Public Health Trust Fund Executive Committee (PHTFEC) Meeting Minutes

Date/Time: October 4, 2017 – 1:00 p.m.

Place: Mass Gaming Commission
101 Federal Street, Boston, MA 02110

Present: **Executive Committee**
Lindsey Tucker, Co-Chair, Associate Commissioner, Massachusetts Department of Public Health
Stephen P. Crosby, Co-Chair, Chairman, Massachusetts Gaming Commission
Jennifer Queally, Undersecretary of Law Enforcement
Rebekah Gewirtz, Executive Director of the National Association of Social Workers, MA Chapter and Representative of the Massachusetts Public Health Association
Michael Sweeney, Executive Director, Massachusetts State Lottery Commission

Attendees
Marlene Warner, Executive Director, Massachusetts Council on Compulsive Gambling
Bruce Cohen, Retired Director, Massachusetts Department of Public Health
Victor Ortiz, Director of the Office of Problem Gambling, Massachusetts Department of Public Health
Teresa Fiore, Manager of Research and Responsible Gaming, Massachusetts Gaming Commission
Mark Vander Linden, Director of Research and Responsible Gaming, Massachusetts Gaming Commission
Enrique Zuniga, Commissioner, Massachusetts Gaming Commission
Brianne Tolson, Director of Policy and Communications, Massachusetts Council on Compulsive Gambling
Jacqui Krum, Senior Vice President and General Counsel at Wynn Resorts Development
Rachel Volberg, Principal Investigator, SEIGMA, UMass School of Public Health and Health Sciences
Alissa Mazaar, Project Manager, SEIGMA, UMass School of public Health and Health Sciences

Call to Order

1:03 p.m. Co-Chair Tucker called to order the Public Health Trust Fund Executive Committee ("PHTFEC") Meeting.

Approval of Minutes

1:09 p.m. *Michael Sweeney moved for the approval of the PHTFEC minutes for July 11, 2017. Motion seconded by Rebekah Geweritz. Motion passed unanimously.*

MGC Research Agenda Quarterly Update

1:12 p.m. Mark Vander Linden provided information relating to the current status of the MGC research agenda as well as upcoming research items.

In response to the CHIA Manuscript Report update, Jennifer Queally inquired about the significance of respondents being in a PPO vs. HMO. Dr. Rachel Volberg noted that an HMO is limited in terms of how easy it is to go outside of the network to get specialist care. Bruce Cohen clarified that HMO and PPO would not affect the submission to CHIA as long as they are commercial plan, and noted that Medicaid was not included in this analysis.

Dr. Rachel Volberg reported that all eleven spaces for diagnoses were reviewed by researchers, which are provided in addition to the initial diagnosis for which the individual is treated. She noted that there are not many people who have more than four recorded diagnoses.

Co-Chair Tucker noted that data would not show up for problem gamblers that do not reach the DSM diagnostic criteria. She further inquired as to why Medicaid data was not included in the CHIA Manuscript report. Bruce Cohen stated that Medicaid data would not have been included as the research application would have been submitted before CHIA (Center for Healthcare Information and Analysis) had the ability to pull Medicaid data.

In response to the Plainridge Park Casino Operations Report, Rebekah Gewirtz inquired whether findings would be coupled with social impacts and expressed concern that publicizing only casino revenue without communicating negative social impacts would sway public perception.

Co-Chair Crosby noted that all reports are presented and made available to the public, which could result in positive and negative headlines for each type of report. Dr. Rachel Volberg added that her team had plans to produce an impact report with the range of all impacts which have been identified to date.

Having exceeded the allotted time set aside for this item, Co-Chair Tucker suggested that Mark Vander Linden update the committee on the BGPS (Baseline General Population Survey) report. Mark Vander Linden informed the group about changed weights for prevalence.

Marlene Warner indicated that the various reports do not use consistent language. Co-Chair Tucker stated that there are slight differences between the various terms used so that it would be difficult to tighten up language. Dr. Volberg stated that the BGPS report includes a glossary which defines the various terms.

Rebekah Gewirtz inquired whether the presentation of economic reports could include footnotes about the social costs of expanded gaming.

Co-Chair Tucker commended Mark Vander Linden for the clear formatting of his quarterly update.

SEIGMA In-Depth Analysis of Predictor Report and Discussion

1:38 p.m. Co-Chair Tucker explained that this item was added to the agenda because understanding gamblers across the continuum is useful for public health workers.

Dr. Rachel Volberg noted that States have the opportunity to add questions to the BRFSS (Behavioral Risk Factor Surveillance System). For this particular report, a graduate student reviewed the BRFFS data. She suggested that this type of work is important as problem gambling makes up almost all of the research within the gambling research field.

Co-Chair Crosby indicated that breaking the study group into gambling frequency levels would be worth exploring further as it would inform evaluations such as the upcoming PlayMyWay report. Dr. Volberg clarified that time, money and frequency were the same as problem gamblers however the sample did not fall into the DSM5 criteria.

Jennifer Queally questioned whether the DSM definition for problem gamblers was similar to that of substance abusers, whose frequency alone may not necessarily imply a problem. Dr. Volberg clarified that the DSM does not include frequency and that she would not include it as a proxy for problem gamblers, but is more appropriately used for risky behavior.

Co-Chair Tucker requested a reminder on the difference between recreational versus problem gambler. Dr. Volberg replied that anyone who gambles even just once a year is considered recreational. To get into a risk pool, one or two of the items that assess loss of control or evidence of harm have to be endorsed. She further clarified that gambling at a frequency that is the same as a problem gambler would also categorize somebody as a risky gambler.

Alissa Mazar acknowledged the confusion around the understanding of the presentation and stated that a review of the data visualization would be revisited. Dr. Volberg stated that she would share specific tables within the report which support detailed questions surrounding the distinguishing factors of recreational versus other types of gamblers. Jennifer Queally suggested that it would be helpful to see percentages in the presentation. Michael Sweeney noted that the difficulty which the PHTFEC has in understanding the data would suggest that it is nearly impossible for the public and press to understand.

Jennifer Queally inquired whether genetics should be considered a factor indicative of gambling behavior. Mark Vander Linden stated that he would distribute an executive summary from Marc Potenza (Director at the Center of Excellence in Gambling Researc) on this topic.

Rebekah Gewirtz inquired how questions regarding addictions and mental health problems were asked. Dr. Volberg stated that the questions were asked separately.

Michael Sweeney inquired whether individuals born outside of the US had difficultly answering any questions. Dr. Volberg stated that the questionnaire was written for an 8th grade reading level and further indicated that .8% of respondents answered in Spanish. She clarified that there was likely a small portion of the population that was unable to be interviewed because of limited languages however this was an agreed upon limitation.

Co-Chair Tucker ended the discussion by thanking the presenters and suggesting that data presentation be revisited for easier comprehension.

DPH Program Quarterly Update

2:48 p.m. Victor Ortiz presented the quarterly update of the Office of Problem Gambling at the Department of Public Health. Co-Chair Tucker shared the DPH approach of leveraging current contracts where appropriate.

Jennifer Queally inquired whether focusing on treatment centers would yield a large enough sample to be representative of substance abusers. Co-Chair Crosby added that he was unsure if it could be assumed that the skillset could correlate for prevention of at risk populations.

Bruce Cohen inquired about the focus of the training. Victor Ortiz explained that the model is based on an ambassador model and was selected through the regional planning process which is based on an ambassador model.

Turning to the communications campaign that is part of the FY18 programming agenda, Victor Ortiz explained that qualitative research and communications planning research would be conducted to inform the campaign which is planned for launch in FY2018.

3:08 p.m. Transitioning to an overview of the Gap Analysis, Victor Ortiz offered background information on the treatment of problem gambling as part of the DPH addiction treatment systems. Marlene Warner stated that EIM-ESM (Enterprise Invoice/Service Management) may be to blame for lower numbers as gambling treatment programs are typically found within larger agencies. She further explained that treatment providers do not benefit from logging in to the system.

Rebekah Gewirtz inquired how a baseline understanding could be established if current numbers are so low. Co-Chair Tucker stated that the data is accurate but that it is not complete.

Enrique Zuniga referenced the SEIGMA baseline study and stated that 88,000 Massachusetts residents are classified as problem gamblers, 3% of which would be expected to access the treatment system in any given year.

Voluntary Self Exclusion Overview and Discussion

3:41 p.m. Mark Vander Linden reviewed the terms of the Massachusetts Voluntary Self Exclusion program as well as those from other properties and jurisdictions. He explained that the exit session requirement is specific to Massachusetts.

Jennifer Queally inquired whether there was opportunity to appeal in other States and properties. Jacqui Krum noted that VSE term appeals have been taken to court in the past, particularly by individuals who are contesting lifetime exclusion, and that the casino typically does not win.

Jennifer Queally stated that she would be uncomfortable if State Police are involved in escorting individuals off the floor who are breaching their term as it could be classified as an unlawful escort. She noted that she would follow up with Director Karen Wells of the MGC IEB.

Public Comment

3:57 p.m. With no questions from the Public, Co-Chair Tucker requested that any agenda items for the next meeting be sent to her in advance so that it can be added to the agenda.

Other Business

3:58 p.m. *Having no further business, Co-Chair Tucker ended the meeting. Jennifer Queally made the motion to adjourn, seconded by Michael Sweeney. Motion passed unanimously.*

List of Documents and Other Items Used

1. Public Health Trust Fund Executive Committee, Notice of Meeting and Agenda dated October 4, 2017
2. Public Health Trust Fund Executive Committee, Meeting Minutes dated July 11, 2017
3. MGC Gaming Research Update Memo dated October 4, 2017
4. Predictors of Gambling & Problem Gambling in Massachusetts dated October 4, 2017
5. Recreational Gambling in Massachusetts dated October 4, 2017
6. DPH Office of Problem Gambling Services Program Update dated October 5, 2017
7. Treatment and Services Gap Analysis dated October 5, 2017

TO: Public Health Trust Fund Executive Committee

FROM: Mark Vander Linden, Director of Research and Responsible Gaming

CC: Enrique Zuniga, Commissioner, Teresa Fiore, Program Manager

DATE: January 10, 2018

RE: Gaming Research Agenda Roles and Responsibilities

The purpose of this memo is to outline the statutory mandate to carry out an annual Gaming Research Agenda as well as roles and responsibilities of various groups to advise and direct this work.

Massachusetts General Laws Chapter 23K, Section 71.

Chapter 23K, Section 71 establishes an annual research agenda which includes three essential elements:

1) Understand the social & economic impacts of expanded gambling
2) Baseline study of problem gambling and existing prevention & treatment programs
3) Independent studies to obtain scientific information relevant to enhancing responsible gambling and minimizing harmful effects.

The full narrative of this section is included at the end of this memo.

Memorandum of Understanding between MGC and EOHHS

A Memorandum of Understanding between the Massachusetts Gaming Commission and the Executive Office of Health and Human Services, signed July 24, 2014, established a Public Health Trust Fund (PHTF) Executive Committee. The primary purpose of this MOU is to (1) assist social services and public health programs dedicated to addressing problems associated with compulsive gambling including but not limited to, gambling prevention and addiction services, substance abuse services, educational campaigns to mitigate the potential addictive nature of gambling, and (2) to conduct necessary studies and evaluation, including those identified in the annual research agenda. The PHTF is authorized to set an annual budget and protocols for expenditures from the Public Health Trust Fund, which includes funding for the annual Gaming Research Agenda. A PDF of the original MOU dated July 24, 2014 is attached to this memo.

Oversight, Policy, Budget and Advisory groups of the Gaming Research Agenda

Massachusetts Gaming Commission (MGC)

Authority: Statutory/ Oversight and policy making
Statutory: Yes
Role of the MGC:

- Provide functional oversight of the Gaming Research Agenda, including:
  - Manage the research procurement, selection and contracting process
  - Provide oversight of research contracts including budget, performance standards and deliverables
  - Organize review and advisory committees. Utilize the advice from committees to identify research priorities, provide feedback to research teams
- Consider research and findings in all decisions related to enhancing responsible gambling and mitigating problem gambling.
- Collect revenues for deposit to the Public Health Trust Fund.

Frequency of meetings: Daily oversight and bi-weekly meetings of the MGC.

Public Health Trust Fund Executive Committee (PHTF Committee)

Authority: MOU/ Budget setting
Role of the PHTF Committee: Set the budget for expenditures from the Public Health Trust Fund in order to conduct necessary studies and evaluation, including those identified in the annual research agenda as defined by Section 71.
Frequency of meetings: Quarterly plus occasional special meetings

Gaming Research Advisory Committee (GRAC)

Authority: Advisory
Role of the GRAC:

- Provide advice and recommendations related to the Gaming Research Agenda to the MGC.
- Promote the use of research for the development of policy and programs.

Frequency of meetings: Quarterly

Gaming Policy Advisory Committee (GPAC)

Authority: Statutory/ Advisory
Role of the GPAC: Advise the MGC on the annual research agenda.
Frequency of meetings: This committee aims to meet quarterly. However, they have only met annually the past few years.

Expert Research Review Committee (RRC)

Authority: Advisory
Role the RRC:

- Serve as primary review committee for most research projects. This includes but not limited to survey design, data collection, weighting, analytic plans and statistical evaluation
- Assist in the development of data dissemination protocols for research by external parties
- Review request for proposals (RFPs) and similar procurement documents

Frequency of meetings: Bi-weekly

Massachusetts General Laws Chapter 23K, The Massachusetts Gaming Commission

Section Relative to the Annual Research Agenda

Chapter 23K, Section 71. The commission, with the advice of the gaming policy advisory committee, shall develop an annual research agenda in order to understand the social and economic effects of expanding gaming in the commonwealth and to obtain scientific information relative to the neuroscience, psychology, sociology, epidemiology and etiology of gambling. The secretary of health and human services, with the advice and consent of the commission, may expend funds from the Public Health Trust Fund established in section 58 to implement the objectives of the research agenda which shall include, but not be limited to:

(1) a baseline study of the existing occurrence of problem gambling in the commonwealth; provided, however, that the study shall examine and describe the existing levels of problem gambling and the existing programs available that prevent and address the harmful consequences of problem gambling; provided further, that the commission shall contract with scientists and physicians to examine the current research as to the causes for problem gambling and the health effects of problem gambling and the treatment methods currently available in the commonwealth; provided further, that the commission shall report on the findings of the baseline study and provide recommendations to the house and senate committees on ways and means, the joint committee on economic development and emerging technologies, the joint committee on mental health and substance abuse and the joint committee on public health relative to methods to supplement or improve problem gambling prevention and treatment services;

(2) comprehensive legal and factual studies of the social and economic impacts of gambling in the commonwealth on: (a) state, local and Indian tribal governments; and (b) communities and social institutions generally, including individuals, families and businesses within such communities and institutions; provided, however, that the matters to be examined in such studies shall include, but not be limited to:

(i) a review of existing federal, state, local and Indian tribal government policies and practices with respect to the legalization or prohibition of gambling, including a review of the costs of such policies and practices;

(ii) an assessment of the relationship between gambling and levels of crime and of existing enforcement and regulatory practices intended to address any such relationship;

(iii) an assessment of pathological or problem gambling, including its impact on individuals, families, businesses, social institutions and the economy;

(iv) an assessment of the impact of gambling on individuals, families, businesses, social institutions and the economy generally, including the role of advertising in promoting gambling and the impact of gambling on depressed economic areas;

(v) an assessment of the extent to which gaming has provided revenues to other state, local and Indian tribal governments;
(vi) an assessment of the costs of added infrastructure, police force, increased unemployment, increased health care and dependency on public assistance;
(vii) an assessment of the impact of the development and operation of the gaming establishment on small businesses in host communities and surrounding communities, including a review of any economic harm experienced and potential solutions to mitigate associated economic harm; and
(viii) the costs of implementing this chapter.

(3) individual studies conducted by academic institutions and individual researchers in the commonwealth to study topics which shall include, but not be limited to:
(i) reward and aversion, neuroimaging and neuroscience in humans, addiction phenotype genotype research, gambling-based experimental psychology and mathematical modeling of reward-based decision making;
(ii) the sociology and psychology of gambling behavior, gambling technology and marketing; and
(iii) the epidemiology and etiology of gambling and problem gambling in the general population; provided, however, that when contracting with researchers to study such issues, the commission shall encourage the collaboration among researchers in the commonwealth and other states and jurisdictions.

The commission and the committee shall annually make scientifically-based recommendations which reflect the results of this research to the house and senate committees on ways and means, the joint committee on economic development and emerging technologies, the joint committee on mental health and substance abuse and the joint committee on public health. The commission shall consider any such recommendations, research and findings in all decisions related to enhancing responsible gambling and mitigating problem gambling.

Original

MEMORANDUM OF UNDERSTANDING

BETWEEN

MASSACHUSETTS GAMING COMMISSION

AND

EXECUTIVE OFFICE OF HEALTH AND HUMAN SERVICES

WHEREAS, the **MASSACHUSETTS GAMING COMMISSION** (hereinafter, "MGC") and the **EXECUTIVE OFFICE OF HEALTH AND HUMAN SERVICES** (hereinafter, "EOHHS") possess shared interests, goals, and responsibilities relative to addressing problem gambling and promoting responsible gaming; and

WHEREAS, one of the principal underpinnings of the Act Establishing Expanded Gaming in the Commonwealth (codified in G.L. c.23K) (hereinafter, the "Act") is the recognition that thoughtful and unique efforts and strategies to combat problem gambling and promote responsible gaming have to be deeply embedded in the regulatory and licensing process for gaming establishments; and

WHEREAS, the Act creates a Public Health Trust Fund (hereinafter, the "Fund") from a percentage of gross gaming revenues as well as fees assessed to gaming licensees; and

WHEREAS, the Fund was created for two primary reasons: (1) to assist social service and public health programs dedicated to addressing problems associated with compulsive gambling including, but not limited to, gambling prevention and addiction services, substance abuse services, educational campaigns to mitigate the potential addictive nature of gambling, and (2) to conduct necessary studies and evaluation, including those identified in the annual research agenda. As outlined in G.L. c.23K, §71, the research agenda is intended to help gain an understanding of the social and economic effects of expanding gaming in Massachusetts, and to obtain scientific information relative to the neuroscience, psychology, sociology, epidemiology and etiology of gambling; and

WHEREAS, the Secretary of EOHHS was designated as the trustee of the Fund and MGC was afforded "advice and consent" authority over expenditures from the Fund related to the implementation of the objectives of the annual research agenda; and

WHEREAS, the successful implementation of the Act by the MGC as it relates to problem gambling is in many respects inextricably bound with the manner in which expenditures from the Fund are made; and

WHEREAS, pursuant to G.L. c.23K, §§4(3) and (4), the MGC is vested with the power to execute all instruments necessary or convenient for accomplishing the purposes of G.L. c.23K and to enter into agreements with a public entity or other governmental instrumentality or authority in connection with its powers and duties under G.L. c.23K;

NOW THEREFORE, in order to align the efforts of MGC and EOHHS, mitigate the potential for inconsistency, redundancy, and conflict in the provision of services, ensure the research is utilized to advance proper and most effective strategies, and help ensure the most effective use of the monies from the Fund, MGC and EOHHS agree that for as long as this *MEMORANDUM OF UNDERSTANDING* is in effect, the following shall apply:

1. The Executive Committee of the Public Health Trust Fund (hereinafter, "committee") shall be established for purposes of setting the overall budget and protocols for expenditures from the Fund. The committee shall consist of no fewer than five members including the Secretary of EOHHS (or designee), the Chair of MGC (or designee), and three members appointed by mutual agreement of the Secretary and the Chair. The Secretary and the Chair shall serve as co-chairs of the committee. Of the additional committee members, at least one shall have a background in problem gambling/responsible gaming issues, and at least one shall have a background in addiction, substance abuse, and mental health services.

2. The committee shall meet quarterly and from time to time as otherwise deemed necessary by the co-chairs. The committee shall be subject to the Open Meeting Law of the Commonwealth of Massachusetts and all applicable Public Records laws.

3. The affirmative vote of three (or if more than five members, a majority of) committee members shall be required for an action by the committee, provided at least two votes represents those of the Chair of MGC (or designee) and Secretary of EOHHS (or designee).

4. The committee may establish goals and/or a mission statement in an effort to instruct its decision making. The budget and goals established by the committee shall be consistent with the purposes identified by G.L. c.23K, §58.

5. The committee shall set an annual budget for expenditures from the Fund. The committee may set aside funds and establish rules allowing for discretionary expenditures below a certain monetary threshold by specific individuals. The committee may amend the budget at any time so as to reflect actual monies credited or transferred to the Fund.

6. 75% of the monies in the Fund, or such percentage as agreed to in writing by the parties, shall be set aside each year for services to be funded by the Department of Public Health (DPH), as required by G.L. c. 23K, §58.

7. As trustee of the Fund, the Secretary of EOHHS agrees to expend monies in the Fund, in accordance with G.L. c.23K, §58, consistent with the established budget, rules, policies, and other related direction provided by the committee.

8. In anticipation of the expanded problem gambling program to be overseen by EOHHS, via DPH as a result of the implementation of the Act, the parties recognize the need for the addition of a Director of Problem Gambling Services position within DPH. In order to offset the DPH cost arising out such full-time employment, MGC agrees to pay DPH an agreed upon sum, as reflected in an Interagency Service Agreement (ISA) executed by both parties. This amount reflects the actual cost to DPH of the Director's salary, fringe expenses, indirect costs, and travel.

   For FY 2015:

   a. Half of the agreed upon sum relative to salary reimbursement on July 1, 2014, and

   b. Half of the agreed upon sum relative to salary reimbursement by January 1, 2015.

   For subsequent years or until monies are available in the Fund to pay for the position ongoing:

   a. Half of the agreed upon sum relative to salary reimbursement, on July 1 of each new fiscal year, and

   b. Half of the agreed upon sum relative to salary reimbursement by January 1 of the following year.

   These figures shall be reviewed as needed, but at least once per year, and may be adjusted, by mutual agreement of the parties, to the extent necessary to account for any salary increase. Such adjustment shall be made in writing and incorporated into the ISA.

9. Any expenditures made by EOHHS or MGC to (1) further the research agenda (G.L. c.23K, §71), or (2) assist social service or public health programs to prepare for gaming expansion, made prior to monies being in the Fund for such purposes, may be paid back to the respective agency from the Fund once monies are available, with approval of the Executive Committee.

10. The Director of Problem Gambling Services at DPH and the Director of Research and Problem Gambling at MGC shall work cooperatively to ensure that there are no inconsistencies, redundancies, or conflicts in their respective duties and responsibilities.

11. This agreement, upon execution by both MGC and EOHHS, shall remain in effect unless amended by mutual written consent or until terminated by the MGC or EOHHS upon 90 days written notice, and shall remain in effect regardless of whether either or both of the undersigned is/are no longer authorized to represent their respective offices.

12. This Agreement may not be amended or modified, except by a writing signed by both parties.

Massachusetts Gaming Commission
By:

Stephen P. Crosby
Chair

7/24/14
Date

Executive Office of Health and Human Services
By:

John W. Polanowicz
Secretary

7/24/14
Date

Partners for a Healthier Community, Inc.










Springfield Health Equity Report

Looking at Health through Race and Ethnicity

October 2014

Springfield Health Equity Report

Looking at Health through Race and Ethnicity

Lead Author/Editor: Kathleen Szegda, Ph.D.

Contributing Authors: Frank Robinson, Ph.D.
Jessica Collins, M.S.
Sarita Hudson, M.T.S.

About Partners for a Healthier Community:

Partners for a Healthier Community (PHC) is a 501(c)(3) non-profit organization based out of Springfield, MA whose mission is to build measurably healthy communities with equitable opportunities and resources for all through civic leadership, collaborative partnerships, and policy advocacy. PHC is committed to improving the public's health by fostering innovation, leveraging resources, and building partnerships across sectors, including government agencies, communities, the health care delivery system, media, and academia.

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Acknowledgements

Bonnie K. Andrews, MPH, CPH, Deputy Director, Office of Statistics and Evaluation Bureau of Community Health and Prevention, Massachusetts Department of Public Health

Partners for a Healthier Community Board Research and Evaluation Committee

Figure 1: Dahlgren G, Whitehead M (1993). Tackling inequalities in health: what can we learn from what has been tried? Working paper prepared for the King's Fund International Seminar on Tackling Inequalities in Health, September 1993, Ditchley Park, Oxfordshire. London, King's Fund, accessible in: Dahlgren G, Whitehead M. (2007) European strategies for tackling social inequities in health: Levelling up Part 2. Copenhagen: WHO Regional office for Europe: http://www.euro.who.int/__data/assets/pdf_file/0018/103824/E89384.pdf

Figure 2: University of Wisconsin Population Health Institute. County Health Rankings & Roadmaps 2014. http://www.countyhealthrankings.org

Figure 3: City of Portland Office of Equity and Human Rights, https://www.portlandoregon.gov/oehr/article/449547

Figures 4, 5, 9: Jane Garb, Biostatistician, Baystate Health Epidemiology and Biostatistics Research Core.

Figure 8: 8 Kirwan Institute Center for the Study of Race and Ethnicity, http://kirwaninstitute.osu.edu/reports/2009/01_2009_GeographyofOpportunityMassachusetts.pdf

Cover photos courtesy of Live Well Springfield: http://www.livewellspringfield.org and http://istockphoto.com.

For more information about this report, please contact:
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Health Equity Solutions Planning:
PHC will be convening a process in early 2015 to discuss this report and solutions to improving health equity in Springfield and the region. To learn more and participate in this process, sign up at www.partnersforahealthiercommunity.org/health-equity

Letter from the Executive Director

Dear Colleagues:

I am pleased to present Partners for a Healthier Community's (PHC) first health equity report. This report focuses on racial and ethnic health equity as part of PHC's strategic goal to "Advance Racial Justice."

Partners for a Healthier Community was established in 1996 as a non-profit public health organization. Our mission is "to build measurably healthy communities with equitable opportunities and resources for all through civic leadership, collaborative partnerships, and policy advocacy." PHC recently became a member organization of the National Network of Public Health Institutes (NNPHI), as PHC's work reflects the Public Health Institute model of promoting multi-sector activities to improve public health and health care structures, systems, and outcomes.

PHC is known for its capacity to bring people together and support cross-sector strategic partnerships; create and advocate healthy public policy; and advance new designs for population-based public health and health care delivery systems. As part of our recent strategic planning process, we took into account feedback from many of you about the need for accessible community data. This report is reflective of that request. It also reflects the development of our new focus area, again, based on what we heard as a need from the community - Community Research and Evaluation.

This Health Equity Report provides data on racial and ethnic disparities in health and provides context for some of the observed inequities. As you will see, too many of our community members of color are experiencing disproportionately poor health. Racial and ethnic disparities in health must be understood within the structural, social, and cultural contexts of people's lives, including the effects of structural racism on all people regardless of skin color. According to the World Health Organization, the resolution of these health disparities is to be found in social justice actions. "Social justice is a matter of life and death. It affects the way people live, their consequent chance of illness, and their risk of premature death."

The goal of this report is to promote a dialogue about the racial and ethnic health inequities that exist, why they exist, and challenge us to think and act on solutions. It supports current and ongoing initiatives to address racial and ethnic health inequities, including anti-racism dialogue occurring among several groups in the Pioneer Valley and among Springfield residents. This report was also created to guide regional providers, community health practitioners and policymakers in examining and refreshing their understanding of race and ethnicity in health.

We invite you to join Partners for a Healthier Community in developing the requisite responses for eliminating racial and ethnic disparities in health in our region.

How does this report resonate with you? What did we miss? Please find the report at the following link: www.partnersforahealthiercommunity.org/health-equity

Sincerely,

Frank Robinson

Frank Robinson, Ph.D.
Executive Director

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Understanding Health Equity

Why focus on Health Equity in Springfield?

Large differences in health exist in our society with low-income people, communities of color, and other vulnerable populations experiencing disproportionately poorer health. For example, national level data shows that people with higher income and higher levels of education generally have better health.[1] Similarly, health inequities occur for some communities of color, with some persisting even after taking into account socioeconomic status, likely due to racial discrimination among other factors.[2]

As you will see in the data presented in this report, large health inequities exist among Springfield residents when compared to the state as a whole. When examining through a lens of race and ethnicity, Springfield Black and Latino residents experience disproportionately poorer health outcomes.

To make strides toward reducing these large health disparities, it is important to understand the factors that contribute to them. The following sections provide an overview of the factors that contribute to health and the inequities that exist in Springfield. By understanding how these factors contribute to health, we - both as individuals and as a community - can more effectively address health disparities experienced by communities of color, low-income people, and other vulnerable populations (e.g. people with disabilities; gay, lesbian, transgender individuals).

The Role of Social and Economic Factors in Determining Health

Numerous factors affect our health—everything from where we work and live to our level of education and our access to healthy food and water (see Figure 1). It is estimated that less than a third of our health can be accounted for by our biological make-up or genetics.[3] **Our health is largely determined by the social, economic, cultural, and physical environments we live in.**

The County Health Rankings, published annually by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, rank **social and economic** determinants of health as having the greatest impact (40%) among these modifiable health determinants, followed by health behaviors (30%), clinical care (20%), and the physical environment (10%) (Figure 2).[4]

Figure 1: Determinants of Health

Source: Dahlgren and Whitehead. 1993

Many of the health inequities experienced by communities of color, low-income people, and other vulnerable populations are due to inequities in these determinants. These inequities are often rooted in a history of discrimination at the individual, institutional, and structural levels. "Compared to white, middle and upper-income communities, they have less economic, educational, and housing opportunity, and they have less access to health care, healthy foods, transportation, and other essential goods and services." Despite laws prohibiting overt discrimination, racism, classism and other forms of discrimination continue to exist as embedded societal and economic structures.

Racial residential segregation is an example of how a discriminatory policy continues to have negative effects even after the policy that created it is no longer in place. Harvard Professor Dr. David Williams describes racial residential segregation as one of the most damaging forms of racism on health in our society today. "The neighborhoods where minority children live have lower incomes, education, and home ownership rates and higher rates of poverty and unemployment compared with those where White children reside." Restricted opportunity in these neighborhoods and differences in socioeconomic status affect health.[6]

Equity in Health

Health equity is an issue of justice. It is about eliminating health differences that are "not only unnecessary and avoidable but, in addition, are considered unfair and unjust."[7]

Equality means treating everyone the same. However, given the history of discrimination and unjust societal structures, a one-size-fits-all model to health will not eliminate these avoidable, unjust health disparities. Extra efforts must be made to "right" the injustices if we are to reduce the burden of poor health experienced by communities of color and other vulnerable communities. Figure 3 from the City of Portland's Office of Equity and Human Rights illustrates how equity and not equality reaches the end goal of justice.

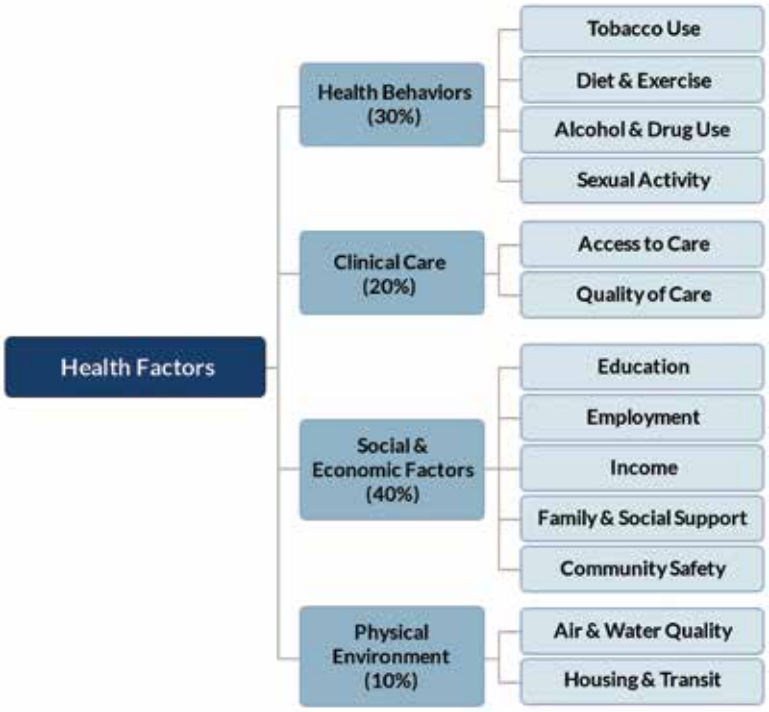

Figure 2: County Health Rankings Model – Health Factors

Source: County Health Rankings

Improving Health in Springfield through Opportunity

The Kirwan Institute Center for the Study of Race and Ethnicity has created an "Opportunity Communities" model that considers health within the context of the factors that are central to one's life and community, including "housing, education, jobs, transportation, health, and engagement."[8] In order to close the gap in health disparities, including those experienced by Springfield's Black and Latino residents, the underlying social, economic, and physical environment must be considered so that we can create opportunities for people to live healthy lives. A full-scale supermarket located in a food desert (see page 11) is such an opportunity that would directly affect health by providing ready access to fresh fruits and vegetables. This would allow people to incorporate healthy eating into their daily life. Similarly, a well-designed environment with places to exercise can foster a sense of physical and social order, create a sense of ownership and safety among residents, and go a long way toward creating opportunities to address weight management and support chronic disease self-management. Opportunity for jobs and a living wage go hand-in-hand with healthy finances and a healthy lifestyle. As Springfield has been identified as a city with low levels of opportunity, which you will read later in this report (pg. 10), it is vital that we create opportunities such as these in Springfield.

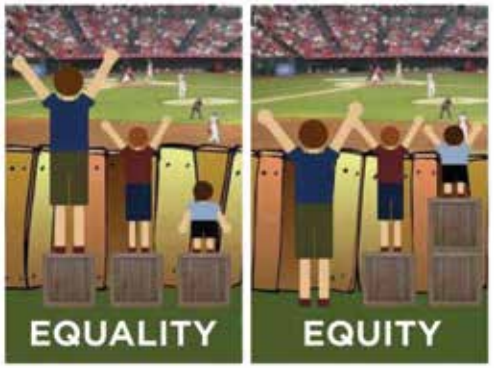

Figure 3: Equality is Not the Same as Equity

Source: Office of Equity and Human Rights, City of Portland

Where Do We Go from Here?

The Kirwan Institute recommends "a fair investment in all people and neighborhoods to improve the life outcomes of all citizens." Our hope is that the following information on health determinants and health status in Springfield will stimulate discussion about solutions that address root causes of health disparities and promote fair investments, so that we can address these factors that are vital to health. Please consider potential solutions as you read this report. Join us in learning, understanding, and finding solutions to improve health equity together.

Health Equity in Springfield through Race and Ethnicity

The following sections examine health equity in Springfield with a focus on race and ethnicity. Key factors that impact health in Springfield (health determinants) are discussed, followed by a description of health status. We recognize that many communities of color experience health inequities that are important to address. For the purposes of this report, we focus specifically on Blacks and Latinos because they are known to experience some of the largest racial and ethnic health disparities nationwide, they make up the majority of Springfield's population (62%), and data was limited for other racial/ethnic groups.

Key Factors Impacting Health in Springfield

Springfield Overview

Springfield (pop. 153,557)(U.S. Census Bureau, American Community Survey [ACS], 2012) is the 3rd largest city in Massachusetts, the 4th largest city in New England, and the largest city in the Springfield Metropolitan Statistical Area (MSA)(pop. 658,657), which consists of Hampden, Hampshire, and Franklin counties. Springfield is nicknamed the City of Homes for its beautiful stock of Victorian homes, and the City of Firsts, as it is the birthplace for numerous innovations, including the first gasoline powered automobile and basketball. Once a thriving city with a strong manufacturing base driving the economy, Springfield experienced an economic decline in the 1960s due to the struggles of the manufacturing industry at a national level.[9] These economic challenges have continued into the present day. Numerous efforts are underway to revitalize the City and foster economic development.

Figure 4: Springfield Neighborhoods

Baystate Health Epidemiology and Biostatistics Research Core.
Data Source: Pioneer Valley Planning Commission, City of Springfield

The City of Springfield consists of 17 neighborhoods (Figure 4). The neighborhoods of McKnight, Upper Hill, Bay, and Old Hill are often collectively referred to as Mason Square, and Brightwood and Memorial Square make up the North End.

Springfield Demographics

Springfield is a diverse, culturally rich, multi-ethnic city with people of color accounting for the majority (66%) of its population. Among people of color, an estimated 43% of Springfield's population is Latino, 19% is Black, and 2% is Asian (U.S. Census Bureau, ACS, 2012). Puerto Ricans make up the vast majority of the Latino population (82%). Among school-age children, children of color make up an even greater proportion of the population with 62% Latino, 20% Black, 3% Asian and only 12% of the population White (Massachusetts Dept of Elementary and Secondary Education, 2013-2014). Figure 5 illustrates the racial and ethnic make-up of Springfield neighborhoods using data from the City of Springfield's 2013 Impediments to Fair Housing Report.[10] The integration categories are based on a Pioneer Valley Planning Commission analysis of the integration of Springfield neighborhoods that was conducted using the Urban Institute's integration typology of neighborhoods. As can be seen, the majority of Springfield neighborhoods fall under the Urban Institute's category of "majority minority," indicating that 50-90% of the

population in these neighborhoods are people of color. Four neighborhoods were found to have populations consisting almost entirely of people of color and were designated "predominantly minority" (greater than 90% people of color) (Memorial Square, Brightwood, Old Hill, McKnight).

Springfield has a substantial immigrant and migrant population. An estimated 10% of Springfield's population are foreign-born and 18% of the population are migrants from Puerto Rico (U.S. Census Bureau, ACS 2012). Among foreign-born residents, the largest immigrant group is Vietnamese, in addition to significant immigrant populations from Central and South America, Eastern Europe, and Eastern Africa.[10] As a result of this large immigrant and migrant population, 41% of the Springfield population speaks a language other than English, and 17% speak English "less than well," with the majority of those facing language barriers being primarily Spanish speaking (81%) (U.S. Census Bureau, ACS 2012).

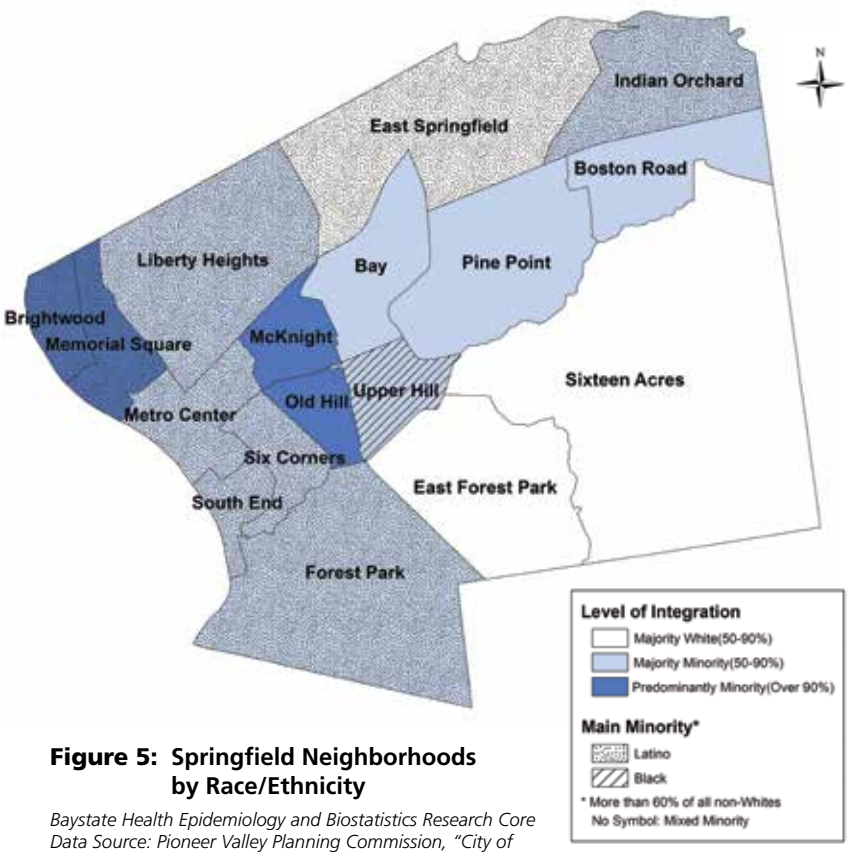

Figure 5: Springfield Neighborhoods by Race/Ethnicity

Baystate Health Epidemiology and Biostatistics Research Core
Data Source: Pioneer Valley Planning Commission, "City of Springfield, Impediments to Fair Housing 2013"
Note: Main minority is identified if a minority group comprises more than 60% of the non-White population within the neighborhood.

Springfield's population is younger than that of the state with a median age of 33 years (Massachusetts median age=40 years) and 40% of the population is under the age of 25 (U.S. Census, ACS, 2012). This reflects the large number of families with children in the city.[10] The median age varies substantially in Springfield by race/ethnicity with the lowest median age found among Latinos, at 25 years, and the highest age found among Whites, at 45 years. This difference is reflective of age differences found in the state overall, though these differences are slightly less pronounced at the state level.

Factors that Affect the Health of Springfield Residents (Health Determinants)

Springfield residents experience numerous inequities in factors that impact health. The following provides an overview of some of these factors.

Income and Employment

Income and wealth are among the strongest determinants of health.[11] A number of factors contribute to health inequities experienced by low-income individuals, including inadequate resources for basic needs that may affect health (e.g. housing, food, transportation, health care), increased likelihood of living in neighborhoods with little access to fresh fruits and vegetables (food deserts), few opportunities for physical activity, and the chronic stress of inadequate resources to support basic needs, among numerous others. Employment is an important factor that affects income and wealth inequities. Employment can affect health through income, but can also directly affect health as studies have shown that lack of job security and unemployment increase risk for mental health conditions (e.g. anxiety, depression), premature mortality, heart disease, and other health conditions.[12]

Income and Employment in Springfield

Springfield households struggle economically with an estimated median household income of $31,356 in 2012, which is less than half that of the state ($65,339)(U.S. Census Bureau, ACS, 2012). Springfield experiences high unemployment with a rate of 11% in 2012, which was 64% higher than that of the state (U.S. Bureau of Labor Statistics, 2012). Approximately a third of Springfield residents have an income below the poverty line, with children particularly impacted with almost half (48%) living in poverty in 2012 (U.S. Census Bureau, ACS, 2012). Poverty rates are highest among Latinos, followed by Blacks (Figure 6). Lack of financial resources directly affects ability to access healthcare with an estimated 13% of Springfield residents unable to see a physician due to cost based on data from the Behavioral Risk Factor Surveillance Survey (BRFSS). This is almost double the percentage of people reporting inability to see a physician due to cost in the state overall (MDPH BRFSS, 2009-2011). Racial/ethnic inequities in unemployment also exist with Blacks and Latinos experiencing unemployment rates double or more than that of Whites (Figure 6) (U.S. Census Bureau, ACS, 2007-2011).

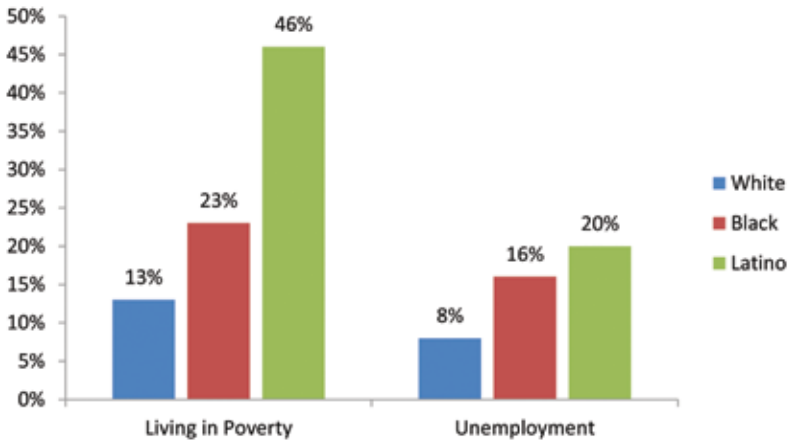

Figure 6: Springfield Poverty and Unemployment Rates by Race/Ethnicity

Source: U.S. Census Bureau, American Communities Survey, 2006-2010 (poverty) and 2007-2011 (unemployment).
Note: Poverty indicates percent of all residents living in poverty.

Education

Education is another strong social determinant of health. Education affects income and employment opportunities, and studies also suggest that education may independently affect health after taking into account income.[13]

Education Level in Springfield

Education levels are lower in Springfield as compared to the state overall. Among Springfield residents age 25 and older, 24% have a degree greater than high school, as compared to 47% for the state overall (U.S. Census Bureau, ACS, 2012). Among Springfield residents, 55% are estimated to have an education level of a high school diploma (or equivalent) or less, as compared to 36% for the state. Marked differences in education level exist by race/ethnicity in Springfield with Whites having the highest levels of education, followed by Blacks and then Latinos (Figure 7).

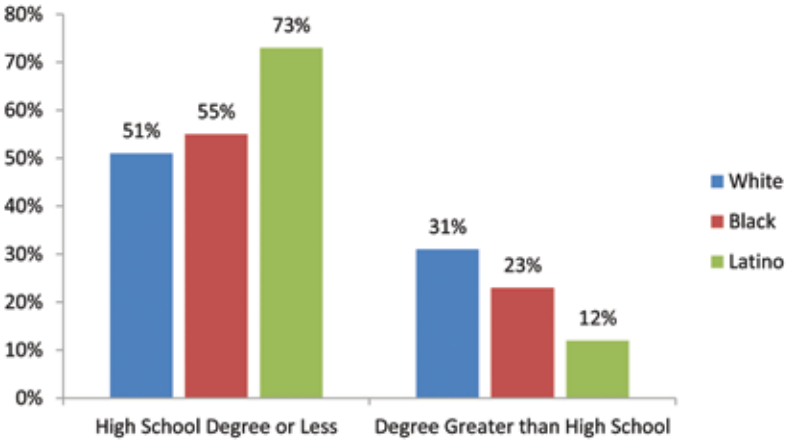

Figure 7: Springfield Education Level by Race/Ethnicity, 2006-2010

Source: U.S. Census Bureau, American Communities Survey, 2006-2010

Housing

Housing can directly and indirectly affect health in many ways. High housing costs can lead families to have to choose between housing or other basic needs. Homelessness and housing instability can affect physical and mental health. Housing conditions can also directly impact some health conditions, such as asthma. Asthma may be triggered by environmental housing conditions, including cigarette smoking. Smoke-free housing policies, which have been adopted in some multi-unit residences and rental units including those of the Springfield Housing Authority, prevent exposure to this environmental factor that impacts health. Unfortunately, adoption of these types of policies is voluntary and many rental property unit owners and multi-unit facilities do not have these policies in place.

Finally, as discussed in the introduction, where people live determines their access to resources and opportunities for good health. The Kirwan Institute Center for the Study of Race and Ethnicity describes "opportunity" as having access to quality education, a safe environment, and employment and wealth building opportunities.[14] Racial residential segregation, a form of institutional racism which continues to exist in many cities and locations throughout the U.S. today, directly affects opportunity for communities of color as these neighborhoods are often lower opportunity neighborhoods.[6]

Housing Cost Burden in Springfield

Springfield residents struggle with housing costs related to income levels. In 2012, an estimated 51% of residents had a housing cost burden, defined as spending more than 30% of income on housing, which was 25% greater than that of the state overall (U.S. Census Bureau, ACS, 2012). When examining housing cost burden by race and ethnicity among Springfield residents, Latinos experience the greatest housing cost burden at 62%, followed by Blacks (55%) and Whites (42%)(U.S. Census Bureau, ACS 2006-2010).

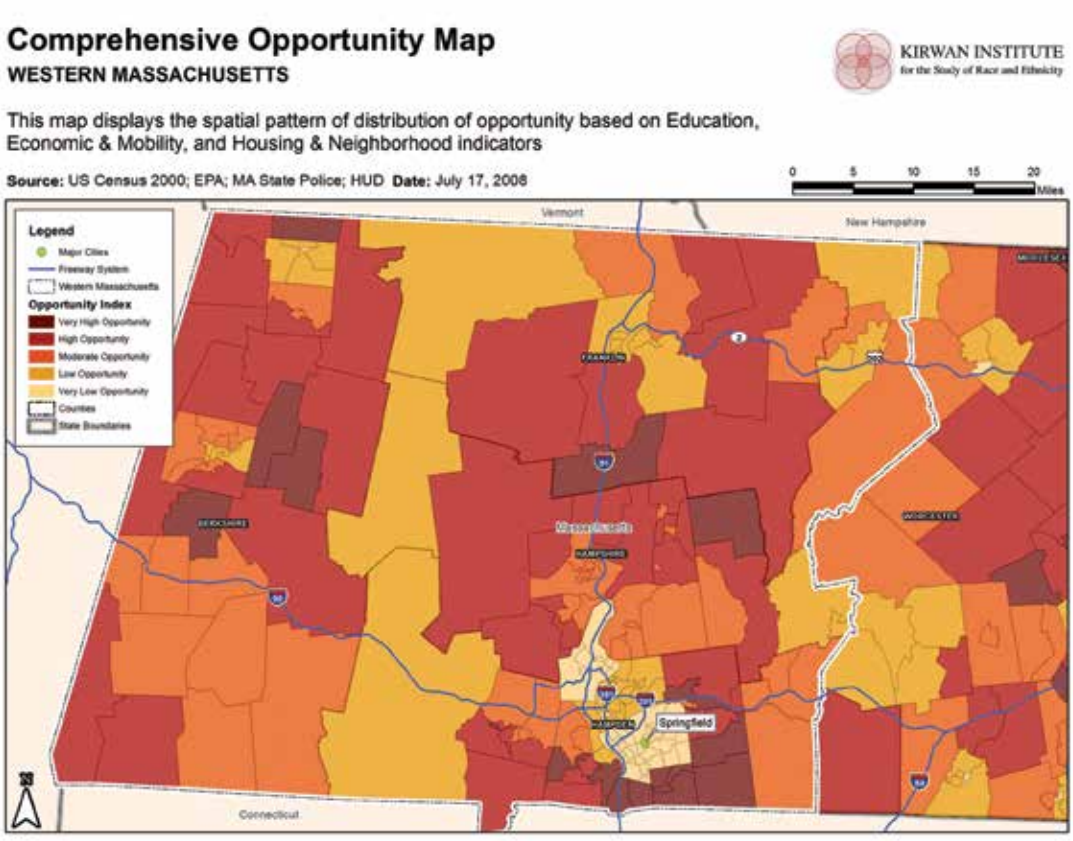

Figure 8: Kirwan Institute Opportunity Map of Western Massachusetts

Source: Kirwan Institute, 2009

Racial Segregation

Springfield residents experience racial residential segregation. When considered in the regional context, almost all of the communities directly abutting Springfield are predominantly White (90% or more) and 3 of these communities have the highest median family incomes in the region (Longmeadow, East Longmeadow, Wilbraham).[10] Based on U.S. census data, the University of Michigan's Center for Population Studies ranked the Springfield Metropolitan Statistical Area as **the most segregated in the U.S. for Latino/Hispanics and 22nd in the country for Blacks** in their analysis of dissimilarity, which examines the degree to which people of color are distributed differently than Whites across census tracts.[15]

Springfield Opportunity Level

As discussed previously in this report, social and economic inequities mean that there is less opportunity for communities of color and other vulnerable populations. The Kirwan Institute conducted opportunity mapping of Massachusetts and categorized levels of opportunity based on education, economic, and neighborhood/housing quality indicators. Figure 8 illustrates their results. As can be seen, Springfield was categorized as a very low opportunity community.[14]

Food Access

Access to affordable, healthy food is an important determinant of health that contributes to health inequities. Studies have shown that low-income individuals are more likely to live in areas lacking grocery stores and general access to affordable healthy foods,[16] which are sometimes referred to as "food deserts." Figure 9 illustrates Springfield census tracts that are identified by the USDA as "food deserts." The USDA identifies food deserts as census tracts that have a significant low-income population with limited access to a grocery store, which in urban areas was originally defined as living a mile or more from a grocery store. They have expanded this original definition of limited access to include census tracts that are ½ mile from a grocery store, which is also illustrated in Figure 9.

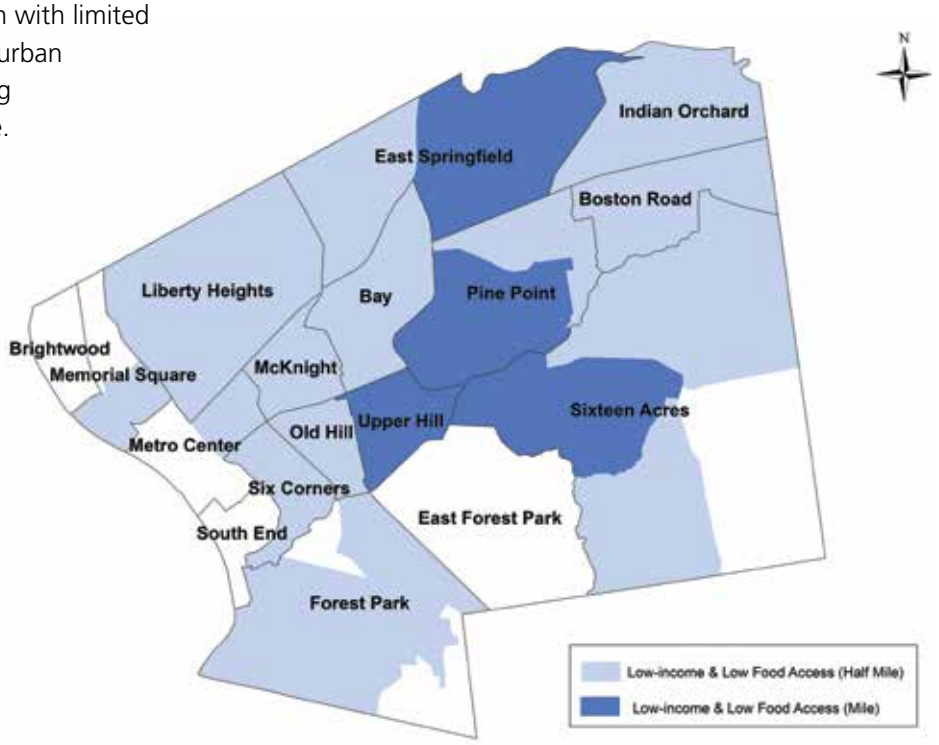

Figure 9: Springfield Food Deserts

Baystate Health Epidemiology and Biostatistics Research Core
Data Source: USDA Economic Research Service-Food Access Research Atlas, 2010
Note: Census tract is low-income if the poverty rate is greater than 20 percent; the tract's median family income is less than or equal to 80 percent of the State-wide median family income; or the tract is in a metropolitan area and has a median family income less than or equal to 80 percent of the metropolitan area's median family income. Low food access indicates the aggregate number of people in the census tract living more than a half mile or mile from a large grocery store is at least 500 or the percentage of people in the census tract with low access is at least 33 percent.

Health Status in Springfield

Springfield residents experience numerous health inequities when compared to Massachusetts as a whole. Data from the Behavioral Risk Factor Surveillance Survey (BRFSS) estimates that almost two times as many Springfield residents rate their health as less than good (fair or poor) when compared to Massachusetts residents overall (MDPH, BRFSS 3-yr estimate, 2009-2011). Communities of color – particularly Latinos and Blacks – are often disproportionately impacted by these health inequities, and often to a greater extent than in the state overall. The following describes some of these health differences.

Premature Mortality

The Massachusetts Department of Public Health (MDPH) describes premature mortality as the "best single measure of the health status of a population."[17] It is a measure of deaths that are considered preventable.[18] With one of the highest premature mortality rates in Massachusetts in 2011, Springfield's age-adjusted premature mortality rate was 41% higher than that of the state overall (393.6 vs. 278.2 per 100,000). In Springfield and the state as a whole, rates vary by race/ethnicity with Blacks experiencing the highest rates of premature mortality and Latinos experiencing rates comparable or slightly higher than Whites (MDPH, 2010 Mortality Dataset) (Figure 10).

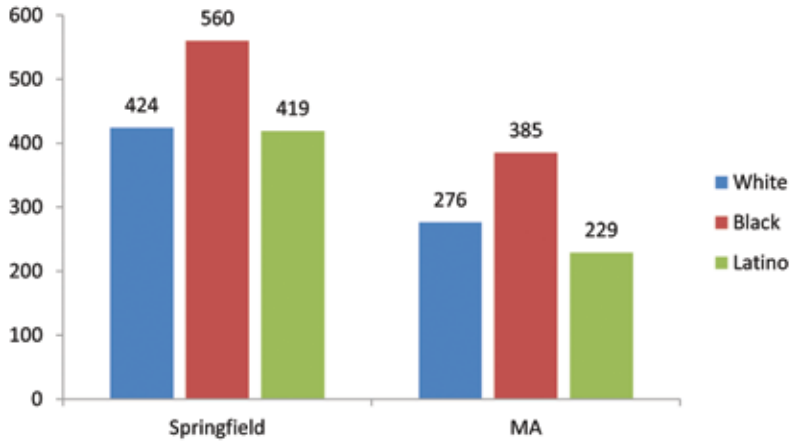

Figure 10: Age-Adjusted Premature Mortality Rates by Race/ Ethnicity, 2010 (per 100,000)

Source: MDPH, Massachusetts Mortality (Vital Records) Dataset, 2010

Pregnancy and Birth

Preterm birth (<37 weeks gestation) and low birth weight (<2,500 grams) are among the leading causes of infant mortality and morbidity in the United States and studies suggest that these birth outcomes may impact health throughout childhood and into adulthood.[19,20,21] Springfield has preterm birth (11.5%) and low birth weight (9.8%) rates 35% and 26% higher than that of the state, respectively (MDPH, Birth Dataset, 2010). Slight differences exist by race/ethnicity with Latinos experiencing higher rates of preterm births than Whites, and Latinos and Blacks experiencing higher rates of low birth weight (Figure 11). This may be a contributing factor to the high rates of infant mortality experienced in Springfield when compared to the state overall (9.2 vs.

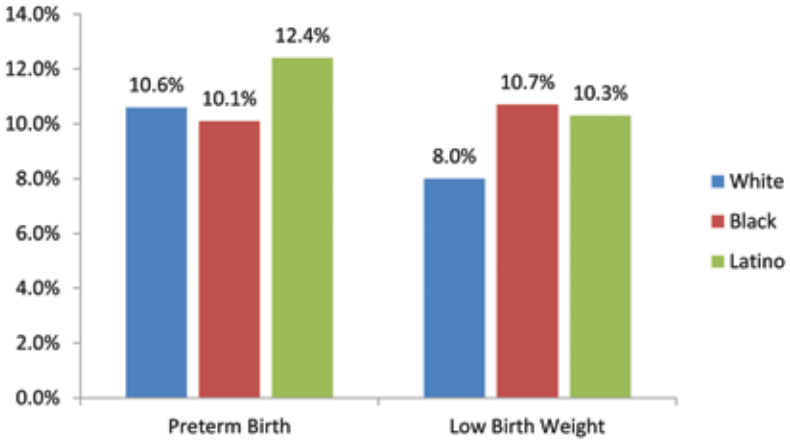

Figure 11: Preterm Birth and Low Birth Weight in Springfield by Race/Ethnicity, 2010

Source: MDPH Birth Dataset, 2010

4.4 per 1,000)(MDPH, Mortality Dataset, 2010). When examining infant mortality by race/ethnicity, Black infants experience the highest rates in Springfield (11.5 per 1,000) compared to Whites and Latinos (MDPH, Mortality Dataset, 2008-2010)(Figure 12).

Adequate prenatal care during pregnancy is an important factor that affects both the health of the mother during pregnancy and birth outcomes. In Springfield, among women giving birth in 2010, 61% had adequate prenatal care during pregnancy - which is determined by how early in pregnancy a woman enters prenatal care and the number of prenatal visits over the course of pregnancy - as compared to 80% statewide (MDPH, Birth Dataset, 2010). Differences exist by race/ethnicity, as illustrated in Figure 13. Smoking during pregnancy is another important factor that affects fetal growth and birth outcomes. An estimated 13% of women in Springfield smoked during pregnancy in 2010, which was more than double the rate of the state (6%). Smoking during pregnancy was highest among Whites (18%) and lowest among Latinas (11%)(MDPH, Birth Dataset, 2010).

Teen pregnancy rates are very high in Springfield, with 2010 rates 58% higher than the national average (54.2 vs. 34.3 per 1,000 teen births, aged 15-19 years) (MDPH, Birth Dataset, 2010)(CDC).[22] These high teen pregnancy rates in Springfield are in sharp contrast to the low teen pregnancy rates experienced in the state overall (17.2 per 1,000 teen births, aged 15-19 years), as Massachusetts has one of the lowest teen pregnancy rates in the country. When examining teen pregnancy rates in Springfield by race/ethnicity, the highest rates are found among Latina (84.2 births per 1,000) and Black teens (43.1 per 1,000)(Figure 14).

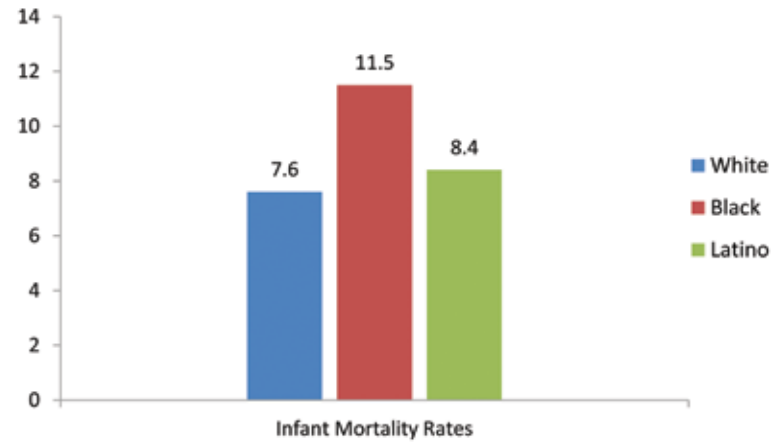

Figure 12: Springfield Infant Mortality Rates by Race/ Ethnicity, per 1,000

Source: MDPH Mortality (Vital Records) Dataset, 2008-2010

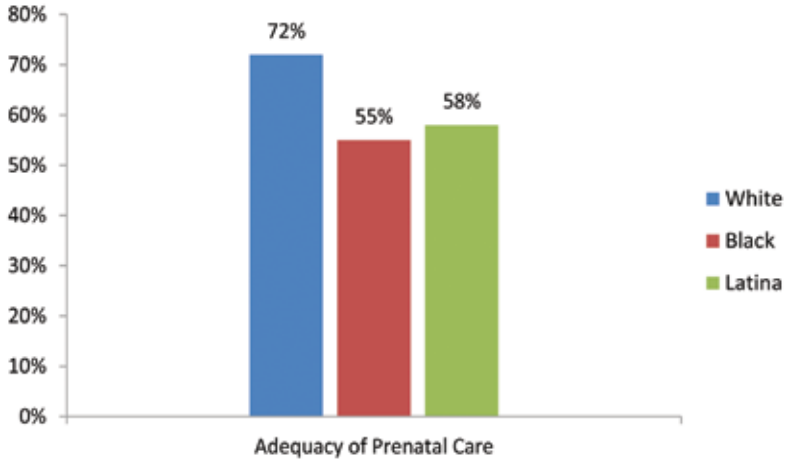

Figure 13: Adequacy of Prenatal Care in Springfield by Race/Ethnicity

Source: MDPH, Birth Dataset, 2010

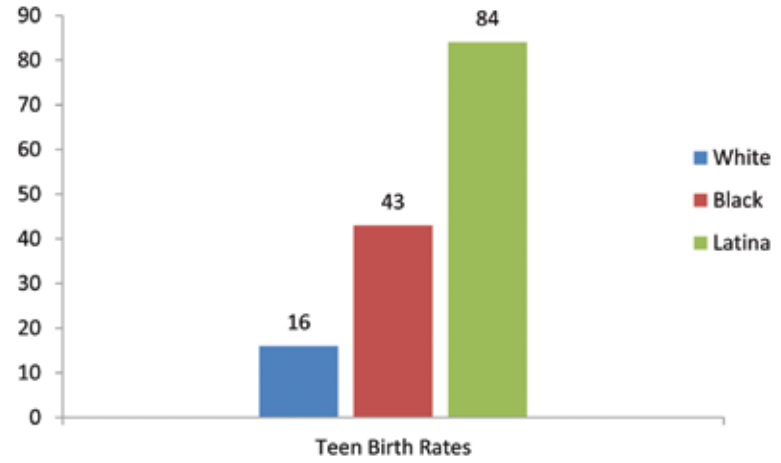

Figure 14: Springfield Teen Birth Rates by Race/Ethnicity, Age 15-19 years, per 1,000

Source: MDPH, Birth Dataset, 2010

Respiratory Health

Asthma

Asthma is a common chronic respiratory disease that affects the health and quality of life of children and adults, disproportionately impacting some people of color.[23] Children in Springfield experience high rates of asthma with the number of children with asthma estimated at 20% (Springfield School Nursing Department), which is almost double that of the state overall.[24] Adults also experience high rates with an estimated prevalence of 15%, as compared to 10% statewide (MDPH, BRFSS, 2008-2010). Inequities in asthma-related health exist by race and ethnicity among Springfield children with Latino and Black children experiencing hospitalization rates that are 4-7 times higher than White children. Racial/ethnic inequities in asthma hospitalizations are also observed when examining the entire Springfield population, with the highest rates observed among Latinos at a rate slightly less than 4 times that of Whites for both children (Figure 15) and adults (see Appendix 3).

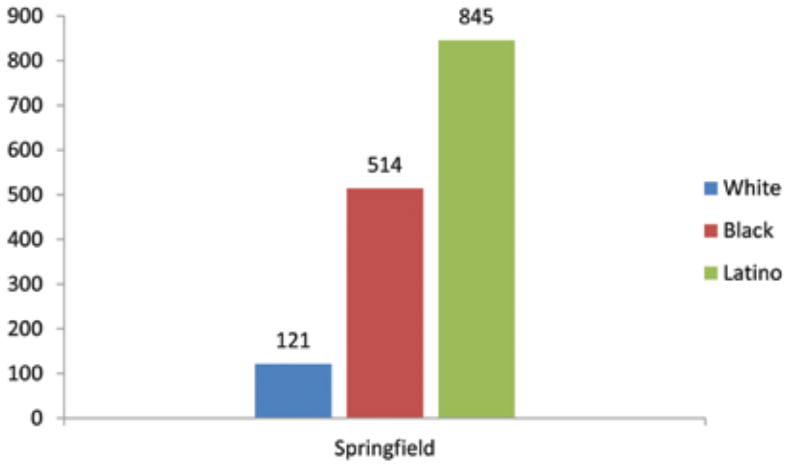

Figure 15: Springfield Asthma Hospitalization Rates, Children 0-14, per 100,000

Source: MDPH, Hospitalization Dataset, 2009-2011

COPD

Chronic obstructive lung disease (COPD) refers to a set of lung conditions – emphysema, chronic bronchitis or both - where people find it progressively more difficult to breathe due to damage to the lungs that has occurred over a period of time, often as a result of smoking.[25] It primarily affects middle-age and older adults and is a major cause of disability and the third leading cause of death in the U.S.[26] Springfield residents have COPD rates 24% higher than that of the state, with Latinos disproportionately burdened, experiencing age-adjusted COPD hospitalization rates 77% higher than Whites and higher than Latinos in the state overall (Figure 16)(MDPH, Hospitalization Dataset, 2009-2011)(see Appendix 3). Blacks in Springfield experience lower rates than Whites or Latinos, and a lower rate than Blacks in the state overall.

Obesity

Obesity is a national epidemic and is a major contributor to heart disease, cancer, and diabetes.[27] Springfield children and adults experience obesity rates greater than that of the state overall. An estimated 67% of Springfield adults are overweight or obese, as compared to 59% in the state overall (MDPH, BRFSS, 2008-2010). The MDPH "Status of Childhood Weight in Massachusetts, 2011" report provides information about the number of children that were overweight or obese in Massachusetts as identified through statewide screenings. It found that 41.8% of Springfield children screened were overweight or obese in the 2010-2011 school year (18% overweight, 24% obese), which is almost a third higher than that of the state (32.3%). However, these rates have been declining in Springfield over the past several years (Figure 16). This may in part reflect local efforts to promote healthy eating and physical activity as well as statewide and national efforts to reduce obesity, since state and national levels have been dropping over time as well (Figure 16).

Healthy eating and physical activity are important factors in obesity prevention efforts. Just over a quarter of Massachusetts adults eat the recommended 5 servings of fruits and vegetables a day, with rates slightly lower in Springfield (22%)(see Appendix 1)(MDPH, BRFSS 2-year estimate 2005,2007). In Springfield, an estimated 44% of adults participate in regular physical activity, which is slightly lower than that of the state overall (52%)(MDPH, BRFSS 5-yr estimate 2001, 2003, 2005, 2007,2009).

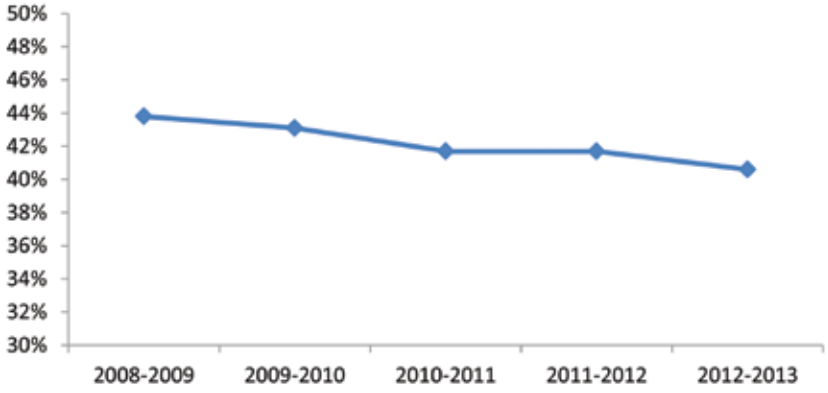

Figure 16: Percent of Springfield Schoolchildren Overweight or Obese, Grades 1, 4, 7, 10

Source: Springfield Public Schools, School Nursing Department

Cardiovascular Disease

Cardiovascular disease includes diseases that affect the heart and blood vessels, including coronary heart disease and stroke. In 2011, heart disease (including coronary heart disease and rheumatic heart disease) was the leading cause of death in Springfield, whereas cancer was the leading cause of death in the state overall.[28] An estimated 7% of Springfield residents have had coronary heart disease or stroke, which is slightly higher than the estimated prevalence in the state overall (6%)(MDPH, BRFSS 3-yr estimate 2008-2010)(see Appendix 2). Springfield hospitalization rates for coronary heart disease are slightly lower than that of the state and stroke rates are slightly higher (see Appendix 3). When examining hospitalization rates among Springfield residents by race/ethnicity, Springfield Latinos experience the highest hospitalization rates for coronary heart disease, and Latinos and Blacks share the highest hospitalization rates for stroke (Figure 17).

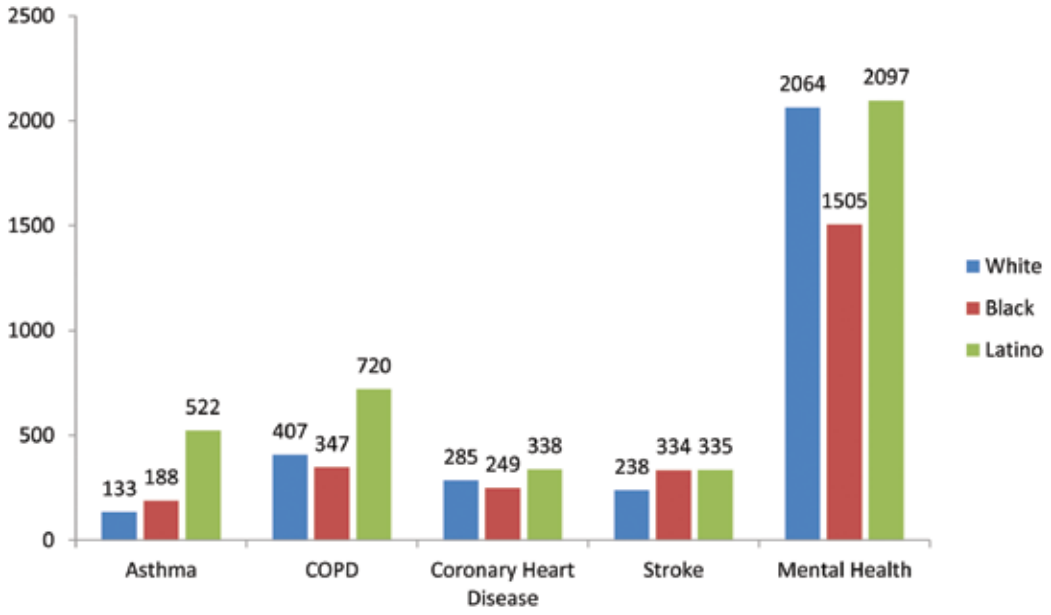

Figure 17: Springfield Age-Adjusted Hospitalizations, per 100,000

Source: MDPH, Hospitalization Dataset, 2009-2011

Diabetes

Diabetes (the vast majority of which is Type 2 diabetes) is recognized as one of the leading causes of death and disability in the U.S. and is a major contributor to heart disease and stroke.[29] The CDC estimates that almost 10% of the population has diabetes, including an estimated 25% that are undiagnosed, and that 35% of the U.S. population age 20 and older has pre-diabetes.[30] CDC estimates also indicate that Latinos and Blacks are diagnosed with diabetes at a rate approximately 70% higher than that of Whites. Based on BRFSS data, an estimated 12% of Springfield adults have diabetes, which is 50% higher than the estimated prevalence in the state overall (MDPH, BRFSS 3-yr estimate, 2008-2010)(see Appendix 2). The BRFSS asks participants to indicate if they have ever been told by a health professional whether they have had diabetes. This is likely an underestimate, given the number of people with undiagnosed diabetes.

Mental Health

Mental health is often used in reference to mental disorders. However, being healthy mentally is not just the absence of mental disorders, rather "a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community."[31] Not only is mental health an important component of overall health, but it is also linked to physical health. For example, depression has been found to be associated with the occurrence and treatment of many common chronic diseases, such as cardiovascular disease and asthma, as well as, risk factors for these diseases (e.g. physical activity, smoking, and poor sleep patterns).[32]

Springfield residents experience inequities related to mental health. When examining general mental health, BRFSS data indicates that 15% of Springfield adults reported experiencing poor mental health on 15 or more days in the past month, compared to 9% statewide (MDPH, BRFSS 5-yr estimate 2007-2011). In addition, an estimated 15% have current depression, which is more than double the statewide prevalence of 7% (MDPH, BRFSS 2006, 2008, 2010). Springfield residents also experience more than double the rate of age-adjusted hospitalizations due to mental health conditions than that of the state overall (1950 vs. 865 per 100,000)(MDPH, Hospitalization Data, 2009-2011). When examining by race/ethnicity, Latinos and Whites experience the highest rates of hospitalizations due to mental health conditions in Springfield, whereas Blacks experience the highest rates statewide (Figure 17).

Conclusion

As can be seen, Springfield residents experience health inequities when compared to the health of residents statewide. In particular, when examining health by race and ethnicity, Black and Latino Springfield residents struggle with disproportionately poorer health outcomes.

As noted in the introduction, we present this information to acknowledge the disproportionate suffering of certain populations and to promote discussion about why these inequities exist and ways to eliminate them. These large health inequities affect not only Springfield residents, but also the region as a whole. To create communities of opportunity and address health disparities, we must join together to create solutions – not just within neighborhoods or the city, but as a region. We must build upon the many examples of local and regional cross-sector collaborations that have shown promise in creating home, community, school, and work environments that promote health for everyone.

We hope you will join us in coming together to improve health equity in our community.

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Appendices

Appendix 1: Prevalence of Health Behaviors among Adults in Springfield - BRFSS#

Indicator	Springfield	Massachusetts
Health Behaviors		
Fruits and Vegetable Consumption (5 or more daily)**	22%	27%
Regular Leisure Time Physical Activity ***	44%	52%
Current Smoker***	23%	16%

#Behavioral Risk Factor Surveillance Survey, 2001-2011, with the majority of estimates made using 2008 data or later
***Three years average prevalence among adults in MA*
****Five years average prevalence among adults in MA*

Appendix 2: Prevalence of Physical and Mental Health Conditions among Adults in Springfield - BRFSS#

Indicator	Springfield	Massachusetts
Physical Health		
Obese (only) **	32%	23%
Overweight or Obese**	67%	59%
Hypertension**	31%	26%
Heart Disease and Stroke**	7%	6%
Asthma**	15%	10%
Diabetes**	12%	8%
Overall Health Status (poor or fair health)**	23%	12%
Mental Health		
Current Depression**	15%*	7%
General Mental Health (15 or more days of poor mental health)***	15%	9%

#Behavioral Risk Factor Surveillance Survey, 2001-2011, with the majority of estimates made using 2008 data or later
**Prevalence estimate for the community meets one but not both DPH REPORTING RULES. (The estimates have adequate sample size, however, the precision of 95% CI is larger than the allowable requirements). The MDPH states "In order to provide data for more Massachusetts communities, we include town level estimates that may be based on relatively few respondents or have standard errors that are larger than average. The confidence interval (CI) for this community is wider than the normal limits set by MDPH. Therefore, the estimate for this town should be interpreted with caution."*
***Three years average prevalence among adults in MA*
****Five years average prevalence among adults in MA*

Appendix 3: Springfield Age-Adjusted Average Annual Hospitalization Rates, 2009-2011 (per 100,000)

	Springfield	Massachusetts
Asthma (All Ages)	**250**	**161**
White, non-Hispanic	133	122
Black, non-Hispanic	188	380
Hispanic	522	367
COPD	**481**	**387**
White, non-Hispanic	407	355
Black, non-Hispanic	347	558
Hispanic	720	561
All Cancer	**310**	**431**
White, non-Hispanic	317	427
Black, non-Hispanic	333	470
Hispanic	274	344
Hypertension	**93**	**49**
White, non-Hispanic	31	34
Black, non-Hispanic	193	217
Hispanic	115	107
Coronary Heart Disease	**292**	**338**
White, non-Hispanic	285	331
Black, non-Hispanic	249	274
Hispanic	338	341
Stroke	**281**	**246**
White, non-Hispanic	238	233
Black, non-Hispanic	334	350
Hispanic	335	283
Mental Health	**1950**	**865**
White, non-Hispanic	2064	857
Black, non-Hispanic	1505	941
Hispanic	2097	898

#Behavioral Risk Factor Surveillance Survey, 2001-2011, with the majority of estimates made using 2008 data or later
**Prevalence estimate for the community meets one but not both DPH REPORTING RULES. (The estimates have adequate sample size, however, the precision of 95% CI is larger than the allowable requirements). The MDPH states "In order to provide data for more Massachusetts communities, we include town level estimates that may be based on relatively few respondents or have standard errors that are larger than average. The confidence interval (CI) for this community is wider than the normal limits set by MDPH. Therefore, the estimate for this town should be interpreted with caution."*
***Three years average prevalence among adults in MA*
****Five years average prevalence among adults in MA*

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Additional copies of this report can be obtained at www.partnersforahealthiercommunity.org/health-equity

Hampden County Health Improvement Plan

A strategic path forward to improve public health outcomes and health factors in Hampden County

Hampden County Health Coalition
Public Health
Prevent. Promote. Protect.

Partners for a Healthier Community, Inc.

Catalyst for Regional Progress
PVPC

March 2017

Hampden County has been ranked last in Massachusetts by the County Health Rankings* for six years in a row.

We are working together to improve health outcomes in our region.

GOAL: By 2027, Hampden County will rank 10th or better among MA counties on health outcomes reported by the Robert Wood Johnson Foundation and the University of Wisconsin.

To be reached by year 2027 →

Where we are today →

Rank	Health Outcomes	Rank	Health Factors
1	Nantucket	1	Norfolk
2	Middlesex	2	Middlesex
3	Dukes	3	Hampshire
4	Norfolk	4	Dukes
5	Hampshire	5	Barnstable
6	Essex	6	Nantucket
7	Barnstable	7	Berkshire
8	Franklin	8	Essex
9	Plymouth	9	Plymouth
10	Worcester	10	Franklin
11	Berkshire	11	Worcester
12	Bristol	12	Suffolk
13	Suffolk	13	Bristol
14	**Hampden**	**14**	**Hampden**

** Hampden County Health Rankings on pp 33-34*

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- Brian Fitzgerald, Health Department Director, Holyoke
- Thomas Fitzgerald, Health Director, Southwick
- Beverly Hirschhorn, Director Board of Health, Longmeadow
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- State Representative Carlos Gonzalez
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- Frank Robinson, Baystate Health
- Alex B. Morse, Mayor of Holyoke
- Jessica Collins, Partners for a Healthier Community
- Risa Silverman, UMASS School of Public Health and convener Western MA Healthy Equity Network
- Annamarie Golden, Baystate Health
- Jeanne Galloway, Heath Director, West Springfield
- Dora Robinson, United Way Pioneer Valley
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Contents

Executive Summary

Hampden County Massachusetts has ranked last among Massachusetts' 14 counties with respect to health outcomes for the last six years according to the **County Health Rankings and Road Map** report produced each year by the Robert Wood Johnson Foundation in collaboration with State Departments of Public Health (www.countyhealthrankings.org). The Hampden County Health Improvement Plan presents a strategic path forward to improve health outcomes of the 467,319 people living in the county's 23 cities and towns. Five years ago, Frank Robinson, Ph.D., formerly the Executive Director of Partners for a Healthier Community, and currently Vice President, Public Health and Community Relations for Baystate Health, convened stakeholders-health and planning professionals, along with elected officials, to launch a collaborative process to improve health outcomes in Hampden County.

Frank Robinson facilitates the 2014 Hampden County Health Improvement Forum.

Since then the Hampden County Health Coalition has worked with the western Massachusetts Office of the Department of Public Health (MDPH) and staff from the Pioneer Valley Planning Commission (PVPC), together with other members of the Ad Hoc Hampden County Health Improvement Plan (CHIP) work group and the members of the Hampden County Health Coalition (HCHC) to advance this process.

A county health improvement plan is a **long-term, systematic effort** to address public health problems on the basis of the **results of a county health assessment**. This plan will be used by health and other governmental, education, economic development and human service sectors, in collaboration with community partners to **set priorities and coordinate and target resources in order to enhance health outcomes for Hampden County residents.**

A county health improvement plan is critical for **developing policies and defining actions** to target efforts that **promote health**. It should define the vision for the health of the county through a **collaborative process** and should address the gamut of assets, **strengths, weaknesses, challenges, and opportunities** that exist to **improve the health status** of the county, within the context of a region.

The problem identification portion of this CHIP, that is, the community (and in this case, 23 communities) health needs assessment (CHNA), was facilitated by the Coalition of Western Massachusetts Hospitals/Insurers, who, through a competitive procurement process, engaged a consulting team lead by Partners for a Healthier Community and including the Collaborative for Educational Services and the Pioneer Valley Planning Commission to complete their CHNA from October 2015 to June 2016. In addition to the findings of the CHNA, we supplement our problem identification with the last five years of reports from the County Health Rankings and the Robert Wood Johnson Foundation.

State Representative Aaron Vega addresses the 2014 Hampden County Health Improvement Forum.

The 2016 CHNA affirmed the need for continued work on the opioid epidemic, access to care, teen birth rates and chronic diseases.

The 2016 CHNA for Hampden County affirmed the need to continue working on previously identified problem areas:

- An opioid epidemic and a county-wide higher than average rate of drug and alcohol use combined with disproportionately low access to mental health services and poor mental health status;
- Access to care, including: 1) physical access, 2) affordable, accessible and culturally sensitive care, and 3) availability of quality providers—that is, can one get an appointment?
- Adolescent sexual health with more than twice the state average of teen births—accounting for 6.5% of births in the county and combined with startlingly high rates of STDs, throughout the county— (rates of chlamydia and HIV 40% higher than the state - chlamydia was especially high in Springfield, Holyoke, Chicopee and Ludlow; teen rates of chlamydia and syphilis are 2-4 times the state rate), and Infant/Perinatal care (high prevalence of smoking during pregnancy (10.8%) - higher in Palmer and Chicopee; 21% did not receive adequate care in the first trimester - especially in Holyoke, Springfield and Westfield);
- Chronic diseases correlate with the higher rates of physical **in**activity among residents and poor nutrition (high rates of obesity/overweight, heart disease, stroke, diabetes, depression, and cancer).

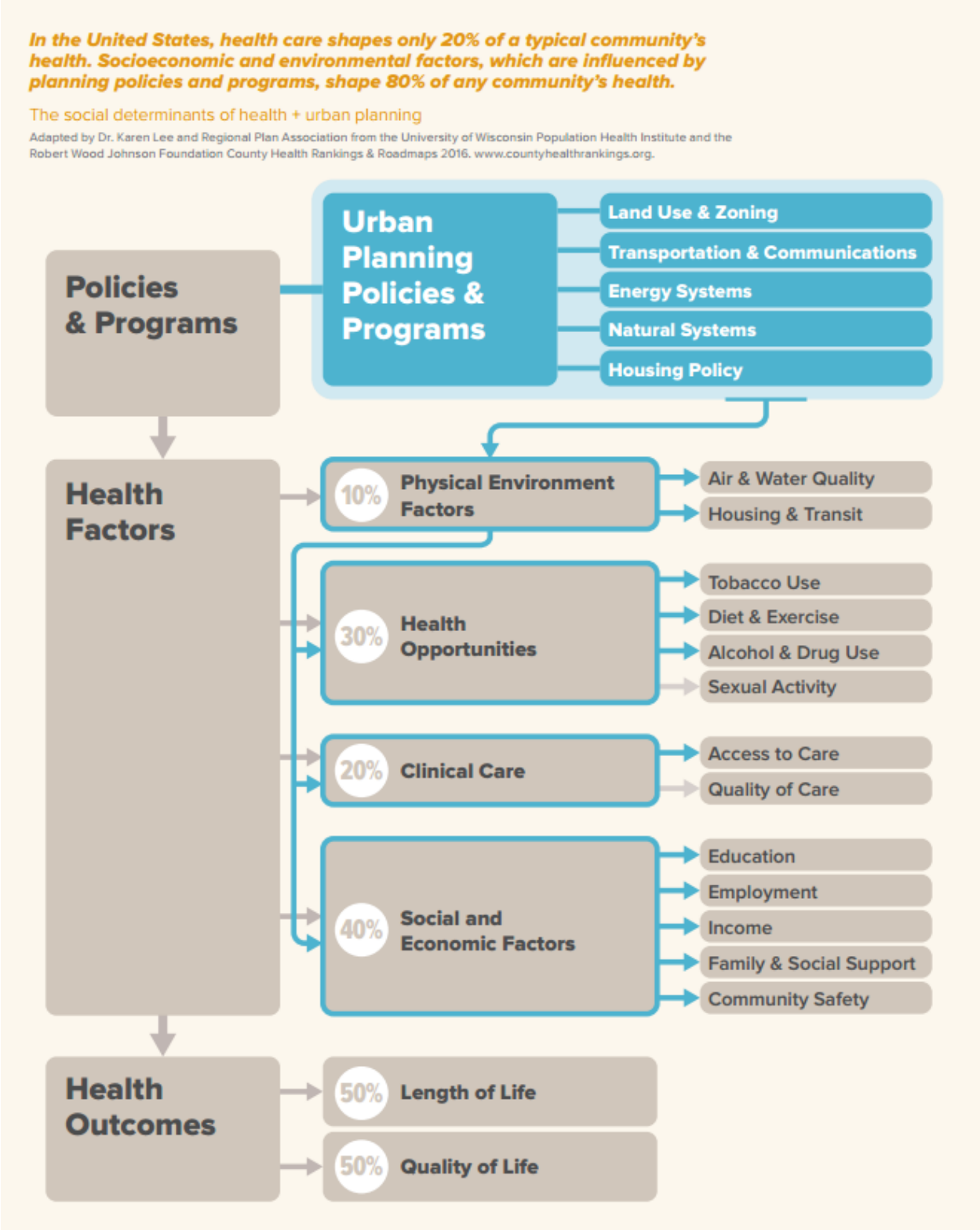
In addition, systemic and institutionalized racism and unequal access to opportunity is hurting Hampden County residents as there are racial and ethnic disparities in disease morbidity and mortality (e.g. breast and prostate cancer, chronic liver disease, stroke). Inequitable access to opportunities, termed "social determinants of health" such as housing, education, employment, access to food, and public safety burden residents in Hampden County, in particular African American/Black and Hispanic residents.

Holyoke Mayor Alex Morse, State Representatives Aaron Vega and Carlos Gonzalez, and Senator Jim Welch participate in the 2014 Hampden County Health Improvement Forum.

Using a combination of the organizational structure of the Massachusetts State Health Improvement Plan, the typology of the County Health rankings modified by the Regional Plan Association to include Land Use Planning, and the categories identified in the "Compendium of Proven Community-Based Prevention Programs" (New York Academy of Medicine and Trust for America's Health), we identified five Domains for Health Improvement Action Planning:

Five Domains for Health Improvement Action Planning

Domain 1	Health Equity and Health Disparities (access to opportunity in housing, employment and education)
Domain 2	Behavioral Health (mental health, substance use/abuse and treatment)
Domain 3	Primary Care, Wellness and Preventative Care (CVD, diabetes, asthma, and STIs)
Domain 4	Healthy Eating and Active Living (food access and the built environment)
Domain 5	Public Safety, Violence & Injury Prevention (domestic violence, gun violence, childhood trauma)



Graphic used with permission of RPA (www.RPA.org) originally appeared in July 2016 RPA State of the Region's Health.

Process Overview: Developing the Hampden County Health Improvement Plan

1. Use County Health rankings to raise consciousness of decision-makers in Hampden County to act to improve health outcomes.

2. Review findings of 2016 Community Health Needs Assessments (CHNA) of western Massachusetts based hospitals (that serve Hampden County - Holyoke Medical Center, Baystate Medical Center, Baystate Wing Hospital, Mercy Medical Center, Shriner's Hospital for Children - Springfield, and Baystate Noble Hospital.

3. Work with and through the Hampden County Health Coalition (HCHC) to engage community and local public health system (LPHS) partners.

4. Determine health priorities based on CHNA findings and community and LPHS partner input.

5. Develop CHIP implementation work plan:
    a. Develop goals and measurable objectives;
    b. Choose strategies;
    c. Create a timeline;
    d. Develop performance measures; and
    e. Determine organization/persons responsible to address each identified health priority.

6. Establish a process to monitor progress on implementation.

7. Meet periodically to assess status of implementation.

Process to Develop the CHIP (detail)

Hampden County Health Improvement Forum, 2014.

An informal collaborative of key planning and health officials in Hampden County came together in 2014 to organize a day-long forum to address Public Health and the economic costs of poor health to Hampden County. Understanding that Hampden County has been consistently ranking last in the Commonwealth when it comes to Public Health Factors and Health Outcomes, our purpose was to build consensus on the need and scope for a regional Community Health Improvement Plan (CHIP) and to organize ourselves to secure funding to facilitate development of the plan. In addition to planning to improve health outcomes across the county, having a shared plan will facilitate the individual municipalities who choose to develop CHIPs as a step toward accreditation by the National Association of County and City Health Officials (NACCHO). Entities engaged included:

Elected Officials: Mayors, Select Board members, City Councilors, State Representatives and Senators	Area Health Providers including but not limited to Health New England, Caring Health Center, HealthSouth
Area Colleges and Universities	Health Advocates such as Partners for a Healthier Community, etc.
Area Hospitals and the Hospital Coalition	Foundations: the Community Foundation of Western MA, the Davis Foundation, etc.
Pioneer Valley Planning Commission	Municipal Planners, Economic Development, Housing and Public Health Professionals
Pioneer Valley Transit Authority	Law Enforcement

In 2015-2016 work advanced and as the Coalition of Western MA Hospitals/Insurers completed their Community Health Needs Assessment (CHNA). We collaborated to integrate the Hampden County CHNA data and health assets and areas of improvement into this CHIP.

Annamarie Golden facilitates Baystate Health Community Benefits Advisory Committee, 2016.

Following the completion of the Coalition of Western MA Hospitals/Insurers CHNA, the Ad hoc Hampden CHIP work group, with staff support of the PVPC (funded by the DHCD DLTA initiative), drafted the Hampden County CHIP with goals, objectives, and potential strategies. This draft plan was presented to the HCHC for review and additions in July/August 2016.

In September 2016, we convened a half-day work session with members of the HCHC, the Ad hoc Hampden CHIP work group, and other individuals representing public, private and not for profit interests concerned about health outcomes in Hampden County to divide into five workgroups to review and finalize the draft plan by addressing each strategic priority (Domain). Each Domain workgroup was led by co-chairs representing the HCHC and the ad hoc Hampden CHIP work group and included partners who were involved in the development of the CHNA, members of the HCHC, as well as new partners who are stakeholders in the five Domains.

The workgroups were tasked with:

- Briefly reviewing CHNA data related to their priority area;
- Reviewing and **revising as necessary** the DRAFT Goals and Objectives for their chosen Domain, (e.g. add additional objectives, revise existing, delete proposed, etc.);
- Assessing the strengths and assets of the current service system for addressing the priority area (based on participants expert knowledge of their communities and their region) to identify gaps and limitations of the current system;
- Finalizing a range of strategies to achieve the agreed upon Domain Goals and Objectives.

Based on the Domain work groups' assessment of data, current practices, and opportunities for improvement, each group finalized goals, objectives, and strategies. After the half-day work session, each domain work group met independently to finalize their input, ensuring each goal is aligned with the priority area, each objective represents a clear measure of progress toward the goal, and each strategy is likely to lead to progress toward an objective.

The following definitions were used to support the review and revision of goals, objectives, and strategies:

GOALS:	Broad, brief statements that explain what you want to achieve in your community and provide focus or vision for planning
OBJECTIVES:	Specific, measurable, achievable, relevant, and time-bound (SMART) statements that define progress toward a goal
STRATEGIES:	Methods selected to achieve a goal or objective

Each workgroup carefully reviewed their goals, objectives, and strategies against these definitions, and with additional criteria in mind, including:

- The strategy is directly linked to an objective, a goal, and the priority area;
- There is evidence indicating the strategy is effective;
- The strategy reflects the needs, values, and preferences of the population;
- The strategy addresses a service, policy, or system gap;
- Resources are available or the will to pursue resources exists to implement the strategy.

Action planning began with the identification of an agency or agencies that could coordinate the implementation of each strategy. After a coordinating agency was identified, the workgroups engaged in a facilitated process to develop ***milestones*** for the three year implementation period and ***action steps*** for the first 6-9 months of implementation. These initial action plans make up this plan. Additional action items may be developed throughout the implementation cycle under the leadership of coordinating agencies, and these preliminary action plans may be modified as needed over time.

PVPC Deputy Director, Jim Mazik (far right) with Mayor Morse (Holyoke) and State Rep Aaron Vega at the Western MA County Health Rankings Legislative Briefing, 2016.

Hampden County Community Health Improvement Plan TIMELINE:

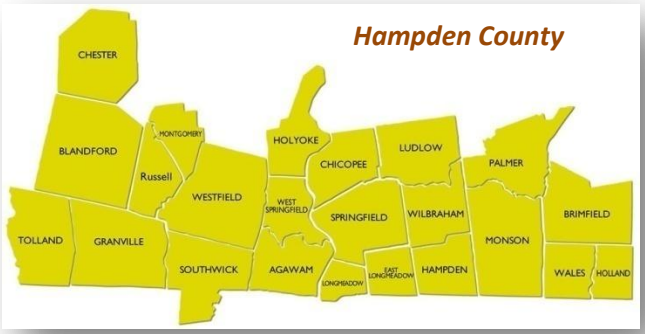
Organize	**7/16**	**8/16**	**9/16**	**10/16**	**11/16**	**12/16**
Review findings of CHNA and discuss steps for CHIP	**X**	X				
Identify co-chairs for each strategic priority in CHIP	**X**	X				
Identify agencies and coalitions addressing this priority	X	**X**	X			
Invite stakeholders to participate on a CHIP workgroup	X	**X**	**X**			
Gather & Review System Data	**7/16**	**8/16**	**9/16**	**10/16**	**11/16**	**12/16**
Identify community assets and gaps in services	X	X	X			
Identify Strategies to Address Health Priorities & Gaps	**7/16**	**8/16**	**9/16**	**10/16**	**11/16**	**12/16**
Participate in facilitated Domain work session			**X**			
Gather information on evidence-based practices	X	X	**X**			
Draft work plans which include goals, objectives, strategies, activities, and responsible partners		X	X	X		
Develop Health Improvement Plan	**7/16**	**8/16**	**9/16**	**10/16**	**11/16**	**12/16**
Participate in facilitated process to finalize goals, objectives, and strategies			X	X		
Distribute goals, objectives, and strategies to partners to gather input			X	X		
Participate in facilitated process to finalize action plans				X	X	X
Distribute CHIP to partners for review, feedback and final edits						X==>
CHIP Launched--MARCH 2017						

Regional Demographic and Health Profile

As national research shows, a person's zip code is a better predictor of health outcomes than many other variables. Here we present a brief summary of basic demographic data to understand the range of circumstances within which residents of Hampden County Massachusetts are living.

Demographic Profile

Hampden County covers 23 communities, including the third largest city in Massachusetts -- Springfield (153,991). Five adjacent cities (Holyoke, Chicopee, West Springfield, Westfield and Agawam) create a densely-populated urban core that includes 40% of the population of the county (194,926 people). Combined with Springfield, these six cities are home to 75% (three-fourths) of Hampden county residents. Smaller, 'bedroom' communities exist to the east and west of this central core area. All but one of these communities have populations under 20,000 people, with the average size being 6,113.



Thanks to the residents of Springfield and Holyoke, Hampden County has more racial and ethnic diversity than any other part of Western Massachusetts (Table 2). County-wide, 22.1% of the population is Latino, 8.7% is Black and 2.1% is Asian (ACS, 2010-2014). In Holyoke and Springfield there is a majority non-white population. The Pioneer Valley Transit Authority, the second largest public transit system in the state serves 11 communities in the service area, and connects suburban areas to the core cities and services.

Economically, Hampden County is home to many of the largest employers in the region as well as numerous colleges and universities and provides a strong economic engine for the broader region. The largest industries and employers include health care, service and wholesale trade and manufacturing. At the same time, the county struggles with disproportionately high rates of unemployment and poverty, lower household incomes and lower rates of educational attainment (Table 2). The median household income in the service area is about $50,000 ($17,000 less than the state). And while the cost of housing is almost $400/month lower than that statewide, the poverty rate is more than 5% higher than that statewide, and the child poverty rate is an alarming 27%, more than 10% higher than the state rate (ACS, 2010-2014).

Despite being at the core of the Knowledge Corridor region (Greenfield, MA to New Haven, CT), only 25.6% of the population age 25 and over has a bachelor's degree. Unemployment is also higher than the state average. The median age for the service area is similar to that of Massachusetts, though the population over 45 years old is growing as a percentage of the total population (Table 2).

Table1. Communities in Hampden County: Population and Income

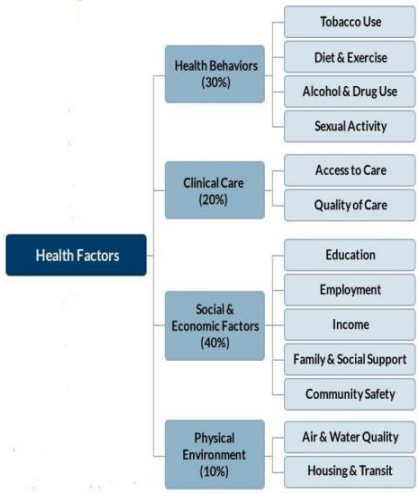
Hampden County	2014 Population Estimate	2014 Household Median Income
Agawam	28,772	$63,561
Blandford	1,255	$72,361
Brimfield	3,723	$82,365
Chester	1,365	$65,648
Chicopee	55,795	$47,276
East Longmeadow	16,123	$84,173
Granville	1,620	$75,208
Hampden	5,195	$78,722
Holland	2,502	$64,868
Holyoke	40,124	$35,550
Longmeadow	15,882	$108,835
Ludlow	21,436	$61,410
Monson	8,754	$66,389
Montgomery	860	$78,333
Palmer	12,174	$51,846
Russell	1,787	$68,750
Southwick	9,689	$81,967
Springfield	153,991	$34,731
Tolland	492	$85,750
Wales	1,878	$52,500
Westfield	41,608	$60,845
West Springfield	28,627	$52,806
Wilbraham	14,509	$87,303
Hampden County	**468,161**	**$50,036**

Table 2. Sociodemographic Characteristics of Hampden County Area

Sociodemographic Characteristic	Hampden County
Age	
Median age (years)	38.7
Under 5 years	5.9%
5 to 17 years	17.1%
18-64	62.3%
65 and over	14.7%
Race and Ethnicity	
White alone, not Latino or Hispanic	66.1%
Black or African American	8.7%
Latino or Hispanic origin (of any race)	22.1%
American Indian and Alaska Native	0.3%
Asian	2.1%
Native Hawaiian and Other Pacific Islander	0.0%
Some other race	8.4%
Two or more races	2.3%
Language Spoken at Home (population over 5)	
Speaks language other than English at home	25.0%
Educational Attainment (25 yrs +)	
Less than high school graduate	15.9%
High school graduate (includes equivalency)	30.6%
Some college or associate's degree	28.1%
Bachelor's degree or higher	25.5%
Income	
Median per capita income	$25,416

The reality of life in Hampden County: high poverty rates, high unemployment, large concentrations of people of color who have been historically discriminated against and systematically denied access to opportunity, is affecting health outcomes in Hampden County. The County Health Rankings Model cites findings that ***40% of an individual's health results from social and economic factors*** (emphasis added). Results from the W MA hospitals' CHNAs found that health disparities are prevalent in Hampden County, where people of color, lower income, less educated residents and recent immigrants face more obstacles to care as well as increased rates of some health conditions. Particularly vulnerable populations include Black/ African Americans, Latinos, and youth - especially those from low-income families. There are a high percentage of residents in Hampden County for whom English is not their first language, and 25% of the population in Hampden County does not speak English at home. This creates another obstacle to receiving appropriate health care. Participants in several focus groups cited language as a barrier to both understanding their health conditions and to feeling confident enough to discuss the details of their condition with their provider.

Figure 1: County Health Rankings Model - Health Factors



Source: County Health Rankings

Health Overview Excerpted From Western MA Hospital CHNAs

In 2012, hospitals in western Massachusetts came together to share resources and work in partnership to conduct their federally mandated community health needs assessments (CHNA) and address regional needs. They called themselves the Coalition of Western MA Hospitals/Insurer ("the Coalition") and created a partnership between 10 non-profit hospitals and an insurer in the region. Every three years hospitals must update their CHNA to better understand the health needs of the communities they serve and to meet their fiduciary requirement as tax-exempt organizations. When identifying the areas that can be addressed to improve the health of the population, the assessment uses the social and economic determinants of health framework since it is recognized that these factors contribute substantially to population health. The prioritized health needs identified in the 2016 CHNA include community level social and economic determinants that impact health, access and barriers to quality health care, and health conditions and behaviors. The assessment included analysis and synthesis of:

1) a variety of social, economic and health data;
2) findings from recent Hampden County assessment reports; and
3) information from 4 focus groups and 22 key informant interviews conducted by the Coalition and their Consultant team for the 2016 CHNA.

Information from the CHNA will be used to inform the updating of the Coalition members hospital-based community health improvement plans, to inform the Coalition's regional efforts to improve health, and of course, to guide this Hampden County Health Improvement Plan.

Two urgent issues arose consistently across many focus groups -- mental health care and substance abuse (in particular, alcohol and opioid abuse). Additional health issues such as chronic health conditions (obesity, asthma, and cardiovascular disease), poor nutrition and physical activity, infant and perinatal health, and unsafe sexual practices among youth, were also key concerns throughout the county. Access to health care is another persistent issue, as hospitalization and ER visit rates for conditions such as diabetes, asthma, and cardiovascular disease show wide disparities between Black and Latino populations in Hampden County. Based on the County health rankings and the Hospital Coalition Community Health Needs Assessment, we have identified five Domains for this CHIP:

Domain 1	Health Equity and Health Disparities (social determinants of health--access to opportunity in housing, employment and education)
Domain 2	Behavioral Health (mental health, substance use/abuse and treatment)
Domain 3	Primary Care, Wellness and Preventative Care (cardiovascular disease, diabetes, asthma, and sexually transmitted infections)
Domain 4	Healthy Eating and Active Living (food access and the built environment--obesity and its contribution to cancer, heart disease, diabetes, and mental health)
Domain 5	Public Safety, Violence, and Injury Prevention (domestic violence, gun violence, childhood trauma)

Following are work plans for each Domain, starting with a summary of data that defines the problem, followed by proposed goals, objectives and strategies. Lead Implementing organizations are identified, but this is a living document and it is the goal of the plan developers to substantively expand the organizations working on plan implementation.

Domain Area 1: Health Equity & Health Disparities

(Social determinants of health--access to opportunity in housing, employment and education)

Lead Implementer(s): Western MA Health Equity Network; Partners for a Healthier Community and the Massachusetts Public Health Association

Health inequities exist among racial/ethnic and other sub-populations of our communities (i.e. GLBTQ) due to discriminatory policies in housing, health care, education, employment, etc. which create disparities in overall health and wellness.

Characteristics such as race, ethnicity, socio-economic status, and geographic location, historically linked to exclusion or discrimination, influence health status. Social Determinants of Health (SDOH), the non-medical conditions which encompass social, behavioral, environmental, etc. has a 60% influence on a person's health—greater than genetics (20%) or health care (20%). County-wide, vulnerable and marginalized residents face a lack of resources to meet basic needs. These are issues of poverty, nutrition, food insecurity, education, unemployment, housing/homelessness, utility arrearage, transportation and other SDOH. For example:

- Half of the population is housing cost-burdened, paying more than 30% of their income to housing.

- Older housing stock can mean exposure to environmental contaminants such as lead paint, asbestos, and lead pipes. Springfield and Holyoke have a greater number of older homes with 41% and 50% of homes built before 1940, respectively (U.S. Census Bureau, 2010-2014).

- Over 80% of school age children in Springfield Public Schools are eligible for the federal program for reduced or free lunch due to families living below the federal poverty level.

Among Blacks/African-Americans and Latino/Hispanic populations, the following health disparities exist:

- **Hospitalization for Stroke and Heart Disease:** 50% higher rates than Whites.
- **Hospitalization for Diabetes:** three (3) times that of Whites (higher in Chicopee).
- **Hospitalization and ER Visits for Asthma Hospitalization:** for African-Americans is three (3) times the state rate and Latinos are four (4) times the state rate; in Westfield & West Springfield; ER visits are three (3) times that of Whites.
- **Hospitalization for Mental Health:** 65% higher among Latinos than Whites; 40% higher than Hampden County as a whole.
- **ER Visits for COPD:** for the entire Hampden County populations are 75% higher than the state; among African Americans, rates are three (3) times higher than the state.
- **Teen Pregnancy Rates:** for Latinos are three (3) times that of Hampden County (65.5 vs.21.4 per 100,000) and six (6) times the state rate of 10.5 per 100,000.
- **Inadequate Prenatal Care:-**Women of Color received less than adequate care at double the rate of Whites.

It is unclear if high hospitalization and ER visit rates are the result of a higher prevalence of some conditions, or a result of a lack of preventative care, or due to a perceived cost of care, or some other barrier. What is known is that the cities with the largest populations of Black and Latino residents (Springfield and Holyoke) have been identified as areas with limited opportunities (PVPC & CRCOG FHEA and Ohio State Kirwan Institute). In addition, the University of Michigan's Center for Population Studies ranked the Springfield Metropolitan Statistical Area (Hampden, Hampshire and Franklin counties) as the most segregated in the U.S. for Latinos and 22nd in the country for Blacks.[7]

GOAL

Address discriminatory policies in housing, education, health care that prohibit equal/equitable access for vulnerable and marginalized populations.

OBJECTIVES {Specific, measurable, achievable, relevant, and time-bound (SMART)}

By 2020, modify or promulgate two (2) key municipal policies that impact health, in at least three or four municipalities (Springfield, Holyoke, Chicopee, W. Springfield) with the greatest health disparities. These may include housing transportation, education or zoning.

By 2018, identify twenty (20) cross-sector institutions and work with them to change policies that impact health outcomes. Gain their support to address and eliminate institutional oppression within their organizations and others with whom they partner.

By 2017, identify 5 to 10 emerging leaders from marginalized communities in Hampden County and increase their capacity to effectively influence the development of policies that address health disparities and health inequities.

Ensure that each public health priority area (Domain) in the CHIP identifies strategies to address oppression, equal distribution of resources, and social determinants of health.

STRATEGIES

- ✓ Develop sustainable models of partnerships between health care and social services. Collaborate with policy makers, providers, community organizations and residents, and other key stakeholders.
- ✓ Reallocate resources by working through legislation to shift funding requirements that would impact funders and large institutions, such as affirmatively furthering fair housing and other forms of affirmative action.
- ✓ Create pathways to leadership for people of color at every stage of life. (Policy Link emerging leaders training, Leadership Institute for Political and Public Impact, Leadership Pioneer Valley, student internships, LIPPI, Caring Health Center board development)
- ✓ Target and engage C-Suite Executives/Business Leaders/Power Brokers, etc. to participate in workshops/seminars in Healing Racism, Undoing Racism, and similar initiatives.

Domain Area 2: Behavioral Health

(Mental health, substance use/abuse and treatment)

Lead Implementer(s): The Coalition of W MA Hospitals Mental Health First Aid Initiative and Behavioral Health Network

Substance use and mental health were among the top three urgent health needs affecting the area in interviews with local and regional public health officials and among local physician leaders across Hampden County. Substance use disorders overall, and opioid use specifically, were identified as top concerns. The opioid epidemic is a key concern as both overdose fatalities and overdose hospitalizations are locally high in some communities in Hampden County (Springfield and Monson - fatalities; West Springfield and Chicopee - hospitalizations). Substance abuse-related ER visits are 50% higher in Springfield and Holyoke than in the rest of the county, and the rates are particularly high among the Latino population. Youth substance abuse rates are also higher in Hampden County than in other parts of the state. There was overwhelming consensus among hospital focus group participants and health care providers and administrators about the need for:

- Increased education across all sectors to reduce the stigma associated with mental health and substance abuse;
- More treatment options, including long term care;
- Increased integration between the treatment of mental health and substance use disorders;
- The impact of mental health conditions and substance abuse on families.

Nearly 16% of Hampden County residents have poor mental health on 15 or more days per month.

Mental Health

Though mental health is commonly thought of as the absence of mental illness, mental well-being extends beyond the presence or absence of mental disorders.[16] Only 17% of U.S adults are estimated to be "in a state of optimal mental health."

- An estimated **15.9% of Hampden County residents** have **poor mental health on 15 or more days** in a month compared with 11.1% statewide (BRFSS 2012-2014).

It is estimated that by 2020, depression will be the 2nd leading cause of disability worldwide, and children are a particularly vulnerable population. Mental illness often co-occurs with substance use disorders and affects physical health as well.

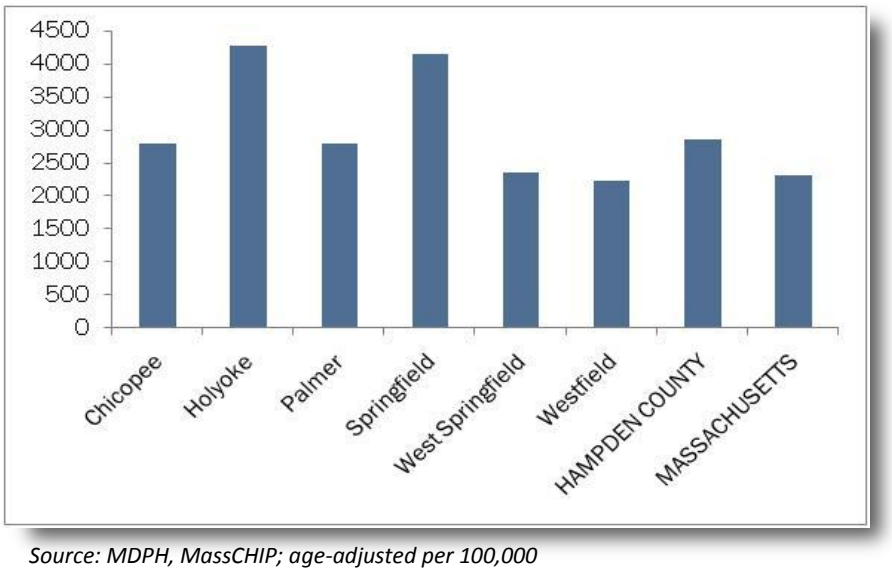
- **ER visit rates for mental disorders** in Hampden County are **24% higher** than that of the state with particularly high rates in Holyoke and Springfield (Figure 12).
- Youth are disproportionately impacted with mental health issues. Data from the 2015 Springfield Youth Health Survey indicated that **34% of Springfield 8th graders** "**felt so sad or hopeless** that they stopped doing their usual activities" compared with 20% statewide.
- LGBTQ youth are also disproportionately impacted with **56% of LGBTQ 10th and 12th grade** students responding to the 2015 Springfield Youth Risk Behavior Survey **reporting feeling**

Nearly ¼ of Hampden County LGBTQ youth report trying to commit suicide in the past year.

sad or hopeless two weeks or more and **23% reporting that they tried to commit suicide in the past year.**

- Latinos experienced high hospitalization rates for mental disorders with rates 65% greater than Whites and over 40% greater than Hampden County rates overall.
- **Refugee populations seeking treatment for depression** seem to be a growing vulnerable population in the Springfield area.

Figure 2. Mental Health Disorder Emergency Room Visit Rates in Select Hampden County Communities, 2012



Source: MDPH, MassCHIP; age-adjusted per 100,000

Substance Use

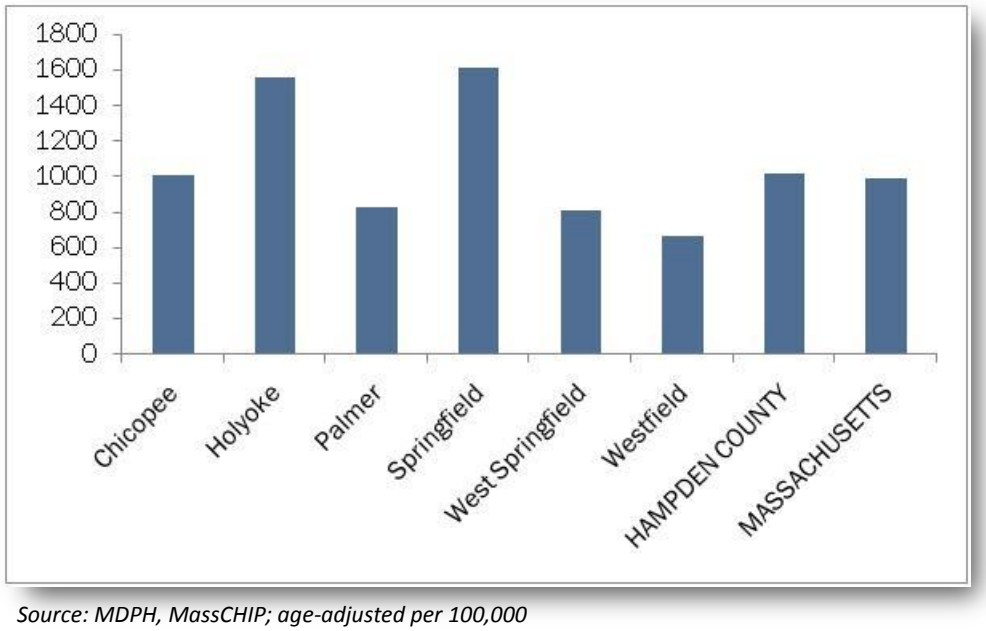
High rates of *substance use* continue to be a prioritized health need for the community. Substance use disorders (SUD) refer to the recurrent use of drugs or alcohol that result in health and social problems, disability, and inability to meet responsibilities at work, home, or school. Risk factors for SUD include genetics, age at first exposure, and a history of trauma.

Substance abuse ER visits are 50% higher in Hampden County than other MA county rates.

- An estimated 21% **of Hampden County residents** **smoke *tobacco*** as compared to 16% statewide (BRFSS 2012-2014).
- 15% of 8th graders in Springfield reported **drinking *alcohol* in the last 30 days** and 12% reported *marijuana* use (Springfield Youth Health Survey, 2015).
- Substance use related ER visit and hospitalization rates (including alcohol) were among the highest ER visit and hospitalization rates of those examined for the 2016 Community Health Needs Assessment. Substance use (including alcohol) **emergency room visits** in Hampden County are comparable to that of the state with rates **in Springfield and Holyoke** 50% higher than county rates (Figure 3).
- **Opioid overdose fatalities** in Hampden are higher than that of the state with 12.7 fatalities per 100,000 as compared to 10.7 statewide. This is despite lower opioid overdose hospitalization rates in Hampden County (79.4 vs. 103.9 per 100,000). In key informant interviews, health care providers and administrators identified the need for increased institutional support to promote harm reduction approaches, such as Narcan, to reduce morbidity and mortality that occur as a

result of opioid overdose; more access to long-term treatment programs; more provider and patient education to reduce stigma, and as a means to get people the care they need; and more support for youth, particularly those with histories of trauma.

Figure 3. Substance Use Disorder Emergency Room Visit Rates in Select Hampden County Communities, 2012



Source: MDPH, MassCHIP; age-adjusted per 100,000

Access

Hospital focus groups and families of mental health and substance abuse patients voiced many concerns about the state of mental health and substance abuse care in Hampden County. The needs for sustained, on-going support for these patients, as well as more coordinated care between providers were two re-occurring themes.

"Waiting for a bed to open is ridiculous - when you have a heart attack or a stroke, you get care in the ER and then they help you with all sorts of after care and follow up; where is that with mental health and addiction treatment services?"

- Focus group participant

"We need to treat mental health and addiction just like we treat cancer or diabetes; it's a chronic, progressive disease"

- Focus group participant

"Children under the age of 14 with serious mental health and substance abuse issues have no place to go locally; many parents can't work if their child needs treatment in a program that is so far away."

- Holyoke behavioral health specialist key informant interviewee

"The behavioral health and addiction treatment systems seem to be designed so that you have to fail over and over before you get what you really need."

- Focus group participant

GOAL

Nurture an accepting region that supports positive mental health, strives to reduce stress and reduce substance abuse in a comprehensive and holistic way for all residents.

OBJECTIVES {Specific, measurable, achievable, relevant, and time-bound (SMART)}

All 23 Hampden county communities will work to adopt local regulations to make the legal age of purchasing tobacco 21, referred to as Tobacco 21, by 2019.

Reduce the rate of opiate and other prescription drug overdoses by 3% each year.

Assure that all residents suffering from a substance addiction can access treatment easily and affordably by the end of 2018.

One or more Hampden county communities and/or organizations concerned about health in Hampden County will review the "proven community-based prevention programs" from around the country and work to implement it in Hampden County by the end of 2019.

Goal 1: Reduce preventable hospitalizations (psychiatric and physical)
Objective 1.1: Increase community members' use of preventive behavioral health care.

Objective 1.1a: decrease stigma of mental health and substance use

Strategies:

- ✓ General community awareness campaign "we've all got our stuff" to normalize mental health challenges. Message: our world is stressful. Okay to struggle. Okay to come for help.
- ✓ Targeted population: black men re: country violence. (we will also work to change the safety of our environment) BUT: how do you cope with the very real fear and stressors?
- ✓ Targeted population de-stigma campaign: specifically Latino. (Addressing disproportionally high rates of depression in Latinos).

Existing resources:

- National Alliance for the Mentally Ill has existing anti-stigma materials. And their Massachusetts' chapter has a CEOs Against Stigma campaign http://ceos.namimass.org/

Objective 1.2b: streamline process for community members to access behavioral health treatment

Strategies:

- ✓ Increase capacity and awareness of Mass211 for referral information
- ✓ BH providers advertise their services in a way that community members can see and understand
- ✓ BH providers streamline pathway to the right care once "in the door"
- ✓ Engage payers and state regulators to reduce barriers to access.
- ✓ Increased access to care management through MassHealth Reform and One Care programs will increase ability of individuals to access care. .

Existing resources:

- Existing BH providers can focus their advertising and intake procedures in ways that minimize barriers and maximize access.
- Existing payers and advocacy groups (ex. Association for Behavioral Healthcare) can examine and strive to reduce regulations that create barriers
- New care management programs (One Care; MassHealth ACO), current insurance-based care management and primary care medical home care managers can assist patients in navigating barriers and access treatment.
- Employers and EAPs can assist employees in accessing needed BH treatment.

Objective 1.2: Increase community members' use of preventive medical care.

Strategies:

- ✓ Leverage care management infrastructure for helping patients get to primary care.
- ✓ Targeted outreach to patients with mental health diagnoses who aren't accessing primary care, to engage them in primary care
- ✓ Integrating primary care into behavioral health settings; i.e. BH providers knowledgeable about health indicators and conditions and ask their patients about it.

Existing resources:

- Insurance companies and ACOs can identify from registries and claims data, and with Community Health Worker support, can outreach to engage patients not currently accessing primary care.
- HRSA/ SAMHSA website for integrated care resources for BH providers to train BH staff on identifying and engaging patients around health needs. http://www.integration.samhsa.gov/

Objective 1.3: Increase BH treatment models' relevance for population (so people like the help they get and get better)

Strategies:

- ✓ BH providers will continue to increase use of evidence-based models designed for specific populations and diagnoses
- ✓ BH providers will continue to increase use of peer, outreach and wrap around models
- ✓ Insurance payers increase payment for peer and wrap around models. May be possible in MassHealth ACO model.

Objective 1.4: Increase BH treatment providers' relevance for population: (so people feel comfortable with their providers)

Strategies:

- ✓ BH providers will continue to try to hire staff who are of the community they are serving
- ✓ Local colleges will partner to help build the capacity of BH workforce that reflects the community
- ✓ BH providers will train staff in cultural competence.

Goal 2: Reduce rates of perceived Poor mental health days/ poor health days.
Objective 2.1: Increase community members' skills for coping with life stresses

Strategies:

- ✓ As in objective 1.1: General community awareness campaign "we've all got our stuff" to normalize mental health challenges. Message: our world is stressful. Okay to struggle. Okay to come for help.
- ✓ Increase integration of behavioral health prevention/ coping / psychoeducation into existing settings: primary care, school, preschool, workplaces.

Objective 2.2: increase community members' knowledge of mental health treatment options and access to services.

Strategies:

- ✓ Increase capacity and awareness of Mass211 for referral information
- ✓ BH providers advertise their services in a way that community members can see and understand
- ✓ BH providers streamline pathway to the right care once "in the door"
- ✓ Engage payers and state regulators to reduce barriers to access.
- ✓ Increased access to care management through MassHealth Reform and One Care programs will increase ability of individuals to access care. .

Goal 3: Reduce Adult smoking –
Objective 3.1: Reduce first onset of smoking by youth

Strategies:

- ✓ All schools implement antismoking education
- ✓ Public health awareness campaign about the negative health and financial consequences of smoking ("don't be a sucker")

Existing Resources:

- ✓ Trinity Tobacco 21 Campaign

Objective 3.2: increase awareness of adult smokers as to the harms of smoking

Strategies:

- ✓ Public health awareness campaign about the negative health and financial consequences of smoking ("don't be a sucker")

Objective 3.3: Increase access for community members to smoking cessation programs

- ✓ Advocate with MassHealth to fund smoking cessation programs
- ✓ Increase the number of providers in Hampden County trained to offer smoking cessation programs.

Goal 4: Reduce excessive drinking

- School education to prevent adolescent use
- Preventive BH work to help give people OTHER coping skills
- SBIRT at primary care. – screening and education on safe limits.
- Call a designated driver campaign.

Existing Resources:

- Drug free communities programs in many cities and towns in Hampden County.

Goal 5: Reduce premature death:

Objective 5.1: Reduce fatal drug overdose

Strategies:

- ✓ Reduce stigma around Medication Treatment for addiction.
- ✓ Increase access to Medication Treatment for addiction
- ✓ Narcan distribution and education. (including Public safety officers carrying).
- ✓ Police diversion for substance use.
- ✓ Youth education and prevention – schools delivering prevention in health, starting in elementary school (as coping and safety education)
- ✓ Prescribers guidelines for prescribing.
- ✓ Education campaign to do something with overdose

Objective 5.2: Reduce premature death from preventable medical conditions in the population of adults with severe mental illness (shown to die 25 years younger)

Strategies:

- ✓ Integration of primary care into BH context so that people with SMI have access to primary care
- ✓ Leverage care management resources to help resolve barriers to Primary care for SMI population.
- ✓ Reduce smoking rates in SMI population through smoking cessation programs via treatment providers.

Objective 5.3: Suicide prevention-

- Signs of Suicide curriculum delivered in schools
- Youth to youth peer outreach to community centers.
- Youth mental health first aid training for teachers, after school staff, faith leaders, etc.
- Trauma response team "post vention" after community incidents.

Existing Resources

- DPH funded trauma response team which supports postvention activities
- Grants to local towns to support Mental Health First Aid training
- School-funded initiatives targeting substance use prevention and education.

Domain 3: Primary Care, Wellness and Preventative Care

(Cardiovascular disease, diabetes, asthma and sexually transmitted infections)

Lead Implementer(s): LiveWell Springfield-Transforming Communities Initiative; Let's Move Holyoke 5-2-1-0, and Mass in Motion initiatives in Holyoke, Palmer, Springfield and West Springfield

About 30% of Hampden County adults are obese; and about 35% have hypertension.

Chronic health conditions

High rates of obesity, diabetes, cardiovascular disease, asthma, and associated morbidity continue to affect Hampden County residents. An estimated 30% of adults in the population are obese, with high rates also observed among children. Heart disease is the leading cause of death in Hampden County. One third of Hampden County adults have hypertension, a risk factor for cardiovascular disease, with rates increasing in older adults to an estimated 55%. Approximately 20% of the population has pre-diabetes or diabetes, and 12% of adults and 19% of school children have asthma. Asthma morbidity rates were particularly high among Latinos.

Cardiovascular Disease (CVD)

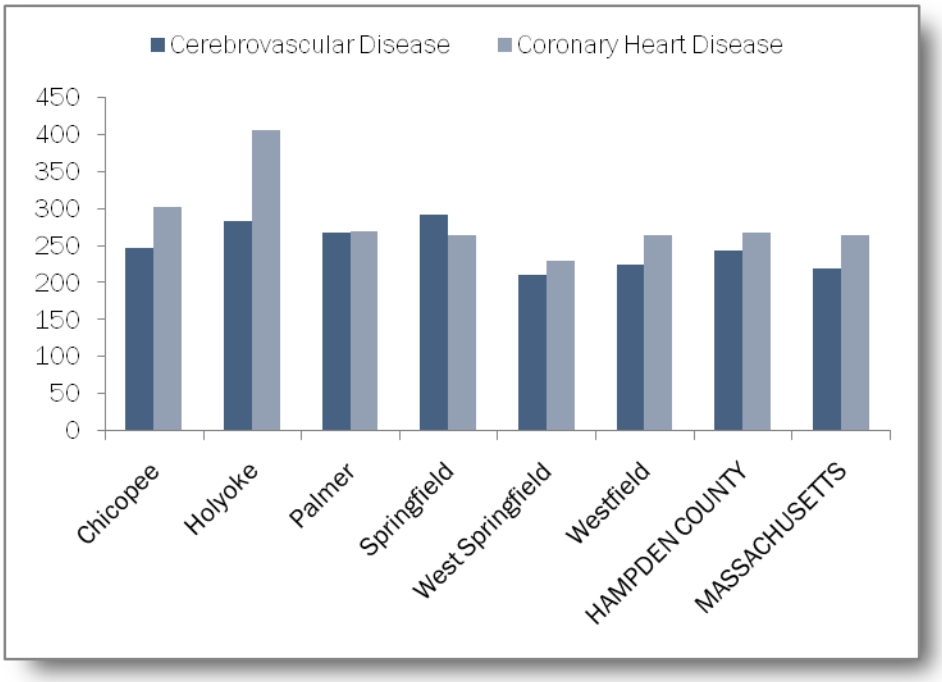
Cardiovascular disease (CVD) includes diseases that affect the heart and blood vessels, including coronary heart disease, angina (chest pain), heart attack (myocardial infarction), and stroke. Heart disease is the leading cause of death in Hampden County, along with cancers (MDPH, Massachusetts Deaths 2013).

- An estimated 7.9% of Hampden County residents have coronary heart disease, 5.1% have had a heart attack, and 3.4% have had a stroke (BRFSS 2012-2014). Rates for these conditions are comparable to those of the state with slightly higher rates of stroke among Hampden County residents (MA rate - 2.4).
- Rates of **coronary heart hospitalizations** were particularly high in **Holyoke**, with a rate 50% higher than that of the County (Figure 4).

Hypertension, or high blood pressure, and high cholesterol are conditions that increase risk for CVD and have a high prevalence in Hampden County.

- In 2011, an estimated 33.5% of adults in Hampden County had **hypertension** and 37.8% had **high cholesterol** (BRFSS).
- Older adults experience higher rates of CVD. In Hampden County, more than half of Medicare enrollees had **hypertension** (61.8%) which is reflective of the high rates in the state overall (55.9%)(Medicare 2014, one-year estimate).

Figure 4. Hospitalization Rates for Stroke and Coronary Heart Disease in Select Communities in Hampden County, 2012



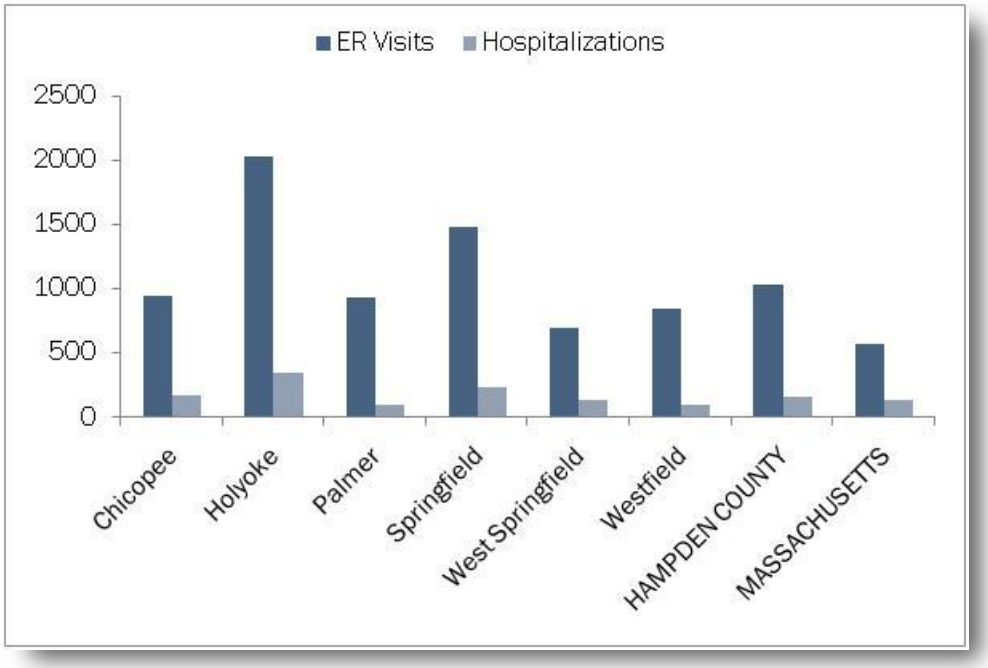
Source: MDPH, MassCHIP; age-adjusted per 100,000

Asthma

Asthma is a common chronic respiratory disease that affects the health and quality of life of children and adults. Asthma can be impacted by different factors in the environment, including cigarette smoke, second hand smoke, air pollution, pollen levels, and mold, dust, and other household contaminants or exposures.

- Asthma affects many Hampden County residents with an estimated 12.1% of Hampden County adults (BRFSS 2008-2010) and 16.8% of Hampden County school children having **asthma** (12.4% statewide)(MDPH EPHT, 2013-2014).
- **Hospitalization rates** are 30% higher than that of the state and **ER rates** are almost double statewide rates (1,662 vs. 881.6 per 100,000) (MDPH, MassCHIP 2012). Hospitalization and ER visit rates are highest among Springfield and Holyoke residents (Figure 5).
- **Older adults** in Hampden County experience slightly higher hospitalizations (247 vs 210 per 100,000) and almost 50% higher rates of **asthma ER visits** (612 vs 419 per 100,000)(MDPH, Mass CHIP 2012).
- Latinos experience large asthma-related disparities, with hospitalization rates 5 times that of Whites and 4 times that of the state hospitalization rate overall (MDPH, MassCHIP, 2012).
- For pediatric asthma (ages 0-14) **ER visit rates** are twice that of the state.

Figure 5. Asthma ER Visit and Hospitalization Rates in Select Hampden County Communities, 2012



Source: MDPH, MassCHIP; age-adjusted per 100,000

Diabetes

For Type 2 diabetes, hospitalization rates are 30% higher in Hampden County than they are in MA (they are especially high in Southwick, Springfield and Holyoke).

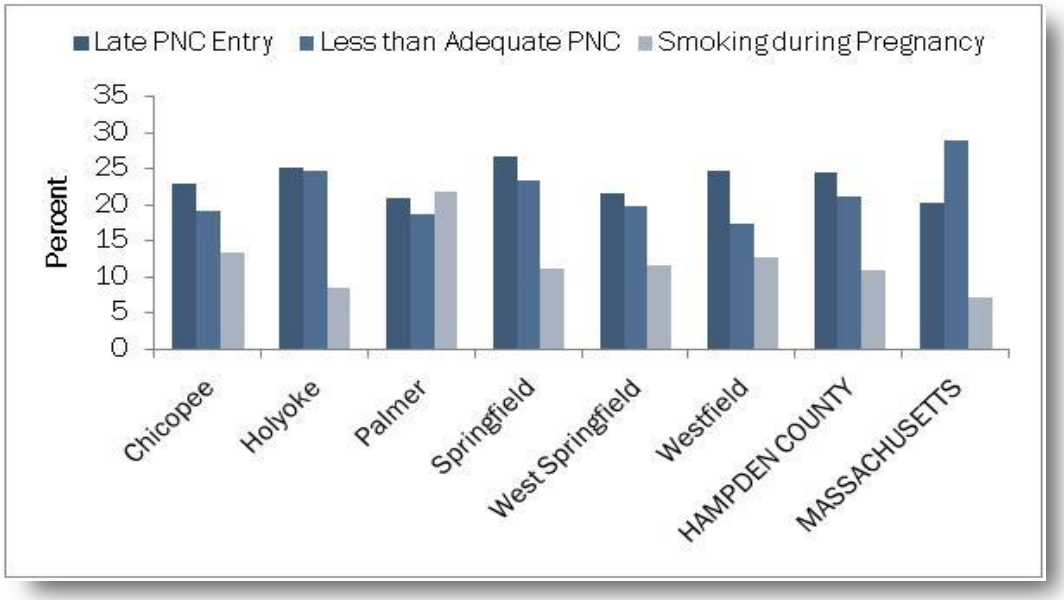
Hospitalizations for Type 2 diabetes are 30% higher than in the state.

Infant and perinatal health risk factors

Preterm birth (<37 weeks gestation) and low birth weight (<2,500 grams) are among the leading causes of infant mortality and morbidity in the U.S., and can lead to health complications throughout the life span.

- In Hampden County, 9.4% of births were **born preterm** (MA - 8.6%), and 7.9% were born low birth weight (MA -7.5%) (MDPH 2014).
- In Hampden County, an estimated 21% of women did **not receive adequate prenatal care** and 25% started prenatal care after their 1st trimester, especially in Holyoke, Springfield and Westfield (Figure 6).
- 10.8% of women reported **smoking during pregnancy** among births to Hampden County residents; this figure was higher in Palmer and Chicopee; (MDPH, MassCHIP, 2012).

Figure 6. Percent of Women with Late Entry to Prenatal Care, Less Than Adequate Prenatal Care, or that Smoked During Pregnancy in Select Hampden County Communities, 2012



Source: MDPH, MassCHIP; adequate prenatal care includes women that received adequate or adequate plus care
**Late PNC entry is entry to prenatal care after the 1st trimester*

Sexual Health

High rates of STIs and teen pregnancy continue to occur. Unsafe sexual behavior contributes to these high rates.

- **Chlamydia rates** are elevated in Hampden County with rates 37% higher than the state (506 vs. 369 per 100,000). The highest rates were observed in Springfield (904), Holyoke (670), Chicopee (607), and Ludlow (578) (MDPH, 2014), and particularly among Springfield and Holyoke youth. Teen rates of chlamydia and syphilis are 2-4 times the state rate.
- **Rates of HIV** are also elevated, with rates of 441 per 100,000 in Hampden County vs. 315 per 100,000 statewide (CDC 2013).
- Though collaborative community efforts have made great strides in lowering the **teen pregnancy rates** in Hampden County, the rates remain high in comparison to the state, with rates double that of the state (21.4 vs. 10.5 per 100,000).
- **Teen pregnancy rates** are particularly high among **Latinas** with rates of 65.5 per 100,000.

Access

Some conditions, such as asthma and diabetes can be managed with medication and preventative care. ER visits and hospitalizations often occur as a result of extreme circumstances, which may be due to a lack of either medicine or preventative care. In addition, 54% of residents in Hampden County live in a health care professional shortage area (vs 14.6% in MA); this particularly affects those living in Springfield, Holyoke, West Springfield, Westfield, Chester and Blandford. Specifically, there is a shortage of dentists and primary care providers. The shortage of medical professionals itself can lead to long wait times for appointments and needed care. Another barrier to health care is the limitations of public transit in Hampden County. While parts of the county are well-served by the PVTA, some areas are not, leaving the estimated – number of households in Hampden county that report no access to a vehicle without any means to get to their medical care.

Hospital focus group participants also identified several additional barriers to preventative and on-going wellness care. These include the need for increased health literacy among patients, increased provider sensitivity towards different cultures, and health information available in a wider range of languages.

GOAL

Create a respectful and culturally responsive environment that encourages prevention of chronic disease, reduction of infant mortality, and access to quality health care for all.

OBJECTIVES {Specific, measurable, achievable, relevant, and time-bound (SMART)}

Reduce non-urgent or preventable use of the Emergency Department by 10% by 2020.

Reduce the rate of STIs in residents who are age 15-24 years by 10% in 2026.

Reduce the rate of dental caries in residents who are age 4-19 by 3% by 2018.

STRATEGIES

- ✓ Elevate the status of primary care docs so they will remain in the field.
- ✓ Develop incentives for med students to choose Primary Care.
- ✓ Provide tuition reimbursement for students willing to practice in work shortage areas, Hampden County in particular.
- ✓ Increase reimbursement rates for primary care services.
- ✓ Expand office hours of primary care doctors to include evenings and weekends.
- ✓ Provide incentives for specialty providers to train for providing pediatric services, especially vision services. Only a handful of providers in Western MA will accept children five years and younger for comprehensive eye exams.
- ✓ Engage the following partners: higher education/medical schools, MA Medical Society, Massachusetts Department of Public Health, licensing board, Baystate Medical Center and hospitals involved in Western MA assessment, Holyoke Health Center, Holyoke Hospital, and Caring Health Center.

Note--the strategies for STIs are proposed (from the "Compendium of Proven Community-Based Prevention Programs) and will be reviewed, elaborated upon, and possibly modified by local practitioners

- ✓ HIV prevention for women living in low-income housing
- ✓ Condom distribution
- ✓ Youth development interventions with community service
- ✓ Comprehensive risk-reduction interventions for adolescents

- ✓ Provide first dental exams by first birthdays.
- ✓ Link oral health to benefits of good nutrition such as:
    - Less sugar reduces risk of obesity and dental decay starting from birth.
    - More calcium builds strong bones and teeth (the strongest bones in our bodies).

    - Eating raw fruits and vegetables provides good nutrients and cleans our teeth (generates saliva, one of the body's natural defense systems against tooth decay).
- ✓ Promote fluoride varnish applications at pediatric well child visits once the first tooth erupts for children at risk for decay.
- ✓ Implement Boston Children's Hospital risk assessment for children developed by Manwai Ng, Medical Doctor.
- ✓ Develop a reimbursement code for dental practitioners providing oral health guidance and education. There is a code for medical providers for this.
- ✓ Engage the following partners: MA Medical Society, MA Dental Society, School Nurses, Baystate Medical Center and hospitals involved in Western MA assessment, Holyoke Health Center, Holyoke Hospital, CHC dental clinics, and Caring Health Center.

- ✓ Support and expand the Prevention Wellness Trust Fund program which is currently supporting work at Holyoke Heath Center and Holyoke Medical Center. Services include home health aides, smoking cessation programs, weight loss, hypertension and asthma monitoring.
- ✓ Support and expand initiatives such as Holyoke Heath Center's new prescription pill monitoring program.
- ✓ Research and implement as feasible the idea of mobile integrated health program.
- ✓ Expand as possible the Senior Center and Western MASS Elder care outreach programs.
- ✓ Support and expand Holyoke Heath Center's bringing dental health and care to schools.
- ✓ Provide a CHW in the home.
- ✓ Expand team-based care.
- ✓ Better integrate local public health departments and public health nurses/school nurses into community care network.
- ✓ Improve training of personal care professionals to assure proper documentation for reimbursement

- ✓ *Reduce falls*
    - Facilitate/encourage practices to "Safe-certify" homes for pediatric and elderly populations through inspections.
    - Expand existing fall prevention and balance programs for the elderly.

Domain 4: Healthy Eating and Active Living

(Food access and the built environment--obesity and its contribution to cancer, heart disease, diabetes, and mental health)

Lead Implementer(s): LiveWell Springfield; Let's Move Holyoke 5-2-1-0 ; Transforming Communities Initiative, and Mass in Motion initiatives in Holyoke, Palmer, Springfield and West Springfield

Obesity

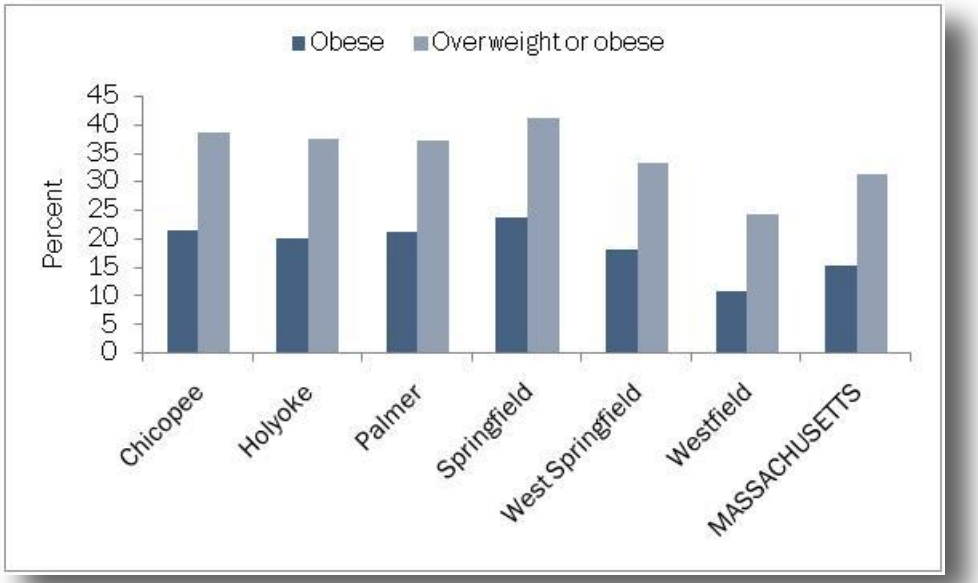
Obesity is a national epidemic and contributes to chronic illnesses such as cancer, heart disease, and diabetes. Obesity can impact overall feelings of wellness and mental health status. A healthy diet and physical activity play an important role in achieving and maintaining a healthy weight.

- In Hampden County almost 30% of adults struggle with **obesity** and 65% are overweight or obese (MA: obese - 24%; overweight/obese - 59%)(BRFSS 2011).

Though childhood obesity rates have been falling nationally and within some communities in the region over the last few years, however, rates among children remain high Hampden County.

- **Childhood obesity rates** over 20% were observed in Springfield, Palmer, Chicopee and Holyoke (Figure 7) school districts. County-level childhood obesity data is not available.

Figure 7. Childhood Obesity Rates for Select School Districts in Hampden County



Source: "Results from the Body Mass Index Screening in Massachusetts Public School Districts, 2014"
Children are screened in grades 1, 4, 7, 1.

Need for Increased Physical Activity and Healthy Diet

The need for increased physical activity and consumption of fresh fruits and vegetables was identified among Hampden County residents. Also, the need for community level access to affordable healthy food and safe places to be active (as described above), as well as individual knowledge and behaviors affect the notes rates of chronic diseases is needed.

- Among Massachusetts residents in the CDC's BRFSS 2013 survey, only 9% of respondents met the vegetable consumption recommendation and 14% met the fruit consumption recommendations, which are comparable to national rates.
- Only half of Hampden County adults (53%) met the guidelines for aerobic physical activity, and less than a quarter (21%) met the guidelines for both aerobic and muscle-strengthening activity, which are also comparable to national rates.
- Large portions of Springfield and parts of Chicopee, Holyoke, Ludlow, Monson, West Springfield, and Westfield have rates of food insecurity greater than 15%. This rate is over 20% in some parts of Springfield, Holyoke and Chicopee.
- The Springfield Youth Health Survey results will also be considered.

One-third of adults in Hampden County have hypertension. Obesity rates in Hampden County exceed those of the state, and are even higher for children. Heart disease is the leading cause of death in Hampden County. And in general, residents need to increase physical activity and consume more fruits/vegetables. Healthier lifestyles could reduce rates of obesity, diabetes and cardiovascular disease.

The need for increased youth programming that encourages physical activity, among other program area needs, was cited by individuals across all focus groups and key informant interviews conducted [in Hampden County]. Multiple health care providers/administrators called for programs that can engage families in physical activity, more financial support for team sports, and after school programming that does not only focus on homework. In addition, food desert status and the rate of free and reduced lunch eligibility in Hampden County attest to the need for increased access to healthy food, as does the limited availability of public transportation.

GOALS

1. *Promote Healthy Community Design such that all physical environments in the region facilitate residents desire to consume healthy food and be physically active in their daily lives.*

2. *Assure 100% utilization of SNAP, WIC, EITC, and other benefits to economically disadvantaged residents and families.*

OBJECTIVES {Specific, Measurable, achievable, relevant, and time-bound (SMART)}

Assure access to healthy food in all communities and neighborhoods

- full-line grocery store
- corner store/bodega retrofitted with infrastructure and marketing to support a variety of healthy food, combined with local/state regulations that require stores to have a certain percentage of food offered meet agreed upon definitions of "healthy"
- increase number of year-round farmer's markets and/or year-round mobile market stops within 1/2 mile of all residents who do not own or have access to a vehicle
- increase the number of community and school gardens
- develop food policies in food service contracts that allow produce grown in school gardens to be used in school food

Hampden counties six cities (Springfield, Chicopee, Westfield, Holyoke, Agawam and West Springfield) will adopt Complete Streets policies/regulations, develop prioritization plans and secure funding to implement at least one project by 2020, and continue implementing prioritized projects annually.

Hampden counties' Towns will work with the PVPC, Baystate Roads, and MassDOT as appropriate, to educate municipal officials about the importance of considering the needs of all road users, consider adopting a Complete Streets policy, and work to assure safety of pedestrians and bicyclists.

All communities that have neighborhood schools to which students can walk or bicycle, will conduct Walk Audits around their schools within five years, and work to implement the recommendations of the walk audits within 10 years.

All communities will join the Massachusetts Safe Routes to School initiative by 2020.

At least 3 communities will implement additional pedestrian and/or bicycle initiatives, such as bike share, sidewalk inventories, way finding systems, within 3 years, and share their results with other communities and additional communities will continue to implement such initiatives over time averaging at least 3 per region/annually.

Reduce the % of adults who report lack of physical activity from 26% in 2016 to 20% by 2020.

Increase the percentage of children in grade 1 who are a healthy weight by 3% by 2020.

Review the “Compendium of proven community-based prevention programs” and integrate proven programs as appropriate.

Work with the Office of Transitional Assistance to identify families and individuals eligible but not using their benefits and work with OTA to enhance their efforts to enroll eligible families and individuals by 2020.

Assure that all retail food outlets accept SNAP, WIC and any other income supplements available to eligible residents.

Work with community based organizations to build employee wellness programs that include nutrition education and physical activity.

Work with the Massachusetts Public Health Association and other organizations to support work to develop and pass a soda tax by 2023.

Develop and secure local adoption by at least one Hampden county community of a local regulation that limits the number of fast food restaurants in low income neighborhoods by 2023.

At least one Hampden county community will develop and locally adopt a land use regulation that encourages food stands by 2019.

STRATEGIES

- ✓ Increase consideration of pedestrian and bicycle accommodation in routine decision making through adoption of Complete Streets transportation policies in municipalities throughout the region.
- ✓ Establish joint use agreements with schools in low-income neighborhoods to allow the use of both indoor and outdoor facilities by the public during non-school hours on a regular basis.
- ✓ Establish a district-wide Safe Routes to School task force for ongoing identification and implementation of systems, policies, and school-level changes to support increased walking and biking to school.
- ✓ Conduct a social norms campaign to define and change perceptions of violence and community safety and thereby increase utilization of community resources.
- ✓ Assess and explore adoption of other evidence-based obesity reduction programs such as I am Moving, I am Learning, Hip Hop to Health, and others.
- ✓ Advocate for recommended hours of physical education in schools.
- ✓ Advocate for policies to increase food/nutrition standards for snacks/meals at public and private preschools and kindergarten classes.
- ✓ Enhance and expand the Mobile Farmers' Market in low income/food desert communities and on college campuses.
- ✓ Coordinate and lead the Mass in Motion Corner Store initiative.
- ✓ Advance the policy priorities of the Food Councils in the county, such as zoning regulations to promote community gardens, urban agriculture, and policies to increase physical activity.
- ✓ Enhance Community Gardens educational programs in alignment with a minimum of __# community-based garden efforts.
- ✓ Advertise and promote the availability of food resources to low income individuals in targeted neighborhoods.
- ✓ Expand e-referral system; for example, refer from community/clinical organizations to food pantries.
- ✓ Conduct and coordinate communication, public awareness, outreach, and mass media campaign.
- ✓ Reduce the rate of motor vehicle-related pedestrian, cyclist and occupant injuries by 10% by 2025 and participate in the development of a Vision Zero plan by 2018. This could include:
    - Complete Streets
    - Vision Zero
    - Safe Routes to School
    - Highway Safety grants for overtime enforcement
    - Walking School Bus

Domain 5: Public Safety, Violence and Injury Prevention

(Domestic violence, gun violence, childhood trauma)

Lead Implementer(s): Springfield's South End Initiative, C3 Initiatives, HAP Housing Inc.

Violent crime rates and tenuous housing and financial stability affect the quality of life in Hampden County. High crime rates, low incomes and older housing stock are challenges facings many residents in Hampden County. These factors are significant social determinants to the overall health of residents.

- **Violent crime rate** in Hampden County is 50% higher than the state rate.
- A criminal justice survey conducted by the city of Springfield in 2014 reported that of all assault arrests, 67% were for **domestic violence offenses**.

All communities should have adequate social services to meet the basic needs of community members and to promote general well-being. However, the criminal justice system has too often been used to deal with issues that deserve a public health response, threatening community health. Many individuals have been subject to harsh sentences, incarceration, and overly broad registration requirements when treatment and service provision would be more effective at promoting community wellness.[1]

Communities of Hampden County are already exploring alternative crime prevention strategies that focus on 'systems' and the drivers of crime. This includes implementing strategies based on the theory of Crime Prevention Through Environmental Design, or CPTED, alongside purposeful community building and engagement efforts. Specific examples include the Counter Criminal Continuum (C3) in Springfield and the Holyoke Safe Neighborhoods Initiative. What is found at the core of any successful crime reduction strategy is a culturally competent and diverse cross-sector partnership that provides a more appropriate public health intervention, especially for repeat offenders.

GOALS

Improve safety, reduce violence and injury, and inform public perceptions by educating and mobilizing the community around effective, targeted prevention and intervention strategies.

OBJECTIVES {Specific, measurable, achievable, relevant, and time-bound (SMART)}

Communities will work towards developing diverse cross-sector partnerships that promote and foster cultures of respect for human dignity leading towards improved police-community relations and more efficient and effective intervention/diversion programs by 2020.

Local and State legislators will adopt a harm reduction model for criminal justice policy that focuses on treating underlying issues over criminalization, particularly in relation to drug-related conduct working to ensure mindfulness of policy designed to criminalize youth (like police officers in schools) and efforts to address the school-to-prison pipeline by 2020.

Work to identify specific groups to lead cross-sector partnerships that will work with Local governments and police departments to incorporate comprehensive diversion programs, including diversion prior to

[1] From "Transforming the System" Solutions and Actions to Eliminate the Criminalization of Public Health Matters

booking, during detention, before adjudication, and upon release, with a focus on non-arrest and pre-booking diversion for conduct that would otherwise result in a criminal record by 2020. For example, in Springfield's South End, they are currently working on a comprehensive diversion process to address the sex worker problem, including initiatives for both the supply and demand.

STRATEGIES

- ✓ Expand the C-3 initiative in Springfield throughout the City and consider adoption in other high crime areas of the county.
- ✓ Expand and replicate as feasible the Holyoke Safe Neighborhood Initiative.
- ✓ Expand and replicate as feasible Safe and Successful Youth Initiative (SSYI).
- ✓ Expand and replicate as feasible Shannon Community Safety Initiative.
- ✓ Expand and replicate as feasible ROCA, an organization that seeks to disrupt the cycle of incarceration and poverty by helping young people transform their lives.
- ✓ Require that people from the community and with experience with the issue are employed in programs addressing the issue.
- ✓ Consider implementing Crime Prevention through Environmental Design (CPTED) policy which communities can adopt and implement. Examples of this can include eyes on the street and prioritizing high crime areas for lighting. Several models were identified including:
    - Neighborhood associations,
    - Neighbor Next Door App – real-time reporting
    - Father's Program
    - We the Villagers – young men working in Reed Village

Other Priorities Identified by Hospital CHNA process:

In addition to the five Domains identified, the W MA Hospital Community Health Needs Assessment process also identified these issues which do need attention:

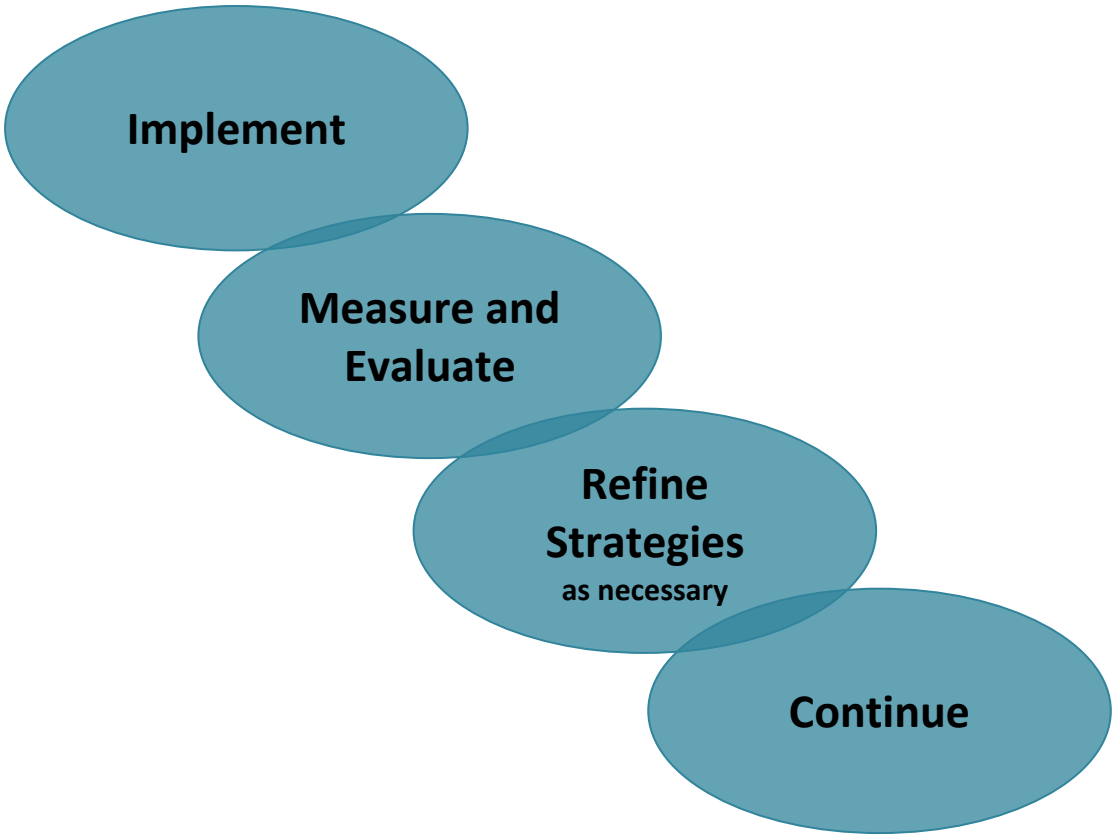
- ✓ Insurance Challenges
- ✓ Lack of Care Coordination county-wide, especially related to mental health, substance abuse and coordination with local schools and faith-based communities
- ✓ Health Literacy county-wide. Information needs to be understandable and accessible in a wider range of languages.

Priority Overview Table of Community-level data

Community	Substance Abuse (ER visits)	Mental Health (ER)	Diabetes (hosp)	Asthma (hosp)	COPD (ER)	Stroke (hosp)
Massachusetts	n/a	n/a	n/a	n/a	n/a	n/a
Hampden County	940	2900	197	920		229
Springfield	1457	4155	278	1386		**290**
Holyoke	**1762**	**4865**	286	**2040**		239
Chicopee	843	2846	197	689		239
West Springfield	752	2346	99.8	555		227
Westfield	613	2196	138	649		201
Palmer	623	2310	188	697		196
Southwick	342	1217	**323**	426		210

**Note: All figures given at a rate per 100,000*

Next Steps/Legislative Ask



The organizations involved in the development of the Hampden County Health Improvement Plan respectfully ask:

1. The Massachusetts legislature establish a statute to mandate a special CHIP Commission to be created in each of the counties across the Commonwealth for the purpose of creating and overseeing the ongoing implementation efforts of the identified CHIP strategies. In the effort to ensure equity and greater collaboration, the CHIP Commission shall be made up of representatives of local public health departments, area hospitals, local community action organizations, and residents/consumers. - All reflective of the county municipalities.

2. Our local public health departments protect and improve the health of all people and communities they serve. Increased support and awareness about the work of our public health departments by local decision makers (Mayors, Town Managers, City Councilors, Selectmen and women) and the general public will empower our local Public Health Departments to better serve our communities; beyond the scope of meeting minimum mandates, by expanding their roles to promoting national public health policies, resource and program development, achieving health equity, and implementing effective public health practice and systems locally.

Appendices

County Health Rankings for Hampden County (2016):

	Hampden County	Error Margin	Top U.S. Performers^	MA	Rank (of 14)
Health Outcomes					**14**
Length of Life					**14**
Premature death	6,600	6,300-6,900	5,200	5,100	
Quality of Life					**14**
Poor or fair health**	19%	19-19%	12%	14%	
Poor physical health days**	4.4	4.3-4.6	2.9	3.5	
Poor mental health days**	4.5	4.4-4.6	2.8	3.9	
Low birth weight	8%	8-9%	6%	8%	
Health Factors					**14**
Health Behaviors					**14**
Adult smoking**	18%	18-19%	14%	15%	
Adult obesity	29%	27-30%	25%	24%	
Food environment index	7.9		8.3	8.3	
Physical inactivity	26%	25-27%	20%	22%	
Access to exercise opportunities	94%		91%	94%	
Excessive drinking**	18%	18-19%	12%	20%	
Alcohol-impaired driving deaths	32%	28-36%	14%	29%	
Sexually transmitted infections	576.5		134.1	349.2	
Teen births	37	36-38	19	17	
Clinical Care					**12**
Uninsured	5%	4-6%	11%	4%	
Primary care physicians	1,410:1		1,040:1	940:01:00	
Dentists	1,300:1		1,340:1	1,070:1	

	Hampden Co	Error Margin	Top US Performers	MA	Rank (of 14)
Mental health providers	160:01:00		370:01:00	200:01:00	
Preventable hospital stays	63	61-66	38	56	
Diabetic monitoring	89%	86-91%	90%	90%	
Mammography screening	71%	68-73%	71%	74%	
Social & Economic Factors					**14**
High school graduation	73%		93%	85%	
Some college	59%	57-61%	72%	71%	
Unemployment	7.80%		3.50%	5.80%	
Children in poverty	26%	23-30%	13%	15%	
Income inequality	5.7	5.5-6.0	3.7	5.4	
Children in single-parent households	47%	45-49%	21%	31%	
Social associations	8.7		22.1	9.5	
Violent crime	641		59	434	
Injury deaths	53	50-56	51	46	
Physical Environment					**13**
Air pollution - particulate matter	10.7		9.5	10.5	
Drinking water violations	Yes		No		
Severe housing problems	19%	19-20%	9%	19%	
Driving alone to work	83%	82-84%	71%	72%	
Long commute - driving alone	27%	26-28%	15%	41%	
Note: Blank values reflect unreliable or missing data					

CHIP Guidance from NACCHO

Conduct a process to develop community health improvement plan. *Required documentation:* Completed community health improvement planning process that includes 1a. Broad participation of community partners; 1b. Information from community health assessments; 1c. Issues and themes identified by stakeholders in the community; 1d. Identification of community assets and resources; and 1e. A process to set community health priorities.

Produce a community health improvement plan as a result of the community health improvement process *Required documentation:* CHIP dated within the last five years that includes 1a: Community health priorities, measurable objectives, improvement strategies and performance measures with measurable and time-framed targets; 1b. Policy changes needed to accomplish health objectives; c. Individuals and organizations that have accepted responsibility for implementing strategies; 1d. Measurable health outcomes or indicators to monitor progress; and 1e. Alignment between the CHIP and the state and national priorities.

Implement elements and strategies of the health improvement plan, in partnership with others* *Required documentation:* 1. Reports of actions taken related to implementing strategies to improve health [Guidance:…provide reports showing implementation of the plan. Documentation must specify the strategies being used, the partners involved, and the status or results of the actions taken…]; 2. Examples of how the plan was implemented [Guidance: ..provide two examples of how the plan was implemented by the health department and/or its partners].

Monitor progress on implementation of strategies in the CHIP in collaboration with broad participation from stakeholders and partners* *Required documentation:* 1. Evaluation reports on progress made in implementing strategies in the CHIP including: 1a. Monitoring of performance measures and 1b. Progress related to health improvement indicators [Guidance: Description of progress made on health indicators as defined in the plan...]; and 2. Revised health improvement plan based on evaluation results [Guidance: …must show that the health improvement plan has been revised based on the evaluation listed in 1 above…]

W MA Hospital CHNA

The Coalition of Western Massachusetts Hospitals conducted a community health needs assessment to identify and address the most pressing public health needs in the Pioneer Valley.

The Coalition is a partnership among 8 area tax-exempt hospitals:

Baystate Medical Center,

Baystate Franklin Medical Center,

Baystate Mary Lane Hospital,

Cooley Dickinson Hospital,

Holyoke Medical Center,

Mercy Medical Center (a member of Sisters of Providence Health System),

Shriner's Hospitals for Children® — Springfield

Wing Memorial Hospital and Medical Centers (a member of UMass Memorial Health Care).

Website links

Baystate Hospitals:
https://www.baystatehealth.org/about-us/community-programs/community-benefits/community-health-needs-assessment

Holyoke Hospital CHNA:
http://www.holyokehealth.com/Holyoke/media/Emerge_Holyoke/News/2016_HMC_CHNA.pdf

Mercy Medical Center CHNA:
http://www.mercycares.com/documents/Mercy%20CHNA%202016.pdf

Shriner's Hospital Springfield MA
http://www.shrinershospitalsforchildren.org/CHNA

Resources Used in Developing and Implementing this Plan

State of Massachusetts Health Improvement Plan, 2014 (available at: http://www.mass.gov/eohhs/docs/dph/health-planning/accreditation/state-health-improvement-plan.pdf)

A Compendium of Proven Community-based Prevention Programs 2013 (available at: http://healthyamericans.org/report/110/)

> *"The Compendium highlights the growing number and range of successful, evidence-based approaches to prevention," said Jeffrey Levi, PhD, executive director of TFAH. "These efforts demonstrate that making healthy choices easier for people in their daily lives pays off in terms of improving health and lowering health care costs. This report documents how these programs can and do work – but we need to invest more if we're going to bring them to scale and improve the nation's health."*

City of Worcester MA CHIP (available at: http://www.worcesterma.gov/ocm/public-health/community-health/chip-cha)

Massachusetts Healthy Community Design Toolkit, 2014 (available at: http://www.mass.gov/eohhs/docs/dph/com-health/chronic-disease/healthy-comm-design-toolkit.pdf)

Commonwealth of Massachusetts Health Policy Commission 2015 Cost Trends Report (overview of Health Care spending and delivery in MA, available at: http://www.mass.gov/anf/budget-taxes-and-procurement/oversight-agencies/health-policy-commission/publications/2015-cost-trends-report.pdf)

Massachusetts Public Health Association (MPHA) Health Equity Policy Framework, 2016

Investing in America's Health: A State by State Look at Public Health Funding and Key Health Facts, 2016 (available at: http://healthyamericans.org/report/118/)

Links to SOME of the initiatives in Hampden County

Mass In Motion Springfield Department of Health and Human Services: https://www.springfield-ma.gov/hhs/index.php?id=mass-in-motion-2

www.livewellspringfield.org

http://www.mass.gov/eohhs/gov/departments/dph/programs/community-health/mass-in-motion/

http://www.hhcinc.org/en/services/community-programs/lets-move-holyoke-5-2-1-0

Action Ambulance Holyoke: http://www.holyoke.org/news/holyoke-contracts-with-action-ambulance-service-inc/

https://en.wikipedia.org/wiki/C3_policing

Task Force to End Hunger https://www.foodbankwma.org/the-food-bank-announces-new-anti-hunger-initiative-in-partnership-with-holyoke-health-center/

Hilltown Community Health Center--Mobile Dental Outreach Program https://www.hchcweb.org/our-team/oraldental-department/

GET INVOLVED!

If you would like to participate in implementation of the Hampden County Health Improvement Plan, please email or call Joshua Garcia, jgarcia@pvpc.org
413/781-6045

TO: Members of the Public Health Trust Fund Executive Committee

FROM: Mark Vander Linden, Director of Research and Responsible Gaming
Teresa Fiore, Program Manager, Research and Responsible Gaming

DATE: January 10, 2018

RE: MGM Springfield readiness related work

Responsible Gaming

MGM Springfield is scheduled to open in September 2018. As this date approaches there are a number of responsible gaming related activities currently underway to prepare. These activities build upon current programs already in place and are informed by the gaming research agenda.

GameSense : The GameSense program at MGM Springfield will continue to operate much like it currently does at Plainridge Park Casino. The Massachusetts Council on Compulsive Gambling will remain responsible for staffing the program with GameSense Advisors and managing daily operations. In order for GameSense-MGM to be as approachable and accessible as possible, the MGC tentatively plans that 2.5 FTE GameSense Advisors will be available to assist all casino patrons and staff 16 hours a day, 7 days a week. MGC and MGM have worked closely to finalize a design of the GameSense Info Center based on the current needs of the GameSense-PPC space as well as feedback from evaluation findings. The new Info Center (rendering below) will be located in an ideal location adjacent to a high traffic entrance and is designed so that visitor communication and requests can be comfortably met while also keeping in line with the casino aesthetic.

The MGC is expected to select a marketing and communication firm in early January. Starting in February, the MGC will work closely with the successful bidder to develop a targeted campaign intended to introduce GameSense in the Springfield area. This campaign with be complimented by community outreach from a Lead GameSense Advisor.

Voluntary Self-Exclusion: GameSense will remain heavily intertwined with the Massachusetts Voluntary Self-Exclusion (VSE) Program as GameSense Advisors are primarily responsible for enrolling people into the program. Currently, individuals who wish to voluntarily exclude from Massachusetts casinos must enroll in person at Plainridge Park Casino, the MGC Boston office, or at an off-site location with a GameSense Advisor. These enrollment locations will continue to be available, but in addition we plan to set up a temporary location in Springfield by the beginning of June 2018. It's planned that this location will be minimally staffed by a Lead GameSense Advisor to allow persons to enroll in the program well in advance of the casino opening. Additionally, the MGC will seek to work in collaboration with DPH and community-based providers in the region to further expand the network of trained designated agents. These agents will include community workers as well as members of the clinical workforce.

To further expand the accessibility of the VSE program, MGC will continue its efforts in creating a regional voluntary self-exclusion program. Successful implementation will allow individuals to enroll in a single VSE program which would apply to participating properties and jurisdictions throughout the Northeast.

PlayMyWay: While a play management tool (PlayMyWay) will not be available at MGM upon opening, the MGC is actively working with MGM to develop this resource within a year of opening. In a parallel process, the MGC is contemplating regulatory and non-regulatory options to advance play management tools in all Massachusetts licensed casinos.

MGC Responsible Gaming Framework: The MGC is currently in the process of reviewing and updating the Responsible Gaming Framework (RGF). The current version of the RGF was adopted by the MGC in 2014 and several important policies and innovative programs have been launched based on its strategies. Expected to be complete within the next few months, the updated version of the RGF will incorporate new evidence and research to inform MGM's responsible gaming plan.

Massachusetts Casino Career Training Institute: The Massachusetts Casino Career Training Institute (MCCTI) was formed as a collaborating workforce development organization by the state's fifteen community colleges. MCCTI has worked developed a MOU with the MGC Workforce and Licensing Divisions to work collaboratively regarding workforce training, certification and licensing. Gaming school regulations (205 CMR 137.00), requires that all students are required to receive a minimum of 90 minutes of training on responsible gaming and problem gambling.

Research

Baseline Social Measures: The SEIGMA team has collected primary data through an address-based sample (ABS) of the MA adult general population and a targeted sample of Springfield as well as an online panel. These surveys capture several aspects of information relevant to the community-specific impacts of MGM Springfield. Specific baseline social measures include:

- Public attitudes towards gambling which can be as important as objective beneficial or detrimental effects;
- Current gambling behavior of the general public (e.g., who patronizes the various forms of gambling; where they live; what specific games they spend their money on; how much they spend; how frequently they gamble) along with the demographic features associated with these behaviors;
- Current gamblers' reported motivations for gambling;
- Awareness of existing efforts to prevent problem gambling;
- The overall population prevalence of problem gambling, or the number of people in Massachusetts who are currently experiencing a gambling problem;
- Associated comorbidities of gambling and problem gambling in the areas of health, mental health, and substance use.

Baseline Public Safety Measures: To conduct a baseline study of public safety impacts, the MGC contracted with career crime analyst, Christopher Bruce. Mr. Bruce is currently working to extract data from the records management systems and creating a common dataset for the following police departments: Springfield, West Springfield, Hampden, Holyoke, Agawam, Chicopee, East Longmeadow, Longmeadow, Northampton, Ludlow, and Wilbraham. The baseline public safety report will provide a five-year look-back on crime, calls-for-services and collision data in the Springfield region. This study is unique in that while several studies have attempted to examine the effects of gambling on overall rates for serious crimes aggregated annually, this study will analyze more specific and minute changes in public safety activity following the opening of casinos, including variations by hour, month, and season, changes in patterns and hot spots, and changes in non-crime activity such as traffic collisions and calls for service. The baseline public safety report is expected by June 30, 2018.

Baseline Economic Measures: The SEIGMA Team includes several members from the Donahue Institute Economic and Public Policy research group. They have been responsible for collecting data on several key measures associated with the economic impacts of MGM Springfield. In contrast to the baseline social measures, a majority of the economic measures are available from secondary data sets. Specific baseline economic measures include:

- An economic profile of Springfield is drawn from a compilation of the three identified Massachusetts casino host communities to provide information on baseline economic conditions within Springfield before the introduction of casinos. A specific set of data measures have been selected to create a portrait of Springfield as well as select economic and fiscal indictors for the MGC-identified surrounding communities. The information illustrates recent

trends and conditions within the city's industrial structure, business community, labor force and residential population. This profile will be updated after MGM Springfield opens in order to track economic changes over time.

- A baseline study of real estate conditions in Springfield provides a summary of recent trends in the residential, commercial and industrial real estate markets for the City of Springfield and its surrounding communities. This analysis paints a comprehensive picture of the local and regional real estate market prior to the opening of MGM Springfield.
- A construction report which measures the economic impacts due to the construction of MGM Springfield includes the spending, employment and economic impacts in the community and throughout Massachusetts.
- The SEIGMA team created a matched community profile for Springfield. Community matching involves selecting a group of communities that are economically and demographically similar to the casino host communities in Massachusetts. Once casinos open in Massachusetts, comparisons of data trends between the casino host communities and their matched control communities will provide a relative assessment of the impacts of casinos over time.

New Employee Survey: The MGC has worked with MGM Springfield and the SEIGMA team to offer new employees at MGM Springfield to opportunity to participate in an employment survey. The purpose of this element of the research agenda is to better understand the new employment opportunities offered by casino operators and characteristics of the workforce at point of hire. While only a relatively small number of MGM employees have been hired to date, this will significantly increase during the summer months.

TO: Members of the Public Health Trust Fund Executive Committee

FROM: Mark Vander Linden, Director of Research and Responsible Gaming

DATE: January 10, 2018

RE: MGC Gaming Research Update

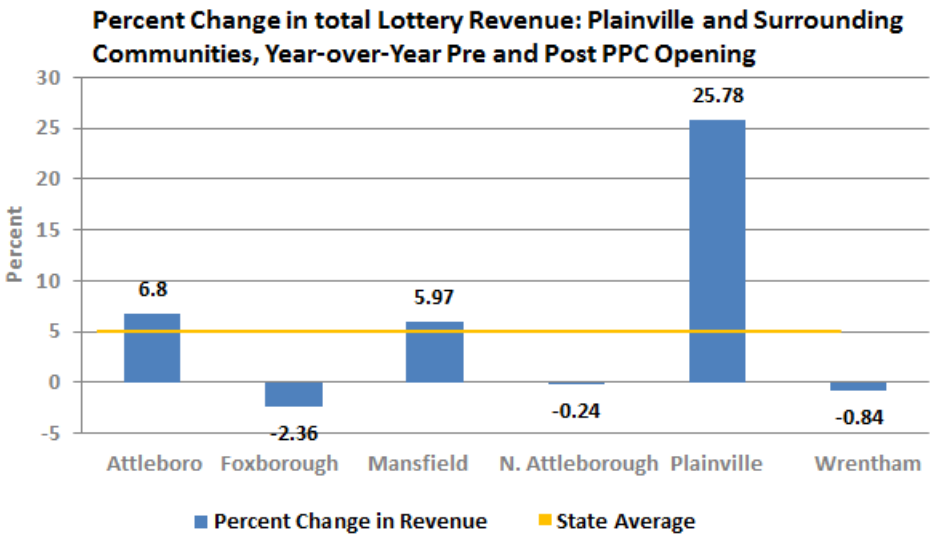
2017 was a productive year with nine reports released covering a range of social, economic and evaluative research. Below are a summary of reports released since2017 and a brief description of research deliverables expected in the first half of 2018. The final page of this memo provides an at-a-glance look at the six arms of the current research agenda. A complete listing and link to all published research reports can be found at: https://massgaming.com/about/research-agenda/

Recently Released Reports and Studies

Lottery Revenue and Plainridge Park Casino: Analysis of First Year Casino Operation *(Released January 19, 2017)*

With the introduction of casino gambling in Massachusetts, the Legislature prioritized protection of the lottery by requiring that all prospective casino operators become a licensed state lottery agent. This study examines the impact of casino gambling on local and state lottery revenues. Data collection required the Massachusetts Lottery to provide fiscal year and agent-specific lottery sales to the SEIGMA Economics team at the UMass Donahue Institute. Changes in revenue were analyzed at several levels, including statewide, in the host and designated surrounding communities near the casino, and for agents at different driving distances from the casino.

- On average, lottery sales did not decrease near the casino following the opening of Plainridge Park Casino.
- Lottery revenue near the casino grew more slowly than the rest of the state with the exception of Plainville, where lottery revenue increased approximately 23% in Fiscal Year 2016.
- Year-over-year sales (sales in the year after the casino

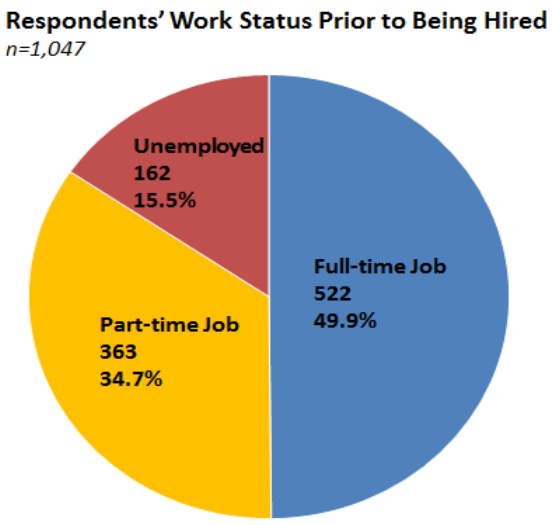


opened compared to the year before) increased in Plainville, Attleboro, and Mansfield whereas year-over-year sales in Foxborough, North Attleborough, and Wrentham decreased.

The full report can be viewed at:
http://massgaming.com/wp-content/uploads/Lottery-Revenue-and-Plainridge-Park-Casino-1-Year-Analysis-1-19-17.pdf

New Employee Survey at Plainridge Park Casino: Analysis of First Two Years of Data Collection *(Released May 10, 2017)*

Creating employment opportunities for unemployed or underemployed Baystaters is a priority of the Expanded Gaming Act. Based on 1,056 respondents, this report presents findings on the first two years of data collection (March 2015-March 2017) on newly licensed employees at Plainridge Park Casino (PPC). This report identifies several important characteristics of new hires at PPC and the emergent casino workforce in Massachusetts.



- Most new hires did not transfer from other Penn National Gaming (i.e., PPC's operator) locations.
- Major reasons for seeking employment at PPC included career advancement and improved pay.
- Nearly three-quarters of respondents did not receive pre-employment training to raise their skills.

According to this report, hiring at PPC is meeting a previously identified goal. Slightly over one-half of the respondents (n=525) reported that they were either unemployed or were employed part-time prior to taking their positions at PPC. The remaining respondents (n=522) were previously employed full-time. Lastly, less than 6% of previously unemployed respondents moved in order to take their positions at PPC (n=9). When considered together, the average applicant who was previously unemployed did not have experience working at a gaming establishment, did not receive training prior to their hiring, and did not move to take their position at PPC.

The full report can be viewed at:
http://massgaming.com/wp-content/uploads/Plainridge-Park-Casino-New-Employee-Survey-Report-5-10-17.pdf

***Comorbid pathological gambling, mental health, and substance use disorders: Health-care services provision by clinician specialty. Rodriguez-Monguio, R., Errea, M., and Volberg, R.A. 2017. Journal of Behavioral Addictions: 6*(3): 406-415.** *(Published online August 31, 2017)*

With a sample of 869 patients, this study assessed co-occurring behavioral addictions and mental health disorders in treatment-seeking patients and estimated the likelihood of receiving care for these disorders by clinician specialty. The data were derived from the Massachusetts All-Payer Claims Database, representing detailed medical and pharmaceutical claims data for the period 2009-2013. The sample included all commercially insured adult residents of Massachusetts. Univariate and multivariate analyses were used to estimate the likelihood of provision of care by clinician specialty, adjusting for patient's demographic characteristics and level of care.

Prevalence rates for primary diagnosis among patients with pathological gambling as principal diagnosis, ICD-9-CM codes

	2009		2010		2011		2012		2009-2012	
Episodic mood disorders (296)	19	25.7%	23	23.2%	21	22.2%	16	18.8%	46	25.6%
Neurotic disorders, personality disorders, and other non-psychotic mental disorders (300-316)										
Anxiety, dissociative, and somatoform disorders (300.0-300.9)	20	27.0%	26	26.3%	27	28.4%	22	25.9%	50	27.8%
Psychoactive substance (303-305)	15	20.3%	17	17.2%	15	15.8%	14	16.5%	32	17.8%
Adjustment reaction (309.0-309.9)	9	12.2%	7	7.1%	9	9.5%	7	8.2%	17	9.4%
Depressive disorder, not elsewhere classified (311)	12	16.2%	13	13.1%	13	13.7%	10	11.8%	24	13.3%
Disorders of impulse control, not elsewhere classified (312.3)	7	9.5%	6	6.1%	8	8.4%	9	10.6%	17	9.4%
Patients with principal diagnosis when PG is principal diagnosis	204	50.1%	247	50.2%	229	50.1%	204	47.7%	447	51.4%
Patients with first diagnosis when PG is principal diagnosis	74	36.3%	99	40.1%	95	41.5%	85	41.7%	180	40.3%

- Treatment-seeking patients who had a diagnosis of PG were mostly males (71%), aged 45-54 years (27%), and enrolled in a health maintenance organization (47%).
- The most prevalent co-occurring disorders among patients with PG as principal diagnosis were anxiety disorders (28%), mood disorders (26%), and substance use disorders (18%). PG was associated with a more than twofold likelihood of receiving care from social workers and psychologists ($p < .05$).
- Depressive disorders were associated with a three times greater likelihood of receiving care from primary care physicians (PCPs) ($p < .05$).
- Having three and four or more diagnoses was associated with a greater likelihood of receiving care from PCPs.

The study concluded that psychiatric and substance use disorders are prevalent among treatment-seeking pathological gamblers. The likelihood of receiving care from specialty clinicians varies significantly by clinical diagnosis and patient clinical complexity.

The full article can be viewed at: *https://www.ncbi.nlm.nih.gov/pubmed/28856904*

A plain language summary (Research Snapshot) will be published in January 2018 by the Gambling Research Exchange Ontario.

Plainridge Park Casino First Year of Operation: Economic Impacts Report
(Released October 12, 2017)

This report summarizes Plainridge Park Casino's (PPC) first twelve months of operation (July 2015 to June 2016) in an effort to understand how spending at PPC has affected the Massachusetts economy. To understand how spending at PPC impacts the Massachusetts economy, it is important to understand how these patrons would have otherwise spent their money if PPC had not opened.

- In total, patrons spent (i.e., PPC revenues) approximately $172.5 million on gambling and non-gambling activities at PPC.
- Massachusetts residents who would have spent their money gambling in out-of-state casinos in the absence of PPC represented the majority of spending at PPC (i.e., $100 million). This constituted 58.0% of spending at PPC, which represented "new" money to the Commonwealth.
- Massachusetts residents who otherwise would have spent their money elsewhere in Massachusetts represented $36.6 million in spending at PPC which constituted 21.2% of spending. Compared to "recaptured" patrons, the economic impact of these patrons is more complex. The spending of these patrons has been reallocated from other Massachusetts businesses to PPC. Therefore, any positive economic impact which comes from an increase in revenue at PPC is accompanied by a negative impact elsewhere in the Commonwealth.

Sources of Spending at Plainridge Park Casino

Source of Spending	Spending (Millions of Dollars)	Share of Spending
Recaptured Spending by In-State Patrons	$100.0	58.0%
Reallocated Spending by In-State Patrons	$36.6	21.2%
Spending by Out-of-State Patrons	$36.0	20.8%
Total	$172.5	100.0%

- Out-of-state residents represent the remaining $36.0 million dollars of spending at PPC, or 20.8% of overall revenues reported by PPC. The extent to which this spending is "new" to Massachusetts depends on whether these patrons would have visited Massachusetts in the absence of PPC
- Finally, in the course of visiting PPC, patrons also spent an estimated $3.2 million in the Plainville area. This is money which would have been spent elsewhere if PPC had not opened.

- Regarding broader economic activity, over fiscal year 2016, PPC employed an average of 556 employees and paid $17.8 million in wages.
- During the same period, PPC also supported $19.1 million in spending on vendors, membership organizations, and charitable causes.
- In its first year of operation, on net, PPC created or supported 2,417 jobs in the Commonwealth, 1,633 of which were in the private sector. The remainder were government positions supported by the revenue generated by PPC.
- PPC also supported $505.5 million in new output within the Massachusetts economy, $362.4 million of which was value added ("new" economic activity or gross state product), and $143.7 million in new personal income within the Commonwealth.

As part of Massachusetts' Expanded Gaming Act, in addition to normal federal, state, and local taxes, PPC paid 49% of its gross gaming revenue to the state in the form of taxes and assessments. It has also entered into various agreements with the host community of Plainville and the surrounding communities of Attleboro, North Attleborough, Foxborough, Mansfield, and Wrentham. Some of these agreements include payments to the communities. Taken together, in fiscal year 2016, PPC spent $77.6 million in payments to various Massachusetts government entities.

The full report can be viewed at:
http://massgaming.com/wp-content/uploads/Plainridge-Park-Casino-First-Year-of-Operation-Economic-Impacts-Report-10-12-17-1.pdf

***The Economic Burden of Pathological Gambling and Co-occurring Mental Health and Substance Use Disorders. Rodriguez-Monguio, R., Brand, E., and Volberg, R.A.* 2017. *Journal of Addiction Medicine*.**
(Published online on October 24, 2017)

Disordered gambling often co-occurs with psychiatric and substance use disorders. The study aim was to assess the healthcare costs of pathological gambling (PG) and co-occurring mental health and substance use disorders by payer. This is the first-of-its-kind economic analysis of addictive behaviors and mental health disorders.

Study data were derived from the Massachusetts All-Payer Claims Data—a representative health claims database—for the period 2009 to 2013. The study analytical sample contained all medical and pharmaceutical claims for commercially insured Massachusetts residents who were aged ≥18 years, had health insurance coverage, had a diagnosis of PG, and sought care in the Commonwealth. Healthcare cost components included outpatient, inpatient, emergency room visits, and prescription drugs. Bootstrap analysis was performed to account for skewed distribution of cost data. All costs were adjusted to constant dollars.

The study sample included 599 patients over the study period. The most prevalent principal diagnoses were disorders of impulse control (50%), episodic mood disorders (31%), anxiety disorders (14%), and psychoactive substance (9%). The mean annual total expenditures on health care per patient with diagnosis of pathological gambling were $7993 ± $11,847 (bias-corrected 95% confidence interval) in 2009, $10,054 ±

$14,555 in 2010, $9093 ± $13,422 in 2011, and $9523 ± $14,505 in 2012. Pharmaceutical expenditures represented 16% to 22% of total healthcare expenditures. In the study period, prescription drug co-pays represented approximately 16% of the pharmaceutical expenditures.

Conclusions: Psychiatric comorbidity and substance use disorders, and nondependent abuse of drugs are highly prevalent among pathological gamblers. These disorders pose an economic burden to patients and healthcare payers.

The article can be viewed here: http://journals.lww.com/journaladdictionmedicine/Abstract/publishahead/The_Economic_Burden_of_Pathological_Gambling_and.99515.aspx

Gambling and Problem Gambling in Massachusetts: Results of a Baseline General Population Survey
(Released October 26, 2017)

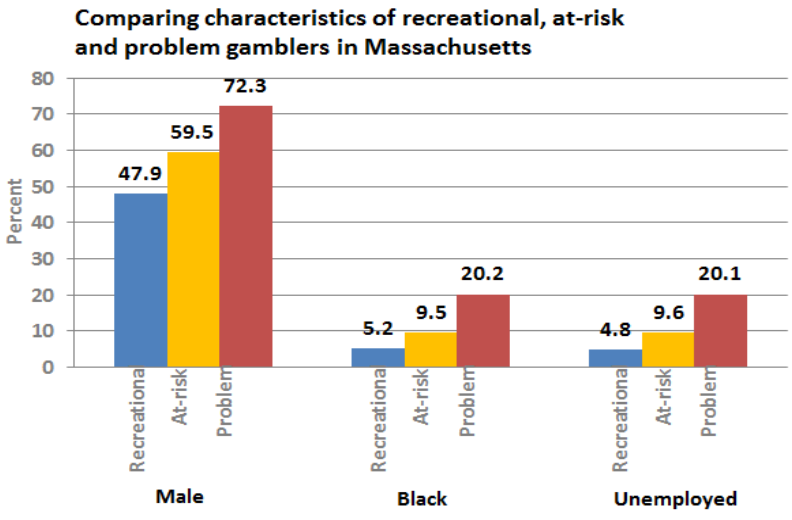
This report summarizes findings from a large baseline general population survey of Massachusetts to assess gambling behavior and problem gambling behavior before any of the state's new casinos became operational. This is an updated version of the original report, published in May 2015, to reflect changes to the data weighting procedure. The Baseline General Population Survey took place between September 11, 2013 and May 31, 2014, had a response rate of 36.6%, and achieved a final sample size of 9,578 respondents. The report presents a comprehensive compilation of descriptive statistical results from the baseline survey, in the areas of gambling attitudes, gambling behavior, gambling problems, prevention awareness, and service utilization. Specific deliverables within the study include problem gambling prevalence, prevention awareness, and service utilization in Massachusetts.

Problem gamblers are individuals who experience significant impaired control over their gambling and negative consequences as a result of their impaired control.

- The current prevalence of problem gambling in Massachusetts is 2.0% of the adult population
- 8.4% of the population are at-risk gamblers
- Based on the percentages above, we estimate that between 83,152 and 135,122 adult Massachusetts residents are problem gamblers and between 389,776 and 488,519 adult residents are at-risk gamblers
- Nearly 2 in 10 Massachusetts adults (18.5%) reported knowing someone who they considered gambled too much.

There were significant differences in problem gambling prevalence associated with gender, race/ethnicity, and education.

- Men are 3 times more likely to have a gambling problem than women



- Blacks are 4 times more likely to have a gambling problem than Whites
- Individuals with only a high school diploma are 3 times more likely to have a gambling problem than individuals with a college degree

Awareness of existing problem gambling prevention initiatives in Massachusetts is quite variable.

- About 4 in 10 Massachusetts residents are aware of media campaigns to prevent problem gambling.
- Just over 1 in 10 of adults is aware of non-media prevention programs in schools and communities around the state. Of these, only a very small number had participated in such programs.

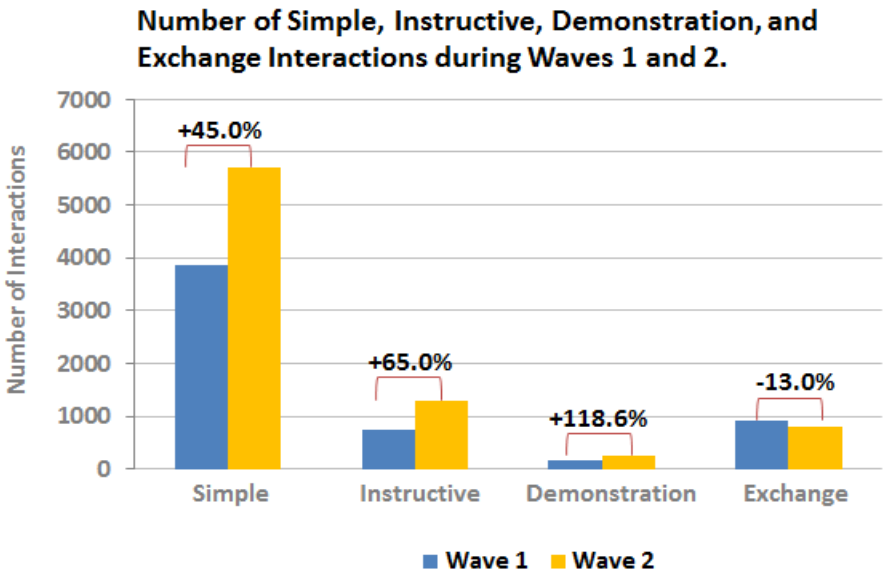
Among problem gamblers in the survey, only a very small number indicated that they would like help for a gambling problem or had sought help for such a problem. This contrasts with the estimate that between 83,152 and 135,122 Massachusetts adults currently have a gambling problem. The gap between this estimate and the small number of individuals who reported desiring or seeking treatment highlights a potentially underserved population that may be in need of treatment.

The full report can be viewed at:
http://massgaming.com/wp-content/uploads/Updated-BGPS-Report-10-26-17.pdf

Wave 2 Analysis of GameSense Program Activities & Visitor Survey: August 8, 2016 – February 7, 2017 *(Full report anticipate release March 2018)*

The primary goal of second GameSense evaluation (Wave 2) is to extend the evaluation of the program's effectiveness by studying visitor's knowledge of responsible gambling concepts, use of responsible gaming strategies and awareness of problem gambling resources while continuing an evaluation of the program's safety and reach. Data was collected through GameSense Advisor (GSA) recorded checklists as well as 691 GameSense visitor surveys whose questions were divided based on first-time and repeat visitors.

- Exchange visitors typically avoid gambling myths that can be associated with gambling-related problems and use at least one strategy to keep gambling within personally affordable limits.
- Both first-time (87.7%) and repeat visitor (93%) Survey respondents reported that they would feel comfortable seeking help from a GameSense Advisor



(GSA) for an emerging gambling problem.

- 94.3% of all respondents agreed or strongly agreed with the statement, "The GameSense Advisor I most recently spoke with gave me a new way to think about gambling."
- First time visitor survey respondents correctly answered an average of 5.57 of 7 true/false questions designed to test their understanding of important gambling concepts such as the independence of slot machine play.
- 96.3% of all respondents recognized that excessive gambling can affect finances. Smaller majorities recognized the potential consequences of excessive gambling on personal relationships (61.7%) and mental health (53.2%). Less than half of respondents recognized that excessive gambling can affect physical health (44.7%).
- Across all interaction types, most interactions involved 1 or 2 visitors. Most Instructive (92.1%) and Exchange (62.0%) interactions began as Simple interactions.
- Overall, the total number of GSA interactions increased from 5,659 interactions during Wave 1 to 7,878 during Wave 2. This represents a 39.2% increase. Higher staffing levels, PlayMyWay launch, and GSAs' increased efficiency might explain these changes.

The full report is not yet available online.

Patron Survey and License Plate Survey Report: Plainridge Park Casino 2016
(Released on October 26, 2017)

The survey of 479 patrons was conducted in 2016 at Plainridge Park Casino (PPC). This survey accomplishes several goals related to measuring the social and economic impacts of expanded gambling:

- The geographic origin and demographic characteristics of people patronizing MA casinos
    - The majority of PPC patrons were from Massachusetts, with 11.4 percent from Plainville or nearby towns and another 66.5 percent from other Massachusetts communities. Overall, 19.2 percent of patrons were from outside the Commonwealth.
- The amount of monetary recapture
    - Over half of all gambling (58.3 percent) and non-gambling (50.4 percent) spending by Massachusetts patrons at PPC is "recaptured." An additional 16.3 percent of gambling spending by Massachusetts residents was "reallocated" from other goods and services.
    - Residents of the Greater Boston area, which includes Plainville and several surrounding communities, account for the majority of recaptured gambling spending (49.7 percent) and recaptured non-gambling spending (66.4 percent) at the casino. Most of the remaining recaptured spending is accounted for by residents in the Southeast region.
- The amount of casino patron spending on other on-site and off-site amenities
    - The majority of patrons (67.2%) did not participate in any off-site activities. The most common off-site activity was going out for food or beverage (21.4%) and retail shopping (11.2%).

    - In terms of their self-reported spending, PPC patrons reported an average expenditure of $96.39 on gambling at the casino and $63.99 on non-gambling amenities at the casino during their visit.
- Awareness and impact of the GameSense program
    - The report found 59.9 percent of patrons were aware of the GameSense program. Among patrons with an awareness of GameSense, 17.4 percent reported interacting with a GameSense advisor. Among this group of patrons, 98.6 percent were satisfied with the information offered by the GameSense Advisor and one in four changed the way they gambled as a result.

Full report can be viewed at:
http://massgaming.com/wp-content/uploads/Plainridge-Park-Casino-Patron-and-License-Plate-Survey-10-16-17.pdf

Preliminary Study of Patrons' Use of the Play My Way Play Management System at Plainridge Park Casino: June 8, 2016 to January 31, 2017 *(Released on November 21, 2017)*

This preliminary study was conducted by the Cambridge Health Alliance, Division on Addiction (CHA) and is part of a planned multi-year research and development agenda. The report includes a basic epidemiology of Marquee Rewards Card gambling records that provides sample characteristics, game characteristics, cash activity and gambling activity information. The PlayMyWay (PMW) records provided CHA with de-identified information about players' budgets and notification activity.

- Of the 101,024 Marquee Rewards® cardholders who gambled at PPC during the study period, 8.8% (8,856) enrolled in PMW. Enrollees were divided into three types: 85.2% stable (i.e., enrolled in PMW and remained enrolled in the program for the period of this study); 1.3% erratic (i.e., enrolled, un-enrolled, and were enrolled in PMW at the end of the study period); and 13.5% dropouts (i.e., enrolled in the program, but at the end of the study period were un-enrolled from the program)
- PMW users had significantly more cash activity than non-users on slot machines and electronic table games. For example, during the entire study period, PMW users inserted significantly more cash into slot machines than non-users (difference of means = $620.50, $p < 0.01$). They also withdrew more funds than non-users (difference of means = $692.31, $p < 0.01$).
- With respect to gambling activity, PMW users tended to wager less money as well as lose less money per day compared to non-users. Whereas the median PMW-user wagered $347.80 and lost $47.50 per day, their non-user counterparts wagered $485.30 and lost $62.90.
- Overall, slightly less than two-thirds of all PMW users (63.0%) never exceeded their budgets; just over one-third of all users (37.0%) exceeded their budgets at least once during the study period.
- The vast majority of PMW users were from Massachusetts (78.4%) and other New England states.
- The PMW users had an average age of 54 and were significantly younger than the non-users.

- PMW and non-users visited PPC an average of 6. 5 and 6.8 times, respectively, during the study period.

Mean, standard deviation, and median for non-user and PlayMyWay users' measures of gambling activity

	Non-users (n=92,168)			PlayMyWay users (n=8,856)		
	Mean	SD	Median	Mean	SD	Median
Number of visits	6.8	14.2	2.0	6.5	14.9	2.0
Total amount wagered	$7,862.1	$41,579.9	$882.8	$6,252.6	$32,009.6	$574.2
Amount wagered per day	$789.1	$2,295.9	$393.5	$594.8	$1,090.4	$285.7
Amount wagered per week	$922.2	$2,2732.8	$417.0	$780.1	$1,889.6	$317.5
Amount wagered per month	$1,651.4	$6,183.6	$512.6	$1,542.8	$5,866.0	$386.6
Net winnings	-$1,251.6	$12,512.6	-$127.6	-$704.4	$3,546.4	-$89.4

Full report can be viewed at:
https://massgaming.com/wp-content/uploads/PlayMyWay-Preliminary-Evaluation-11-21-17.pdf

Analysis of the Massachusetts Gambling Impact Cohort (MAGIC) Wave 2: Incidence and Transitions *(Released on January 4, 2018)*

This report presents results from a new cohort study of gambling and problem gambling underway in Massachusetts. While recent large-scale cohort studies have been carried out in Australia, Canada, New Zealand, and Sweden, there have been no major adult cohort studies of gambling in the United States. This report focuses on (1) establishment of the Massachusetts cohort, (2) changes in gambling participation within the cohort between 2013/2014 and 2015, (3) the "natural" incidence of problem gambling in Massachusetts (i.e., prior to the availability of casino gambling), and (4) transitions within the cohort between Wave 1 and Wave 2 of the study.

The cohort was established from a stratified sample of 3,139 respondents who completed the SEIGMA Baseline General Population Survey (BGPS), an address-based multi-mode probability sample survey conducted between September 2013 and May 2014 with adult (18+) Massachusetts residents. The main purpose of the stratified sample was to ensure that the cohort included the largest possible number of individuals who might be expected to change their gambling status over the course of the study, including Problem Gamblers, At-Risk Gamblers, and individuals who gambled regularly or spent substantial amounts on gambling. Wave 2 was conducted from March 2015 – September 2015 (an average of 16.5 months after Wave 1).

Changes in Gambling Participation
Changes in gambling participation within the cohort were examined by comparing the self-reported past-year behaviors of the members of the cohort at Wave 1 and Wave 2. Within the cohort, there was a statistically significant increase in overall gambling participation as well as in participation in casino

gambling and horse race betting. There was also a statistically significant increase within the cohort in the average number of gambling formats engaged in over the previous 12 months. However, in all cases, the magnitude of the increase was quite small (2.0% – 3.2%).

Incidence of Problem Gambling

The "natural" problem gambling incidence rate within the cohort from 2013/2014 to 2015 in Massachusetts (prior to the opening of any casinos) was 2.4% (95% CI [1.5%, 3.7%]). This estimate is based on new problem gamblers in the past 12 months in the cohort who were not problem gamblers in the BGPS, weighted to the Massachusetts population. Calculating incidence via a longitudinal cohort study has limitations. For instance, despite the research team's efforts to account for biases influencing the estimates between Wave 1 and 2, there may still be unknown factors affecting the rates. The incidence rate in Massachusetts is high relative to other jurisdictions where longitudinal cohort studies have obtained rates ranging from 0.12% to 1.4%. However, it is important to recognize that these other jurisdictions have different gambling landscapes, most of the studies in these jurisdictions utilized different measures of problem gambling to establish incidence, and the inter-assessment interval in MAGIC (16.5 months) is longer than the intervals in most of these other studies (with 12 months being typical).

If the unanticipated high incidence is accurate, the basis for this is somewhat unclear given that there was no significant change in the actual availability of legal gambling opportunities in Massachusetts during this time period. In addition to possible unaccounted biasing factors related to respondents, possible factors that may be related to high incidence include: high public awareness of casino gambling in the wake of publicity about developments in the Commonwealth and nearby states; political advertising associated with a ballot initiative to repeal casinos in Massachusetts; heavy advertising by casinos in Connecticut and Rhode Island seeking to maintain their competitive advantage; and concurrent advertising and news stories surrounding daily fantasy sports (DFS) as these games became widely available in 2015 and 2016.

Transitions, Stability, and Change

Another goal of the present analysis was to determine the rate of transitions, or the degree of stability and change among the members of the cohort between Wave 1 and Wave 2. This analysis found that Recreational Gamblers had the most stable pattern of gambling behavior with 80.3% being Recreational Gamblers in both waves. Non-Gamblers were the next most stable group, with 64.4% being Non-Gamblers in both waves, but with a sizeable portion transitioning into Recreational Gambling in Wave 2. Only 49.4% of individuals who were Problem or Pathological Gamblers in Wave 1 were in this same category in Wave 2, with a sizeable portion transitioning into At-Risk Gambling and Recreational Gambling. Finally, At-Risk Gamblers were the most unstable, with only 37.5% being in the same category in both waves. Most of these individuals transitioned to Recreational Gambling, but a significant minority transitioned to become Problem or Pathological Gamblers. In general, these results are very similar to findings in cohort studies from other jurisdictions.

Limitations

There are several factors that deserve attention when interpreting results from the MAGIC cohort study. One important limitation concerns whether all sampling biases have been accounted for. The response rate to the BGPS/Wave 1 was 36.6% and the response rate to Wave 2 was 65.1%. This produces a cumulative response rate of 23.3%, which provides ample opportunity for differential rates of response for subgroups

of the population. Various adjustments and weighting partially accounted for some differential response rates within the cohort, but the methods by necessity were limited to a few factors and available information. Other factors could be related to response rates and affect estimates and interpretation. In particular, the first wave of the study (BGPS/Wave 1) was introduced as a survey of "health and recreation" in an effort to prevent participation bias related to respondents' attitudes toward gambling. In Wave 2, however, respondents were aware that the survey was predominantly about gambling, which may have influenced their decision to stay in the cohort or drop out.

There are several other limitations of all cohort studies. For one, repeated surveying is known to have some influence on self-report of behavior (e.g., social desirability to convey "improvement"), as well as perhaps some influence on actual behavior (i.e., intensive scrutiny of one's behavior may serve as a sort of intervention). For another, observed changes over time are sensitive to the reliability of the measurement instruments. For less reliable measures, repeated assessments typically lead to regression to the mean, resulting in some artefactual accentuation of transitions from more to less severe states.

Implications and Future Directions

Results from the Massachusetts cohort study suggest that the incidence of problem gambling may be relatively high, despite the fact that casinos are not yet operating in the Commonwealth. If true, it would indicate that additional prevention and treatment resources for the state are required. The results also suggest that remission from problem gambling is quite high. If true, then additional treatment resources may be especially beneficial in accelerating such transitions.

The first priority going forward is triangulating the present results with other data sources to either confirm or disconfirm the high incidence found in the present study. More specifically, we intend to examine whether there was a significant change in (a) the prevalence of problem gambling in the Baseline Targeted Population Survey in the Plainville region in 2014 compared to the Follow-Up Targeted Population Survey in 2017; (b) the prevalence rate of problem gambling in the Springfield region subsample of the Baseline General Population Survey in 2013/2014 compared to the Baseline Targeted Population Survey in the Springfield region in 2015; (c) the incidence of problem gambling in Wave 3 of MAGIC in 2016 relative to Wave 2 in 2015; and (d) any secondary data sources pertaining to problem gambling rates over this time period (i.e., Department of Public Health admissions data, Massachusetts Council on Compulsive Gambling helpline calls, Gamblers Anonymous chapters).

Future analyses will focus on predictors of problem gambling onset and whether there are gender differences in these predictors as well as predictors of problem gambling remission and the extent to which accessing treatment is one of these factors

The full report will be on January 4, 2018: https://massgaming.com/about/research-agenda/

Upcoming Reports and Studies

Massachusetts Gambling Impact Cohort (MAGIC)

- To date, three waves of data have been collected from a cohort of 3,100 adult Massachusetts residents. The study includes an over-sample of at-risk and problem gamblers drawn from the SEIGMA baseline population survey.
    - **STATUS:** Wave 3 MAGIC report is expected in June 2018. Wave 4 data collection will be completed by June 2018

Social and Economic Impacts of Gambling in Massachusetts (SEIGMA)

- **CHIA Manuscript: Longitudinal cohort**
    - Analysis of individuals in the CHIA dataset who received a diagnosis of pathological gambling each year between 2009 and 2013.
    - **STATUS:** A publishable manuscript will be submitted by April 2018.

- **CHIA Manuscript: Gender differences in healthcare utilization and costs**
    - Analysis of males and females in the CHIA dataset who received a diagnosis of pathological gambling any year between 2009 and 2013.
    - **STATUS:** A publishable manuscript will be submitted by April 2018.

- **Further Analyses of BGPS Data**
    - Further analyses of BGPS data include preparation and submission of publishable manuscripts based on (1) deeper analyses of the BGPS, (2) analysis of differences in predictors of problem gambling by gender, and (3) analysis of associations between problem gambling and specific forms of gambling.
    - **STATUS:** A publishable manuscript based on the deeper analyses was submitted in January 2018. Publishable manuscripts based on the other two analyses will be submitted by June 2018.

- **Alternative Weighting Technical Memo**
    - Exploring alternative weighting techniques—model-based estimates of gambling.
    - This approach, if successful, may translate to different populations, and avoid having to develop weights for each survey component of the SEIGMA and MAGIC projects.
    - Memo describing proposed approach submitted to MGC in June 2017.
    - **STATUS:** A final report is expected in July 2018.

- **The Social and Economic Impacts of Gambling in MA, 2018**
    - Report summarizing the social and economic impacts to date of introducing casinos into MA.

- This first report will primarily focus on the impacts associated with Plainridge Park Casino.
- Awaiting agreement with RDASC on weighting procedures for Baseline and Follow-up Plainville Targeted Surveys.
- **STATUS:** Report expected by the end of March 2018.

- **2nd Real Estate Report**
  - Report on the impact of casinos on real estate conditions in MA.
  - Provides a comparison to the 1st Real Estate Report which established a baseline prior to the opening of Plainridge Park Casino.
  - **STATUS:** Expected by the end of January 2018.

- **Lottery Revenue Report**
  - To understand the impact of casino gambling on lottery sales over time and geographically.
  - **STATUS:** Expected by the end of March 2018.

- **Social Impact and Economic Impact Factsheets**
  - Summaries of social and economic impact information aimed at general audiences.
  - **STATUS:** Expected June 2018.

Public Safety Research

- **Assessing the Impact of Gambling on Public Safety in Massachusetts Cities and Towns**
  - A report of crime and calls for service in Plainville and surrounding communities. The intention is to demonstrate, comprehensively, what changes in crime, disorder, and other public safety harms can be attributed directly or indirectly to the introduction of a casino and what strategies local communities need to implement to mitigate the harm. Allows police agencies the ability to respond if issues arise.
  - To date two reports have been released – a 6-month report in April, 2016 and one-year in December, 2016.
  - **STATUS:** The two-year research trend report is expected in January 2018. The baseline report for Springfield and surrounding communities is expected in June 2018.

Data Storage and Sharing

- **Exportable Baseline General Population Survey (BGPS) dataset and codebook**
  - Awaiting specification from Research Review Committee on variables to upcode.
  - **STATUS:** Dataset delivery is expected in early 2018.

- **Exportable Baseline Online Panel (BOPS) and Exportable Patron Survey datasets and codebooks**
  - Exploring options for data storage and dissemination practices.
  - **STATUS:** Dataset delivery is expected by June 2018.

- **Shiny interactive web applications**
  - Interactive web apps for relevant social, health, and economic measures.

- Stakeholders will be able to look at data trends within their own communities and the state.
- Currently in discussions with MGC regarding best approaches to disseminating data.
- **STATUS:** 5 new interactive web applications by June 2018.

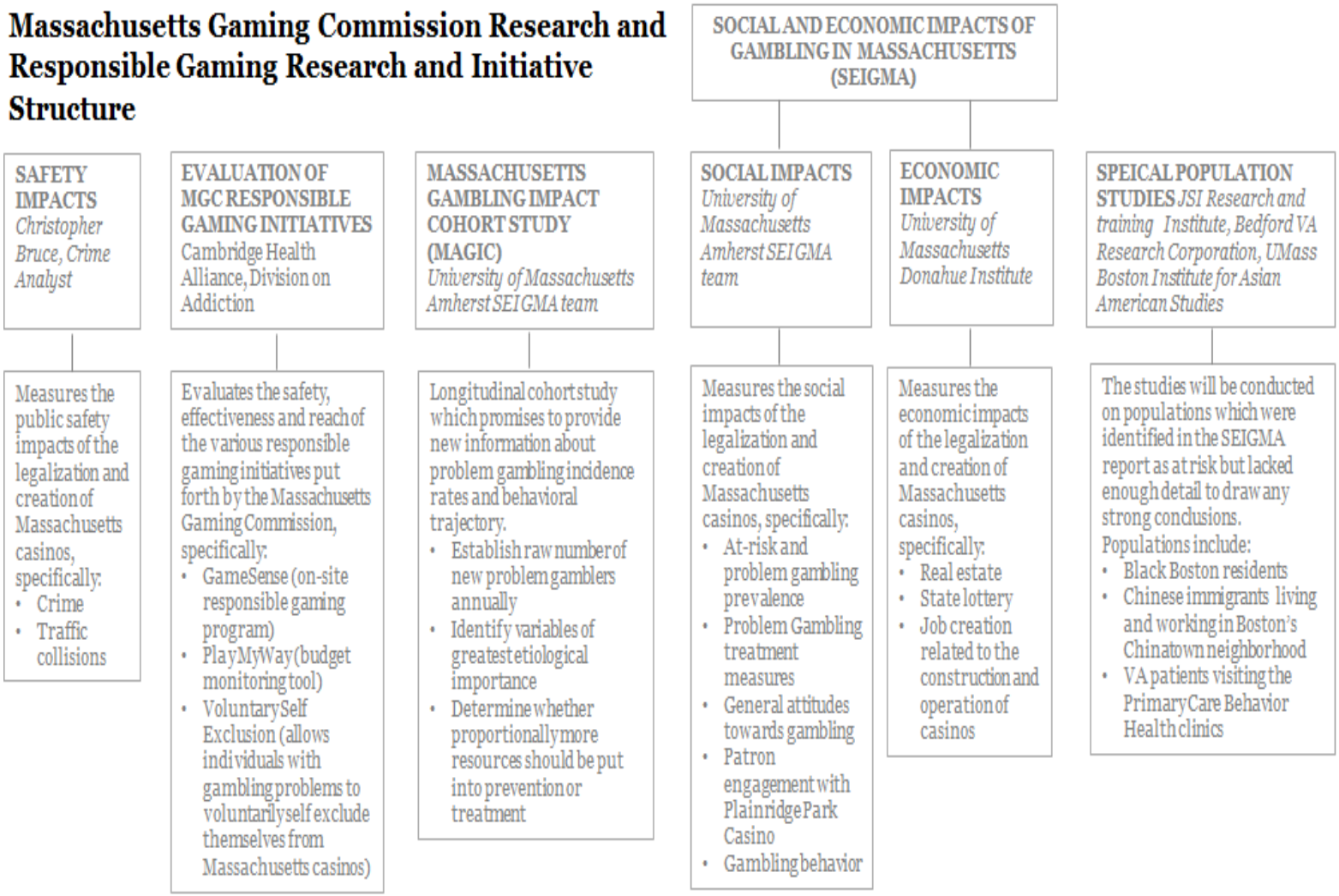
Evaluation of Key Responsible Gaming Initiatives

- **Voluntary Self-Exclusion**
  - A longitudinal study of VSE Enrollees
  - Provides information to improve the program and identify predictors of entry to the program that inform early intervention and prevention strategies.
  - **STATUS:** Participant recruitment has ended (November 30th). A final report is expected June, 2018.
- **GameSense Program**
  - Next steps for the evaluation include:
    - Report on PPC employee knowledge, use (personal and patron referral), and opinions about the GameSense program.
    - Report on GameSense questions asked during SEIGMA patron intercept study.
  - **STATUS:** Final Report summarizing GameSense evaluation efforts is expected March 2018**.**
- **Play My Way**
  - Next steps for the evaluation include:
    - A Follow-up study using data which links player spend data with Play My Way data.
    - A patron survey exploring perception and utility of Play My Way.
  - **STATUS:** Data collection and analysis for the linked study is ongoing. Patron survey will be commenced in the spring with a final report expected in June 2018.

Special Population Research

- The University of Massachusetts, Boston Institute for Asian American Studies ("UMASS Boston") will conduct a pilot study to develop and test methods for recruiting, screening and conducting diagnostic interviews among Chinese immigrants living and working in the Boston's Chinatown.
  - **STATUS:** Final Report is expected June 2018
- JSI Research and Training Institute, Inc. will conduct a study of recreational and problem gambling among Black residents of Boston. The study is intended to build on the foundation of a knowledge started by the Social and Economic Impacts of Gambling in Massachusetts (SEIGMA) study.
  - **STATUS:** Final Report is expected June 2018
- Bedford VA Research Corporation Inc. (BRCI) will evaluate the reliability and validity of the BBGS gambling screen to detect problem gambling among VA patients in Primary Care Behavior Health (PCBH) clinics. The study aims to evaluate the prevalence of problem gambling among veterans and its co-occurrence with other medical and mental health problems.
  - **STATUS:** Final Report is expected June 2018

Massachusetts Gaming Commission Research and Responsible Gaming Research and Initiative Structure



Department of Public Health
Office of Problem Gambling Services
Program Updates – December 21st, 2017

	STRATEGIC INITIATIVE	PRIORITY AREA	SERVICE	DESCRIPTION	Budget	Vendor	UPDATE
1.	Prevention and Health Promotion	Youth, Parents, and At-Risk Populations	Prevention	**Regional Planning Process-Region A/B and Technical Assistance (TA) in Region C**- Focus groups, key informant interviews, and data analysis will inform prevention strategies targeting youth, parents, and at-risk populations in Region A/B. Provide technical assistance to community-based organizations for the implementation of prevention strategies Plainville/Region C.	$250,000	EDC	**Completed:** Regional Stakeholder Meetings A/B and community engagement; 10 key informant interviews conducted **Next Steps:** Complete key informant interviews and focus groups: February 2018
				Prevention Services in Plainville/Region C- Implement prevention services for youth, parents and at-risk populations in Plainville/Region C with prevention messages and interventions at the community level.	$180,000	TBD	**Complete:** RFR for prevention for youth and parents **Next Steps:** Posting for youth RFR: January 2018; Procurement for prevention for at-risk population: January 2018
2.	Infrastructure and Capacity Building	Workforce development: Treatment providers	Treatment	**Treatment Gap Analysis-** Conduct needs assessment and gap analysis of BSAS treatment system and make recommendations for next steps to inform the integration of problem gambling in substance abuse services.	$195,000	DOA	**Complete:** Phase 1: Identify programs licensed by DPH to deliver gambling treatment services **Next Steps:** Planning for Phase 2: Capability Gap and Phase 3: Needs Fulfillment Gap
				DPH Practice Guidelines Webinar- Plan, develop, and facilitate webinar for the Practice Guidelines for Treatment providers. This will support capacity building efforts for an estimated 1,300 providers and 350 BSAS programs.	$5,000	DOA	**Complete:** Development of provider training webinar **Next Steps:** Webinar scheduled for May 2018
3.	Infrastructure and Capacity Building	Community Health Workers	Intervention	**CHW and Gambling Training**- Adapt and facilitate training curriculum and capacity-building activities for community health workers (CHW) aimed at conducting community level interventions and disseminating problem gambling information. The initiative would focus on training existing community health workers to screen and refer people who may have a gambling disorder.	$75,000	CHEC-Lowell	**Complete:** CHW and Gambling training in Plainville/Region C: December 12, 2017; evaluation of trainings **Next Steps**: Spring Training: TBD
				CHW and Gambling Needs Assessment in Region B- Focus groups, key informant interviews, and data analysis will inform CHW trainings in Region B for the implementation of community level intervention.	$25,000	Dr. Terry Mason	**Complete:** Regional Stakeholder Meetings A/B and community engagement; 8 key informant interviews conducted **Next Steps:** Key informant interviews and focus groups: February 2018

Department of Public Health
Office of Problem Gambling Services
Program Updates – December 21st, 2017

	STRATEGIC INITIATIVE	PRIORITY AREA	SERVICE	DESCRIPTION	Budget	Vendor	UPDATE
4.	Infrastructure and Capacity Building	Youth, Parents, and At-Risk Populations	Prevention	**Suicide and Gambling Need Assessment-** Focus groups of 10 suicide prevention coalitions will inform curriculum development, planning, and integration of suicide and gambling trainings, activities and community efforts.	$50,000	Mass Coalition on Suicide Prevention	**Complete:** Focus groups and key informant interviews to inform the development of the training curriculum and community activities **Next Steps:** Finalize report to inform the development of curriculum and training: January 2018
				Problem Gambling and Suicide curriculum and trainings for suicide coalitions- Develop a Problem Gambling and Suicide curriculum and training. Conduct statewide training targeting suicide prevention workforce.	$50,000	AdCare Educational Institute	**Complete:** Work plan for curriculum development and training **Next Steps:** Curriculum review; February 2018; Target date for training April 2018
				Gambling and Suicide Screening- Develop gambling screening questions, promotion messaging, and resources to be included in the MassMen.org initiative; a comprehensive resource for men and their loved ones, offering state-wide mental health resources, information, and on-line self-assessments.	$30,000	Screening for Mental Health	**Complete:** Web design, development of screening algorithms **Next Steps:** Soft launch of gambling screening on mass.men.org: January 2018
5.	Infrastructure and Capacity Building	Youth, Parents, and At-Risk Populations	Intervention	**Programmatic assessment to integrate gambling and Intimate Partner Abuse Education Programs**- Review and recommend gambling-related screening and assessment tools. Assess program implementation of services.	$15,000	DOA	**Complete:** Planning and work plan **Next Steps:** Analyze and recommend gambling-related screening and assessment tools
6.	Prevention and Health Promotion	Communication Campaign	Prevention	**Research, planning, and creation of a state-wide health promotion campaign (At-Risk Populations)-** Facilitate informative research to conduct environment scans and key informant interviews in order to most effectively reach target audience. Develop concepts and conduct messaging testing with at-risk populations. Develop media campaign and evaluation strategies. Utilize the Regional Planning Process Reports targeting at-risk populations to inform statewide communication campaign.	$100,000	TBD	**Complete:** RFQ review completed and vendor selected **Next Steps:** Kick-off meeting: January 2018
7.	New Personnel			**Project Coordinator**	**$100,000**		**Complete:** Recommended candidate selected **Next Steps:** On-boarding