. As of March 2011, more than 5.5 million Massachusetts residents under age 65 — 98% of the non-elderly population, including 99% of children — had health insurance coverage. Nearly all of the elderly (age 65 and over) are insured under the federal Medicare program or by private insurers, often in conjunction with Medicare.

While most of Massachusetts' insured non-elderly are covered through private group insurance (79% in March 2011), 90% of the newly insured since 2006 have enrolled in insurance programs subsidized by the Commonwealth — principally MassHealth (43%), which includes Medicaid and the Children's Health Insurance Program (CHIP); Commonwealth Care and Bridge (39%), options for those with low income who do not qualify for Medicaid; and the Medical Security Program (8%), a plan for low- and moderate-income Massachusetts residents who are collecting unemployment benefits. In addition, the Health Safety Net (previously called Free Care) is available to low-income uninsured or underinsured Massachusetts residents regardless of citizenship or immigration status. It pays for medically necessary services at Massachusetts community health centers and hospitals.

These government insurance programs have substantially improved access to care for their targeted populations. In May 2012, the Blue Cross Blue Shield of Massachusetts (BCBSMA) Foundation stated “there has been no evidence of subsidized coverage ‘crowding out’ employer-sponsored insurance,” and noted that the percentage of employers offering coverage to their

workers had actually increased (by 7 percentage points) since implementation of reform in 2006. The Foundation affirmed that as a result of reform (1) all Massachusetts adults, and lower-income adults in particular, have experienced a “significant decline” in unmet health care needs due to cost; (2) that access to care has increased for all adults, with “significant increases” in the use of doctors, preventive care, and the percentage of adults with a usual source of care; (3) that unmet need for care has decreased across middle- and low-income, minority race/ethnicity, and chronically ill population groups; and (4) that historically persistent racial and ethnic disparities in access to and use of care have “largely disappeared” in Massachusetts since reform.

Notwithstanding these gains, many challenges remain. Massachusetts has the most primary care physicians per capita in the U.S, but in many parts of the state there are not enough to satisfy the demand for care. The high cost of care continues to limit access, especially for populations with higher health care needs, such as younger women. Emergency Department usage continues to climb — driven, say experts, by habit/culture, varied perceptions of what constitutes an emergency, and certainty that whatever care is needed will be available. Utilization of the Health Safety Net is also on the rise. According to the Division of Health Care Finance and Policy (DHCFP), HSN total volume in the first six months of fiscal year 2011 was 14% greater than in the same period the prior year. Users reporting no income tended to receive the most costly services.

Data

The Bay State continued to experience a shortage of physicians in many specialties in 2012, with urban areas other than Boston (Worcester, Springfield, New Bedford/Barnstable, and Pittsfield/Western Mass.) being impacted most severely. According to the Massachusetts Medical Society's Physician Workforce

Study, in 2012 seven of 18 physician specialties — dermatology, family medicine, general surgery, internal medicine, neurosurgery, orthopedics, psychiatry, and urology — operated in labor markets with workforce shortages categorized as “critical” or “severe.” Statewide, 94% of community hospital heads reported difficulty recruiting and retaining physicians, compared to 36% of department chiefs at teaching hospitals.

For new patients, getting an appointment to see a doctor remained difficult, but with some improvement compared to recent years. Four specialties reported shorter wait times in 2012 than 2011: OB/GYN (38 days, down from 41), internists (44 days, down from 48), orthopedic surgeons (16 days, down from 26), and pediatricians (23 days, down from 24). Gastroenterologists (44 days) and cardiologists (29 days) increased their new patient waits by 1 day each, on average. Family medicine was the only specialty reporting significantly longer wait times in 2012 — 45 days, continuing the upward trend from 29 in 2010 and 36 in 2011. Many physicians reported they were not accepting new patients at all. Least likely to accept new patients in 2012 were primary care practices — internists at 51% (same as in 2007) and family medicine at 50% (versus 70% in 2007).

Limited acceptance of government insurance products was another sizable barrier to access. Those specialties least likely to accept new patients in 2012 (family medicine and internal medicine) were also least likely to accept Medicare (at 90% and 84% respectively). MassHealth, with over 190,000 newly enrolled and nearly 900,000 beneficiaries overall, saw decreased acceptance in orthopedic surgery (78%, down from 82% in 2011), cardiology (83%, down from 92%), OB/GYN (87%, down from 89%), and pediatrics (86%, down from 89%). Gastroenterology increased to 92%, from 85%. The primary care specialties were least likely to accept MassHealth, with internists at 54% and family medicine at 64%. However, statewide averages could mask significant regional disparities: Just 14% of internists in Hampden County, 29% in Berkshire County, and 29% in Plymouth County

accepted MassHealth in 2012, as compared to 86% in Bristol County.

As in past years, various measures of career satisfaction revealed a high level of discontent among practicing physicians in Massachusetts. Salient issues included long hours (1 in 3 reported working 60+ hours per week), trade-offs between patient care and administrative duties, fear of being sued, and money. Forty two percent of all physicians surveyed in 2012 said they were dissatisfied with the current practice environment in Massachusetts (essentially unchanged since 2006), though among younger (under age 40) physicians the dissatisfaction rate in 2012 was only 29%. Seven percent of all physicians said they were currently planning to quit their practice in Massachusetts, and 21% said they were considering relocation if the current practice environment did not improve. Just 1 in 4 (25%) thought their income was competitive with colleagues in the same specialty practicing in other states, whereas nearly half (49%) said Massachusetts was uncompetitive. Nor were physicians sanguine about their financial future in the Bay State. More than 4 in 10 (43%) predicted that over the next five years their salary would fall below its current level, compared to just 10% who thought their financial situation would improve. Vascular surgeons, orthopedists, and cardiologists were the most pessimistic and psychiatrists the most optimistic. Family medicine physicians, internal medicine physicians, and pediatricians foresaw improvement, but with less certainty than in 2010.

Groups at Risk

While both men and women have gained measurable improvements in insurance coverage, access, use, and affordability of care under health reform in Massachusetts, differences are evident. Women are known to have a higher need for health care, mainly as a result of their reproductive health care needs. A 2011 retrospective study of gender disparities in access to care in Massachusetts before and after reform found that Bay State women used more

Access to Care *continued*

health care than men and that even with insurance were more likely to have problems affording health care than men, particularly younger women (ages 18 to 45) compared to younger men. Younger women were 5.8 percentage points more likely to report unmet need due to cost and 5.3 percentage points more likely to have problems paying medical bills, as compared to younger men. Given that younger women were 4.5 percentage points more likely to have insurance, the financial protections conferred by insurance would seem to have been stronger for men than for women. “Coverage does not guarantee access to and affordability of care,” said the authors, adding that “cost containment in the next wave of reform” will need to address gender-based inequities in insurance protection.

One of the promises of the Commonwealth’s 2006 health reform initiative was that by connecting those previously without insurance to primary care physicians, expensive visits to Emergency Departments for non-emergency situations would be

substantially reduced. Though that expectation was probably unrealistic, it appears that modest progress has been made in that direction. A study published in 2011 of Emergency Department (ED) utilization in 11 Massachusetts hospitals before and after reform found that while total ED visits increased 4.1% post-reform, “low-severity” visits among publicly subsidized or uninsured patients decreased by 2.6 percentage points. For a control group of privately insured and Medicare patients, the decrease was 0.8%. According to the study’s lead author, Peter B. Smulowitz, an emergency physician at Beth Israel Deaconess Medical Center, many factors besides access to health insurance contribute to the decision to use an ED instead of other care settings, including “copayments [that] are low or nonexistent in Medicaid or Commonwealth Care, which accounted for the largest proportion of insurance expansion under health reform.” “That low-severity visits showed any decrease is a significant finding,” he said, yet the unspectacular result “does suggest that access to primary care in Massachusetts continues to be limited.”

References

- “Key Indicators: Quarterly Enrollment Update, June 2011 Edition,” Division of Health Care Finance and Policy, February 2012.
- “Health Care in Massachusetts: Key Indicators,” Division of Health Care Finance and Policy, May 2011.
- “Massachusetts Health Care Cost Trends: Premiums and Expenditures,” Division of Health Care Finance and Policy, May 2012.
- “Massachusetts Health Care Cost Trends: Historical (1991–2004) and Projected (2004–2020),” Division of Health Care Finance and Policy, November 2009.
- “Estimates of Health Insurance Coverage in Massachusetts from the Massachusetts Health Insurance Survey: An Update for 2010,” Executive Office of Health and Human Services, May 2011.
- “Health Reform in Massachusetts: Expanding Access to Health Insurance Coverage: Assessing the Realities,” Blue Cross Blue Shield of Massachusetts Foundation, May 2012.
- “Health Safety Net: 2011 Quarter 2 Report,” Division of Health Care Finance and Policy, September 2011.
- Health*, United States, 2011, U.S. Department of Health and Human Services, May 2012.
- Sharon K. Long et al., “Massachusetts Health Reforms: Uninsurance Remains Low, Self-Reported Health Status Improves as State Prepares to Tackle Costs,” *Health Affairs*, 31 (2012), 444–451.
- Deval Patrick, “Massachusetts On Track To ‘Crack the Code’ For Health Care Cost,” *Kaiser Health News*, April 12, 2012.
- 2011 State Physician Workforce Data Book*, Association of American Medical Colleges, November 2011.
- Physician Workforce Study*, Massachusetts Medical Society, October 2012.
- 2012 MMS Patient Access to Care Studies*, Massachusetts Medical Society, August 2012.
- “Access to Health Care in Massachusetts: The Implications of Health Care Reform,” Massachusetts Medical Society, 2011.
- Sharon K. Long et al., “Have Gender Gaps in Insurance Coverage and Access to Care Narrowed under Health Reform? Findings from Massachusetts,” *American Economic Review*, 101 (2011), 640–644.
- Peter B. Smulowitz et al., “Emergency Department Utilization After the Implementation of Massachusetts Health Reform,” *Annals of Emergency Medicine*, 58 (September 2011), 225–234.
- “Visits to ER Rise Despite Health Law,” *Boston Globe*, June 7, 2011.

Policy Perspective

While having health insurance makes it more likely that Massachusetts residents will enter the health care system for needed services, as a practical matter being insured is no guarantee of access to care. For new patients, getting an appointment to see a doctor could be difficult, especially for primary care.

As in past years, various measures of career satisfaction revealed a level of discontent among practicing physicians in Massachusetts. In both 2011 (42%) and 2012 (40%), the percentage of physicians that were very satisfied or satisfied with the current practice environment was the same as the percentage of physicians that were either dissatisfied or very dissatisfied with the current practice environment. Salient issues included long hours and trade-offs between patient care and administrative duties. Of note, 53 percent of physicians surveyed report being dissatisfied or very dissatisfied with the tradeoff between patient care and administrative tasks. In aggregate, 6.7 percent 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 20.5 percent 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.

The 2012 Massachusetts Medical Society Physician Workforce Study also examines the survey responses from department chiefs at teaching hospitals and medical staff presidents at community hospitals. Findings include that teaching hospitals have less difficulty recruiting and retaining physicians, while community hospitals often face com-

petitive disadvantages when operating in physician labor markets. These results are consistent with earlier MMS survey results on labor market issues with which community hospitals are confronted.

Medical student debt must be addressed in order to keep young physicians in Massachusetts especially in primary care. If you include undergraduate loans, some medical students can enter the workforce with \$300,000+ in debt.

Another issue that needs to be addressed is the inequitable reimbursements by government insurers like Medicaid and Medicare.

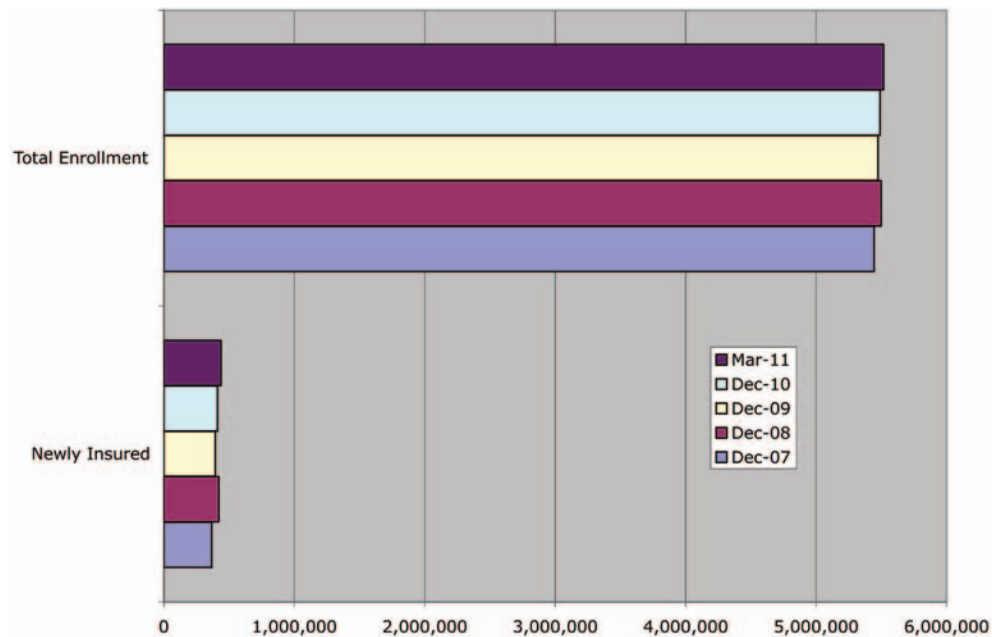
Massachusetts is a model for health reform for the nation. While access to care has improved, universal health insurance coverage in Massachusetts can only be sustained if there is a strong physician workforce. To accomplish this, a number of changes to the health environment must take place. Health care stakeholders must continue to work collaboratively on key issues in order to secure a strong physician workforce that will deliver coordinated, high-quality, and cost-effective care. Finally, health care stakeholders must advocate for physician workforce policies that secure a fair and equitable health care system, which includes support for the proper technology and resources to maintain the right infrastructure, access to essential quality, utilization and cost data and support for appropriate flexibility as the system evolves.

Elaine Kirshenbaum

VP Policy, Planning and Member Services
Massachusetts Medical Society

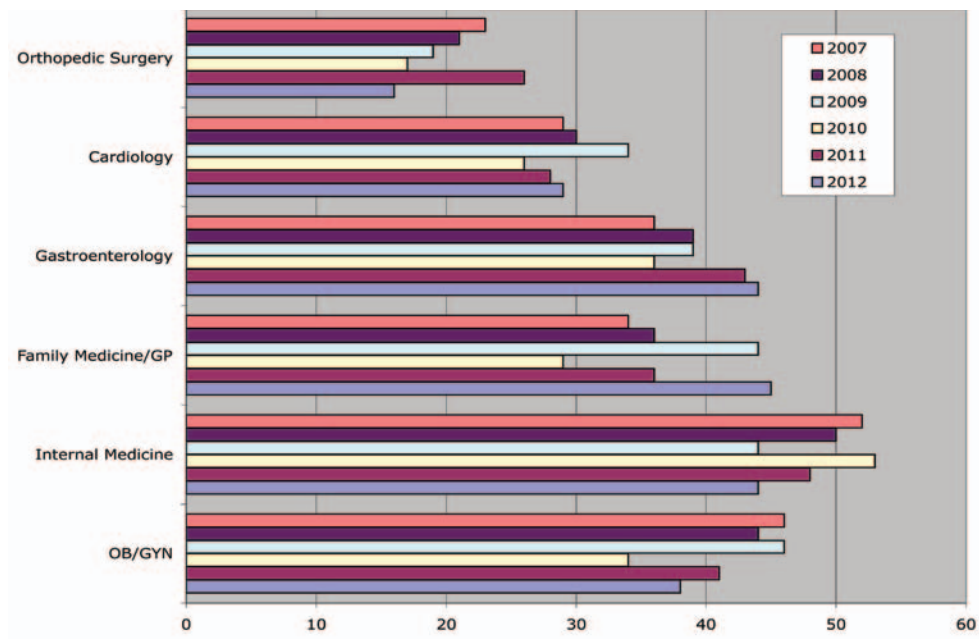
Access to Care *continued*

Total Enrollment and Newly Insured Massachusetts Residents Since June 2006



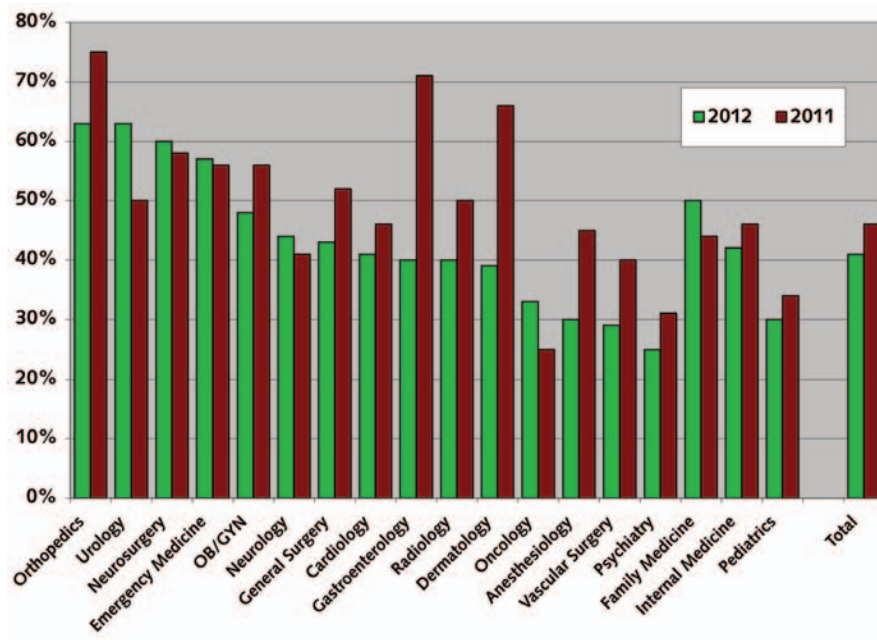
Source: Massachusetts Division of Health Care Finance and Policy
Baseline – (June 30, 2006) 5,078,377

Average Days Wait for a New Patient Appointment, by Medical Specialty



Source: Massachusetts Medical Society, *Physician Workforce Study 2012*

Percent of Physicians Who Have Altered or Limited Their Scope of Practice for Fear of Being Sued — 2012 vs. 2011



Source: Massachusetts Medical Society, *Physician Workforce Study 2012*

Asthma

Asthma is a significant public health problem in the United States and in Massachusetts. A lifelong disease, it affects the respiratory tract and airways that carry oxygen in and out of the lungs. Symptoms include wheezing, breathlessness, chest tightness, and coughing. 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. Asthma rates are soaring nationally and are higher in Massachusetts than in the U.S. on average.

While it is not clear how to prevent asthma from developing, and there is no cure, 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 as well as pose a health risk to those with chronic obstructive pulmonary disease (COPD), emphysema, bronchitis, and cardiovascular disease. The costs to the health care system are substantial. In supporting more stringent clean air standards, the Attorney General of the Commonwealth placed hospitalization charges attributable to asthma in Massachusetts at \$113 million in 2010, a 126% increase since 2000.

Data

The American Lung Association has estimated there were 524,143 cases of adult asthma and

127,118 cases of pediatric asthma in Massachusetts in 2010, and that together with 219,784 cases of chronic bronchitis and 97,638 cases of emphysema, about 15% of the Bay State’s total population of 6.4 million had breathing difficulties associated with lung disease.

Prevalence of asthma is reported in two ways. “Lifetime” prevalence is the proportion of survey respondents that answered “yes” to the question: Have you ever been told by a doctor, nurse, or health professional that you had asthma? “Current” prevalence is the proportion of survey respondents that answered “yes” to the follow-up question: Do you still have asthma? In 2010, according to the Centers for Disease Control and Prevention (CDC), 15.3% of all Massachusetts adults had been told in their lifetime that they had a diagnosis of asthma, down slightly from 15.8% in 2009. In lifetime asthma prevalence, Massachusetts ranked second lowest (tied) of the six New England states (Vermont 17.2%, Rhode Island 16.7%, Maine 15.7%, Connecticut, 15.3%, New Hampshire 15.0%), but still was nearly 2 percentage points higher than the U.S. median of 13.5%. Also in 2010, more than 1 in 10 Massachusetts adults (10.4%) said they currently had asthma, compared to 8.6% nationally. From 2000 through 2010, current asthma prevalence in the Bay State increased 22%, from 8.5% to 10.4%.

During the 2009–2010 school year, of all the physical/developmental conditions and behavioral/emotional conditions possibly impacting children at school, the special health care need most commonly reported to school nurses in 78 Essential School Health Services (ESHS) districts statewide was asthma — 77,507 notifications, as compared to 35,460 for attention deficit/hyperactivity disorder and 26,712 for food allergies. The asthma rate among ESHS schools reporting increased from 98 per 1,000 enrolled students in 2006–2007 to 125 per 1,000 in 2009–2010, a

28% jump in three years. In 2009–2010, over half (56%) of all “as needed” (PRN) prescription doses administered by school nurses in the ESHS districts were for asthma medications.

Groups at Risk

Lifetime and current asthma affects all demographic segments of the Massachusetts adult population, though disparities exist between genders, age groups, and race/ethnicities, and in levels of educational attainment and household income. In 2010, Bay State women (18%) were more likely than men (13%) to have been told in their lifetime by a medical professional that they had asthma. Individuals in the 18–24 age group (26%) were the most likely to have ever been told they had asthma, while those in the 65+ age group (13%) were the least likely. Multi-racial adults (21%) and Blacks (18%) were more likely than Whites (15%) and Hispanics (15%) to have ever been diagnosed with asthma. Prevalence of lifetime asthma among Massachusetts adults was significantly higher for those with less than a high school education (24%) than for college graduates (14%), and decreased step-wise as household income increased: Adults living in households with an income of less than \$15,000 (24%) were more likely than those living in households with an income of \$50,000–74,999 (15%) or \$75,000+ (14%) to report ever having received an asthma diagnosis.

Similar socioeconomic disparities were found to exist among Massachusetts adults with current asthma. In 2010, women (13%) were more likely than men (8%), and Multi-racial adults (15%), Hispanics (13%), and Blacks (12%) were more likely than Whites (10%), to report current asthma. Higher levels of education and income conferred significant statistical protection. Adults with less than a high school education (18%) were more likely than college graduates (9%), and those living in households with an income of less than \$15,000 (19%) were more than twice as likely as

those in households with incomes of \$50,000–74,999 (9%) or \$75,000+ (9%), to report current asthma.

Historically, asthma prevalence rates for Massachusetts children have been higher than the national average. In 2010, per CDC estimates, 9.5% of children in MA (approximately 131,000 persons) versus 8.4% of children nationally had current asthma. Boys in the Bay State were more likely than girls to report current asthma (13% vs. 7%). Among age groups, the most likely to be currently asthmatic was 10 to 14-year-olds (13%), followed by 5 to 9-year-olds (10%), 15 to 17-year-olds (10%), and 0 to 4-year-olds (8%). Black children (23%) were significantly more likely than Multi-race children (16%), Hispanic children (11%), and White children (8%) to report current asthma.

In the cohort of middle school students in MA public schools, 20% of both genders had ever been told by a doctor they had asthma. Whites (17%) in middle school were less likely than Blacks (28%) and Hispanics (26%) to report lifetime asthma. Among MA high school students, prevalence of lifetime asthma was nearly 1 in 4 (24%), with White students (23%) less likely than Hispanic students (31%) to have ever received an asthma diagnosis.

As has been noted, many environmental factors are thought possibly to be associated with the development and exacerbation of asthma. One such factor is persistently high ozone levels in the air we breathe. In 2008, the U.S. Environmental Protection Agency (EPA) revised its 8-hour ozone exceedance standard from 0.084 parts per million (ppm) to a more stringent 0.075 ppm. In 2011, Massachusetts exceeded EPA’s new 8-hour average ground-level ozone standard with 10 ozone exceedance days, which under the old standard would have been only 5 days. “The number of exceedances in a given year is related to the number of days with elevated temperatures that year,” said the EPA.

References

State of the Air: 2012, American Lung Association, 2012.

Strategic Plan for Asthma in Massachusetts, 2009–2014, Commonwealth of Massachusetts, Department of Public Health, May 2009.

Martha Coakley and Candace Pierce Lavin, “Viewpoint: Clean air promotes health, saves money,” *masslive.com*, August 19, 2012.

“Ambitious emissions plan called lagging,” *Boston Globe*, April 22, 2012.

Rising to the Challenge: Assessing the Massachusetts Response to Climate Change, MassINC, April 2012.

The Essential School Health Services Data Report: 2009–2010 School Year, Massachusetts Department of Public Health, Spring 2011.

Asthma Prevalence and Trends Data — Massachusetts and the United States, 2010. Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System.

A Profile of Health Among Massachusetts Middle and High School Students, 2011, Massachusetts Department of Public Health, June 2012.

“Historical Ground-level Ozone Exceedances in New England,” United States Environmental Protection Agency, May 22, 2012.

Quigley, R., L. den Broeder, P. Furu, A. Bond, B. Cave and R. Bos 2006 *Health Impact Assessment International Best Practice Principles. Special Publication Series No. 5*. Fargo, USA: International Association for Impact Assessment.

Policy Perspectives

In the 2010 issue of *Common Health for the Commonwealth*, the Massachusetts Department of Public Health (DPH) reported on a 2006 investigation demonstrating a significant association between schools with elevated rates of pediatric asthma and the presence of mold/moisture in the indoor environment. This data linkage analysis was made possible from resources available through the U.S. Centers for Disease Control and Prevention (CDC) Environmental Public Health Tracking Program (EPHT). These findings were supported in a recent Cincinnati study (Bernstein et al) which included a birth cohort and found that visible mold was a significant risk factor for recurrent wheezing during infancy and high mold exposure predicted a well-defined asthma phenotype at age seven.

The DPH/EPHT web portal, <http://matracking.ehs.state.ma.us/home.html>, contains current and accurate environmental and health data, including community-specific environmental data (e.g. air/water quality), and asthma prevalence rates. This data is utilized by public health practitioners and clinicians in research efforts, as well as by advocacy groups and the general public. DPH currently has 10 years of pediatric asthma prevalence data. Data from the most recent period (2009–2010) estimates a statewide prevalence rate of 11.0% of children from kindergarten through 8th grade are affected by asthma.

The asthma data, which is collected by school nurses and administrative personnel, is also an important component of Health Impact Assessments (HIA) conducted in Massachusetts. An HIA is a combination of procedures, methods and tools that systematically judges the potential, and sometimes

unintended, effects a policy, plan, or project has on the health of a population and identifies appropriate actions to manage those effects. The purpose of the HIA is to inform decision-makers before they make a final decision on the proposed policy, plan or project. Data available by school gives an indication of neighborhood level data and the potential for environmental impacts at a granular level. The ability to assign children's residences to a census tract for community-specific assessments is an invaluable tool for environmental health investigations. One current example of this is the HIA being led by DPH in response to the Massachusetts landmark transportation reform law mandate. This HIA is a collaboration among three different Commonwealth secretariats, including Health and Human Services, Transportation and Environment and Energy Affairs.

The growing HIA practice in the United States demonstrates the need to consider social, economic and environmental determinants of health. Recent studies suggest that chronic stressors related to socioeconomic status may increase susceptibility to pollutants, especially in young children.

Massachusetts interagency collaboration continues to be a model for the nation in improving health and supporting the concept of HIAs.

Suzanne Condon, MS

Associate Commissioner and Director
Bureau of Environmental Health
MA Department of Public Health

Policy Perspectives

Asthma is a complicated disease, exacerbated by a host of health, socio-economic and environmental factors. Unfortunately, asthma lacks the research and resource attention it had rightly received just a decade ago.

In addition to a primary prevention agenda that helps us understand why asthma occurs in the first place, we need to also continue our focus on a secondary prevention agenda; one that improves care given for those with uncontrolled symptoms. National data indicate that two out of three asthma cases are considered poorly controlled. Further, people of color as well as those in lower socioeconomic brackets disproportionately bear the burden of hospitalizations, missed school, and work. We can, and must, do better.

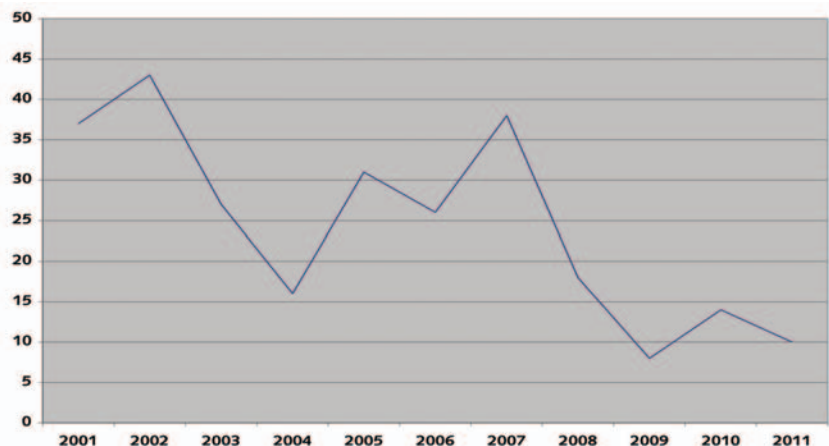
Our best hope for improving outcomes is to have a more coordinated approach, one that links the medical home to the school, workplace and community, and that targets those most at risk.

One vehicle is to provide patients with written instructions, via Asthma Action Plans (AAP), on how to recognize and address symptoms. About half of asthmatics still don't receive AAPs from their providers. Also, we should deploy trained Community Health Workers who can be effective in working with families to increase self-management skills and to remove asthma triggers, as well as provide care coordination services. These lay workers can connect patients to their healthcare providers, community resources and social support systems, and serve to reduce asthma disparities. Finally, insurers should reimburse for these important elements of best practice care.

Laurie Stillman, MMHS

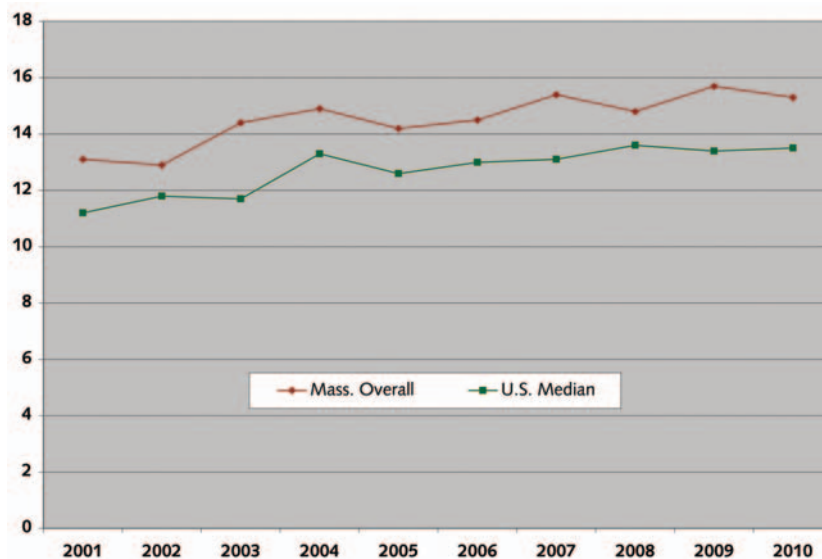
Chief Strategy Officer, Health Resources in Action
Principal Investigator, CMS-funded New England
Asthma Innovations Collaborative

**Ozone Levels: EPA Exceedance Days
Massachusetts, 2001–2011
(recalculated per 2008
standard, 0.075 ppm)**



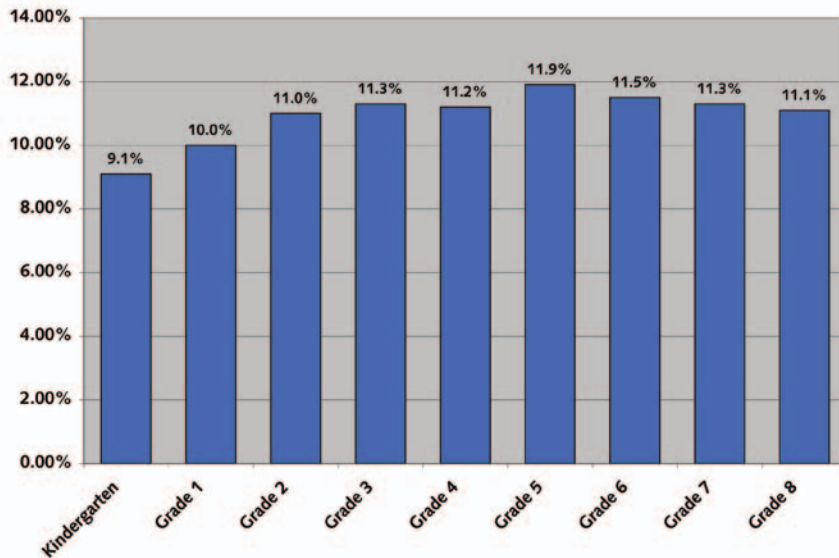
Source: U.S. Environmental Protection Agency, Region 1

Percentage of Adults Who Have Ever Had Asthma in Their Lifetime, MA and US 2001–2010



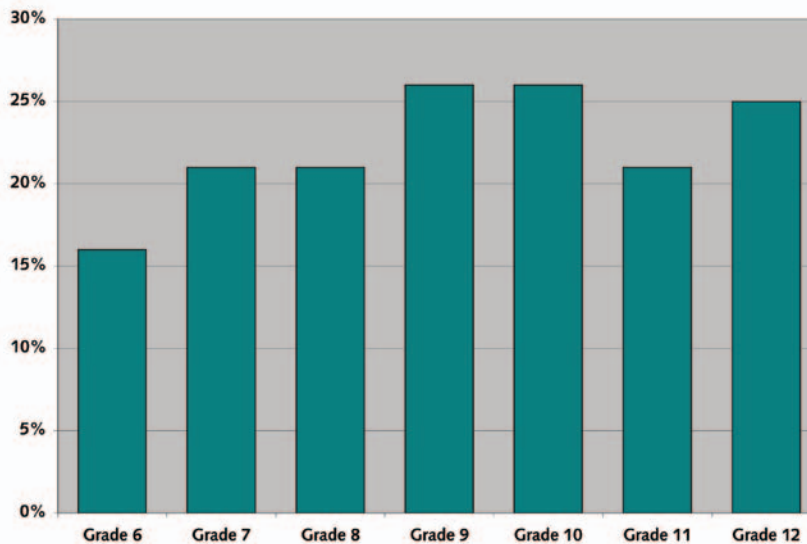
Source: Massachusetts Department of Public Health; U.S. Centers for Disease Control and Prevention

Reported Asthma Prevalence by Grade in School (K-8): 2010–2011 School Year



Source: Massachusetts Department of Public Health, Pediatric Asthma Surveillance

Reported Asthma Prevalence by Grade in School (6–12): 2010–2011 School Year



Source: Massachusetts Department of Public Health, Pediatric Asthma Surveillance

Blood-Borne Pathogens — HIV/AIDS, Hepatitis C

Acquired Immunodeficiency Syndrome (AIDS) results from infection with the human immunodeficiency virus (HIV), which damages the immune system, leaving the infected person susceptible to a host of opportunistic infections and associated malignancies such as Kaposi's sarcoma, invasive cervical cancer, and certain lymphomas. HIV is transmitted 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 usually appear between six weeks and six months after infection, although 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 a relatively inefficient but feasible mode of transmission. Citing the growing health burden and increasing death rates from HCV infection, especially among “baby boomers,” in May 2012 the CDC proposed that all Americans born from 1945 through 1965 get a one-time test for the hepatitis C virus.

Data: HIV/AIDS

Each year the number of people living with HIV/AIDS in Massachusetts is greater than the year before, as new HIV infection diagnoses continue to exceed the number of deaths among people reported with HIV/AIDS. As of December 31, 2011, there were 18,170 people living with HIV/AIDS who were diagnosed in Massachusetts. An

additional 2,116 Bay State residents with HIV/AIDS were first diagnosed in another U.S. state. Also, the Department of Public Health estimates that as many as 8,000 others in Massachusetts may be infected with HIV but do not realize it or have not reported it. The sum of these populations is likely between 26,000 and 28,000.

In 2011 as in years past, the demographics of HIV/AIDS cases in the Commonwealth reflect considerable diversity, especially with regard to place of birth, race/ethnicity, and gender. Twenty-three percent (4,174) of the 18,170 people living with HIV/AIDS in Massachusetts in 2011 were born outside the U.S., and another 11% (1,989) were born in Puerto Rico or other U.S. dependency. People born outside the U.S. and its territories comprise 14% of the Bay State's resident population. With age-adjusted prevalence rates of 1,512 and 1,162 cases per 100,000, Black and Hispanic/Latino populations were affected by HIV/AIDS at levels 11 and 8 times that of White people (137 per 100,000). The disease's impact on Black and Hispanic/Latina females was even more disproportionate. Their age-adjusted HIV/AIDS prevalence rates were 26 and 15 times that of White females in 2011.

Groups at Risk: HIV/AIDS

Of the 18,170 individuals (71% male, 29% female) known to be living with HIV/AIDS in Massachusetts at the end of 2011, 80% were age 40 or older. Forty-four percent were White, 30% were Black, and 25% were Hispanic/Latino. Black people comprise 6%, and Hispanic people 8%, of the total Massachusetts population.

Male-to-male sex (36%) and injection drug use (21%) were the leading reported exposure risks for HIV infection in Massachusetts in 2011. Among males, male-to-male sex was the predominant

¹ Effective January 1, 2011, MA Department of Public Health fact sheets and reports were updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts. As of January 1, 2012, this resulted in the removal of 2,924 cases, of which 2,116 were living.

exposure mode (50%), followed by injection drug use (20%). Among females, heterosexual sex with partners of known risk and/or HIV status (35%) and presumed heterosexual sex with partners of unknown risk and HIV status (29%) were the most frequently reported exposure modes.

The 2011 data also reveal significant racial/ethnic disparities in reported mode of HIV transmission. White males were most apt to contract HIV infection through male-to-male sex (70%). Among Black males, however, the exposure mode was more evenly distributed between male-to-male sex (28%), injection drug use (20%), and presumed heterosexual sex with partners of unknown risk and HIV status (12%). Among Hispanic/Latino males, injection drug use (38%) was the leading reported risk for HIV infection. While the predominant exposure mode among White females living with HIV/AIDS was injection drug use (45%), the predominant exposure mode among Black females was presumed heterosexual sex with partners of unknown risk and HIV status (42%), and among Hispanic females it was heterosexual sex with partners of known risk and HIV status (42%).

In 2011, 11% of Massachusetts high school students reported being tested for HIV, and 2% reported having been diagnosed with HIV infection. Nearly half (49%) said they had been taught in school how to use a condom. Asked if they had ever been taught about HIV/AIDS in school, 84% of students answered yes, a significant decrease from 2005, when 93% responded in the affirmative.

Data: Hepatitis C

A total of 7,920 cases of chronic hepatitis C infection (4,844 confirmed and 3,076 probable) were reported to the MA Department of Public Health in 2010. While there has been an overall decline in newly diagnosed cases in Massachusetts since 2004, the number reported remains very high — 7,000 to 10,000 annually since 2002. Most newly diagnosed individuals are middle-aged (around 52 years old) and likely were infected many years earlier. There are, however, a growing number of adolescents and young adults (15 to 25 years

old) in Massachusetts with confirmed or probable hepatitis C infection. Since 2007, over 1,100 cases a year have been reported for that age group. Infected individuals are mainly non-Hispanic Whites, evenly split between males and females. Available evidence points to a high rate (over 70%) of current or past injection drug use, suggesting the trend is largely attributable to people in that age group who share equipment to inject street drugs.

Groups at Risk: Hepatitis C

Throughout the decade 2000–2010, males accounted for nearly two-thirds of all confirmed cases of chronic hepatitis C in Massachusetts. However, in the 15 to 25 age group the male to female ratio was close to one, with females slightly in the majority in 2009 and 2010. Confirmed HCV cases were widely distributed across Massachusetts. Middlesex County led the state in highest number (722) of cases reported in 2010, as it had every year since 2006, while Hampden County had the highest incidence rate per 100,000 population, likewise unchanged since 2006.

Blood-Borne Pathogens — HIV/AIDS, Hepatitis C

continued

References

“Most Hepatitis C Deaths in Baby Boomers, USA,” *Medical News Today*, February 21, 2012.

“Proposal Backs Hepatitis C Test for Baby Boomers,” *New York Times*, May 19, 2012.

“Hepatitis C Cases Rising Among Massachusetts Youth,” *Reuters*, May 6, 2011.

“Hepatitis C Virus Infection Among Adolescents and Young Adults — Massachusetts, 2002–2009,” *MMWR*, May 6, 2011.

Massachusetts Department of Public Health, Bureau of Infectious Disease Prevention, Response and Services, Massachusetts *STD, HIV/AIDS and Viral Hepatitis Surveillance Report: 2010*.

Massachusetts Department of Public Health, Bureau of Infectious Disease Prevention, Response and Services, Division of Epidemiology and Immunization, Hepatitis C reports and presentations. Data are current as of May 11, 2012.

“The Massachusetts HIV/AIDS Epidemic at a Glance,” *Massachusetts HIV/AIDS Data Fact Sheet*, also “Detailed Data Tables and Technical Notes,” Massachusetts Department of Public Health, HIV/AIDS Surveillance Program, March 2012.

“Who is Most at Risk of HIV Infection?” *Massachusetts HIV/AIDS Data Fact Sheet*, also “Detailed Data Tables and Technical Notes,” Massachusetts Department of Public Health, HIV/AIDS Surveillance Program, March 2012.

“Who is Currently Living with HIV/AIDS?” *Massachusetts HIV/AIDS Data Fact Sheet*, also “Detailed Data Tables and Technical Notes,” Massachusetts Department of Public Health, HIV/AIDS Surveillance Program, March 2012.

Health and Risk Behaviors of Massachusetts Youth: 2011, Massachusetts Department of Elementary and Secondary Education and Massachusetts Department of Public Health, May 2012.

Policy Perspectives

Massachusetts continues to make great strides in the public health response to HIV/AIDS. The Commonwealth has accomplished a 45% reduction in new HIV diagnoses between 2000 and 2010, with an estimated 4,000 new HIV infections averted and approximately \$1.5 billion in health care costs saved.^{1,2} We are the only state in the country with a declining epidemic across all race/ethnicity and exposure mode groups, including an estimated 91% decrease in new HIV infections attributable to injection drug use between 2000 and 2010. State- and federally-supported HIV prevention efforts, HIV testing services, access to sterile injection equipment, and prompt linkage to care are all crucial to this success.

Yet just as essential are care and treatment services for persons living with HIV/AIDS—access that is made possible through state health care reform, Medicaid expansion for HIV+ residents, and a stable HIV Drug Assistance Program (HDAP). Scientific advances of the past year have demonstrated that HIV treatment can suppress viral load and reduce sexual transmission by 96% — underscoring the importance of care and treatment efforts to prevent new infections.³ A recent statewide survey indicates that 99% of HIV+ state residents are engaged in medical

care, 91% are taking HIV treatment, and 72% have a suppressed viral load — nearly three times the estimated rate of viral suppression nationally.^{4,5}

In July 2012, a change in the state law that governs informed consent for HIV testing (Massachusetts General Law, c. 111 § 70F) replaced the requirement for written informed consent with verbal informed consent. The goal is to make HIV testing even easier for medical providers to offer, and more accessible for state residents to receive. The CDC estimates that up to 21% of people living with HIV still do not know their HIV+ status.⁵ The more Massachusetts can do to make HIV testing a routine part of health care and to ensure people have access to care and treatment in a timely manner, the closer we will come to eliminating new HIV infections in the Commonwealth.

Dawn Fukuda

Director, Office of HIV/AIDS

Bureau of Infectious Disease Prevention, Response & Services

MA Department of Public Health

¹Cost savings were calculated based on an assumption that new HIV infections would continue at a steady state based on calendar year 2000 incidence figures, and that lifetime costs of HIV treatment were consistent over time. The number of HIV infections averted was calculated based on the differences between new diagnoses in 2001 through 2010 and the year 2000 baseline, and taking the sum of these differences over the ten year period.

²A 2006 study by Schackman et al (Schackman BR et al. The lifetime cost of current human immunodeficiency virus care in the United States. *Med Care* 2006 Nov; 44:990–7.) presented a model to project life expectancy of persons living with HIV/AIDS from the time of diagnoses, and associated lifetime costs of HIV care and treatment. The resulting estimate was a cost of \$385,200 per individual. In calculating health care costs saved, this figure was multiplied by the 4,070 cases of HIV that are estimated to have been averted in the Commonwealth since 2001.

³Cohen, Myron et al., *New England Journal of Medicine* 2011; 365:493–505, August 11, 2011.

⁴John Snow Inc., *The Massachusetts and Southern New Hampshire HIV/AIDS Consumer Study*, June 2011.

⁵Centers for Disease Control and Prevention, *Viral Signs*, “New Hope for Stopping HIV, Testing and Medical Care Saves Lives” (December 2011).

Blood-Borne Pathogens — HIV/AIDS, Hepatitis C

continued

Policy Perspectives

Massachusetts stands out as the only state in the nation which has seen decreases in new HIV diagnoses across all populations. We reduced new infections by 54% since 1999, which will save more than 5,500 lives and more than \$2 billion in lifetime health care costs. Our success is based on three factors which are critical to ending the epidemic:

- Access to medical care and treatment
- A strong, coordinated community support service network for marginalized populations
- Robust, behavioral interventions such as needle exchange programs.

Yet, over a similar timeframe, state funding for HIV, STDs and hepatitis C has been cut by close to \$20 million. This is in combination with recent funding cuts from the U.S. Centers for Disease Control; Massachusetts is expected to lose 50% of its federal prevention resources over the next few years. These funding reductions have resulted in restricted access to HIV counseling and testing for low-income people; elimination of HIV prevention and education services; cuts to case management; and elimination of HIV/AIDS testing and education programs in county jails and houses of correction.

While much attention has focused on HIV, there is a growing crisis with hepatitis C. Massachusetts has an estimated 100,000 people living with hepatitis C, the most common type of viral hepatitis. Lack of knowledge and awareness among providers and consumers alike concerning viral hepatitis is a huge issue. In fact, roughly 41.7% of primary care physicians are unfamiliar with recommended testing guidelines¹.

Despite the magnitude of the disease and the need for more preventative resources as well as

supportive services for those living with the disease, viral hepatitis is one of the most underfunded and neglected chronic diseases. In Massachusetts, hepatitis C services received \$2.75 million in funding in FY01. That amount decreased over time and was completely eliminated in FY08. Funding for hepatitis has been integrated into the HIV/AIDS line item, but as noted above this line item is already insufficient.

Investment in screening and testing services now is critical. People infected with hepatitis need to be identified and treated as soon as possible and those at risk of infection must be educated on effective prevention techniques. Doing so will result not only in better health outcomes for thousands of our residents, but also in tremendous cost savings since liver transplants and other treatments for the end-stage consequences of hepatitis are very expensive. The lifetime health costs for a person with hepatitis can easily total hundreds of thousands of dollars and without more action, health care costs related to treatment of HCV are expected to rise from \$30 billion to \$80 billion per year nationally.

It is imperative that we restore public funding for HIV/AIDS and viral hepatitis services. Otherwise, we risk losing precious ground in the fight against these devastating diseases and seeing a sharp increase in new infections, resulting in higher health care costs for the Commonwealth.

Rebecca Haag
President & CEO
AIDS Action Committee

¹Kallman JB, Arsalla A, Park V, et al. Screening for hepatitis B, C and non-alcoholic fatty liver disease: a survey of community-based physicians. *Aliment Pharmacol Ther* 2009;29:1019–24.

Policy Perspectives

Over the past several years, increased attention has been paid to viral hepatitis, and hepatitis C virus (HCV) in particular. Following the publication of the 2010 Institute of Medicine report *Hepatitis and Liver Cancer: A National Strategy for Prevention and Control of Hepatitis B and C*¹, there have been moves to expand capacity to address viral hepatitis.

In 2011, two new drugs were approved for the treatment of HCV infection. These new drugs, used in combination with the previous standard of care, have increased the likelihood that an infected person will be able to clear the virus. More recently, the Centers for Disease Control and Prevention (CDC) published recommendations² for a one-time HCV test of all people born between 1945 and 1965 as a part of routine medical care.

However, increased awareness and improved treatment options have not yet resulted in a significant change in the public health response to viral hepatitis. Federal funding for viral hepatitis remains dramatically low in contrast to the high burden of disease and its associated mortality. Most state and local public health departments do not have funding for viral hepatitis services and surveillance. This leaves a large number of people living with undiagnosed HCV infection (estimates ranging from 55 to 75%)³ and at increased risk of death due to the consequences of untreated infection. Recent studies have shown that mortality among people living with HCV infection is increasing, and Massachusetts death data among people reported with HCV

infection corroborate this trend.⁴ Ly, et al.,⁵ demonstrated that since 2007, deaths due to HCV infection have exceeded those due to HIV infection.

In Massachusetts, there has been great progress made in integration of viral hepatitis services into existing public health infrastructure, especially HIV/AIDS programs. However, limited state and federal funding has restricted the number of programs in place, the range of services that can be offered, and the extent of disease surveillance activities.

The new testing recommendations also raise another critical issue: the limited number of medical care providers available to treat HCV infection. Given the number of people estimated to be infected, there are insufficient specialists to manage the treatment of those being diagnosed. Provider education is needed to expand the number of providers, including primary care providers, who are capable of diagnosing and treating HCV infection.

If there is to be a reversal of the trend of increased mortality related to HCV infection, integrated programs are needed. Demand for services is likely to increase as more people are diagnosed with infection and more medications become available to treat HCV infection. A concerted effort to ensure that people will be able to access appropriate care in Massachusetts is urgently needed.

¹Institute of Medicine (IOM). 2010. Hepatitis and liver cancer: A national strategy for prevention and control of hepatitis B and C. Washington, DC: The National Academies Press.

²Centers for Disease Control and Prevention. Recommendations for the identification of chronic hepatitis C virus infection among persons born during 1945-1965. MMWR 2012; 61 (No. RR-4): 1-32.

³Op Cit, IOM, 2010

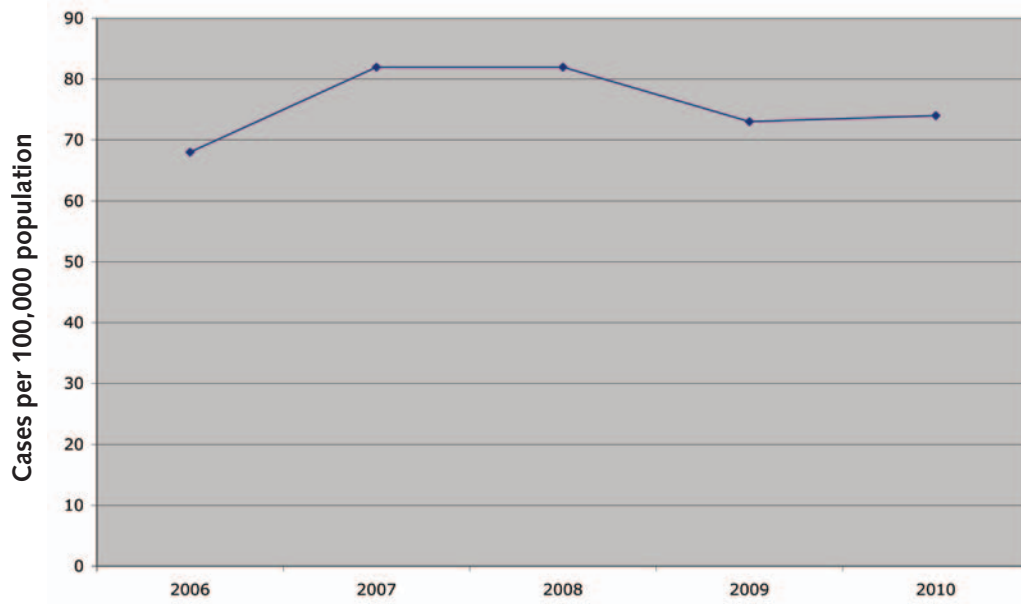
⁴Lijewski V, Church D, Onofrey S, Cocoros N, DeMaria A. Mortality trends among people diagnosed with hepatitis C virus infection: Massachusetts, 1992-2009. Abstract, CSTE Annual Meeting, Omaha, NE, June, 2012.

⁵Ly K, Xing J, Kleven RM, Jiles RB, Ward JW, Holmberg SD. The increasing burden of mortality from viral hepatitis in the United States between 1999 – 2007. *Annals of Internal Medicine*. 2012 Jun 5;156 (11):840.

Blood-Borne Pathogens — HIV/AIDS, Hepatitis C

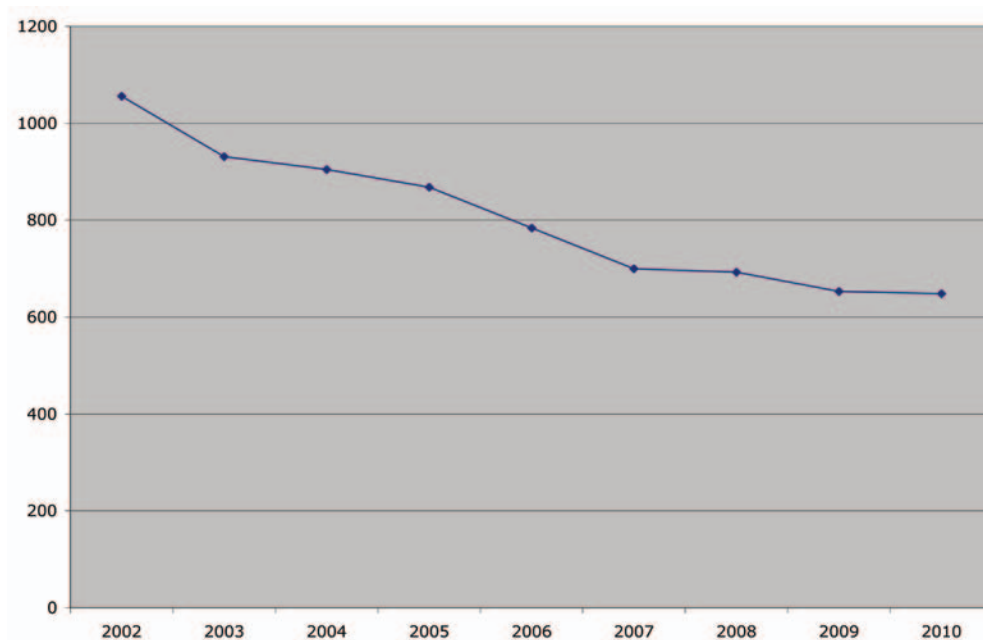
continued

Case Rate for Confirmed Hepatitis C Infection Cases by Year



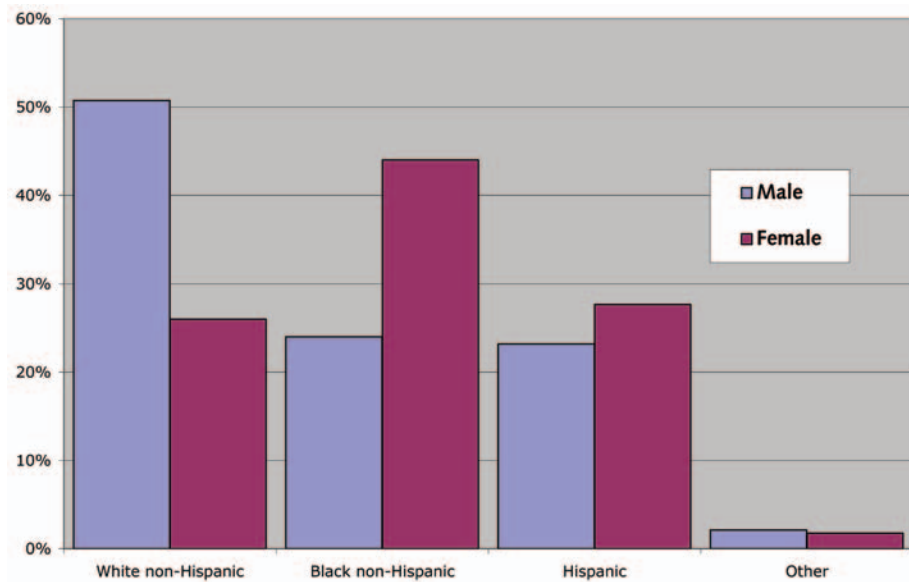
Source: MA Department of Public Health, Bureau of Infectious Disease Prevention, Response and Services

Diagnosis of HIV Infection 2002–2010



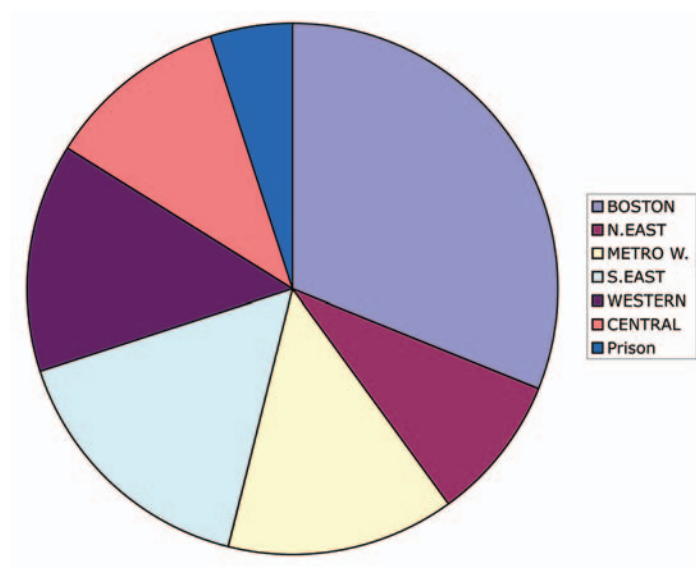
Source: MA Department of Public Health, HIV/AIDS Surveillance Program
Data as of 1/1/12

Percentages of 18,170 People Known to be Living with HIV/AIDS on December 31, 2011 by Gender and Race/Ethnicity



Source: MA Department of Public Health, HIV/AIDS Surveillance Program

People Living With HIV/AIDS on December 31, 2011 by Massachusetts Health Services Region



Source: MA Department of Public Health, HIV/AIDS Surveillance Program

Education

In 2012, the Massachusetts Departments of Elementary and Secondary Education (ESE) and Public Health (DPH) presented the results of two coordinated surveys of Massachusetts adolescents — the Youth Risk Behaviors Survey and the Youth Health Survey. Both were supported by funding from the U.S. Centers for Disease Control and Prevention (CDC). The surveys, conducted in 2011, were administered in a random sample of 137 public secondary schools (54 high schools and 83 middle schools), where 5,371 high school students and 3,554 middle school students answered questions about behaviors and conditions that may compromise their health, safety, and wellbeing. Monitoring behavior and students' perception of school conditions is an important tool for assessing why students drop out of school. Good education predicts good health, and disparities in health and educational achievement are closely linked. Nearly one-third of all students in the United States and half of Black, Latino, and American Indian students do not graduate from high school on time. Robust epidemiological evidence suggests that education could increase life expectancy, reduce the burden of illness, delay the consequences of aging, decrease risky health behavior, and shrink disparities in health. Fortunately, in Massachusetts graduation rates continue to improve.

Data

Nearly a million students (953,369) were enrolled in Massachusetts public schools in 2011–2012, a decrease of 0.4% (3,684) from 2009–2010. Statewide, the system consisted of 400 operating school districts, 1,139 elementary schools, 316 middle/junior high schools, 374 secondary schools, 72 charter schools, and 30 educational collaboratives. Enrollment breakdowns by race/ethnicity, Kindergarten through Grade 12, were: Whites 67%,

Hispanics 16%, African-Americans 8%, Asians 6%, and Multi-Race Non-Hispanics 2%. Special populations serviced by the system cut across racial/ethnic lines. Special Education students (163,379) comprised 17% of the total enrollment in 2011–2012; First Language Not English students 17% (159,368); Limited English Proficient students 7% (69,856); and Low Income students of all capabilities 35% (335,213). Thirty-five percent of all students enrolled received either free (289,452) or reduced (45,761) lunch.

Graduation rates continued to improve in 2011. More than 8 in 10 (83.4%) students graduated on time with their class — the highest percentage since the state began tracking the rate in 2006. Still, there were sizable disparities related to gender, race/ethnicity, and special population group. Females (87%), as usual, graduated at a significantly higher rate than males (81%). Twenty-seven percentage points separated the race/ethnic group with highest likelihood of graduating (Whites, 89%) from the least likely (Hispanics, 62%). African-Americans had a 71% on-time graduation rate, Multi-Race Non-Hispanics 81%, and Asians 88%. Seventy percent of all Low Income students graduated in four years in 2011, as did 66% of Special Education students and 56% of Limited English Proficient students. Among all graduates statewide, nearly 60% said they planned to attend a private or public 4-year college.

In the Boston Public Schools (BPS), the graduation rate rose to an all-time high (64.4%) in 2011, a 6 percentage point gain since 2007 but still 19 percentage points below the state average. Ten Boston high schools exceeded the district's own 2014 goal of a graduation rate of at least 80%. One school — the Edward M. Kennedy Academy for Health Careers — graduated 100% of its class of 2011 (46 students).

Groups at Risk

As the data consistently show, high school dropouts are, disproportionately, low income students, students of color, and students with limited proficiency in English. In 2010–2011, 2.7% (7,894) of 289,161 students enrolled in Massachusetts public schools, grades 9 through 12, dropped out. Males (3.2%) were more likely to leave school than females (2.3%). Among race/ethnicity groups, the dropout rates were: Hispanics 7.0%, African-Americans 4.8%, Multi-Race Non-Hispanics 2.5%, Asians 1.8%, and Whites 1.7%. Among special populations, Low Income students had a 4.8% dropout rate, Special Education students 4.6%, and Limited English Proficient students 7.9%.

In the Boston district, according to the state, the dropout rate fell from 6.8% to 6.4% in 2010–2011. The Boston Public School District, which uses a different formula, pegged the rate somewhat lower, at 6.0%. In any case, significant disparities existed across the district, depending on the school, neighborhood, and programs offered. In the city's highly competitive examination schools (Boston Latin Academy and Boston Latin School), the dropout rate was miniscule to non-existent (0.7% and 0.0%, respectively). For most schools, dropout rates from 3% to 10% predominated, with a few registering rates in the 16% to 23% range. While the Low Income student group saw no appreciable change in its dropout rate (staying about 5%) since 2006–2007, other special population groups showed a decrease of several percentage points over the 5-year period.

According to many educators, one often overlooked factor negatively impacting a school's overall academic performance is its “churn rate” — the frequency with which students transfer into or out of school during the year. High churn rates are said to create unstable learning environments. ESE findings for 2009–2010 seem to support this argument. Across Massachusetts, 351 schools — most of them in low income areas and considered

underachieving — had high churn rates, with at least 20% of their student population registering or departing during the year; 55 schools had churn rates greater than 50%. By contrast, over half (54%) of the 1,832 schools tracked by the Commonwealth's information management system had churn rates of less than 10%, and they tended to have stronger records of academic performance. Certain student populations recorded high churn rates in 2009–2010: Limited English Proficiency 24%; Low Income 16%; and Special Education 13%. Among race/ethnicity groups, churn rates were highest for Hispanics (20%), followed closely by African-Americans (18%), Multi-Race Non-Hispanics (12%), Asians (12%), and Whites (6%).

In 2011 compared to years past, a lower percentage of high school students reported ever having used alcohol, driven after drinking, used marijuana before age 13, and been bullied at school. Compared to 2009, fewer middle school students reported using alcohol in their lifetime (20% vs. 26%) and smoking cigarettes in their lifetime (10% vs. 15%). However, some factors that protect against risky behavior had worsened; for example, the percentage of students reporting having ever been taught in school about HIV/AIDS continued to decline significantly.

Information about risk and protective factors began to emerge as a result of questions being asked for the first time. Seventeen percent of high school students reported being a victim of cyber-bullying in the past year, with female victims (24%) significantly outnumbering males (10%). Ten percent of high school students reported having initiated cyber-bullying in the past year. In middle school, 15% of students said they had been cyber-bullied. Indicative of protection was the finding that 63% of high school students agreed or strongly agreed that their teachers really cared about them and gave them encouragement and support.

References

A Profile of Health Among Massachusetts Middle and High School Students, 2011, Massachusetts Department of Public Health, June 2012.

Freudenberg N, Ruglis J., “Reframing School Dropout as a Public Health Issue.” *Prev Chronic Dis* 2007; 4(4). http://www.cdc.gov/pcd/issues/2007/oct/07_0063.htm.

Health and Risk Behaviors of Massachusetts Youth: 2011, Massachusetts Department of Elementary and Secondary Education and Massachusetts Department of Public Health, May 2012.

Massachusetts Department of Elementary and Secondary Education, Massachusetts School and District Profiles.

Massachusetts Department of Elementary and Secondary Education, “High School Dropouts 2010–2011: Massachusetts Public Schools,” [2012].

Massachusetts Department of Elementary and Secondary Education, “Cohort 2011 Four-Year Graduation Rates — State Results,” [2012].

Massachusetts Department of Elementary and Secondary Education, “Student Mobility Rates in Massachusetts Public Schools,” [2012].

“Graduation Rate in Boston Public Schools Rises to All-Time High,” BPS news release, February 15, 2012.

Boston Public Schools, Office of Research, Assessment, and Evaluation, “Boston Public Schools: 4-Year Graduation Rate by Cohort Group,” [2012].

Boston Public Schools, Office of Research, Assessment, and Evaluation, “Boston Public Schools 2010–2011: Student Dropout Rates,” [2012].

Policy Perspectives

Education, particularly a high school degree or equivalent, is important for many life outcomes, including health. Years of efforts have reduced the state's dropout rate to 2.7%, but nearly 7,900 students still leave high school each year. There is progress, but much work is needed to reach 1.7% by 2014, the goal set by the 2009 Massachusetts Graduation and Dropout Prevention and Recovery Commission.

Northeastern University's Andrew Sum's research on the economic, social, and health consequences of dropouts demonstrates:

...Adults with lower levels of schooling are less likely to receive medical care, less likely to be covered by health insurance, more likely to report poorer health, and much more likely to report physical or mental disabilities than their peers with higher levels of schooling.¹

Reducing the dropout rate takes efforts from communities, districts, schools, classrooms, and students. Reasons for leaving school can include academic and/or non-academic challenges, and many prevention and recovery efforts need to consider this. The Massachusetts Department of Elementary and Secondary Education (ESE) collaborates with other state agencies, districts, and organizations to increase the educational attainment and associated health of youth and their families. ESE's Dropout Reduction website describes examples of efforts. ESE's District Standards and Indicators and Conditions for School Effectiveness also emphasize the importance of creating safe school environments that address students' social, emotional, and health needs. Additionally, the Department of Public Health and ESE developed regulations addressing school food nutrition and school wellness advisory committees. The federal Healthy, Hunger-Free Kids Act directs districts to strengthen wellness policies to improve nutrition

and increase physical activity. ESE's Adult Basic Education system provides a significant dropout recovery system, and in 2010–2011, 15% of students who dropped out of high school were enrolled in an adult education program.²

As the Dropout Commission report explains, the decision to drop out is an individual one, but it is often influenced by the degree of support the student receives from the family, school, and community. The decision creates grave consequences for the Commonwealth, and we cannot afford to be complacent.

Rachelle Engler Bennett

Director of Student Support

MA Department of Elementary and Secondary Education

Jenny Caldwell Curtin, MPP

Coordinator of Alternative Education and Trauma Sensitive Schools

MA Department of Elementary and Secondary Education

Carol Goodenow, PhD

Director, Coordinated School Health

MA Department of Elementary and Secondary Education

¹Sum, Andrew et al. *An Assessment of the Labor Market, Income, Health, Social, Civic, and Fiscal Consequences of Dropping Out of High School: Findings for Massachusetts Adults in the 21st Century*. January 2007.

²2009–2010 ESE Dropout Report

Policy Perspectives

School-based health centers have been providing health care services in schools for more than 20 years. Today, there are 56 school-based health centers in 22 Massachusetts communities. In school year 2010–2011, over 70,000 children, adolescents and family members benefited from a school-based health center.

Establishing a school-based health center is not without its challenges and requires significant collaboration between the education and health sectors, each with its own mission, sets of rules, and unique environment. Nevertheless, many school leaders, motivated by the array of physical, social, and emotional needs students bring to school each day, forge ahead to bring one into their school.

Long before the medical home or health home concept was coined, school-based health center sponsor organizations recognized that by delivering the right care, at the right time, and in the right place, students can access the health care they need and minimize the loss of academic time in obtaining it. And school leaders know that bringing additional resources on-site, including behavioral health services, asthma management,

nutritional counseling, oral health care, etc. will help improve students' capacity to do well in school and aspiration to succeed, as well as improve their health status.

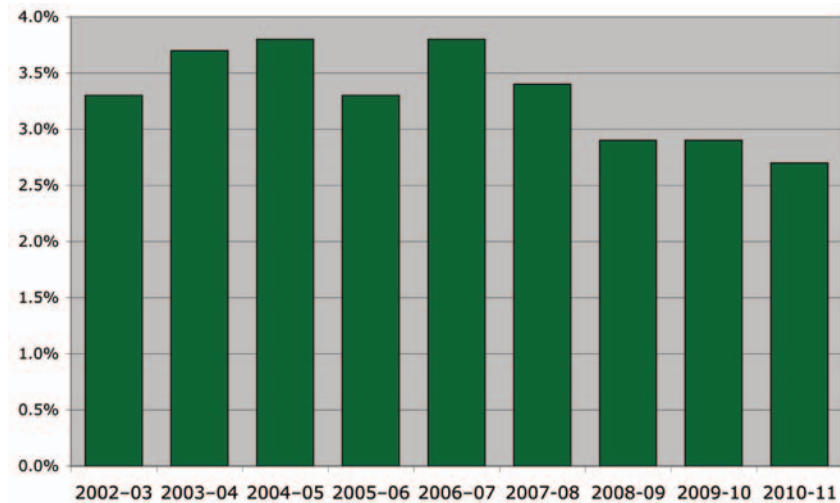
As health reform moves forward to address containing health care costs, two important considerations lend themselves to greater investment in school-based health centers. The first is that school-based health centers offer a cost-effective alternative to the hospital Emergency Department, which is often where students would otherwise seek medical care in the absence of a school-based health center. Second, health factors such as depression, substance abuse, and teen pregnancy, while paramount to school dropout, can be successfully prevented and treated, if addressed in a timely and age-appropriate manner. School-based health centers make it their business to do both — help keep kids healthy and in school.

Nancy W. Carpenter

Executive Director

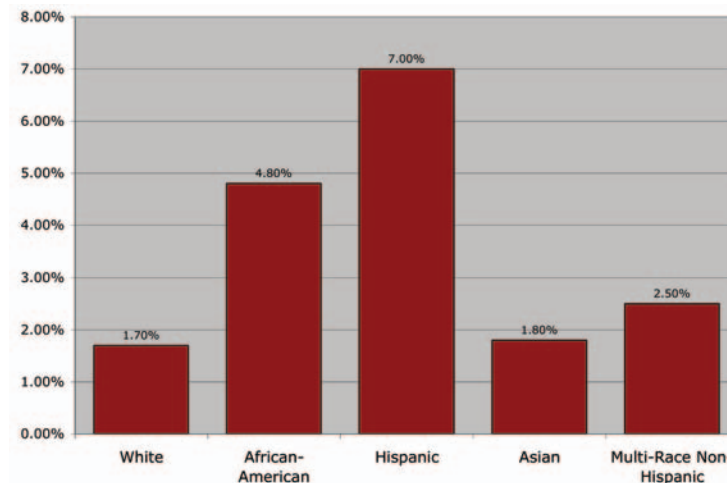
Massachusetts Association for School-Based Health Care

Annual High School Dropout Rate Massachusetts, 2002–2011



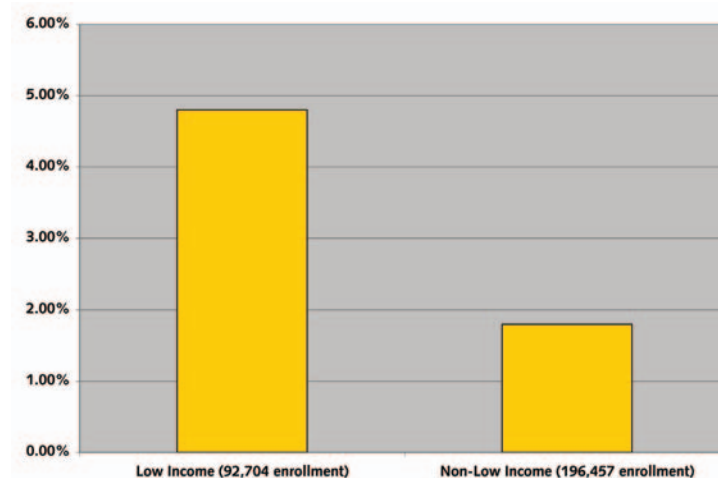
Source: Massachusetts Department of Elementary and Secondary Education

Annual High School Dropout Rate by Race/Ethnicity Massachusetts, 2010–2011



Source: Massachusetts Department of Elementary and Secondary Education

Annual High School Dropout Rate by Income Status Massachusetts, 2010–2011



Source: Massachusetts Department of Elementary and Secondary Education

Obesity and Overweightness

Obesity is a threat to the health and wellbeing of individuals and communities. The MA Department of Public Health (MDPH) estimates that \$1.82 billion per year in medical expenses in the Bay State are directly attributable to adult obesity. The high rates of obesity among children, in Massachusetts as elsewhere, are producing many of the same deleterious health consequences that were once thought to affect adults only, such as hypertension and “adult-onset” (type 2) diabetes. For adults, hypertension, dyslipidemia, non-insulin dependent (type 2) diabetes, coronary heart disease, stroke, osteoarthritis, respiratory problems, and certain cancers, including endometrial, breast, and colon cancer, are among the known correlates to overweight/obesity.

Data

According to Centers for Disease Control and Prevention estimates for 2011, the prevalence of obesity among Massachusetts adults was 22.7%, third lowest rate in the nation behind Colorado and Hawaii, by Body Mass Index (BMI) definition. Changes in CDC survey methods establish a new baseline for state obesity rates, meaning percentages for 2011 cannot be compared to past years.

Though Massachusetts continues to be one of the “skinniest” of the 50 states, the obesity explosion that has made headlines across the nation is impacting Massachusetts as well. Obesity in the Commonwealth has been on the rise for well over a decade, doubling in the past 15 years from 11.7% in 1995 to 23.6% in 2010, as previously reported by the CDC. When the total of Massachusetts residents in 2010 whose BMI score classified them as obese (23.6%) is added to the 36.5% others who were “overweight” by BMI measure, the combined 60.1% represents a substantial increase over 2009, when 57.5% of Bay State adults were found to be either overweight or obese by the CDC and

the MA Department of Public Health (MDPH). Clearly, Massachusetts, like the rest of the nation, is on track for continued weight gain over the next 20 years, when by most estimates 3 out of 4 Americans will be either overweight or obese. Already, according to MDPH, 7 in 10 adult males in Massachusetts in 2010 fell into that combined category.

The situation in the Commonwealth is unacceptable but amenable to improvement. In a 2012 report on Massachusetts’ growing obesity problem, the Robert Wood Johnson Foundation’s Trust for America’s Health (TFAH) projected that reducing Massachusetts’ collective BMI rate by 5% would spare tens of thousands of Bay State residents from diseases known to be related to obesity — principally, adult onset (type 2) diabetes, cardiovascular diseases, and several forms of cancer — as well as save billions of dollars in health care costs. According to the analysts’ projections, a 5% BMI reduction in Massachusetts would, by year 2020, avoid 77,200 potential cases of type 2 diabetes (a \$1.656 billion savings); 6,851 cases of obesity-related cancers (\$250 million); 65,080 cases of coronary heart disease and stroke (\$2.358 billion); 75,882 cases of hypertension (\$340 million); and 40,774 cases of osteoarthritis (\$439 million) — altogether, a savings of more than \$5 billion. Extending the 5% obesity rate reduction another ten years to 2030 would save an additional \$9 billion.

There is somewhat better news with regard to children in the Bay State. After three decades during which childhood obesity rates tripled nationally, there are signs a plateau has been reached in Massachusetts among certain age groups. Ten percent of MA high school students were obese in 2011, compared to 11% over the five-year period 2005-2009. Fifteen percent of MA middle school students were overweight and another 9% were obese in 2011, a decrease from 17% overweight and

10% obese in 2009. In the school year ending in 2010, school nurses in 133 public school districts across the state screened 43,761 Grade 1 (age 6) students and 43,828 Grade 4 (age 10) students for overweight and obesity. Among the Grade 1 group, 31% of boys and 29% of girls were either overweight or obese. Among the Grade 4 group, the rate of overweight or obesity was 38% of boys and 34% of girls. As bad as these numbers are, the Grade 1 numbers are slightly improved over the 2007 numbers and the Grade 4 numbers were unchanged from 2007.

Groups at Risk

Multiple issues regarding weight and weight control persist throughout adolescence. According to the 2011 Youth Risk Behavior Survey (YRBS), a significant percentage of Massachusetts' high school population ignored basic concepts of good nutrition as well as the need to engage in regular physical activity. Seven percent drank 3 or more non-diet sodas a day; 15% did not participate in any physical activity; and 44% did not attend physical education class in school. Classic gender differences persisted. Though male high school students (13%) were twice as likely as females (6%) to be obese, they were less likely than females to describe themselves as "overweight" (23% vs. 32%) and considerably less likely to be trying to lose weight (32% vs. 60%). Perception of being overweight drove a number of risky behaviors: Thirteen percent of females and 6% of males said they did not eat for 24 or more hours to lose weight or to keep from gaining weight during the 30 days before the survey. Five percent of females and 3% of males said they took diet pills, powders, or liquids to lose weight; and 7% of females and 3% of males said they vomited or took laxatives in order to lose weight or keep from gaining weight.

Among MA high school students, obesity was less prevalent among Whites (9%) than Blacks (16%), Hispanics (14%), and self-identified Multiracial students (15%).

In Massachusetts, a shortage of supermarkets

may be contributing to long-recognized socioeconomic disparities in the prevalence of obesity and diet-related diseases. According to a study released in March 2011 by The Food Trust, a Philadelphia-based nonprofit with funding from the Robert Wood Johnson Foundation, Massachusetts was third lowest of 50 states in supermarket density. In Boston, Springfield, and Brockton, the number of supermarkets per capita was as much as 30% below the national average. In Lowell and Fitchburg, there were half as many supermarkets as needed to adequately serve the population. The shortage of supermarkets was particularly severe in lower-income urban neighborhoods, where corner groceries and convenience stores rarely stock fresh fruits and vegetables, preferring to concentrate on high markup, processed foods that typically are loaded with fat, salt, and sugar. Rural communities in Western and Central Massachusetts, around the Orange-Athol and Pittsfield-North Adams areas, were also underserved by supermarkets, according to the study, whose authors urged the state to use financial incentives to attract major retailers to areas with the greatest need.

Diabetes

While type 2 ("adult onset") diabetes was almost unheard of in children 30 years ago, about 4,000 new cases are now diagnosed nationally every year. According to a 2012 study in the *New England Journal of Medicine*, the condition may be harder to manage in youngsters than adults. Researchers found that 46% of 699 overweight children ages 10–17, including some from the Boston area, who were initially treated with the drug metformin, either alone, with intensive weight-loss counseling, or in combination with another drug, rosiglitazone, failed to maintain healthy blood sugar levels and needed to be put on insulin injections in less than a year, on average. The puzzlement was why the weight lost through exercise and dietary counseling had not been enough to manage, much less reverse, the disease.

Obesity and Overweightness *continued*

While diabetes studies have repeatedly shown that Blacks, Hispanics, and Asians are significantly more likely than Whites to develop the disease, a UMass Medical School study has found that in postmenopausal women, racial disparities can be decreased by healthy lifestyles. More than 158,000 women (average age 63 at baseline) participating in the Women's Health Initiative were followed for 10.4 years, with data collected on race/ethnicity, education, height, weight, diet, physical activity, and diabetes prevalence at baseline and incidence over the study period. The principal findings were: The rate of diabetes in black women dropped from 24% in those who were obese to 9% in those with a healthy weight who exercised. Across all racial and ethnic groups, women of normal weight and BMI

had one-third to one-sixth the incidence of diabetes compared to those with a BMI >30 who did not exercise. Asian women had the highest inherent risk of diabetes, suggesting they would need to lose greater amounts of weight relative to body mass in order to be as unlikely as non-overweight Whites to contract the disease. The researchers concluded that despite pronounced racial/ethnic disparities (Blacks were 2 to 3 times more likely than Whites to develop diabetes, and Hispanics and Asians were approximately twice as likely), most of the variability in diabetes incidence could be attributed to "lifestyle factors," the majority of diabetes cases are preventable, and risk reduction strategies can be effectively applied to all racial/ethnic groups.

References

F as in Fat: 2011 — How Obesity Threatens America's Future, Robert Wood Johnson Foundation, Trust for America's Health, 2011.

"Prevalence of Self-Reported Obesity Among U.S. Adults, BRFSS, 2011" Centers for Disease Control and Prevention, August 2012.

Prevalence and Trends Data — Massachusetts — Overweight and Obesity (BMI), 2010, 2009, and All Available Years, Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System.

A Profile of Health Among Massachusetts Adults, 2010, Massachusetts Department of Public Health, June 2011.

"Bending the Obesity Cost Curve," Robert Wood Johnson Foundation, Trust for America's Health, January 2012.

"Bending the Obesity Cost Curve in Massachusetts," Robert Wood Johnson Foundation, Trust for America's Health, June 2012.

Y. Claire Wang et al, "Health and Economic Burden of the Projected Obesity Trends in the USA and the UK," *The Lancet*, 378 (August 27, 2011), 815–825.

"Shortage of grocers plagues Mass. Cities," *Boston Globe*, March 7, 2011.

"Food for Every Child: The Need for More Supermarkets in Massachusetts," The Food Trust, December 2010.

A Profile of Health Among Massachusetts Middle and High School Students, 2011, Massachusetts Department of Public Health, June 2012.

Health and Risk Behaviors of Massachusetts Youth: 2011, Massachusetts Department of Elementary and Secondary Education and Massachusetts Department of Public Health, May 2012.

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, "Youth Risk Behavior Surveillance — United States, 2011," *MMWR*, Surveillance Summaries, 61 (June 8, 2012).

"Type 2 diabetes tougher to treat in children," *Boston Globe*, April 30, 2012.

Today Study Group, "A Clinical Trial to Maintain Glycemic Control in Youth with Type 2 Diabetes," *New England Journal of Medicine*, 366 (June 14, 2012), 2247–2256.

The Essential School Health Services Data Report: 2009–2010 School Year, Massachusetts Department of Public Health, Spring 2011.

"UMass study: Healthy lifestyles can reduce racial disparity in diabetes," *Worcester Telegram & Gazette*, July 25, 2012.

Yunsheng Ma, "Determinants of Racial/Ethnic Disparities in Incidence of Diabetes in Postmenopausal Women in the U.S.: The Women's Health Initiative, 1993–2009," *Diabetes Care*, published online before print, July 25, 2012.

Policy Perspectives

The year 2012 has been and continues to be a landmark year for obesity medicine, as evidenced by the following:

1. The American Board of Obesity Medicine (ABOM) was founded and the first certifying exam will be given in November.
2. The first new weight loss drug approved by the FDA in over a decade will hit the market this year (Belviq or Lorcaserin) and the second potentially to be approved is well known as Qnexa or Phentermine/Topiramate.
3. CMS has announced that obesity treatment by primary care providers will be covered by Medicare.

These events are the results of the combined efforts of academia, government, and the industry to push obesity as a disease to the forefront of health care efforts to improve the wellbeing of Americans. Since obesity is the most prevalent disease in the United States as well as elsewhere in the world, these events will likely change the course of healthcare in the United States in the next few years toward a better outcome for obesity treatment strategies than we have witnessed in the past 20 years.

All three events above have immediate ramifications for the practitioner as not only will the subspecialty of Obesity Medicine be recognized, but treatment of the disease will be covered by insurance and there will be more tools available to help the practitioner care for the obese patient.

Massachusetts has remained at the forefront advocating for these decisions and will continue to support the efforts of academia, government, and industry to fight this epidemic. The future of obesity treatment is bright but more needs to be accomplished for healthcare to finally reverse the epidemic. The epidemic will not be reversed unless prevention is also addressed. Prevention involves altering our environment to ensure that our children do not begin to develop obesity because we know that altering the body set point after it is established is difficult. It involves continued research and education of good wellness habits as well as leadership that is supportive and continues to fight for significant change on a community and global level.

Caroline M. Apovian, MD, FACP, FACN

Associate Professor of Medicine

Boston University School of Medicine

Director, Center for Nutrition and Weight Management

Obesity and Overweightness *continued*

Policy Perspectives

The Patrick Administration and the Massachusetts Department of Public Health spearheaded *Mass in Motion* (MiM), a public health campaign to promote health and wellness through healthy eating and active living. This multi-faceted campaign is aligned with the National Prevention Strategy, focusing on a multi-sector community-based approach to support healthy lifestyle choices as the easy choice. The cornerstone of *Mass in Motion* is the state-sponsored Municipal Wellness and Leadership Grants (MWLG) awarded to 52 communities across the Commonwealth, reaching 32% of the population. With support from elected officials and community coalitions, municipal leaders are charged with evaluating social conditions across all sectors to identify policies, systems and built environment designs that are barriers to eating more fruits and vegetables and engaging in physical activities. With technology advances, we have become a more sedentary society, contributing to less energy expenditure in a typical day as compared to 15 years ago. Another major lifestyle change contributing to overweight and obesity is our tendency to have our meals at fast food establishments, consuming fewer fresh products and having less knowledge about ingredients and calorie content of what we eat. *Mass in Motion* strategies are focused on empowering individuals and families by providing them with the tools they need to make positive, healthy changes.

Other aspects of this campaign include BMI screenings for all students in grades 1, 4, 7, and

10 so that communities can observe trends in overweight and obesity and inform School Wellness Advisory Committees regarding prevention and intervention impacts. Recently enacted School Nutrition Standards will insure that our children have healthy meals and nutrition education to help reverse unhealthy eating habits. Community gardens, purchasing food at farmer's markets and healthy dining in restaurants are some of the activities communities are implementing to encourage healthy food choices. Bike paths, walking trails and Safe Routes to Schools are being developed in many of the *Mass in Motion* communities to support safe places for getting out of our cars and moving more, helping to burn off the day's calorie intake. We are fortunate in Massachusetts to have over 150 parks where we can enjoy free recreation outdoors while being active, as well as many farms where we can purchase (and in some cases pick) fresh fruits and vegetables to enhance our diets.

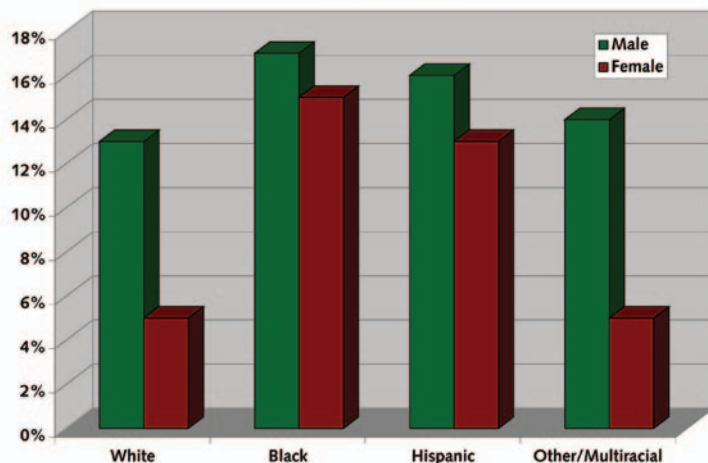
An interactive website for *Mass in Motion* provides helpful links to these, and many more, low-cost or free activities and information on how we can be healthy... better health, it's your choice!

Cheryl Bartlett

Director, Bureau of Community Health and Prevention

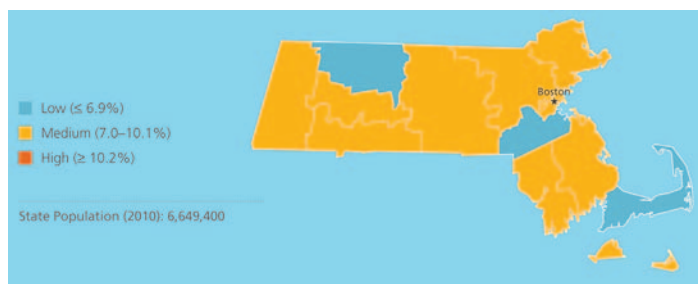
MA Department of Public Health

Obesity Among MA High School Students by Race/Ethnicity and Gender, 2011



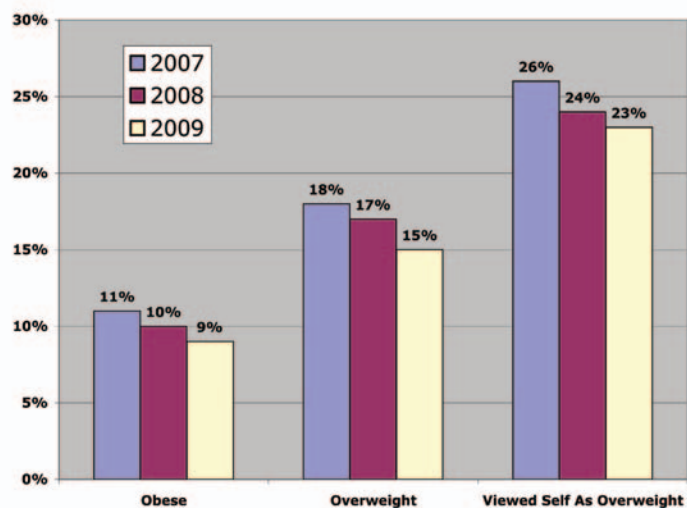
Source: Massachusetts Department of Public Health

Diagnosed Diabetes Prevalence Rates Among Adults, by County



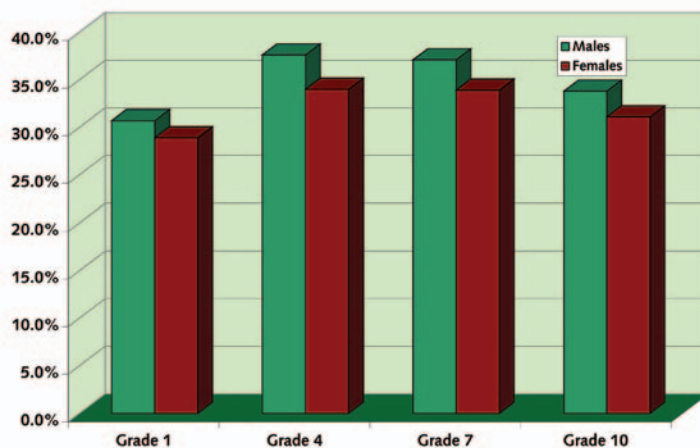
Source (map): Centers for Disease Control and Prevention: National Diabetes Surveillance System

Weight and Perception of Overweight Among MA Middle School Students, 2007–2011



Source: Massachusetts Department of Elementary and Secondary Education

Percentages of 163,509 MA Public School Students Who Are Overweight or Obese by Grade Level and Gender, 2009–2010



Source: Massachusetts Department of Public Health, Essential School Health Services Program

Oral Health

Oral diseases have been called “a neglected epidemic” and “the silent epidemic” because they affect almost the total population, many people have new or recurring disease every year, and access to prevention and treatment is not available for many, especially those vulnerable population groups who suffer the most severe consequences. Oral diseases adversely affect nutrition, digestion, speech, social mobility, employability, self-image, self-esteem, and quality of life. There are significant regional, racial and ethnic disparities in access to dental care and dental outcomes.

Data

In 2011, of the 6.5 million Massachusetts residents, approximately 76% have some type of dental coverage including those covered by MassHealth. Over 1.32 million Massachusetts residents, one out of five, are MassHealth members, of which about 47% are under age 21. MassHealth members who are under age 21 have dental coverage. MassHealth adults had dental benefits significantly cut but there are still a limited number of procedures provided which are preventative and emergency services. This includes two regular annual check-ups with cleanings, x-rays, extractions, emergency dental care, and certain types of oral surgery such as biopsies.

In 2010 in Massachusetts, 28% of children aged 2–4 and 58% of children ages 6–8 experienced dental decay. Of these children, 15% of those ages 2–4 did not have their dental decay treated and 17% of the children ages 6–8 did not have treatment for their dental decay. 59% of nursing home seniors and 47% of special needs adults have untreated tooth decay; over 2.5 million residents don’t have community water fluoridation; and only about 1,274 Massachusetts dentists are active MassHealth (Medicaid) providers.

In 2010, 54% of Blacks, 46% of Hispanics, and 65% of non-high-school graduates in Massachusetts had tooth loss compared to only 30% of Asians and 39% of White non-Hispanics. In 2010, 24% of all seniors over 65 years did not have a dental visit in the past year, compared to only 21% of all adults.

Evidence shows that fluoridation reduces tooth decay and oral health problems. Fluoridation is the most cost-effective preventive measure for tooth decay with everyone benefiting with less disease, pain, and infection as well as lower dental bills. For every dollar spent on fluoridation, there is a \$38 benefit in better oral health. The national average cost is about 72¢ per person per year. Massachusetts is ranked 36th in the country for fluoridation status with 140 communities, over 4 million residents or 63.5% of the population on public water supplies. The national goal for Healthy People 2020 is 79.6%. For the past 6 years, the U.S. Centers for Disease Control (CDC) has recognized Massachusetts for the high quality of its fluoridated communities. Unfortunately 5 of the 25 most highly populated cities and towns in our state are not fluoridated: Barnstable, Brockton, Chicopee, Worcester, and Springfield.

Groups at Risk

Local boards of health in non-fluoridated communities need better information — A 2010 survey of Massachusetts local boards of health in non-fluoridated communities found that 74% of the respondents did not know that fluoridation was the most cost-effective dental prevention program and 43% did not know what dental prevention programs exist in their community.

In FY12, 62% of elementary schools and 51% of all public schools with greater than 50% participation in free/reduced school lunch programs had sealant programs. Progress is being made.

Only 53% of eligible Medicaid children saw a dentist in federal FY11. For adults, seniors, and those in nursing homes, oral health is even more of a crisis situation. In a 2010 survey of Massachusetts seniors it was found that (1) 74% of seniors in long-term care facilities had gingivitis and 59% had untreated decay with 34% having major to urgent dental needs; (2) 35% of seniors at meal sites had untreated decay with 17% having major to urgent dental needs; and (3) Nearly 20% of seniors at meal sites had not had a dental visit in more than 5 years.

Cost of dental care, no insurance and no available dentists were the three major barriers to seniors receiving care in long-term care facilities.

In July of 2010, the Adult MassHealth Dental Program was dramatically reduced eliminating restorative care. In 2012, this affected over 702,000 MassHealth adult members. Thus, more adults will have no teeth and no dentures, limiting their employability and ability to eat food — making MassHealth seniors and the medically compromised even more fragile and vulnerable. In July, 2012, the Governor signed the FY 2013 state budget which included about \$7.2 million for white fillings on the front teeth for adults on MassHealth and Commonwealth Care.

About 612,257 residents live in 57 cities and towns federally designated as Dental Health Professional Shortage Areas (DHPSAs). The primary dental safety net in our state consists of about 52 community health center dental programs and satellites, which had about 480,000 patient visits in

2011, a 26% increase since 2008. However, they are severely stretched beyond their capacity due to the adult MassHealth cutbacks and most need financial support. The Massachusetts Dental Society has encouraged its members to become MassHealth providers. In FY11, only 1,274 dentists were active MassHealth providers and although this is a 13% increase over FY10, almost 50% of Massachusetts cities and towns do not have a MassHealth dentist provider. With the implementation of the Affordable Care Act, there will be an even greater demand for dental services.

Disparities in oral health for vulnerable populations or groups at-risk have always been extensive and continue to exist due to the lack of access to prevention programs, dental treatment, and dental providers. These groups at-risk include children, the elderly, low income, developmentally disabled, medically compromised, homebound or homeless, persons with HIV, MassHealth members, the uninsured and institutionalized, as well as racial, cultural, and linguistic minorities.

References

- M. Allukian, "The Neglected Epidemic and the Surgeon General's Report: A Call to Action for Better Oral Health," *American Journal of Public Health* Sept. (2008): S82-85.
- M. Allukian Jr., "Oral Diseases: The Neglected Epidemic," Scutchfield, F.D. and Keck C.W. ed. Chapter 28 in *Principles of Public Health Practice*, Third ed., Albany, N.Y., Delmar Publishers, 2009.
- Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*, Rockville, MD: US Department of Health and Human Services, National Institute of Dental and Craniofacial Research, and National Institutes of Health, 2000.
- Special Legislative Commission on Oral Health, *The Oral Health Crisis in Massachusetts*, Massachusetts Department of Public Health, Boston, February, 2000.
- Massachusetts Department of Public Health, Office of Oral Health. *The Status of Oral Disease in Massachusetts: The Great Unmet Need 2009*. Boston, Massachusetts Department of Public Health, 2009.
- Massachusetts Department of Public Health, Health Survey Program, Bureau of Health Information, Statistics, Research, and Evaluation, *A Profile of Health Among Massachusetts Adults, 2010: Results from the Behavioral Risk Factor Surveillance System*, Boston, Massachusetts Department of Public Health, June 2011.
- Catalyst Institute, *The Oral Health of Massachusetts' Children*, January 2008.
- Centers for Disease Control and Prevention, 2010 Water Fluoridation Statistics. Division of Oral Health, National Center for Chronic Disease Prevention and Health, May 2012.
- M. Allukian, "Massachusetts Fluoridation Update 2006." *Journal of the Massachusetts Dental Society*. 55.1 (2006): 16–22.
- V. Bhatt and M. Allukian Jr., "A survey of the knowledge and interests in dental prevention programs of Massachusetts local boards of health in non-fluoridated communities," (*Unpublished study*), Boston, MA, 2010.
- Massachusetts School Nurse Survey, Massachusetts Department of Public Health Office of Oral Health, conducted December, 2008 (unpublished).
- Oral Health Collaborative of Massachusetts, *The Massachusetts Oral Health Report*, May 2004.
- M. Allukian Jr., "Who is Helping Seniors Improve Their Oral Health? What is Our Responsibility?," *Journal of the Massachusetts Dental Society*, 37 (Fall 2008):68–69.
- Massachusetts Department of Public Health, Office of Oral Health. *The Commonwealth's High- Risk Senior Population: Results and Recommendations from a 2009 Statewide Oral Health Assessment*, Boston, Massachusetts Department of Public Health, July 2010
- Massachusetts Medical Society, *Physician Workforce Study*, Waltham, MA, June 2007.
- United States District Court of Massachusetts Civil Action No. 00-CV-10833-RWZ, Health Care for All, Inc. et al Plaintiffs v. Governor Deval Patrick, et al Defendants, Eighth Report of Remediation Monitor Filed 7/30/2010.
- Mapping Access to Oral Health Care in Massachusetts*, Massachusetts Oral Health Collaborative Report, October 2006.
- Better Oral Health for Massachusetts Coalition, *Oral Health Plan for Massachusetts: 2010–2015*, 2010.
- Commonwealth of Massachusetts Department of Public Health. Request for Final Approval of Amendments to Regulations at 105 CMR 700.000. Retrieved from <http://ma-publichealth.typepad.com/files/2012-03-21-fluoride-regs-vote.pdf>

Policy Perspectives

Oral health must have a much higher priority in the development and implementation of all health policies and programs, especially for vulnerable population groups. As tooth decay eventually affects about 96% of adults, community water fluoridation must be the foundation for improving the oral health of every community in our state. In non-fluoridated high-risk communities, school fluoride rinse/tablet/varnish programs are recommended. School-based sealant prevention programs for high-risk children also need to be promoted.

The Better Oral Health for Massachusetts Coalition (BOHMAC) released an oral health plan for Massachusetts in 2010. This plan focuses on four areas:

- Increase access to oral health services and prevention.
- Promote positive policy, advocacy and public awareness concerning oral health.
- Strengthen, diversify and expand the Massachusetts' oral health workforce.
- Promote and support ongoing statewide assessment and surveillance system.

The State Oral Health Plan must be financed and implemented to: (1) Increase the number of effective population-based prevention measures like fluoridation and fluoride rinses/tablets/varnishes

and school prevention programs such as sealants; (2) Improve access for vulnerable populations. The Adult MassHealth Dental Program needs to be restored with a reasonable fee schedule. Community health center dental programs need to be expanded, increased and better funded; and (3) Monitor the oral health status of all age groups and vulnerable populations to help direct scarce resources and include an interface with chronic disease surveillance.

In April 2012, the Massachusetts Department of Public Health (MDPH) modified its regulations to permit non-licensed individuals such as medical assistants to administer fluoride varnish, an effective preventive measure, to their patients under the supervision of a licensed individual such as a physician or nurse and be reimbursed by MassHealth. This new regulation should help improve access to this preventive measure for high-risk individuals who may not see a dentist on a regular basis. This service should be included as a benefit by all third party health insurers for children and seniors, and be promoted to the medical profession

Myron Allukian, Jr., DDS, MPH

Immediate Past President, American Association for Community Dental Programs

Former Dental Director, Boston Public Health Commission

Past President, Massachusetts Health Council

Past President, American Public Health Association

Policy Perspectives

Although almost entirely preventable, oral diseases continue to present a burden that negatively impacts the health of the residents of Massachusetts. Oral diseases continue to disproportionately impact low income and racial/ethnic minority individuals and families. The economic downturn has placed a further burden on employer based access to dental benefits and created state budget shortfalls that led to severe reductions in MassHealth adult dental benefits and dental public health programs.

Several important initiatives, however, provide evidence that oral health continues to gain recognition as an important component of health and an important health issue in its own right.

Nationally,

- The Department of Health and Human Services has included oral health as a leading health indicator for Healthy People 2020.
- CMS has developed a strategy to improve the oral health of underserved children by increasing utilization of preventive dental services among all Medicaid eligible children and increasing the percentage of children who receive dental sealants. All states are required to develop and submit a plan to achieve those goals.

- The Affordable Care Act requires a pediatric dental benefit plan as a requirement in the Essential Health Benefits Package that will be offered on the state exchanges.
- The US National Oral Health Alliance has formed among a wide group of stakeholders to address priority issues to improve oral health.

In Massachusetts,

- Some MassHealth adult dental benefits were restored with the FY13 budget.
- The Better Oral Health for Massachusetts Coalition and the Oral Health Advocacy Task Force continue to work together to advocate for policies, resources, and programs that improve oral health in Massachusetts.

As the economy improves it will be important to continue focused efforts to reinstate lost benefits and programs, reduce disparities, and further improve oral health for all.

Michael Monopoli, DMD, MPH, MS

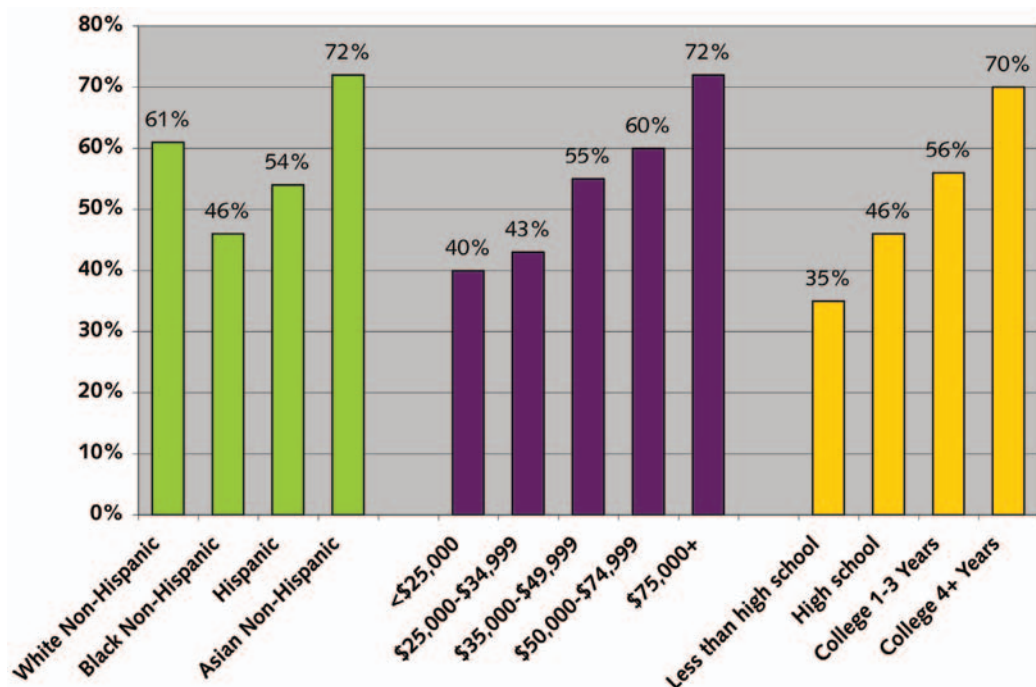
Director, Policy and Planning
DentaQuest Foundation

How Massachusetts Stacks Up on Key Oral Health Indicators

Indicator	United States	Massachusetts
Dental decay experience (ages 2-4)	22%	28%
Dental decay experience (ages 6-8)	51%	58%
Untreated decay (ages 2-4)	17%	15%
Untreated decay (ages 6-8)	28%	17%
Adults with no tooth loss (ages 31-44)	38%	67%
Dental sealants (age 8)	35%	46%
Dental sealants (age 14)	19%	52%
Population served by fluoridated water	67%	59%
Dental visits in past 12 months (children and adults)	44%	76%
Preventive dental care in past 12 months for low-income children and adolescents	29%	43%
School and community health centers and health departments with oral health component	64%	61%

Source: Better Oral Health for Massachusetts Coalition 2010

Percent of Massachusetts Adults Ages 18+ Years with No Tooth Loss by Race, Income and Education



Source: MDPH BRFSS, 2010

Poverty

People who live in poverty are subject to many influences that contribute to poor health and premature death. They are more likely than the not-poor to have unhealthy diets, to be exposed to environmental hazards such as toxins and parasites, to live in unsafe neighborhoods, to work at a dangerous job, and to suffer disabling injuries. Typically because of literacy deficits, they are more likely to have difficulty accessing the health care system, following doctors' instructions, and gathering current information regarding their health. Examining these and other factors, a group of Columbia University researchers have determined that the average loss of "quality" health and life expectancy attributable to poverty is 8.2 years. They conclude that poverty reduction is as legitimate a focus of public health policy as smoking (at 6.6 years) and obesity (at 4.2 years).

Data

Massachusetts is an affluent state with a history of rising income levels. After a slight reversal of that trend in 2009 vs. 2008, an effect of the national economic recession, in 2010, personal income per capita in the Commonwealth increased to a high of \$51,552 (current dollars), according to preliminary data from the U.S. Department of Commerce's Bureau of Economic Analysis. By that measure, Massachusetts rose from 3rd to 2nd in the ranking of the nation's wealthiest states. Massachusetts also ranked 2nd among the 50 states in disposable personal income per capita — i.e., money available for spending or saving after taxes. Although there has been a rise in the personal income level in 2010, this has not been the case for everyone. Wealth (personal income per capita) is increasing, but so is the percentage of people who are living at less than the federal poverty threshold.

In 2010, the poverty rate in Massachusetts, which had been relatively stable at around 10% for several years, increased sharply to 11.4%. Families and children are considered to be "in poverty" by U.S. Census Bureau definition if family income is

at or below the federal poverty threshold. For a family of three, consisting of a single parent and two related children under age 18, the 2011 threshold was \$18,123. Most researchers agree that, on average, families need an income of about twice the federal poverty threshold to meet their most basic needs. Thus, families and children may be classified as "low income" if family income is at less than twice the federal poverty level.

Yet notwithstanding its overall affluence, Massachusetts has sizable pockets of poverty, rural and urban, in every region of the state. According to the U.S. Census Bureau's American Community Survey, an estimated 725,143 residents of the Commonwealth lived below the federal poverty level in 2010 — 11.4% of the surveyed population — or some 70,000 more individuals than were in poverty by Census definition the previous year. Within that overall total were significant disparities by race/ethnicity, gender, and age. The poverty rate among Blacks or African-Americans was 24%; Hispanics or Latinos of any race, 31%; Asians, 13%; those self-identified as some other race, 31%; and those self-identified as two or more races, 22%. Females (12.5%) of all races were more likely to live in poverty than males (10%). Nine percent of Whites were poor. The group least likely to be living in poverty in Massachusetts in 2010 was the elderly (age 65 and over), at 8.7%.

As in previous years, educational attainment was strongly correlated with poverty status, in predictable stepwise fashion. Among all Massachusetts adults, ages 25 and older, 25% of individuals with less than a high school degree or certificate lived in poverty, compared to 11% of those who graduated high school, 8% with some college or an associate's degree, and 4% with a bachelor's degree or higher. Many less well educated individuals filled the ranks of the "working poor" (an unofficial term), generally in part-time jobs, or they did not work at all. Of 2,138,396 Massachusetts residents, ages 16 and older, who reported they worked full-time, year-round in 2010, just 1.1% (24,073) lived below

the federal poverty level. But of the 1,425,713 who worked part-time or part-year in 2010, 13% (181,372) lived in poverty; and of the 1,540,234 listed as “did not work” for any reason, 22% (342,358) lived below poverty level.

Groups at Risk

As always, it is children who are affected most. To escape poverty they must somehow shift economic and cultural barriers erected over generations — including family structure, parents’ lack of education, and parents’ employment history — as well as overcome persistent societal prejudices regarding race, ethnicity, nativity, and the poor in general.

According to data compiled by Columbia University’s National Center for Children in Poverty (NCCP): In Massachusetts in 2010, there were 787,108 families with 1,392,087 children under age 18. Thirteen percent (178,837) of children lived in poor families, defined as income below 100% of the federal poverty level. Nationally, 21% of children lived in poverty. One in 3 (64,524) poor children in Massachusetts was under age 6. Seventy-five percent (133,509) of children in poor families lived with a single parent, compared to 22% of children in not-poor families. Forty-four percent (79,329) of children in poor families did not have an employed parent. Fifty-one percent of children whose parents had no high school degree lived in poor families, compared to 22% whose parents had a high school degree but no college education and 8% whose parents had at least some college education. Six percent (62,107) of White children, 37% (72,305) of Hispanic children, 25% (26,448) of Black children, and 11% (7,997) of Asian children lived in poor families, as did 20% (50,256) of children of immigrant parents and 12% (125,814) of children of native-born parents.

Unstable family situations present additional challenges to dependent children, starting with the frequency with which families in poverty pick up and move. Twenty-six percent of children in poor families in Massachusetts in 2010 moved at

least once in the past year, compared to 9% of children in not-poor families. Haphazard attendance in school greatly increases the odds that a child will fall below grade level and perhaps eventually drop out. In addition, family dysfunction takes a huge physical and emotional toll on the young. In 2011, the MA Department of Children and Families (DCF) had 34,954 children in caseload. Of these, 7,355 involved children in placement. Eighteen percent were 0–2 years old; 15% were 3–5 years old; 22% were 6–11 years old; and 46% were 12–17 years old. Service plan goals for these 7,355 children included family reunification, adoption, permanent care with kin, guardianship, and stabilization of intact family. Nearly half (46%) of the placement caseload involved White children, with the remainder distributed unevenly among Blacks (16%), Hispanics (26%), Asians (2%), and other racial/ethnic groups.

Another negative consequence for children living in poverty, in Massachusetts and elsewhere, is that they often go hungry. Every year, the U.S. Department of Agriculture (USDA) surveys householders regarding their “food security,” asking, for example, whether in the past 12 months they were often, sometimes, or never worried their food would run out before they got money to buy more. Households are classified as having “low” food security when respondents give multiple indications of food access problems but few, if any, indications of reduced food intake. They are classified as having “very low” food security when respondents give multiple indications of household members being hungry but not eating because there was not enough money to buy food. Over the period 2008–2010, the prevalence of low and very low food security households combined in Massachusetts was 10.8%, sixth lowest among the 50 states (U.S. average, 14.5%). The prevalence of very low food security households alone in Massachusetts was 4.5% in 2008–2010, not appreciably better than the U.S. average of 5.4%.

References

Peter Muennig, “The Relative Health Burden of Selected Social and Behavioral Risk Factors in the United States: Implications for Policy,” *American Journal of Public Health*, 100 (September 2010), 1758–1764.

U.S. Census Bureau, “Poverty Thresholds for 2011,” May 22, 2012.

U.S. Census Bureau, “Massachusetts: Poverty Status in the Past 12 Months,” “Massachusetts: Poverty Status in the Past 12 Months of Families,” and “United States: Poverty Status in the Past 12 Months,” 2010 *American Community Survey*.

“Income, Expenditures, Poverty, and Wealth,” Section 13, *Statistical Abstract of the United States: 2012*.

“Massachusetts: Demographics of Poor Children, 2010,” National Center for Children in Poverty, Mailman School of Public Health, Columbia University.

Massachusetts Department of Children and Families, Annual Data and Placement Profiles, December 31, 2011.

Household Food Security in the United States in 2010, Economic Research Report No. 125 (U.S. Department of Agriculture, Economic Research Service), September 2011.

Policy Perspectives

There are a number of strategies to help lift families and individuals from poverty, reduce the negative effects of poverty on health and well-being of poor individuals, and prevent children from falling into poverty when they become adults.

During the 1960s and 1970s, a full-time worker receiving the minimum wage earned an amount that was generally enough to keep a family of three at or slightly above the poverty threshold. However, starting in the 1980s, a failure to adjust the minimum wage to reflect changes in the cost of living led to a sharp decline in its value. By 1995 full-time minimum wage earnings were about 27% below the poverty threshold for a family of three. Since then Massachusetts has implemented several minimum wage increases that restored some value, but the current minimum wage of \$8.00 per hour remains \$2.52—or 24%—below its 1968 level of \$10.52 (after adjusting for inflation), and about \$1.25 below its average real value during the 1970s.

The Earned Income Tax Credit (EITC) supplements the incomes of families with low-wage earners. The credit goes to taxpayers who work and have children (there is a smaller EITC for taxpayers without children). Massachusetts also has a state EITC equal to 15% of the federal credit. Taxpayers receive a refund check for the portion of the credit that exceeds their tax liability. In 2011 the maximum combined EITC for a single parent with two children was \$5,879. The Child Tax Credit (CTC) provides a \$1,000 credit per

child under age 17, part of which is refundable. A new alternate poverty measure shows that about 9.2 million people, including 4.9 children, were lifted out of poverty by the credits nationwide in 2010.¹ Recent studies also suggest that children in families that receive the EITC are more likely to complete school and have higher earnings when they are adults.²

Safety net programs that help ameliorate the effects of poverty include the Supplemental Nutrition Assistance Program (SNAP) and the school lunch and Women, Infants and Children (WIC) programs, as well as MassHealth and other public health programs. Many of these programs have faced threats to funding due to both state budget deficits and congressional proposals to cut federal funding. While several of these programs are exempt from automatic federal budget cuts scheduled to take place in 2013, others — such as WIC — are not.

As the data here show, poverty status is correlated with educational levels. It is not surprising that Massachusetts, which has the highest proportion of workers with a college degree in the country, has a lower than average poverty rate. Providing access to public education is thus another strategy to help reduce poverty in the long term.

Sarah Nolan

Senior Policy Analyst
Massachusetts Budget and Policy Center

¹“Studies Show Earned Income Tax Credit Encourages Work and Success in School and Reduces Poverty,” Center on Budget and Policy Priorities, June, 2012.

²Ibid.

The County Health Rankings¹, a joint initiative of the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, confirm the outsized influence that social and economic factors, such as income and employment, have on the health of a community. Accordingly, reducing the number of people living in poverty in Massachusetts must be included in our efforts to improve public health.

Massachusetts' signature health policy achievement in 2012 was the health care cost reform law.² The priority this legislation places on systemic approaches to containing health care costs reinforces Massachusetts' continued national leadership in advancing systemic health care reforms. This latest wave of reform notably includes significant public health measures, such as the creation of a \$60 million Prevention and Wellness Trust Fund that will invest substantive resources in a variety of efforts including community-based prevention, reducing the prevalence of preventable chronic disease, and promoting effective employer-based wellness programs.

While the full effects of the law will take years to develop, we know that containing health care costs can impact income and employment. Employers may pass health care savings on to employees in the form of benefits or wages or those savings may lead to the creation of new jobs.³ Furthermore, the programs and interventions supported by the Prevention and Wellness Trust Fund may provide supportive interventions for low-income populations who suffer from chronic diseases that limit their earning potential.

However, the health care cost reform law stops short of requiring efforts to address poverty, so the direct impact on populations living and working in poverty may be limited. More will be required to ensure that low-income working

populations, who often have the worst health status, will also benefit. For example, the leaders of the Prevention and Wellness Trust Fund will have to go beyond the activities prescribed in the law to engage organizations with direct connections to low-income working populations, such as their employers, providers, churches, and community organizations.

While our health policies and efforts to address poverty may be disconnected, Massachusetts has adopted a variety of efforts to increase income and employment. Existing strategies range from evidence-based income programs such as the state's refundable Earned Income Tax Credit, to innovative employment efforts such as the Wellspring Initiative in Springfield⁴, which is establishing an employee-owned cooperative business that will become a supplier to anchor institutions in the region.

The recent health policy reform efforts featured leadership from a variety of sectors including employers, the faith community, and organized labor. Leaders who participated in those efforts must now engage collaboratively with those working to address the many social or economic factors, such as poverty, which influence health. Interestingly, the health care cost reform law and its focus on wellness may help us recognize the importance of addressing factors such as poverty that shape our health. Once that happens, we may be able to unite our health care policy community with those working to increase income and employment, and to create stable jobs offering livable wages, benefits, and opportunities for advancement for low-income communities across Massachusetts.

Phillip O. González

Program Director
Community Catalyst, Inc.

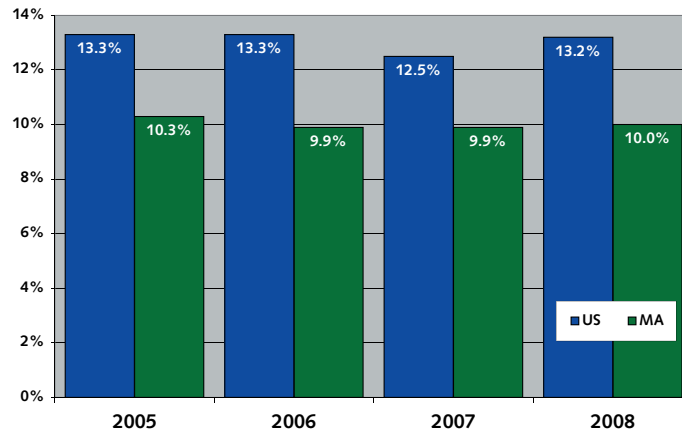
¹Available at www.countyhealthrankings.org

²The law's full title is the "Act improving the quality of health care and reducing costs through increased transparency, efficiency and innovation." Full text available at [http://www.malegislature.gov/Bills/187/Senate/S02400\(S.2400\)](http://www.malegislature.gov/Bills/187/Senate/S02400(S.2400))

³Jonothan Gruber and Ian Perry, "Benefits of Slower Health Care Cost Growth for Massachusetts Employees and Employers", Blue Cross Blue Shield of Massachusetts Foundation, April 2012.

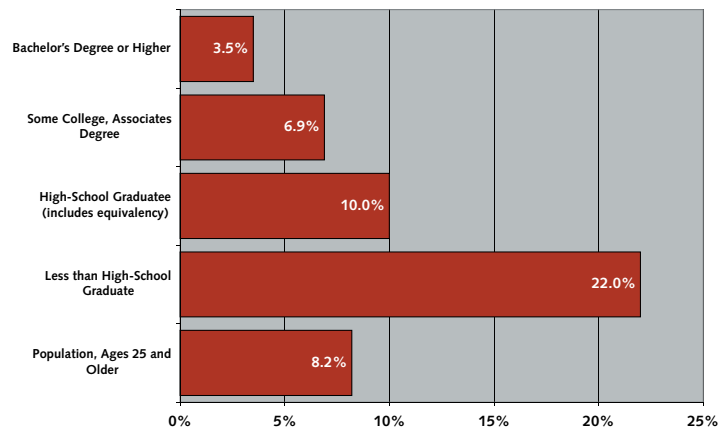
⁴"Wellspring Initiative Receives \$200,000 Grant To Create Worker-Owned Cooperatives in Springfield" Springfield, Massachusetts, Springfield City Hall website, available at <http://www3.springfield-ma.gov/cos/1133.0.html>

Percentage of People in Poverty, MA and US, 2006–2010



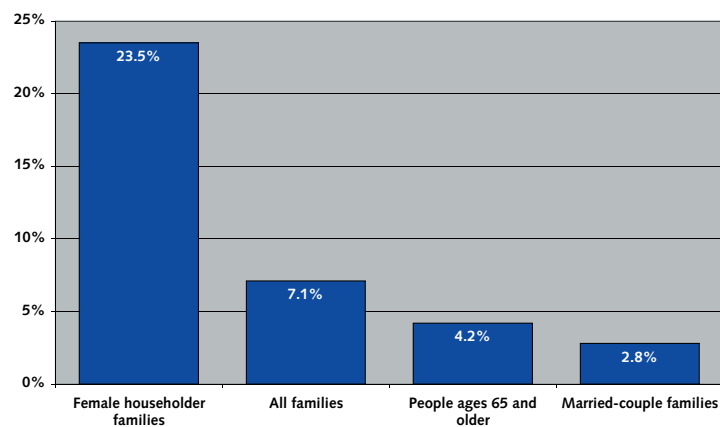
Source: U.S. Census Bureau, 2010 American Community Survey

Educational Attainment of People in Poverty, Massachusetts, 2010



Source: U.S. Census Bureau, 2008 American Community Survey

Poverty Rates in Massachusetts, 2010



Source: U.S. Census Bureau, 2008 American Community Survey

Substance Abuse — Alcohol and Drugs

Across Massachusetts, entire communities are struggling with the public health and public safety effects of what many experts are calling an “epidemic” of substance abuse. While no part of the Commonwealth is unaffected by substance abuse problems, Eastern Massachusetts appears to have been particularly hard hit. This section on Substance Abuse includes both Drug Abuse and Alcohol Abuse.

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.

Excessive alcohol consumption poses numerous adverse consequences to health status. Cirrhosis of the liver, kidney failure, and an increased susceptibility to various cancers are only a few of the costly outcomes of alcohol abuse. Overuse of alcohol is a complicating factor in diabetes, high blood pressure, and cardiovascular disease. Children are known to be at particular risk of alcohol’s deleterious effects. Its use during pregnancy can severely damage a developing fetus, creating numerous problems that can last a lifetime. The effects of alcohol on children under age 18, when their bodies and brains are still developing, can be profound.

Data: Alcohol Abuse

Alcohol abuse is more prevalent in Massachusetts than in most other New England states and the U.S. on average. According to the Centers for

Disease Control and Prevention, “binge drinking” (5 or more drinks on one occasion for males, 4 or more for females) among MA adults in 2010 was 18% (highest rate in N.E.), versus 15% nationally. “Heavy drinking” (more than 2 drinks per day for males, more than 1 per day for females) was 7% in MA (2nd highest in N.E.), 5% nationally. Binge drinking among women of childbearing age was 20% in MA (2nd highest in N.E.), and 15% nationally.

Males were significantly more likely than females to be binge drinkers (23.2% vs. 12.8%), but equally likely to be heavy drinkers (6.7%) in 2010, according to findings reported by the MA Dept. of Public Health in 2011. Binge drinking was most prevalent among 18 to 24-year-olds (38.7%), steadily decreasing with increasing age (16.0% in ages 45–54; 7.4% in ages 65–74). Higher levels of education and income were each predictive of greater likelihood of alcohol abuse: Individuals with 1 to 3 years of college were significantly more likely to be binge drinkers than those with less than a high-school diploma (20.5% vs. 10.8%) and were twice as likely to be heavy drinkers (7.7% vs. 3.2%), while those with a household income of \$75,000-plus were twice as likely as those under \$25,000 to be binge drinkers (21.8% vs. 10.9%) and heavy drinkers (7.9% vs. 3.9%). Regionally, central MA had the highest rate of binge drinking (21.3%) and western MA the highest rate of heavy drinking (8.8%) in 2010.

Groups at Risk: Alcohol Abuse

In males, ages 25–44, alcohol abuse plays a major role in three leading causes of death: accidents, homicide, and suicide. Women are more likely than men to develop alcoholic hepatitis and to die from cirrhosis, and may be more vulnerable to alcohol-induced brain damage. Fetal exposure to alcohol greatly increases the risk of neurological impairment, which can manifest as language delays, hyperactivity and attention disorders, and other deficits related to intellectual development. Adolescents typically fail to appreciate the dangers of drug and alcohol abuse, which include decreased

inhibition, poor decision-making, and greater risk of injury and violence (including sexual violence), as well as a greater propensity for anxiety disorders, depression, and suicide ideation.

In 2011, 22% of high school students reported binge drinking in the past 30 days (defined as 5 or more drinks consumed within a few hours). Also in the 30 days prior to the survey, 23% of high school students rode with a driver who had been drinking; 6.5% drove while drinking; and among sexually active students, 23% (males 29%, females 17%) drank or used drugs before their last sexual intercourse. Additionally, among high school students, 68% in 2011 reported ever having at least one drink of alcohol in their lifetime, a number that has been steadily decreasing for ten years (81% in 2001, 76% in 2005). Current use of alcohol among high school students also dropped significantly, from 44% in 2009 to 40% in 2011.

Massachusetts residents of all ages continued to be at risk from drivers impaired by alcohol. The number of persons killed in car crashes in Massachusetts decreased from 340 in 2009 to 314 in 2010, but the number of fatalities involving alcohol impairment increased from 106 (31%) in 2009 to 115 (36%) in 2010.

Data: Drug Abuse

In FY11, according to the MA Department of Public Health Bureau of Substance Abuse Services, 100,556 adults, ages 18 and older, were admitted for substance abuse treatment services in Massachusetts. An additional 2,233 in FY11 were under age 18, bringing total admissions for the year to 102,789, a 3% decrease from FY10. As in previous years, adults admitted for treatment in FY11 were predominantly male (70%), White (82%), between the ages of 21–39 (58%), and unemployed (81%). More than 4 in 10 (42%) had received prior mental health treatment, nearly 40% reported injection drug use in the past year, and 19% were classified as homeless. Twenty-five percent reported they were parents of children ages 6–18; 20% had children under age 6.

One measure of the extent of the ongoing heroin/opioid problem in Massachusetts is that,

contrary to the national pattern, more adult admissions in FY11 specified heroin (39, 212) than alcohol (38,305) as the primary substance for which they were seeking treatment (39% vs. 38%). Heroin admissions (40%) exceeded alcohol admissions (39%) in FY10 as well. Crack or cocaine (5%), marijuana (4%), and other drugs, generally opiates/synthetics and tranquilizers (12%), were also reported as the primary substance by adult admissions in FY11. Among the subgroups tracked by the DPH's Bureau of Substance Abuse Services, 83% (32,647) of intravenous drug users receiving treatment in FY11 reported heroin as their primary drug, as did 56% (10,322) of homeless admissions and 59% (342) of pregnant women. However, older adults (ages 55 and over) reported alcohol as their primary substance by a substantial margin — 75% (4,109) as compared to 15% (801) who said heroin. Among adolescents (ages 12–17) seeking treatment, 52% (1,084) specified marijuana as their primary substance, 18% said alcohol, 5% heroin, 3% crack or cocaine, and 21% other drugs.

While no part of the Commonwealth is unaffected by substance abuse, Eastern Massachusetts appears to have been particularly hard hit. The Boston Metropolitan Statistical Area (Suffolk, Middlesex, Norfolk, Plymouth, and Essex counties, plus two counties in NH) had the highest rate of emergency department (ED) visits involving illicit drugs (571 per 100,000 population) of any of 11 major metropolitan regions in the U.S., topping New York City (555 per 100,000 population), Chicago (507 per 100,000 population), and Detroit (462 per 100,000 population), according to a December 2011 report from SAMHSA, the U.S. Substance Abuse and Mental Health Services Administration, summarizing findings from 2009. The Boston region also ranked first among the 11 metropolitan regions for ED visits specifically involving heroin — at 251 per 100,000 population, Boston's rate was nearly 4 times the nation's (69 per 100,000 population). Only in ED visits involving illicit drugs in combination with alcohol did Boston (153 per 100,000 population) slip to second in the national rankings behind New York City, though Boston's rate was still twice the nation's (69 per 100,000 population).

Substance Abuse — Alcohol and Drugs *continued*

According to published reports, the city of Worcester experienced 4,821 rehab admissions in 2010, about half related to opioid addiction. As reported by Golocalworcester.com, Massachusetts is the top state in the country for opioid overdoses, and lifetime heroin use in Worcester is almost 5%, twice the state and national average.

On the South Shore, an overdose claims a life every eight days. Records gathered from police, courts, and the medical examiner by the Patriot Ledger shatter stereotypes about who is impacted by drug abuse. The median age on the South Shore is 41 and includes homemakers, professionals, and laborers.

The MA Department of Public Health estimated that in FY11 (July 1, 2010 through June 30, 2011), 9.6% of Massachusetts' population aged 12 and older were either dependent on or abused drugs or alcohol. The estimate for 18 to 25-year-olds was 23.4%.

Groups at Risk: Drug Abuse

Adults (38%) were much more likely than adolescents (2%) to receive acute inpatient services for drug abuse in FY 2011. Nineteen percent of adult admissions received outpatient treatment services, 10% post-detox treatment services, 6% residential treatment services, and 7% opioid treatment services. Over half (55%) of adolescents, once medically stable, were assigned to the Commonwealth's youth treatment services program, typically for counseling in a therapeutic residential setting for up to 90 days. Another 33% received outpatient treatment.

By some measures, Massachusetts youth were less at risk in 2011 than they had been in the previous decade. The reported use of ecstasy (6%), methamphetamines (3%), and steroids (3%) by high school students continued to decline in 2011, while use of cocaine (5%) and heroin (2%) was not significantly different from prior years.

"Any current drug use" was reported by 30% of high school students and 7% of middle school stu-

dents in 2011.¹ In middle school, Hispanic students were twice as likely as White students to report any current drug use, but in high school there were no significant differences by race/ethnicity. Marijuana was the drug most commonly used by both high school students (43% lifetime, 28% current) and middle school students (8% lifetime, 4% current) in 2011. Less than half (40%) of high school students, but 79% of middle school students, thought smoking marijuana would be a great or moderate risk to their health.

Male high school students were more likely than female students to report lifetime use of cocaine (7% vs. 3%), ecstasy (7% vs. 4%), and needles to inject drugs (7% vs. 3%). Seventeen percent of high school students and 5% of middle school students reported nonmedical use of any prescription drug in their lifetime. Six percent of high school students reported nonmedical use of over-the-counter (OTC) medications at least once in their lifetime, with 4% reporting nonmedical OTC use in the past 30 days. Two percent of both middle school and high school students reported use of inhalants to get high. Twenty-seven percent of high school students (males 31%, females 23%) reported being offered, sold, or given an illegal drug on school property during the past 12 months. Male high school students (9%) were more than twice as likely as females (4%) to report having used marijuana on school property in the past 30 days.

As in previous years, adults admitted for treatment in FY 2011 were predominantly male (70%), White (82%), between the ages of 21 to 39 (58%), and unemployed (81%). More than 4 in 10 (42%) had received prior mental health treatment, nearly 40% reported injection drug use in the past year, and 19% were classified as homeless. Twenty-five percent reported they were parents of children ages 6–18; 20% said they had children under age 6.

¹"Any current use" includes use of one or more of the following drugs: marijuana, inhalants, heroin, cocaine, crack, amphetamines/methamphetamines, ecstasy, over-the-counter medication, narcotics, Ritalin, OxyContin, or other drugs from prescriptions not one's own.

References

A Profile of Health Among Massachusetts Middle and High School Students, 2011, Massachusetts Department of Public Health, June 2012.

Health and Risk Behaviors of Massachusetts Youth: 2011, Massachusetts Department of Elementary and Secondary Education and Massachusetts Department of Public Health, May 2012.

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, "Youth Risk Behavior Surveillance — United States, 2011," MMWR, Surveillance Summaries, 61 (June 8, 2012).

A Profile of Health among Massachusetts Adults, 2010, Massachusetts Department of Public Health, June 2011.

U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration (SAMHSA), "Illicit Drug-Related Emergency Department Visits in Metropolitan Areas of the United States: 2009, The DAWN Report," December 15, 2011.

"Worcester Heroin Use Twice National Average," GoLocalWorcester.com, July 12, 2012.

"Overdose: Killer Drugs Next Door," PatriotLedger.com, July 16, 2012.

"Eastern Massachusetts outpaces the nation in heroin-fueled ER visits," GateHouse News Service, January 6, 2012.

Massachusetts Department of Public Health, Bureau of Substance Abuse Services, Substance Abuse Treatment — Annual Reports, FY 2011, FY 2010, FY 2007.

Massachusetts Department of Public Health, Bureau of Substance Abuse Services, "Massachusetts Youth & Young Adult Substance Abuse Services Directory," May 2011.

"State Motor Vehicle Fatalities, 2010," National Highway Traffic Safety Administration (NHTSA), December 2011.

Policy Perspectives

According to the National Highway Traffic Safety Administration in 2010, 115 people were killed in alcohol-impaired-driving crashes. These alcohol-impaired-driving fatalities accounted for 36% of the total motor vehicle traffic fatalities in the Commonwealth.

The good news is we have made progress since the passage of Melanie's Law in October of 2005. Drunk driving fatalities have decreased by over 20% since then. Law enforcement has continued to take this issue seriously, conducting over 80

checkpoints each year and making 16,000 to 17,000 arrests for Operating Under the Influence (OUI) annually. As part of Melanie's Law, repeat offenders are required to have ignition interlocks on their cars as a condition of license reinstatement. Less than 2% of the over 5,000 repeat offenders who have completed Massachusetts' interlock program have re-offended.

The bad news is that we simply do not have enough law enforcement on our roads to arrest impaired drivers. In 2010, approximately 112 million impaired driving trips were taken nationally. There are 1.4 million arrests made per year, one million of which are convicted, according to the FBI Uniform Crime Reports. This shows there is only enough law enforcement to catch 1% of drunk drivers on roadways.

Amongst that 1%, we need to examine what we are doing to prevent future drunk driving trips. In the case of first time offenders, the answer is — not enough. The first time offender at worst faces a one year license suspension, but in virtually every case receives a significantly shorter license suspension and no meaningful sanctions that would deter the offender from re-offending. Requiring all convicted drunk drivers to 'blow before they go' with an ignition interlock saves lives.

According to the CDC, requiring ignition interlocks for all convicted drunk drivers has been proven to reduce repeat offenses by 67%. An ignition interlock is more effective compared to license suspension alone, as 50 to 75% of convicted drunk drivers continue to drive on a suspended license. Interlocks are also saving lives; in Oregon and Arizona, drunk driving deaths are down by 5% and 51%, respectively.

Besides saving lives and reducing recidivism, this measure will also save taxpayers money. A study of New Mexico's interlock law found the cost of an interlock was \$2.25 a day for the user, but for every dollar invested in an interlock for a first-time convicted OUI offender, the public saves three dollars.

Expanding our interlock law in Massachusetts can reduce the number of repeat OUI offenders, save

Substance Abuse — Alcohol and Drugs *continued*

Policy Perspectives

lives, prevent injuries and reduce costs to the state of Massachusetts. To date, 17 states have adopted this measure; Massachusetts needs to be number eighteen.

David DeJuliis
Program Manager
MADD Massachusetts

In the Surgeon General's Call to Action to Prevent and Reduce Underage Drinking, the United States Surgeon General discussed how adults underestimate the number of adolescents who drink; how early they begin drinking; how new research describes the possible impact that drinking has on the adolescent brain; and the long term negative consequences that can occur from early alcohol consumption.

While the report clearly outlines the seriousness and enduring nature of the issue, it also makes a very clear and optimistic statement: "Underage alcohol use is not inevitable, and schools, parents, and other adults are not powerless to stop it." In fact, there are proven strategies to reduce youth alcohol and other drug use. Caregivers setting clear rules and expectations around alcohol and other drug use has been shown to be an effective strategy, as is youth learning that most of their peers are not using alcohol and other drugs.

Youth who initiate alcohol use before the age of 15 are four times more likely to become dependent on alcohol in their lifetime and five times more likely to use an illicit drug in their lifetime than those who begin using alcohol at age 21. In Massachusetts, we have made progress over the past several years by increasing the age of first use (see Figure); reducing use among 18 to 24-year-olds (see Figure); and reducing underage drinking and

driving. By increasing the age of youth's alcohol initiation we can reduce rates of future alcohol and other drug dependence.

We can continue to achieve success and prevent underage drinking with the ongoing collaboration between the federal government, the state, cities and towns, local communities, schools, adults, parents, and youth to change attitudes and remove or limit access to alcohol. The Massachusetts Department of Public Health funds 31 community coalitions whose mission is to reduce underage drinking and alcohol access at the local level.

In addition, working with law enforcement to conduct compliance checks with alcohol retailers and to implement appropriate sanctions against those unwilling to abide by the law, will help to address the issue of underage drinking. Publicizing these compliance checks and outcomes helps us to achieve greater and more far reaching success. Social marketing and education strategies are needed to change social norms around social sources of alcohol. Research also shows that reducing youth exposure to alcohol advertisements can help decrease underage drinking. Starting in July 2012, the MBTA no longer allowed alcohol advertisements to be posted on their property.

Continued success against underage drinking is possible if we continue to build upon existing partnerships and policy development to lower future rates of substance use disorders, thereby helping youth live healthier lives.

To learn more about how to prevent underage drinking, visit www.mass.gov/dph/bsas and click on Prevention Information.

Hilary Jacobs
Director, Bureau of Substance Abuse Services
Massachusetts Department of Public Health

Policy Perspectives

According to the National Institute on Drug Abuse, addiction is a chronic, relapsing brain disease that is characterized by compulsive alcohol and drug seeking and use, despite harmful consequences. It is considered a brain disease because drugs change the brain - they change its structure and how it works. These brain changes can be long lasting, and can lead to the harmful behaviors seen in people who abuse drugs. Addiction is similar to other diseases, such as heart disease. Both disrupt the normal, healthy functioning of the underlying organ and have serious harmful consequences, but they are preventable, treatable, and if left untreated can last a lifetime.¹

The prevention of substance use disorders has been conceptualized by experts into three general strategies. According to the Institute of Medicine and the National Institute on Drug Abuse, these categories include:

- **Universal programs** (e.g., mass media, school-based curricula) which target the general population.
- **Selective programs** (e.g., mentoring programs aimed at children with school performance or behavioral problems) which target those at higher-than-average risk for developing a substance use disorder.
- **Indicated programs** (e.g., parenting programs for parents with substance use problems) which target those already using or engaging in other high-risk behaviors to prevent chronic use.

Research also shows that the social and cultural settings in which people live do influence the misuse of alcohol and other legal or illegal drugs; and that public policy changes and community-wide prevention efforts are effective in preventing and reducing such problems before they start. Effective and long-term changes can be made by implementing research-based best practices in prevention and education that have demonstrated good outcomes.

The need to strengthen support for effective substance use prevention strategies and services is more critical than ever. We must strengthen the existing substance use prevention infrastructure and ensure that substance use prevention strategies and services are fully included in broader chronic disease prevention initiatives in Massachusetts; and these initiatives should include an explicit required focus on effective substance use prevention strategies and services.

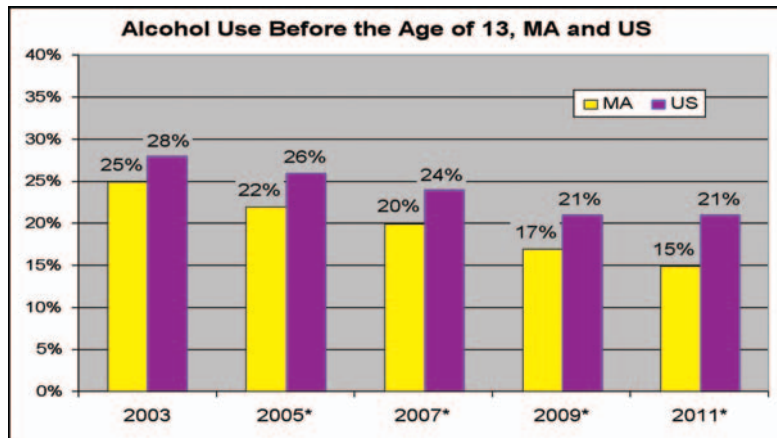
Vicker V. DiGravio III

President and CEO

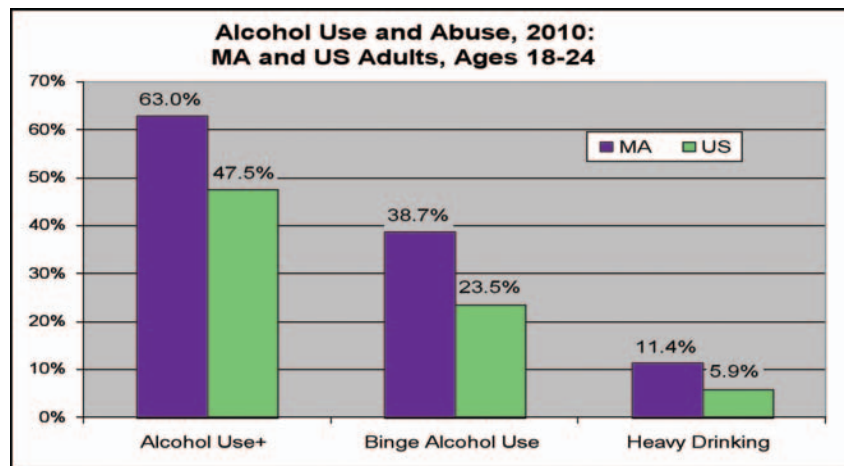
Association for Behavioral Healthcare

¹*Drugs, Brains and Behavior: The Science of Addiction*, National Institute on Drug Abuse, National Institutes of Health, US Department of Health and Human Services, February, 2007

Substance Abuse — Alcohol and Drugs *continued*

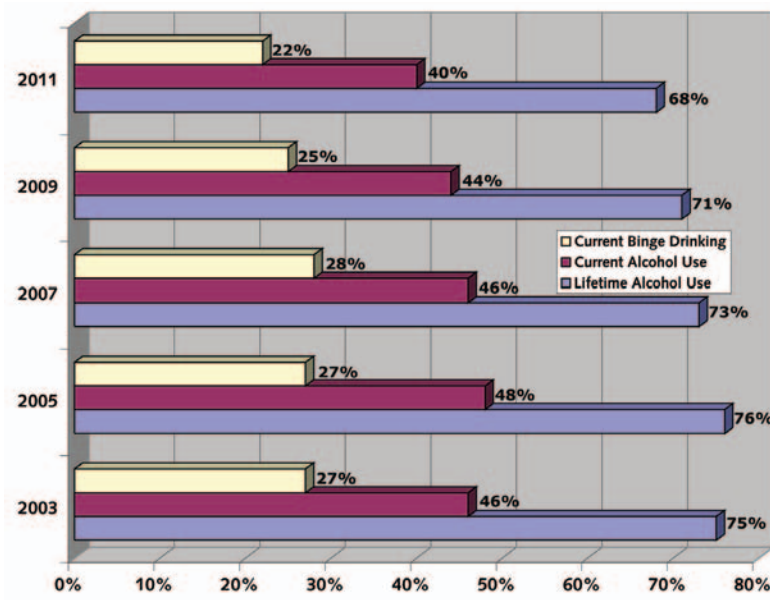


Source: Massachusetts Youth Risk Behavior Survey



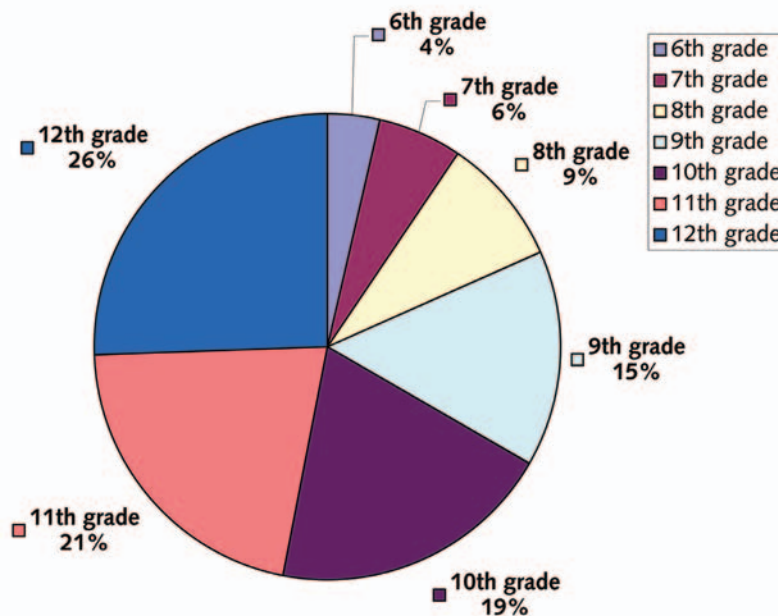
Source: National Center for Chronic Disease Prevention & Health Promotion, Behavioral Risk Factor Surveillance System

Alcohol Use — Massachusetts High School Students — 2003–2011



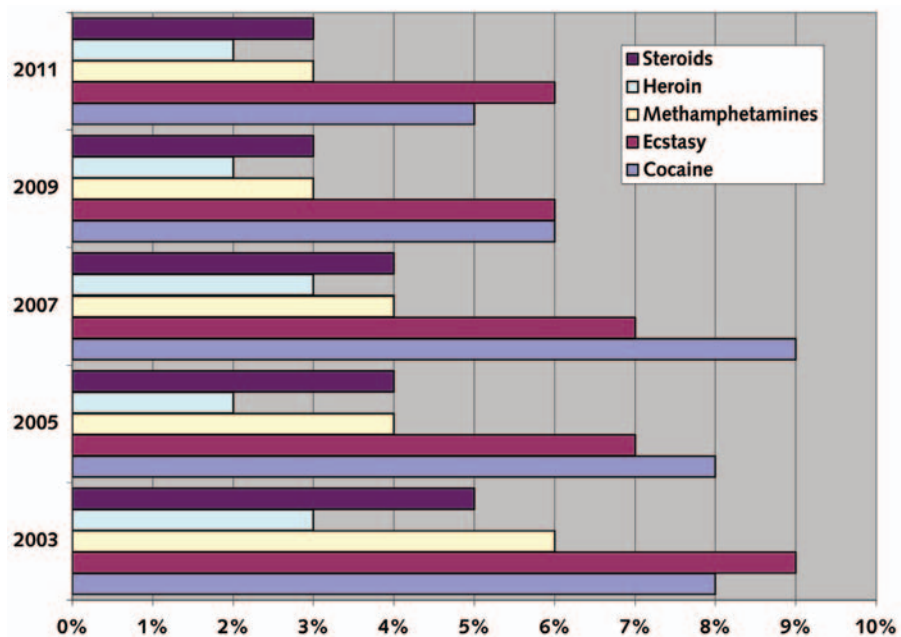
Source: Massachusetts Department of Elementary and Secondary Education

Any Lifetime Drug Use — Massachusetts Youth — 2011



Source: Massachusetts Department of Public Health

Lifetime Use of "Other" Drugs — Massachusetts High School Students — 2003–2011



Source: Massachusetts Department of Elementary and Secondary Education

Tobacco

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 smoking, plus cigar smoking and smokeless tobacco products, account for about one-third of all cancer deaths, including cancers of the lung, larynx, throat, esophagus, and mouth. Smoking exacerbates asthma symptoms and causes respiratory diseases such as chronic bronchitis and emphysema. Smokers are 10 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 2011, the MA Department of Public Health estimated the health care costs (e.g., hospital, nursing home, ambulatory care, prescription drugs, etc.) attributable to tobacco use at \$4.3 billion annually, with an additional \$1 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.

Massachusetts' elected officials and administrators in public health service have taken many steps to protect residents from the harm caused by tobacco. 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 counseling and support groups. The taxing authority of the state is another means of dissuading large numbers of people from using tobacco. In 1992, the MA excise tax per pack of cigarettes was \$0.26. In 2012, it was \$2.51 (10th highest in the U.S.), having been raised every 4 to 7 years, the last time in July 2008. Over the same 20-year period, the number of packs of cigarettes sold in Massachusetts has decreased from 547 million (FY92) to 224 million (FY11), while revenues from the state's excise tax on cigarettes have grown from \$140 million (FY92) to \$562 million (FY11).

Though cigarette consumption in the Commonwealth is on the decline, cigars and smokeless tobacco are gaining in popularity, especially among younger users. A loophole in the Massachusetts tax code makes "other tobacco products," including dissolvable tobacco sticks and strips and fruit- and candy-flavored cigars, more attractive to price-sensitive youths. Manufacturers have also increased the weight of some small cigars to qualify for the lower tax rate on large cigars, keeping them affordable to young smokers who are disinclined to buy cigarettes (currently around \$8 a pack) in Massachusetts. Closing these tax loopholes could conceivably prevent thousands of Massachusetts youngsters from starting to smoke.

Data

In 2010, according to the MA Department of Public Health, 14.1% of adults in the Commonwealth reported they were "current" smokers, meaning they had smoked at least 100 cigarettes in their lifetime and currently smoked some days or every day. More likely to be current smokers were those 18–24 years old (18.8%), under \$25,000 household income (25.7%), less than a 12th grade education (26.8%), with an impairment or health problem that limited activity (22.6%), and residency in Western Massachusetts (18.0%). Less likely to be current smokers were those with greater than \$75,000 household income (8.7%), 4-plus years of college (7.0%), residency in Metro West (8.9%), and

Asian ethnicity (8.1%). Findings from the Centers for Disease Control and Prevention survey of 2010 were nearly identical, generally to within a tenth of a percent.

Secondhand smoke is a collateral problem with many adverse consequences to the public's health. According to MDPH, environmental tobacco smoke (ETS) contains at least 250 chemicals known to be toxic, including more than 50 that can cause cancer. Non-smokers exposed to secondhand smoke increase their risk of heart disease by 25–30% and lung cancer by 20–30%, compared to those who are not exposed. In 2010, 83.8% of Massachusetts adults reported living in a household where smoking was not allowed. One in 3 (33.0%) said they were exposed to ETS at work, home, or elsewhere in the past 7 days, far fewer than the 73.1% who reported ETS exposure in 2002.

Groups at Risk

Smoking plays a major role in morbidity and mortality among women. Lung cancer is the leading cause of death in women, surpassing breast cancer in the late 1980s. Women who smoke are at higher risk for other cancers as well, including liver cancer and colorectal cancer. They are also at higher risk for infertility, early menopause, and lower bone density and hip fracture after menopause. In 2010, adult women in MA were less likely than men to be current smokers (13.4% vs. 14.8%) and more likely to have made a quit attempt in the past year (65.9% vs. 60.3%).

In 2011, the MDPH reported on Massachusetts births during 2009. A total of 5,116 mothers reported smoking during pregnancy, accounting for 6.8% of all births that year, as compared to 1990, when 19.3% belonged to mothers who smoked. Among racial/ethnicity groups, White mothers were the most likely to be smokers (8.1%), followed by Black (5.3%) and Hispanic (5.0%) mothers. Mothers whose prenatal care was paid for by MassHealth had 5 times the smoking rate of mothers with private insurance (15.3% vs. 2.7%). Mothers with less than a high school education had the highest proportion of smoking during pregnancy (17.7%). Babies born to mothers who smoked during pregnan-

cy were 1.7 times more likely to have a low birth weight (under 5.5 pounds) than the newborns of non-smokers (12.4% vs. 7.4%).

Since 2003, cigarette smoking among Massachusetts high school students has declined significantly, according to findings from the MA Department of Public Health, the MA Department of Elementary and Secondary Education, and the Centers of Disease Control and Prevention. In 2011, 14% of students in MA public high schools reported current cigarette use, vs. 21% in 2003. Seven percent in 2011 said they were smoking before age 13, vs. 15% in 2003. Smokeless tobacco usage, however, was more prevalent than before. In 2011, 7% of MA high school students reported using smokeless (chew, dip, snuff, or snus) in the past 30 days, up from 4% in 2003. Fourteen percent (males 20%, females 8%) said they had smoked cigars, cigarillos, or little cigars during the previous 30 days. Current use of any tobacco product by high school students was 21% in 2011, compared to 25% in 2003.

Among MA middle school students, lifetime tobacco use (including cigarettes, smokeless, and cigars) was 13% in 2011, down significantly from 19% in 2007. Similarly, their lifetime cigarette use was 10% in 2011, 6 percentage points less than in 2007. Three percent of middle school students in 2011 reported smoking cigarettes in the past 30 days, compared to 5% in 2007.

The 2011 data also reveal significant racial/ethnic disparities among current smokers in both middle school and high school populations. In middle school, self-identified Multi-racial students (8%) were more likely than White students (2%) to be current smokers. In high school, White students (15%) were more likely than Black students (7%) and Hispanic students (9%) to be current smokers, but again Multi-racial students reported the highest rate (17%).

Notwithstanding the high price of a pack of cigarettes in the Commonwealth and penalties on retailers for selling tobacco to anyone under age 18, obtaining cigarettes seems not to have been an insurmountable problem in 2011 for cigarette-smoking Massachusetts youths. Thirty-two percent of MA high school students who smoke said they

bought cigarettes in a store. Both high school and middle school students in varying percentages said they gave someone the money to buy cigarettes for them, or borrowed them, or were given them, or else took them from a store or family member. The retail venue is of particular interest to regulators. By federal edict, all states are required to conduct a series of random, unannounced checks of tobacco retailers to determine compliance with the no-sales-to-minors (under age 18) rule. In 2011, the highest rate of violations by retailers as reported by all 50 states to SAMHSA, the supervising federal agency, was 19.3% (Oregon); the lowest was 1.1% (Nevada). In Massachusetts, underage sales violations in 2011 occurred at a rate of 7.1%, placing the Bay State in a tie for 20th in a ranking of the 50 states. At that, 7.1% was the Commonwealth's best showing in ten years. From 2001 to 2010, sales to minors by tobacco retailers in Massachusetts ranged from 8.9% (2003) to 22.7% (2007), averaging 14% for the decade.

References

National Institute on Drug Abuse, Research Report Series: "Tobacco Addiction," July 2012.

State of Tobacco Control: Report Card, American Lung Association, 2012.

A Profile of Health Among Massachusetts Adults, 2010, Massachusetts Department of Public Health, June 2011.

Centers for Disease Control and Prevention, Smoking and Tobacco Use — STATE System Trends Reports, Massachusetts, 2001–2011.

Massachusetts Department of Public Health, Tobacco Cessation and Prevention Program Fact Sheets.

"State Cigarette Excise Taxes — United States, 2010–2011," *MMWR*, 61 (March 30, 2012), 201–204.

"State Tobacco Revenues Compared with Tobacco Control Appropriations — United States, 1998–2010," *MMWR*, 61 (May 25, 2012), 370–374.

Massachusetts Births: 2009, Massachusetts Department of Public Health, August 2011.

A Profile of Health Among Massachusetts Middle and High School Students, 2011, Massachusetts Department of Public Health, June 2012.

Health and Risk Behaviors of Massachusetts Youth: 2011, Massachusetts Department of Elementary and Secondary Education and Massachusetts Department of Public Health, May 2012.

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, "Youth Risk Behavior Surveillance — United States, 2011," *MMWR*, Surveillance Summaries, 61 (June 8, 2012).

Policy Perspective

Despite great gains over the past decades, tobacco is still the top preventable public health killer in America today. Over 440,000 Americans prematurely die each year as a result of tobacco use — more Americans than who die of automobile crashes, alcohol and drug use, AIDS, murder and suicide combined. Tobacco causes cardiovascular and pulmonary disease, as well as a vast array of cancers. Nearly 9,000 Massachusetts residents prematurely lose their lives to tobacco every year. Others are seriously health compromised. These illnesses also result in costly and avoidable health care expenditures. We can no longer afford to ignore these costs — costs borne by the taxpayers and by purchasers of private health insurance policies.

Over the past two decades, Massachusetts has been slowly eroding the use of tobacco products by adopting effective strategies. The Legislature has been a key partner in those strategies through the passage of the Smokefree Workplace Law (including restaurants and bars) in 2004, enactment of a MassHealth smoking cessation benefit as part of the landmark Health Reform Law (2006), and periodic legislation that has raised the excise taxes on tobacco products.

The Centers for Disease Control and Prevention recommends a comprehensive, evidence based approach to reducing tobacco use. The Commonwealth has at times, been a leader on these efforts however, during the recent fiscal downturn, has been challenged to keep up with tobacco industry advances. The CDC's three-pronged approach calls for expanding access to smoking cessation medications, devices and counseling, increasing the price of tobacco products, and expanding funding to states' tobacco control programs.

We recommend that the Commonwealth continue to support and expand those and other evidence-based strategies to reduce tobacco use by the following:

Expand Access to Comprehensive Smoking Cessation Benefits in GIC and Commonwealth Care Plans — Tobacco cessation services are more cost-

effective than other commonly covered disease prevention interventions, such as the treatment of hypertension and high cholesterol. MassHealth's smoking cessation benefit has saved the state more than \$10 million since its inception as part of Massachusetts' landmark 2006 health reform law. It reduced the incidence of smoking in the MassHealth population by 26% resulting in a \$3.12 return on investment (ROI) from hospitalizations avoided for acute myocardial infarction and coronary atherosclerosis. The study did not calculate the other savings that also accrued — savings from other in-patient, out-patient and emergency services avoided, nor did it include long-term savings from cancers avoided, or savings from the improved health of people living in households when the smoker quits. Thus, the \$3.12 ROI is just the tip of a very large iceberg of health care cost savings. According to DPH, the health cost savings can be replicated in other public health insurance plans such as Commonwealth Care and Group Insurance Commission plans. Providing these populations with access to comprehensive smoking cessation services, including medications, NRT (the patch), and counseling would save lives and money.

Increase Taxes on Cigarettes and Other Tobacco — One of the most effective ways of reducing tobacco consumption — and improving public health — is to increase taxes on tobacco products. Smoking rates decline significantly following a tax increase, which can lead to short- and long-term health cost savings. It's been four years since the last cigarette tax increase in 2008, an increase that did not apply to "other tobacco products" (OTP), kid-friendly smokeless products and cheap flavored cigars. According to the Department of Public Health and the Department of Elementary and Secondary Education: "For the first time in Massachusetts, high school students' use of other tobacco products (cigars, smokeless tobacco) in the past 30 days (17.6%) was higher than their rate of cigarette smoking in the past 30 days (16.0%)"¹ Increasing the cigarette tax and equalizing taxes on OTP will reduce consumption, save the state

Policy Perspective

millions in health care costs and prevent a new generation of children from becoming addicted to tobacco.

Restore Funding to the Massachusetts Tobacco Cessation and Prevention Program (MTCP) — This year, the state is expected to spend \$4.15 million — less than one percent of the more than \$800 million it annually receives in tobacco revenue — to prevent kids from starting to smoke and to help smokers quit. By contrast, the tobacco industry spends nearly \$4 million every week in Massachusetts marketing its deadly products. According to a report issued in November 2011 by the Robert Wood Johnson Foundation, et al. (“A Broken Promise to our Children”), Massachusetts now ranks 35th in state spending on tobacco control, far behind many small states and far less than the \$30 million comprehensive program that the Centers for Disease Control and Prevention considers minimal for a state of this size. Continuous counter-marketing, enforcement, and education are key in combating tobacco use, and spending

some money now will save the state future health and economic costs; in fact, every dollar invested in tobacco control can save \$2 to \$3 in future health care costs. It would allow greater efforts aimed at preventing youth initiation of tobacco use and large-scale cessation efforts aimed at disparate high user populations such as veterans, individuals with low income, and people with behavioral health diagnoses.

Stephen Shestakofsky

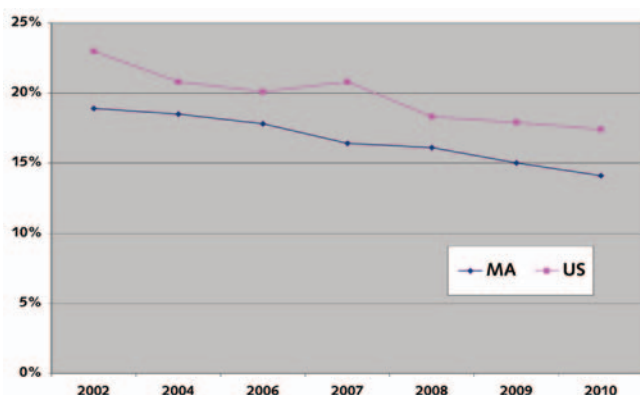
Executive Director
Tobacco Free Mass

Mark Hymovitz

Director of Government Relations & Advocacy
American Cancer Society

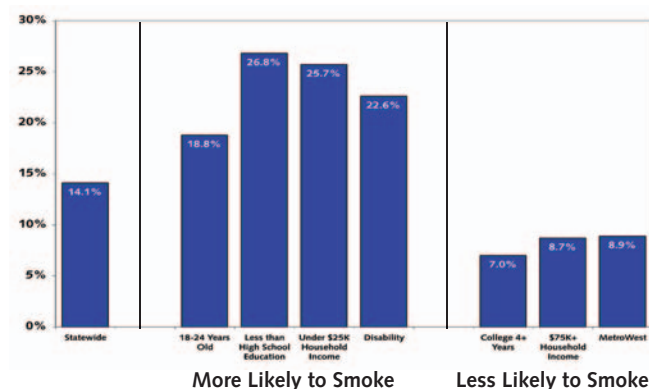
¹Data Brief: Trends in Youth Tobacco Use, DPH and DESE, 2010, pg. 1.

Current Adult Smokers in MA and US 2002–2010



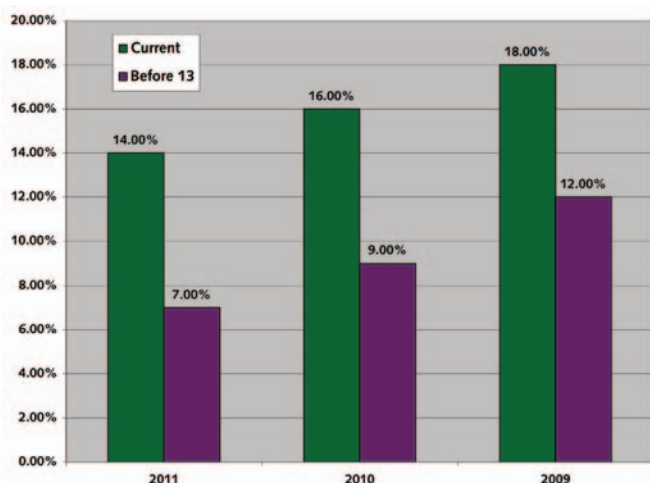
Source: Behavioral Risk Factor Surveillance System – Trends Data; CDC

Smoking Prevalence for Selected Population Subgroups, Massachusetts 2010



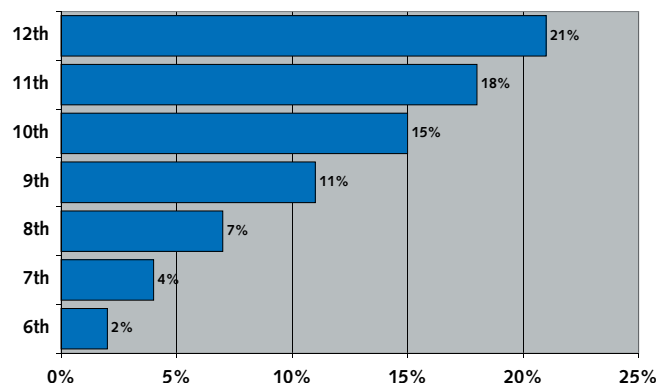
Source: Massachusetts Behavioral Risk Factor Surveillance System, 2009

Current Cigarette Use and Cigarette Use Before Age 13 — MA High School Students



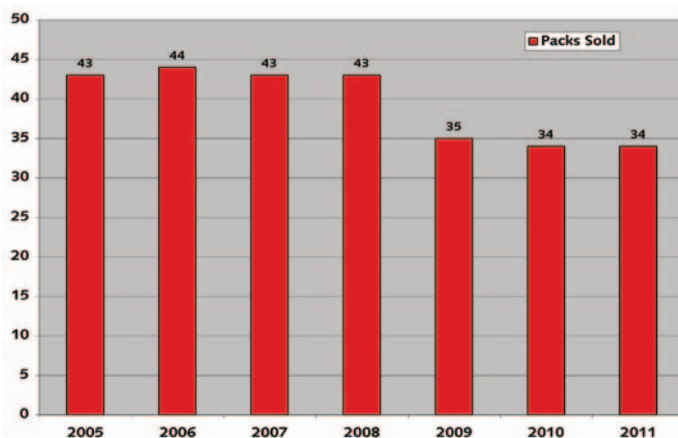
Source: Massachusetts Department of Elementary and Secondary Education

Current* Cigarette Use by Grade Level Massachusetts, 2011



Source: MA Department of Education, MA Department of Public Health.
* Current cigarette use is reported use in the last 30 days.

MA Cigarette Consumption — Packs Sold per Capita



Source: Centers for Disease Control and Prevention

Violence

Violence — the intentional use of physical force or power against another person or persons — can have a devastating, lasting impact on the victims' health and wellbeing. People who experience violence may be more likely than non-victims to abuse drugs and alcohol, smoke cigarettes, suffer from anxiety disorders and eating disorders, and contemplate suicide. They may experience flashbacks and other manifestations of post-traumatic stress disorder, and are known to be at increased risk of developing chronic diseases such as diabetes, heart disease, obesity, and asthma. The pernicious effects of violence reach deep into communities, imposing high financial costs in terms of property damage and lost productivity, as well as blanketing residents with a sense of dread that contributes to social isolation.

Data

In its annual reports on crime in the United States, the Federal Bureau of Investigation divides the country administratively into four regions. The Northeast region, consisting of the six New England states plus NY, NJ, and PA, is historically the least violent, as measured by the total number of violent crimes committed per 100,000 population. "Violent crimes" include murder and non-negligent manslaughter, rape¹, robbery, and aggravated assault. In 2010, Massachusetts once again topped the Northeast region in highest rate of aggravated assaults (332 per 100,000 pop.), although the Bay State was in the middle of the pack in the other violence categories (fifth in murder, fifth in rape, fourth in robbery). In 2011, violent crime in Massachusetts' five largest cities (Boston, Cambridge, Lowell, Springfield, and Worcester) declined 13% overall as compared to 2010, which was consistent with the downward trend nationally in cities of comparable size. Aggravated assault in the five MA cities decreased

17%; robbery decreased 3%; and reports of rapes that met the FBI's narrow definition decreased 20%. In Boston, murder decreased 14%, but in the five cities combined it increased 2%.

However, these statistics do not capture the full extent of the violence problem in Massachusetts or elsewhere. Certain crimes, such as sexual assaults, intimate partner violence, and child and elder abuse, are significantly under-reported. Injuries from assaults may be treated as non-crimes in a physician's office or health center, and many assaults go unreported to medical personnel and police, even when a physical injury has occurred. Child maltreatment is largely hidden from public view. A 2010 national study by the U.S. Department of Health and Human Services found that 1 of every 58 children in the U.S. was neglected or abused. Of that fraction, 44% (totaling more than 553,000 children) were abused, of whom 58% were physically abused, 24% sexually abused, and 27% emotionally abused. Only 32% of child maltreatment cases nationally were investigated by state and local child protective services agencies.²

Other data sources point to sexual assault as an ongoing public health problem in the Commonwealth. Between July 1, 2010 and June 30, 2011 (FY11), 2,657 unduplicated incidents of sexual assault were reported to the 17 locally-based Rape Crisis Centers (RCCs) funded by the MA Department of Public Health. Of these incidents, 2,002 were reported by survivors themselves, the remainder by partners, family members, friends, and professionals (e.g., physicians, teachers, therapists). Hotline services were provided 24/7 by each RCC, one of which also offers a statewide Spanish-language hotline number. Altogether, the RCCs fielded 11,761 calls (6,764 from survivors, including repeats) during FY11, with support and resource referral services provided on an as-needed basis.

¹In 2010 the Federal Bureau of Investigation used the term "forcible rape" in its statistics. However, this term has been changed since 2011. Additionally, Massachusetts has no statute of "forcible rape". Therefore, for consistency and clarity, we are using the term "rape" in this report.

² Children were classified in every category that applied, so the components sum to more than 100%.

Groups at Risk

In 2011 as in past years, significant numbers of Bay State high school students and middle school students were victims of violence, were threatened with violence, initiated violence or engaged in behaviors that had the potential to lead to violence. Many of these acts occurred on or near school property. According to findings from the 2011 Youth Risk Behavior Surveillance and the 2011 Massachusetts Youth Health Survey, 12% of MA high school students (females 4%, males 20%) said they carried a weapon (e.g., a gun, knife, or club) on at least one day during the past month, and 3% (females 0.2%, males 5%) reported carrying a gun. Seven percent (females 4%, males 9%) said they had been threatened or injured with a weapon on school property, and 7% (females 4%, males 10%) said they had been in a physical fight on school property. Five percent of high school students (males and females equally) said they skipped school at least once in the past month because they felt unsafe either at school or on their way to or from school. Three percent of high school students reported initiating dating violence and 1% reported initiating sexual assault. Females were twice as likely as males to report being victims of dating violence (12% vs. 6%) and nearly three times as likely to report being victims of sexual assault (14% vs. 5%).

Violence at home impacted a significant number of MA middle school students. In 2011, 11% of both females and males reported being physically hurt by a family member in the previous 12 months. Ten percent (11% females, 9% males) reported witnessing violence in their family in the previous 12 months. Students self-identified as White were less likely than those in other racial/ethnic groups to report such violence.

Bullying — i.e., harassment by peers who are physically present — was somewhat less prevalent in Massachusetts in 2011 compared to previous years, but was still a problem for many pre-teens and adolescents. Eighteen percent of MA high school students in 2011 reported being bullied at school, down from 23% in 2003 and 24% in 2005. Thirty-six percent of MA middle school students in 2011 said they were victims of in-person bullying, unchanged from 2009, with 8% reporting they were bullied frequently (8 or more times in the

past year). Males were more likely than females to initiate in-person bullying, both in middle school (12% vs. 8%) and in high school (17% vs. 9%).

Empowered by information and communications technology, adolescent tormentors have brought words like cyberbully and cyberbullicide (suicide indirectly or directly influenced by experiences of online aggression) into the American lexicon. In 2011, 14% of MA middle school students and 16% of MA high school students reported being victims of cyberbullying in the past year. Females were twice as likely as males to be cyberbullied in both middle school (19% vs. 9%) and high school (22% vs. 10%). In middle school, there were no significant differences by race/ethnicity, but in high school White females (25%) were more likely than Black (15%), Hispanic (17%) and Other/Multiracial (17%) females to be victims of cyberbullying in the past 12 months. Seven percent of 8th graders and 11% of 12th graders reported they initiated cyberbullying.

In 2011, more than 10% of Massachusetts youth reported thinking seriously about or planning suicide. According to the YRBS, 13% of MA high school students (females 16%, males 11%) said they had seriously considered attempting suicide in the past year; 12% (females 14%, males 10.5%) said they made a suicide plan; 7% (females 8%, males 5%) said they had attempted suicide one or more times; and 2% said their suicide attempt had resulted in an injury, poisoning, or overdose that required treatment by a doctor or nurse. Among MA middle school students, 7% (females 10%, males 5%) said they had seriously considered suicide in the past 12 months (vs. 9% in 2009); 4% said they had attempted suicide one or more times (vs. 5% in 2009); and 1% had an attempt that resulted in injury (same as in 2009). Hispanic middle school students were significantly more likely than Whites (14% vs. 5%) to have given suicide serious consideration.

Hate crimes are a manifestation of violence against select groups — crimes motivated in whole or in part by a bias against the victim's perceived gender, race, religion, ethnicity, sexual orientation, or disability. By Congressional mandate dating to 1990, hate crimes are tracked and reported yearly by the FBI based on reporting from local law enforcement agencies, which in Massachusetts

Violence *continued*

includes not only the state police and municipal police departments but also the security forces of colleges/universities, hospitals/medical centers, and public authorities such as the MBTA. In 2010, 313 agencies across the Commonwealth participated, with 84 submitting at least one incident report. Altogether, 316 hate crimes were determined to have been committed in Massachusetts in 2010, compared to 333 in 2008 and 322 in 2009. The distribution of cases by type has been consistent over the 3-year period. In 2010 it was: race 148 (47%);

religion 60 (18%); sexual orientation 69 (22%); and ethnicity 42 (13%). These cases are clearly a matter of degree, requiring compelling evidence of bias on the part of the offender in order for them to be classified officially as hate crimes. How many more, seemingly mundane, instances of violence against the vulnerable of society, occurring in school, workplace, home, and neighborhood, are never brought to the attention of law enforcement personnel and thus never enter the record as having been committed, remains an open question.

References

“Adverse Health Conditions and Health Risk Behaviors Associated with Intimate Partner Violence — United States, 2005,” *MMWR*, 57 (February 8, 2008), 113-117.

Louise-Anne McNutt et al., “Cumulative Abuse Experiences, Physical Health and Health Behaviors,” *Annals of Epidemiology*, 12 (February 2002), 123-130.

Emily A. Greenfield and Nadine F. Marks, “Profiles of Physical and Psychological Violence in Childhood as a Risk Factor for Poorer Adult Health: Evidence from the 1995-2005 National Survey of Midlife in the United States,” *Journal of Aging and Health*, 21 (October 2009), 943-966.

Leslie J. Crofford, “Violence, Stress, and Somatic Syndromes,” *Trauma, Violence, & Abuse*, 8 (July 2007), 299-313.

The Facts Hurt: A State-by-State Injury Prevention Policy Report, Robert Wood Johnson Foundation, Trust for America’s Health, May 2012.

Crime in the United States, 2010, U.S. Department of Justice, Federal Bureau of Investigation, September 2011.

Preliminary Annual Uniform Crime Report, January-December 2011, U.S. Department of Justice, Federal Bureau of Investigation, May 2012.

Fourth National Incidence Study of Child Abuse and Neglect (NIS-4): Report to Congress, Executive Summary, U.S. Department of Health and Human Services, Administration for Children and Families, 2010.

“Child Maltreatment,” Centers for Disease Control and Prevention, 2010.

“Rape and Sexual Assault in Massachusetts, 2010–2011,” Massachusetts Department of Public Health, February 2012.

A Profile of Health Among Massachusetts Middle and High School Students, 2011, Massachusetts Department of Public Health, June 2012.

Health and Risk Behaviors of Massachusetts Youth: 2011, Massachusetts Department of Elementary and Secondary Education and Massachusetts Department of Public Health, May 2012.

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, “Youth Risk Behavior Surveillance — United States, 2011,” *MMWR*, Surveillance Summaries, 61 (June 8, 2012).

S Hinduja et al., “Bullying, Cyberbullying, and Suicide,” *Archives of Suicide Research*, 14 (2010), 206–221.

Hate Crime Statistics, 2010, U.S. Department of Justice, Federal Bureau of Investigation, November 2011.

Policy Perspectives

Understanding the scope and sequela of violence is a challenging task. As our definitions of “violence” evolve to include psychological and underreported crimes as well as the more readily measurable types of physical violence, the public health statistics available improve. This report acknowledges that by discussing both more traditional categories of crime, more “hidden” crimes (such as sexual assault), and psychological problems like bullying and harassment between schoolchildren.

The broad nature of the topics covered is encouraging, but there are still public health needs that are not really answered by a report of this nature.

First, we need to understand both morbidity and mortality. Although, traditionally, violence that manifests itself physically has been the sole focus of researchers and policymakers, psychological violence also produces morbidity (in the form of psychological damage and trauma, mental illness, behavior problems, etc.) as well as, in all likelihood, some mortality (e.g., through suicide or homicide following violent victimization). As morbidity represents a significant draw on our limited resources, the psychological cost of violence should be a focus. Mortality is, and should be, a priority, but morbidity is also a substantial concern.

Second, while the report covers rates of sexual assault, there are new forms of sexual harassment that require our attention – most notably digital forms of sexual harassment, which may primarily prey upon young (adolescent) females. I say “may,” because we lack the research to establish this as a

certainty. Research on digital forms of sexual harassment needs to define this problem and help produce solutions. We also need to better establish links, if any, between sexual harassment and other types of sexual violence.

Apart from sexual violence, research should also continue on peer abuse (bullying) and on cyberbullying and other types of cyber-conflict. Current research at the Massachusetts Aggression Reduction Center at Bridgewater State University suggests that a great deal of psychological violence occurs in the digital realm. Education and awareness remain our best defense against all types of violence, and policymakers would be wise to focus efforts there.

As this report notes, hate crimes remain distressingly common, especially racially-oriented hate crimes and those based on sexual orientation. Females who are unaware of sexual violence, or who adhere to sexual myths, are known to be more likely to be victimized. Education about trauma and abuse — in all realms — can help potential victims recognize and avoid such problems. Resources exist to educate children and adults about these problems but efforts must be continued.

Elizabeth K. Englander, PhD

Professor of Psychology

Director, Massachusetts Aggression
Reduction Center

Bridgewater State College

Policy Perspectives

The statistics presented by the Massachusetts Health Council tell the story – violence happens in our Commonwealth. More vivid versions of this story are found on the news, on the streets of our communities, in hospitals, our schools and our homes. There is not a personal space, a neighborhood, a place of worship or a place of business that violence has not reached.

What was once understood as either a private issue or a police matter is now an issue that has engaged our communities and our policy makers. Health and public health systems are relatively new to these issues. It has been only 20 years since the Centers for Disease Control and Prevention recognized violence and injury as a significant enough health issue to warrant the creation of the National Center for Injury Prevention and Control.

In addressing violence, we must support new programs such as the Governor's Safe and Successful Youth Initiative, convening high level policymakers through vehicles such as the Governor's Council to Address Sexual and Domestic Violence, and championing policy changes including CORI reform and anti-stalking legislation. One example of the success of such an initiative can be found in the results of a strategic collaboration between Jane Doe Inc, the state coalition against sexual assault and domestic violence, and the administration. In June 2008, at the urging of Jane Doe, a public health advisory was issued. Forty-two women, men and children had died from domestic violence-related homicide in 2007 and the Commonwealth was on course to exceed that figure in 2008. This public health advisory raised awareness with health care providers, the media and the public and it spurred additional activities at the state and community levels. Jane Doe and its member programs continue to focus on domestic violence homicide prevention using evidence-informed strategies and in 2011, the number of domestic violence-related fatalities has been reduced to 26. The numbers of victims

of domestic violence, community violence, sexual violence, child abuse, hate crimes and other forms of violence remain frighteningly and frustratingly high. However, this is an important example to suggest that collaborative, thoughtful, strategic, and evidence-informed attempts at preventing violence can and will work.

As we move forward, our violence prevention efforts should take a page from the success of health care, shifting our focus to early prevention of violence. We must always have available services and supports for victims of violence and there must be programs in place that address perpetrators of such violence. A greater focus on preventing violence before the behaviors that lead to perpetration develop is both more cost effective and a strategy that saves the enormous human costs associated with pain and fear and loss.

We know from mounting literature that there are strategies that should inform our prevention efforts:

- For young people, connection to a healthy adult has significant impact on a range of health behaviors including violence.
- Promoting healthy youth development through supporting their strength and resiliency is linked to reduced violent behavior.
- Promoting healthy relationships and healthy sexuality are emerging as the promising strategies for sexual and dating violence prevention.
- Creating a school climate of respect decreases bullying.
- Strength-based parenting education can reduce child maltreatment.
- Restricting access to weapons reduces violence and injury of all types.

The effects of violence are far reaching and there is a seemingly endless flood of stories where we learn that another promising young person has been murdered, or that sexual violence continues to be

Violence *continued*

Policy Perspectives

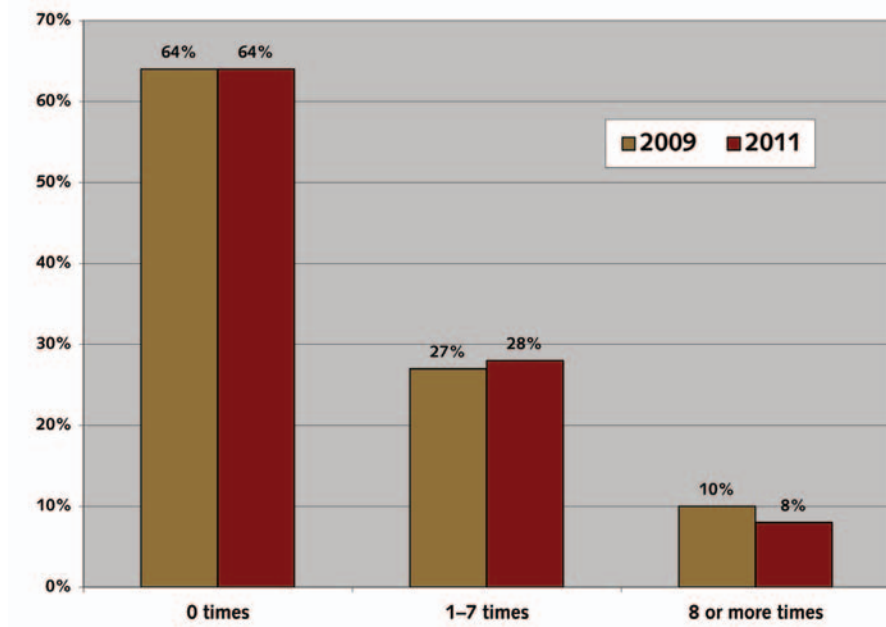
belittled and misunderstood, or that harassment and attacks against gay, lesbian, bisexual or transgendered people are still condoned or excused. These stories demoralize us in our efforts to stop the violence. But there are success stories too where we can't see the prevention, because the worst did not happen. Each of these nearly invisible success stories brings us closer to the goal of greater peace in our families, our schools, our homes and our society.

Carlene Pavlos

Director, Violence and Injury Prevention
MA Department of Public Health

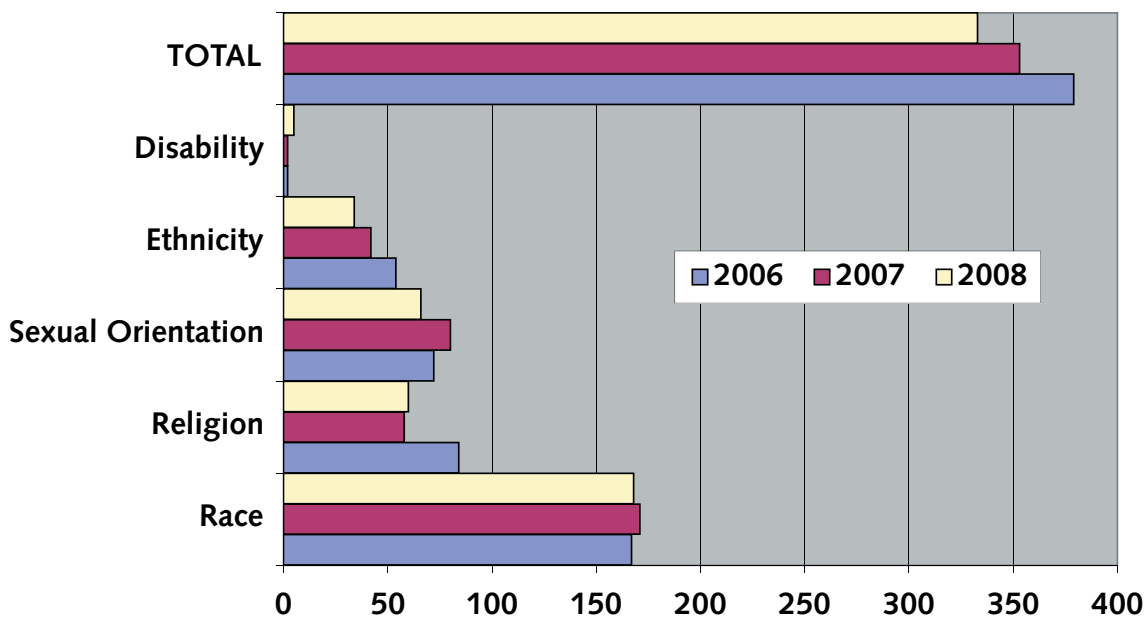
Violence *continued*

Bullied at School — MA Middle School Students 2009–2011



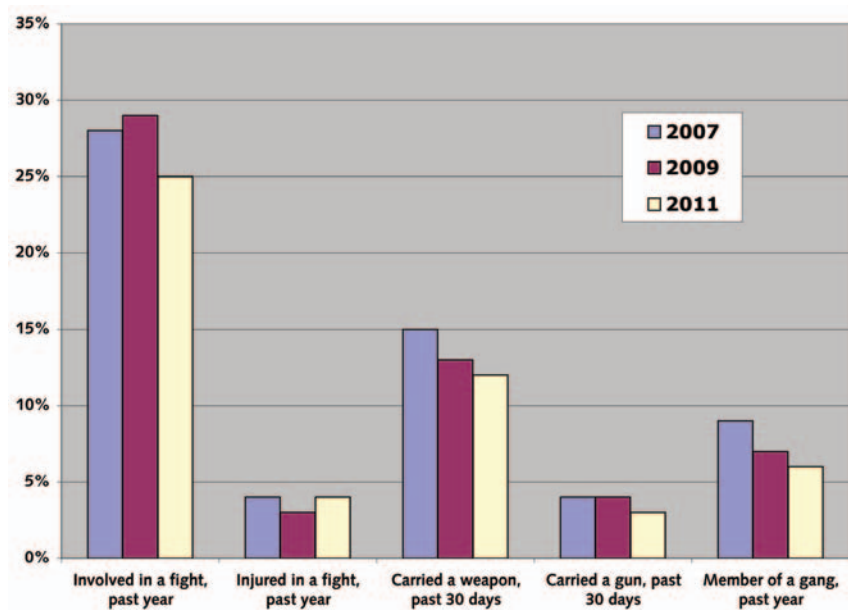
Source: Massachusetts Department of Elementary and Secondary Education

Hate Crimes and Number of Incidents and Bias Motivation, 2006–2008



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

Physical Violence Indicators — MA High School Students — 2007–2011



Source: Massachusetts Department of Elementary and Secondary Education

Violent Crime Trends – Boston and Massachusetts

	All Violent Crime	Murder	Forceable Rape	Robbery	Aggravated Assault
Boston 2010	5,819	73	256	1,926	3,564
Boston 2011	5,252	63	271	1,904	3,014
% change (improvement)	(7.2%)	(19.4%)	+13.5%	(7.1%)	(9.6%)
Mass. 2009	30,503	173	1,734	7,467	21,129
Mass. 2010	30,553	210	1,745	6,874	21,724
% change (improvement)	+0.2%	+21.4%	+0.6%	(7.9%)	+2.8%

* All 2011 data are preliminary and may reflect somewhat different reporting standards among agencies.

Source: FBI Uniform Crime Report

NOTES



MASSACHUSETTS
MEDICAL SOCIETY

