NOTICE of MEETING and AGENDA
November 19, 2018

Pursuant to the Massachusetts Open Meeting Law, G.L. c. 30A, §§18-25, notice is hereby given of a meeting of the Public Health Trust Fund Executive Committee. The meeting will take place:

Monday, November 19, 2018
2:00pm
Massachusetts Department of Public Health
250 Washington Street, 2nd Floor
Public Health Council Room
Boston, MA 02108

1) Call to Order
2) MGC Updates
    a. Introduction to Gayle Cameron, MGC Interim Chairperson
    b. GameSense Program Objectives
    c. PHTFEC Budget Update
3) Gaming Research Update
    a. Baseline analysis of crime, call-for-service, and collision data in the communities near MGM Springfield.
    b. Casino Gambling in MA: African American Perspective, Rudy Vega
    c. Screening for Gambling Disorder in VA Primary Care Behavioral Health: A pilot study, Shane Kraus
    d. Targeted Population/ Community Driven Research Update and discussion
4) DPH Listening Sessions – update & discussion
5) Public Comment
6) 2019 Meetings: Schedule & Agenda Review
7) Programmatic Update
8) Other business – reserved for matters the Chair did not reasonably anticipate at time of posting

I certify that on this date, this Notice was posted as "The Public Health Trust Fund Executive Committee Meeting" at www.massgaming.com and emailed to regs@state.ma.us , melissa.andrade@state.ma.us.

_____ _____
(date) Enrique Zuniga, Co-Chair
Commissioner
Massachusetts Gaming Commission

_____ _____
(date) Lindsey Tucker, Co-Chair
Associate Commissioner
Massachusetts Department of Public Health

Public Health Trust Fund Executive Committee (PHTFEC) Meeting Minutes

Date/Time: July 11, 2018 – 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
Enrique Zuniga, Co-Chair, Commissioner, Massachusetts Gaming Commission
Michael Sweeney, Executive Director, Massachusetts State Lottery Commission
Carlene Pavlos, Executive Director MA Public Health Association
Spencer Lord, Attorney, Executive Office of Public Safety and Security

Attendees

Steve Crosby, Chairman, Massachusetts Gaming Commission
Marlene Warner, Executive Director, Massachusetts Council on Compulsive Gambling
Victor Ortiz, Director of Problem Gambling Services, Massachusetts Department of Public Health
Teresa Fiore, Program Manager of Research and Responsible Gaming, Massachusetts Gaming Commission
Mark Vander Linden, Director of Research and Responsible Gaming, Massachusetts Gaming Commission
Judith Glynn Principle, Strategic Science (telephone)
Jessica Collins, Executive Director, Public Health Institute of Western MA
Rachel Volberg, SEIGMA Principal Investigator, UMASS Amherst School of Public Health
Tom Land, UMASS Medical Center, MGC Research Consultant
Rebecca Bishop, Technical Assistance Provider
Jack Vondras, Senior TA Advisor
Ola Szczerepa, Project Coordinator

Call to Order

1:05 p.m. Co-Chair Tucker called to order the Public Health Trust Fund Executive Committee (PHTFEC) Meeting. Co-Chair Zuniga welcomed Carlene Pavlos and Spencer Lord, both acting as substitutes.

Approval of Minutes

1:08 p.m. Co-Chair Tucker requested approval of minutes. Teresa Fiore clarified that the vote is for 5/29 minutes.

Co-Chair Zuniga requested an edit to page 4 to clarify that the timing and direction of DFS regulation is unknown.

Carlene Pavlos stated that Rebekah Gewirtz probably did not mean "literal prevention". Co-Chair Tucker agreed that she didn't mean prevention as captured in the minutes did not imply preventing people from going to casinos.

Co-Chair Zuniga made a motion to approve upon incorporation of the aforementioned edits. Michael Sweeney seconded the motion and Co-Chair Tucker seconded for 3-0 approval with two abstentions.

FY19 budget

1:12pm Mark Vander Linden explained that the Gaming Research Update memo was organized by reports released since January, followed by upcoming deliverables and finally a list of all reports completed between 2013-2017. He invited all attendees to review the reports at their convenience.

Steve Crosby noted that there was a meeting held in Plainville the week prior to update the commission and public on the safety and crime impacts to date. The data showed an uptick in credit card fraud and traffic, however local law enforcement did not believe it was related to PPC. There were no changes in domestic violence, bankruptcies or problem gambling. As there was no notable increase in problem gambling as is expected upon the opening of a new casino, it was hypothesized that the area was already saturated due to Rhode Island casinos. Steve stated that this was the first time in which longitudinal data was used to assess the impacts of community gambling.

Co-Chair Tucker asked if the analysis included the areas around Plainville. Steve responded that the host and surrounding communities were used. Carlene Pavlos

asked whether host and surrounding mean contiguous. Steve clarified that the geography was not defined by statute; rather it was defined as a community which was believed to be affected by the introduction of a casino.

Mark Vander Linden introduced the upcoming studies being released and provided a brief explanation of the deliverables. Co-Chair Tucker asked that highlights of all reports be presented during the next meeting.

Rachel Volberg suggested that abstracts of papers which are sent for publication are shared in advance with the PHTFEC. Mark Vander Linden agreed and added that papers sent out for publication do not go through the MGC peer-review process, so oftentimes they are not seen until after publication. He added that "fact sheets" will go through a new review process with GRAC, who will focus on clarity and ease of understanding. Additionally, their role will be to pull out policy and practice implications from the research.

Spencer Lord asked about the data collection methodologies used for the crime studies. Steve Crosby responded that the crime analyst, Christopher Bruce, works with local police departments on coding analysis and implements standardization from record managements systems. Carlene Pavlos asked whether prostitution and gender based violence was recorded and whether or not the opportunity to use this process to improve data collection around race is being taken advantage of. Mark Vander Linden responded that he will share the baseline which he believes includes sexual violence and that further analysis is a possibility based on data collected.

Mark Vander Linden introduced Strategic Planning and explained that the goal of this engagement is to build upon the research done to date and to produce a multi-year plan which will evolve the research program to make sure that it is addressing the needs of the commonwealth. Judith Glynn provided a status of her work to date and stated that she is planning on meeting individually with members of the PHTFEC to gather their thoughts on a series of topics. She explained that when thinking about objectives, it is important to understand the potential outcomes and the strategies needed. That being said, she asked the group and any engaged stakeholder to think about the needs which they have that can be answered by the research. She commended the work carried out to date and stated that it was the most comprehensive agenda which she knows of in the world.

Co-Chair Tucker appreciates the way in which Judith discussed the research and her work and believes that special population work is one area in which this work can have substantial impact. Judith responded that it is important to reach the people who are in the most need of mitigating harm and expanding benefits, and added that it is surprising the extent to which this has not happened in many other jurisdictions.

Carlene Pavlos stated that she agrees with the way in which Judith seems to be approaching this work, and added that she will be framing her comments at future meetings from a community health perspective.

Victor Ortiz was one of a few stakeholders who was surprised not to see an uptick in problem gambling in the area surrounding Plainridge Park Casino. He wishes to explore the additional hypothesis that this is not the result of saturation but rather a result of the strong health of the region. Steve Crosby added that findings from Springfield will be especially telling as it is more isolated than Everett and will therefore have more of an impact.

Michael Sweeney noted an error in the last bullet on page 2 and stated that the Public Health Institute of Western, MA as well as the Boston Chinatown Institute should also be included. He emphasized the importance of putting dollars towards places in the community which would organically house interactions with problem gamblers.

Carlene Pavlos is concerned that crime reports are not capturing suicidality as a result of problem gambling.

Regional Planning Process

2:21pm Rebecca provided an overview of the regional planning process for region B which focused on informing prevention strategies for youth and high risk populations. Staff partnered with residents and community organizations to learn about their knowledge, beliefs and attitudes about problem gambling and coupled that with existing research. The regional process was framed through a health equity lens.

Co-Chair Zuniga asked how community stakeholders were identified. Co-Chair Tucker responded that a list was generated early in the process, some of which was shared by Victor.

Ola further clarified that two consultants from Mass TAPP assigned to the project began with lists of names and created broad categories of sectors, ending up with 10-11 categories. An intersectionality approach was used to identify men of color with a history of substance misuse. Rachel Volberg stated that problem gambling prevalence rates are higher for both men and women of color and that they tend to have a bimodal pattern of gambling.

Ola introduced the Photo Voice project and stated that Springfield youth have a lot of exposure to gambling. The study found that half had negative attitudes towards gambling, while the other half believed it was okay to sometimes gamble. Rebecca reviewed the remaining 8 recommendation informed by the studies' findings, including caregiver communications, engagement strategies for men in recovery, programmatic recommendation for youth, collaboration amongst multiple public health sectors.

Carlene Pavlos applauded the data collection efforts and the use of a health equity lens for analysis. She recommended that older adults be incorporated into the discussion as baby boomers are quickly approaching senior status. She further added that recommendations and findings be framed in more a more general sense, beyond just problem gambling, which would inform broader intervention strategies and social services.

Jessica Collins questioned whether the ambassador or Photo Voice project was tested for effectiveness and perception before it was rolled out. Now that the project is completed she would like to know whether or not participants felt that it was effective.

Tom Land expressed a desire to broaden the number of people and their attitudes towards gambling. He stated that when all of the data collected on expanded gaming becomes available, there will be new perspectives on ways in which data can be utilized.

Western MA Stakeholder Meeting

3:26pm Co-Chair Tucker introduced a meeting scheduled for the end of September with the Pioneer Valley Planning Commission. She wanted to ensure that awareness of the meeting is spread and suggested that a high level overview of the PHTFEC would be beneficial for attendees. Co-Chair Zuniga added that the community mitigation fund is an additional effort which may be of interest to the group.

Carlene Pavlos asked whether the Springfield Health Department had been engaged and suggested to do so if not. Victor Ortiz responded that they had not formally been engaged.

OPGS FY19 Budget

3:38pm Co-Chair Tucker introduced the Office of Problem Gambling Services budget by stating that the office would be hiring additional staff. She further stated that she would like to begin a project in the area of intimate partner violence as individuals at greater risk of problem gambling is both the perpetrator and survivor of intimate violence.

Carlene Pavlos suggested that the office engage the statewide coalition against domestic and sexual violence.

Public Comment

3:47pm Jessica Collins, Executive Director of the Public Health Institute of Western MA requested that more information be shared with stakeholders in western Massachusetts. She invited the MGC to present their work to date and would like a lot of the misconceptions around research findings to be addressed. Marlene Warner, Executive Director of the Massachusetts Council on Compulsive Gambling, added that she agrees that engagement of the PHTFEC with the public is minimal.

Michael Sweeney stated that he is still confused as to why a large amount of resources are going in one direction and believes that the group needs to consider spreading dollars with defined responsibilities in order to make an assessment of the value of return.

4:00pm *Having no further business, Michael Sweeney made a motion to adjourn. Co-Chair Zuniga seconded the motion. Motion passed 5-0*.

List of Documents and Other Items Used

1. Public Health Trust Fund Executive Committee, Notice of Meeting and Agenda dated July 11, 2018
2. Public Health Trust Fund Executive Committee, Meeting Minutes dated May 9, 2018
3. Public Health Trust Fund Executive Committee, Meeting Minutes dated May 29, 2018
4. Gaming Research Update dated July 11, 2018
5. Regional Planning Process in Region B July 11, 2018
6. Regional Planning Process: A community-centered approach to developing prevention messaging for youth and high-risk populations
7. New frontiers for youth-centered prevention programming using photovoice
8. New frontiers for problem gambling prevention: ambassador project
9. FY 19 Budget Update dated June 29, 2018

Public Health Trust Fund Executive Committee (PHTFEC) Meeting Minutes

Date/Time: May 9, 2018 – 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
Enrique Zuniga, Co-Chair, Commissioner, Massachusetts Gaming Commission
Jennifer Queally, Undersecretary of Law Enforcement
Michael Sweeney, Executive Director, Massachusetts State Lottery Commission
Rebekah Gewirtz, Executive Director of the National Association of Social Workers, MA Chapter and Representative of the Massachusetts Public Health Association

Attendees
Marlene Warner, Executive Director, Massachusetts Council on Compulsive Gambling
Victor Ortiz, Director of Problem Gambling Services, Massachusetts Department of Public Health
Teresa Fiore, Program Manager of Research and Responsible Gaming, Massachusetts Gaming Commission
Mark Vander Linden, Director of Research and Responsible Gaming, Massachusetts Gaming Commission
Giles Li, Executive Director, Boston Chinatown Neighborhood Center
Susanne Bernadelli, Assistant Director of Programs and Services, Massachusetts Council on Compulsive Gambling
Sarita Hudson, Director of Programs and Development, Public Health Institute of Western Massachusetts
Anna Yu, VP of Client Services, KHJ Brand Activation
Tod Brubaker, VP/Creative Director, KHJ Brand Activation
Caitlin Dodge, Chief Operating Officer, ThinkArgus

Call to Order

1:11 p.m. Co-Chair Tucker called to order the Public Health Trust Fund Executive Committee (PHTFEC) Meeting and welcomed Enrique Zuniga to his first meeting in which he will serve as Co-Chair of the PHTFEC.

Approval of Minutes

1:12 p.m. *Michael Sweeney noted that PHTFEC minutes for April 4, 2018 were not distributed in advance. Vote will be delayed until the next meeting.*

FY19 budget

1:13pm Lindsey Tucker introduced the FY2019 budget and stated that the goal of the meeting was to vote on the budget.

Rebekah Gewirtz asked whether the GameSense budget reflected dollars for Wynn and what the money would be used for. Mark Vander Linden responded that a part of the figure will go towards building the actual GameSense Info Center; however, most of the dollars will be for training and onboarding new staff. Rebekah Gewirtz asked if there would be any overlap within the communications campaigns and strategies sponsored by the DPH and MGC. Co-Chair Zuniga responded that the audiences of the two campaigns are extremely different so there is not a lot of room for overlap. Victor Ortiz explained that within the context of prevention, having multiple communication strategies are necessary to address early intervention all the way to messaging within casinos. Rebekah Gewirtz added that the PHTF should support programs which target policy and environment.

Michael Sweeney stated that he continues to struggle to digest the [large] funds allotted for the GameSense program within the overall budget, and hopes that we are able to migrate funding to other programs that benefit the broader community. In particular, he added that there should be more dollars put towards "special population research". Jennifer Queally added that while special populations have been identified, she is not seeing action and assumes that the intent of the communications campaigns will address these different audiences as opposed to GameSense which she believes is more of an intervention program. Michael Sweeney stated that there is a balance within the agenda and is not comfortable that for all of the population, the best place for prevention and intervention is within the casino setting. He added that he is interested in using PHTF resources for community initiatives in addition to GameSense and cited the success of public health 'barbershop' prevention programs as the type of on-the-ground initiatives he is interested in.

Co-Chair Zuniga responded that in the past, rigid messaging targeting gamblers had an opposite effect, and that GameSense represents a real evidence-backed shift in thinking. Co-Chair Tucker agreed that there is value in GameSense, although members could benefit from more detail and a presentation of the full evaluation should take place during the next PHTFEC meeting in July. In particular, she would be interested to know whether GameSense works equally for different populations.

Co-Chair Zuniga stated the original intent was to not have high overhead in the formative years of the PHTFEC. Co-Chair Tucker explained that DPH personnel costs were not fully captured in the current budget and that additional information and an additional request to the group for consideration will be brought to the July meeting.

Public Comment

Marlene Warner of the Massachusetts Council on Compulsive Gambling read Chapter 23K Section 58 which establishes the basis for the PHTFEC. She stated that dollars within the budget are coming from gamblers and are meant to address problems both inside and outside of the casino. The intent is to allocate resources where people are affected by problems and believes that there is a spectrum of programs to be put out.

Giles Li of the Boston Chinatown Neighborhood Center stated that Massachusetts is better situated than other parts of the country to have this conversation. He questioned how effective GameSense is for special populations as well as how impactful the research will be for special populations as level funding will only allow illustrative as opposed to an instructive output.

Sarita Hudson reminded the group that her organization, the Public Health Institute of Western MA, conducted a Health Impact Assessment before the opening of any casinos in Massachusetts. She questioned how the PHTFEC and GameSense would engage local partners and stakeholders who are key in informing cultural thinking and competency.

Michael Sweeney shared his disappointed that there seems to be a competition forming, and that no comment can be made about GameSense without eliciting strong visceral reaction. He clarified that he does not have a problem with the program; rather he does not believe that the only point of

impact should be within the casino particularly when there is opportunity at other community settings. He further added that a lot of work was put into a budget which in its current form, only presents level funding for the special populations research work, and for that reason would prefer a delay in budget vote. Rebekah Gewirtz stated that she had to leave and supports a delayed vote.

Jennifer Queally suggested a cost benefit analysis be conducted to determine per person cost to measure effectiveness of the GameSense program. Co-Chair Zuniga proposed adding dollars to the special population table to move forward with the vote. The majority of the executive committee decided to postpone the vote.

Communications Campaigns

Caitlin Dodge of ThinkArgus introduced the communication campaign targeting Men of Color with a History of Substance Misuse for which her agency was contracted to develop for the Department of Public Health. She stated that research was conducted in order to inform the campaign and noted that many participants connected to "I" statements, which informed the development of their creative strategy.

Jennifer Queally questioned whether Gamblers Anonymous (GA) would be promoted within the campaign. Caitlin Dodge explained that the helpline is more heavily promoted within the campaign at the recommendation of the focus groups; however, organizations such as GA would be mentioned elsewhere within the campaign through other mediums.

Co-Chair Tucker added that at the heart of the campaign are individuals with a history of substance misuse, with men of many races hopefully responding to the messaging.

Marlene Warner asked whether there would be an attempt to talk to individuals outside of the chosen recovery centers as the members of this particular center may not be representative of the larger recovery population. She added that in her experience, individuals who make up these types of groups often use the term gambling to mean 'scratch tickets' and not casinos themselves. Caitlin Dodge responded that her team had met with one additional group not from a strict recovery center.

Anna Yu introduced the GameSense communications campaign for which her company, KHJ, has been contracted by the Massachusetts Gaming Commission to develop. She stated that the campaign includes a relaunch of GameSense at Plainridge Park Casino in accordance with the new GameSense brand standards, the launch of GameSense at MGM Springfield and an introduction of GameSense to the Western Massachusetts market.

Tod Brubaker, KHJ, provided examples of proposed creative and stated that the intent of the campaign is to improving messaging to drive audience to GameSense Advisors. Jennifer Queally stated that she did not like the example of the elevator decal which from her perspective looks like it is promoting alcohol abuse.

Co-Chair Tucker asked how the proposed concepts were being tested and requested review by people of multiple backgrounds. Anna Yu responded that the proposed concepts are part of a heavily weighted digital plan, which will provide the ability to track and optimize the campaign including for individuals with a diverse background.

Michael Sweeney asked about the ways in which language and cultural diversity will be incorporated into the program, and added that he encourages the proposed creative as it pushes beyond a stereotypical government campaign which are often designed on the 'safe' side.

DPH Program Update: Program Gambling & Suicide Prevention

Having taken up more time on the FY2019 budget than anticipated, Co-Chair Tucker moved directly to public comment.

Other Business

(See above comment)

Public Comment

3:54 Sarita Hudson, Public Health Institute of Western Massachusetts thanked the PHTFEC members for the ability to provide public comment on behalf of the Western Massachusetts community and wants to ensure that their voices are heard. She represents the Public Health Institute of Western Massachusetts which has been holding meetings to build on the Western Massachusetts Casino Health Impact Assessment originally authored by her organization. The sentiment heard at these meetings has been that the health related initiatives to-date focus on individuals and their families but not necessarily on the broader community. She circulated a letter which can be found at the end of these minutes.

Giles Li, Boston Chinatown Neighborhood Association reiterated his concern that while GameSense is the most evidence based intervention available to date, it is unclear whether it is impactful with special populations. He further expressed concern that level funds for year two funding of special population research may only result in illustrative and not instructive study.

4:00 *Co-Chair made a motion to adjourn. Michael Sweeney seconded the motion. Motion passed 4-0 as Rebekah Gewirtz had to leave before the end of the meeting.*

List of Documents and Other Items Used

1. Public Health Trust Fund Executive Committee, Notice of Meeting and Agenda dated May 9, 2018
2. Public Health Trust Fund Executive Committee, Meeting Minutes dated April 4, 2018
3. FY2019 Budget
4. GameSense Public Health Committee Meeting dated May 9, 2018
5. DPH_Problem Gambling Initiatives dated May 9, 2018
6. Letter to the PHTFEC from Public Health Institute of Western Massachusetts dated May 9, 2018 (attached)

Public Health Trust Fund
Executive Committee members
May 8, 2018

Dear Executive Committee Members:

Thank you for your important oversight of the Public Health Trust Fund and for creating this public comment opportunity.

The Public Health Institute of Western MA (formerly Partners for a Healthier Community, Inc.) led the Health Impact Assessment of the Western MA Casino published and presented to the MA Gaming Commission in 2013. We were honored to be able to inform some of the policy discussions taking place at that time both locally and on a statewide level.

The four issues that we focused on in that HIA *were jobs and employment, access to local casino gambling, traffic, and crime/public safety*. We found a likely mix of positive and negative impacts on health determinants and health outcomes and noted that the extent to which the effects manifested were dependent on the type of local and regional multi-sector based strategies put in place to promote positive impacts. We also noted that strategies should be both evidenced based, informed by local residents, and culturally responsive to local and regional context.

Over the past many months, we have begun convening a multi-sector group of stakeholders to understand, now five years later (2018) what new issues and concerns might be coming to the surface that we should address as the casino opening is close approaching. Issues that have been highlighted include:

- *Crime/Violence*, specifically domestic violence and human trafficking;
- *Policing practices*, we anticipate that new practices in proximity to the casino location will have negative impacts on communities of color;
- *Barriers to Employment*, specifically for residents that have a criminal record and those residents that would benefit from skill building systems as well as addressing other barriers to employment including explaining the preferred vendor status and options for covering upfront cost of gaming license such as payroll deduction after hiring;
- *Transportation* particularly in light of the current situation of regional transit authorities being cut;
- *Problem gambling* and ensuring that self-exclusion procedures for problem gamblers at a regional level are evidenced base and informed by community input and responsive to community needs;

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www.PublicHealthWM.org | info@PublicHealthWM.org

- *Traffic /Air quality* – Springfield was just named the "asthma capital of the nation"- any new traffic will exacerbate the high rates of asthma (double the state); and lastly,
- *Housing displacement* from gentrification, not just in the South End where MGM is located, but across the City there is already increased rental costs and evidence of displacement and lack of services.

The Public Health Institute of Western MA is a "backbone" organization that has over two decades of experience in leading public health coalitions and systems and environmental changes. **We recommend that any funding strategy put in place by the Public Health Trust Fund support what we know to be three critical elements for the success of any multi-sector convening to address broad based population health issues such as problem gambling and the public health issues that are both causal and correlated with problem gambling:**

1) Efforts must be based in appropriate local community based organizations that have history of impactful work and expertise;
2) Any prioritized strategies and research being implemented locally need to be informed and monitored by resident leaders who organically will bring a lens of cultural responsiveness and understanding of local capacity, assets and needs;
3) Funded efforts should be aligned with current and existing efforts of both public health plans and easily identified metrics and trackable health indicators.

The second important issue we bring to your attention is a that we insist that there be some **formal mechanism in place to ensure that there are equitable distribution of funds to Hampden County**, consistently reported the least healthy county of the Commonwealth of Massachusetts based on both quality and length of life indicators. We want to be assured that the funding in the Public Health Trust Fund will return in amounts that are appropriate to address problem gambling and the already alarming health outcomes, particularly experienced by residents of color in Springfield and Holyoke, which we anticipate will be exacerbated by the casino. There is a history of resources being more heavily distributed in Eastern Massachusetts and we feel it is very important that the Public Health Trust Fund honor that Hampden County, in particular Springfield, will be greatly impacted and deserving of significant funding to mitigate negative impacts.

I respectfully submit these comments and look forward to joining you at future meetings as together we lift up the positive impacts and mitigate negative outcomes from this new venture that the Commonwealth has taken on.

Sincerely,

Jessica Collins
Executive Director

GameSense Origins and Guiding Principles

The purpose of this brief is to provide background on the legislative mandate directing the Massachusetts Gaming Commission (MGC) to institute responsible gaming strategies and the process which informed selection and development of the GameSense program.

> The MA legislature imbued mitigation throughout the Gaming Act. Chapter 23K section 9(a)8 reads that the Commission shall require
>
> *an agreement that the applicant shall mitigate the potential negative public health consequences associated with gambling and the operation of a gaming establishment, including: (i) maintaining a smoke-free environment within the gaming establishment under section 22 of chapter 270; (ii) providing complimentary on-site space for an independent substance abuse and mental health counseling service to be selected by the commission; (iii) prominently displaying information on the signs of problem gambling and how to access assistance; (iv) describing a process for individuals to exclude their names and contact information from a gaming licensee's database or any other list held by the gaming licensee for use in marketing or promotional communications; and (v) instituting other public health strategies as determined by the commission;*

Reno Model[1]

The Reno Model (Blaszczynski, et al., 2004) is a widely accepted set of principles to guide industry operators, health service and welfare providers, interested community groups, consumer agencies and governments in the adoption and implementation of responsible gambling and harm minimization.

MGC drew from the Reno Model, to serve as the guiding document for the development of Responsible Gaming strategies, practices, and evaluations, with the intent to "create a sustainable, measurable, socially responsible, and accountable approach to gaming."

Fundamental principles:

- The ultimate decision to gamble resides with the individual and represents a choice, and
- To properly make this decision, individuals must have the opportunity to be informed.

The Reno Model proposes a tripartite model that incorporates government, industry, and personal responsibilities in minimizing gambling-related harm.

[1] The paper "A Science-Based Framework for Responsible Gambling - The Reno Model" is described in full in the following link: https://www.gaming.ny.gov/gaming/20140409forum/Nelson%20(Harvard%20Medical%20School)/Applicant%20Provided%20Material/Blaszczynski%20et%20al,%20Science-Based%20Framework%20for%20Responsible%20Gambling%20-%20The%20Reno%20Model,%20Journal%20of%20Gambling%20Studies,%2020(3),%20301-317%20(2004).pdf

1. **Governments** retain responsibility for enacting legislation that determines the nature and extent of gambling, positing requirements directed to maximizing consumer protection, and monitoring compliance with these requirements
2. **Gambling operators** bear the responsibility for ensuring that they do not make misleading claims, engage in exploitative practices, omit or disguise relevant information, develop products designed to foster excessive gambling, or target inappropriate subpopulations
3. **Individuals** bear the responsibility for understanding the nature and risks associated with the products they consume.

The Reno Model calls for stakeholders to develop a **strategic framework** to guide the creation of socially responsible policies rather than those that emerge solely in response to anecdotally-based socio-political influences. Such a framework for action can promote public health and welfare through a range of prevention efforts that differentially target vulnerable community members and sectors.

Responsible Gaming Framework[2]

Following the Reno Model, the MGC created a Responsible Gaming Framework in 2014 (revised 2018) with the primary long-term objective to prevent and reduce harms associated with gambling in general and excessive gambling behaviors in particular. The process of developing the framework included extensive literature review and key stakeholder interviews. The Responsible Gaming Framework is intended to inform gambling regulation in Massachusetts and provide an overall orientation to responsible gaming practice and policy adopted by the MGC and gaming licensees. The Framework is designed to guide the Commission's decisions as it promulgates regulation and develops programs and practices to support responsible gaming. The Responsible Gaming Framework is based on the commitment by the MGC and its gaming licensees to the guiding value of ethical and responsible behavior.

RGF Educational Objectives:

- **PROVIDE** accurate and balanced information to promote positive play.
- **PROVIDE** patrons adversely affected by gambling with timely access to appropriate information on gambling disorder, and advise on where to obtain assistance dealing with such matters
- **CREATE** a shared understanding of responsible gaming practices among individuals, communities, the gambling industry, and the government.

GameSense

When looking to fulfill the legislative mandate to provide on-site resources, the MGC turned to the British Columbia Lottery Corporation which had a few years earlier launched the GameSense program. The Responsible Gaming Framework, Strategy 2, Promoting Positive Play, identifies GameSense as a key tactic and anchor for other responsible gaming initiatives.

GameSense is an innovative "Point of Sale" program to promote positive play and reduce gambling-related harm.

[2] MGC Responsible Gaming Framework is at https://massgaming.com/wp-content/uploads/MGC-Responsible-Gaming-Framework-2.0.pdf

To promote positive play, GameSense advisors engage in conversations with players relative to their play (never interrupting active players). Advisors build familiarity and, over time, relationships with players in an effort to increase informed player choice, including demonstration of tools like PlayMyWay (budget setting and balances). Advisors also explain new games on the floor, how they work and often debunk common gambling myths.

To reduce gambling related harm, GameSense works to provide at-risk and problem gamblers with information relevant to their specific needs. This includes connecting players to self-assessment tools, providing information to help them recognize the signs of problem gambling and community-based resources if they wish to seek professional help. If a player feels that their gambling is beyond their control, they can enroll in the voluntary self-exclusion program, which excludes them from participating in gambling activities.

GameSense Program Objectives:

- **EDUCATE** players about how gambling and individual games work
    - To provide a better understanding about individual games
    - To debunk common gambling myths

- **SUPPORT/ENCOURAGE responsible gambling and positive play**
    - Examine attitudes and beliefs that minimize the risk of gambling harm
    - Connect/engage with gamblers of all levels and provide information relevant to each player's needs
    - Engage with players to promote positive play (Positive play is when a player holds attitudes and beliefs that minimize their risk for developing gambling harms)

- **PROMOTE** targeted informed player choice
    - Connect players to self-assessment tools
    - Provide at-risk and problem gamblers with information relevant to their specific needs
    - Provide information to help players recognize the signs of problem gambling and community-based resources if they wish to seek professional help.

- **CONNECT** Players to additional available resources and tools
    - GameSense advisors are ambassadors to other responsible gaming initiatives and resources outside of the gaming environment
    - If a player feels that their gambling is beyond their control, Advisors enroll individuals in the voluntary self-exclusion program and offer connection with community resources.
    - PlayMyWay is a tool that allows players to set a budget and receive reminders of their budget so they can self-monitor their play activity

Key strategies

- **Point-of-Sale Intervention:** An important and effective opportunity for intervention occurs at the point where the individual engages with the gambling product. This is where loss of control

occurs, and where financial harm is incurred. The Victorian Responsible Gaming Foundation[3] defines six dimensions of harm: financial, relationship, emotional/psychological, health, cultural, work performance, and criminal activity. Financial harm is usually the trigger for harms in the other five dimensions over time. Tools, well-trained staff and supportive interventions contribute to an environment that supports healthy play and prevents harm. The point of sale is also the most logical place to find and reach those who are experiencing gambling problems. An analysis of the SEIGMA Baseline General Population[4] survey reveals that on a typical day at Plainridge Park Casino, one in five visitors may be an at-risk or problem gambler from Massachusetts. With this concentration of the target population, GameSense information and services, combined with PlayMyWay, have the potential for an outsized and significant impact at Massachusetts casinos.

- **Communication and Awareness:** A well thought-out communication plan is critical to successful program uptake, particularly one which emphasizes education and awareness. When developing the strategies and materials meant to carry out GameSense objectives, audience is considered based on their level of gambling involvement. Consistency in experience delivery by GameSense Advisors as well as the usage of brand standards is critical to improving awareness.

- **Positive Play:** The majority of casino patrons engage in "positive play" or, in other words, exhibit no problems or concerns with their gambling. To help players to avoid persistent negative play experiences, efforts are in place to support continued positive play, including programs that provide patrons with the information they need to make informed gambling decisions. This includes information on behaviors, attitudes, and motivations of players that show no signs of at-risk or problem gambling behavior, as well as information about how games work. For persons who are unable to maintain positive play, GameSense offers information about gambling disorder and options for help.

- **Stepped Care Approach:** This approach suggests the riskier or more problematic the playing behavior, the more focused the intervention needs to be, resulting in a hierarchy of interventions ranging from providing information to resource referral and casino exclusion.

- **Informed Decision Making:** Informed decision-making requires that patrons have the information they need to make gambling decisions. The Informed Decision-Making Framework, based on the stepped care approach, specifies three separate information strategies aimed at three different primary gambler types:

    - **Casual Gamblers** may benefit from programs that enhance their gambling literacy – i.e., how gambling works and low-risk gambling guidelines.

    - **Frequent Gamblers** may benefit from a deeper understanding of how gambling works, such as electronic gambling machines' (EGMs') use of random number generators, probabilities and odds for table games, as well as information dispelling common gambling myths.

[3] https://responsiblegambling.vic.gov.au/

[4] Volberg, R. A., Williams, R. J., Stanek, E. J., Houpt, K. A., Zorn, M., Rodriguez-Monguio, R. (2017). Gambling and Problem Gambling in Massachusetts: Results of a Baseline Population Survey. Amherst, MA: School of Public Health and Health Sciences, University of Massachusetts Amherst.

- **Intensive Gamblers** may benefit from information about their play activity, the use of self-assessment tools, and the options available for help.

Key Tactics[5]

- **Understanding Audience:** For greater impact, audience must be understood. To influence a change in attitude, belief, or behavior, requires knowing what needs to be changed. What are the existing attitudes toward gambling, the terminology used, lifestyle and modes of communication? GameSense [Advisors], many of whom have years of experience in the gaming industry, are provided intensive training in order to better understand and interact with the audience.

- **Get Attention**: While effective strategies must have the right messaging, the bigger challenge is getting people to listen. Prevention communication in gambling is particularly problematic since most people including frequent gamblers, believe their chance of having a gambling problem is remote. It does no-one any good to have the right information if no one sees to it. GameSense works to break through the disinterest with clever presentation of information, outgoing staff, fresh approaches and giveaways. Finally, who delivers the message matters.

- **Who delivers the message matters:** Expert, familiar and trustworthy sources are more persuasive and more likely to change an audience's attitudes. Every organization will have its unique opportunities and limitations based on its particular vantage point. For example, a non-profit will probably have the capability to speak about problem gambling directly with secondary school students. A gambling company, on the other hand, will have significant impediments to the same discussion as observers will likely accuse companies of subliminal marketing (i.e., experience of some cigarette companies).

Gambling disorder is a community problem, not just a gambling problem. Echoing the Reno Model and Responsible Gaming Framework, all stakeholders have a role and contribution to make in the prevention of gambling disorder. No one organization can prevent gambling disorder on its own.

[5] Kelly, J., Wiebe, J., (2018). Responsible Gambling from a Non-profit Perspective

TO: Public Health Trust Fund Executive Committee

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

DATE: November 19, 2018

RE: Gaming Research Update

Reports, Studies and Data Presentation Released September - November, 2018

CHIA Manuscript: Gender differences in mental health and substance use disorders and related healthcare services utilization. Brand, E., Rodriguez-Monguio, & Volberg, R. (2018). *The American Journal on Addictions.* (Accepted on November 2, 2018)

Background and Objectives
Pathological gambling often co-occurs with other psychiatric disorders. Gender differences in treatment-seeking behaviors among patients with pathological gambling diagnosis remain poorly understood. This study assessed gender differences in healthcare services utilization in patients seeking treatment for pathological gambling, substance use, and mental health co-occurring conditions.

Methods
Study data were derived from a representative sample of the Massachusetts All Payers Claims Database for the period 2009-2013. Descriptive analyses were performed by gender using group t-tests and Pearson's chi-square tests. Bootstrap analysis was used to account for skewed distribution of healthcare services utilization data. Multiple linear regressions were used to evaluate the association between healthcare services utilization and gender while controlling for patient's age, county, and ICD-9-CM diagnosis codes.

Results
Over two thirds of the patients were males. Moreover, two in five patients seeking treatment had pathological gambling as principal or primary diagnosis. Females had a significantly greater number of three or more co-occurring psychiatric conditions than males. Having a diagnosis of episodic mood disorder, neurotic disorder, or adjustment reaction significantly increased the utilization of healthcare services for both genders. Females had a greater utilization of healthcare services than males for the same psychiatric diagnosis.

Discussion and Conclusions
Healthcare services utilization significantly varies by gender and type of mental health and substance use diagnosis. There are significant differences by gender in the utilization of healthcare services for the same psychiatric disorders

Casinos and Gambling in Massachusetts: African-American Perspective. Vega, R., Cortes, D., Kopel, P. Royo, A,. Crawford, K. (Pending November release)

Background

The purpose of this study was threefold: 1) conduct an exploratory qualitative analysis describing the main themes, concerns, and perceptions regarding gambling and casinos among African Americans in Massachusetts; 2) complement SEIGMA's quantitative findings related to gambling among African American residents in Massachusetts; 3) explore environmental and contextual factors that might influence gambling behavior of African Americans.

JSI conducted five focus groups with African American participants (N=49) between November 2017 and April 2018. Three of the focus groups were conducted with residents of Boston, a fourth one with residents of Everett-Chelsea, and the fifth one in Springfield. All participants completed an intake survey comprised of basic sociodemographic and the Canadian Problem Gambling Index (CPGI) which we used solely as a screening tool. The focus group discussions were guided by the following themes: life context, overall gambling experiences and behavior i.e., problem gambling, help-seeking behavior, casino gambling and the community, and views about casinos in Massachusetts. Finally, data collection and interpretation was focused on understanding, from the perspective of the individual, common gambling experiences, as well as views about casino gambling.

Main findings

Life context

- Participants described their communities as impoverished, lacking employment opportunities and needed social services to address mental health and substance abuse problems.

Overall gambling experiences and problem gambling

- Participants' motivation to gamble include financial need, recreation, and *thrill-seeking,* which can be interpreted as urge reduction.
- Religious beliefs appeared to play an important role as both a catalyst and a deterrent to gambling among participants: they pray to God for good luck and they pray to God to help them cope with problem gambling.
- Participants trajectory to problem gambling was described as involving playing lottery games compulsively and obsessively.
- Participants reported a host of negative consequences associated with problem gambling, including divorce, bankruptcy, homelessness, mental health issues, losing money intended for living essentials, such as food and rent, losing key elements that help them to gain their livelihood (e.g., car, jobs), and social (and family) isolation.

Help-seeking behavior

- Shame and stigma deter individuals experiencing problem gambling from seeking help or accessing and utilizing services. This seems to be related to the fact that treatment for problem gambling is usually delivered by mental health service providers and seeking mental health services is highly stigmatized.
- Participants highlighted the need of mental health services in their communities.

Gambling at casinos

- Overall, participants are aware that casinos are purposely designed to entice people to gamble more. They used terms such as "a setup, a ploy, a trap, demonic, and a classic plantation scenario" to describe casinos.
- Participants described normative gambling strategies, such as setting spending or losing limits and crafting specific gaming strategies that they employed to manage betting money at casinos.

Views about casinos in Massachusetts

- Participants view the advent of casinos as both positive and negative. Their positive views regarding casinos are related to casinos' potential to create new jobs and other economic opportunities. The negative aspects associated with the presence of casinos relate to concerns that already exist within the participants' communities: crime, drugs, gentrification, and the dissolution of community ties.
- They are concerned that casinos will bring new types of criminal activities and attract new criminals to the community. According to some participants, police departments are overstretched, and they wonder if current law enforcement staff will be able to absorb their additional responsibilities.
- Participants are also worried about the impact casinos will have on the drug epidemic in their communities. Their concerns revolve around two main issues: the dearth of services in the community and the added burden that casinos will place on police.
- Gentrification is a concern among participants in Springfield. They worry that the presence of casinos will increase both property values and taxes, thus, pushing them out of the area.
- Participants feel that opportunities to interact with neighbors (playing Keno at a game parlor, buying scratch tickets, street games) may vanish as a result of casinos, as they would force the corner stores and parlors to close.

***Assessing the Impact of Gambling on Public Safety in Massachusetts Cities and Towns: Baseline analysis of crime, call-for-service, and collision data in the communities near MGM Springfield*.** Bruce, C. (Released on October 25, 2018)

Background

This study is part of a series to determine the effects of Massachusetts' new casinos on the public safety of the surrounding regions. Christopher Bruce, a crime analyst with expertise in police data systems and police data analysis, was contracted to extract data and provide before-and after comparisons of crime, calls for service, and traffic collisions. Mr. Bruce released the first report concerning the Springfield-area agencies likely to be affected by the opening of MGM. As a baseline report, there are no particular "findings" in relation to any changes in public safety issues caused by the casino. Those will be covered in a series of 2019 reports.

Methods

- Data was extracted from the individual records management systems of the Springfield, Agawam, Chicopee, East Longmeadow, Hampden, Holyoke, Longmeadow, Ludlow, Northampton, West Springfield, and Wilbraham Police Departments.
- No information specific enough to identify any person (offender or victim) was collected.
- After extracting from each individual system, the data was combined into a series of "master" tables using a common set of codes based on the NIBRS reporting system
- The resulting *baseline dataset* supplied the data organized in this report.

Notable points covered in this report:

- There are means by which its presence could cause crime to increase (e.g. a larger population of visitors and vehicles providing more opportunities for offenders) and there are means by which it could decrease (e.g., by supplying more law enforcement presence, economic development, and legitimate activity in the area). Subsequent studies will analyze either possibility.
- An analysis of likely travel routes to and from MGM shows several routes and exit areas that will be analyzed in-depth for changes.
- Analysis will need to consider the presence of several existing types of facilities have seen increased traffic and usage in other communities across the nation with new casinos, including hotels, gas stations, convenience stores, transportation centers, pawn shops, and social service agencies.
- Local police agencies supply most of the actual crime data from the region, but State Police data was collected primarily to determine patterns on state roadways. Crashes have been on an upward trend (as they have for many area communities), which may be accelerated with extra traffic in the area.

***Real Estate Impacts of the Plainridge Park Casino on Plainville and Surrounding Communities*.**

Renski, H., Peake, T. (Released on October 11, 2018)

This report examines the initial impacts of the Plainridge Park Casino (PPC) on the residential, commercial, and industrial real estate markets for Plainville and its surrounding communities and provides a comparison to the baseline established prior to the opening of PPC in the *Baseline Real Estate Conditions, Host Community Profile: Plainville* report. Since the awarding of its gaming license and its subsequent opening in 2015, PPC has not had a strong effect on several indicators that measure the local residential, commercial, and industrial real estate markets.

Key Findings: Residential Real Estate Indicators

- Plainville's residential real estate market is relatively small and predominantly comprised of single-family homes with a scattering of condominiums. Multi-family home sales are rare.
- There has been an increase in single-family home and condominium sales following the awarding of the gaming license and opening of PPC in both Plainville and surrounding

communities. However, this rise is consistent with historic and/or broader trends in the region and therefore unlikely to be purely attributable to PPC.

- There have been relatively few sales of single-family homes and condominiums near the casino development site in recent years. The location of residential home and condo sales has not noticeably changed since the opening or construction or PPC.
- We find no evidence that the opening of PPC has had a negative impact on area home and condo sales prices in either Plainville or surrounding communities.
- There has been a slight rise in the real sales price of single-family homes in Plainville and surrounding communities in the first year following the opening of PPC. However, this rise is comparable to regional and statewide trends and was not found to be statistically significant after controlling for trends and home characteristics.
- There has also been an increase in the real sales price of condominiums in Plainville and surrounding communities after the opening of PPC. However, this growth is generally consistent with trends that began before the awarding of the gaming license. Our statistical analysis finds weak evidence of a small casino-related bump in condominium selling prices in surrounding communities, but no effect on Plainville condominium prices.
- Building permits are an important indicator of future development, but their natural variability makes it difficult to distinguish possible impacts from serendipitous events. In Plainville, there was a rise in the number of multi-family permits that coincided with the awarding of the gaming license. But the rise was only temporary. There was no apparent impact on single-family permits.
- The value of single-family permits tends to be more stable than the number of permits. In Plainville, the awarding of the license and opening of PPC had no impact on the value of single-family permits. Surrounding communities saw a rise in the value of single-family permits. However, this rise was consistent with trends in the broader region and therefore difficult to attribute to PPC.

Key Findings: Commercial and Industrial Real Estate Indicators

- While the number of commercial and industrial buildings has increased slightly in recent years, the increase of commercial rentable building area has outpaced the increase in buildings, suggesting a tendency towards larger commercial spaces in new development, including PPC. The opposite trend is true of Plainville's small industrial real estate market, where the limited growth in industrial buildings has still outpaced the growth of new industrial space.
- Vacancy rates in Plainville have remained consistently lower than those of its surrounding communities or Massachusetts as a whole, but the very small number of commercial properties in Plainville means that these rates are also much more volatile.
- Plainville and its surrounding communities tend to have average lease rates lower than the State average, although some surrounding communities have seen higher industrial lease rates.
- Other than an increase in the amount of commercial space, the evidence suggests that the opening of PPC did not substantially change commercial or industrial real estate conditions in Plainville or its surrounding communities. This is unsurprising as the slot parlor component of PPC was developed on the site of an existing harness racing facility in a relatively remote part of the town, with no new buildings being occupied or displaced in the process. While some large

increases or decreases have occurred across certain measures, historical levels of volatility make it impossible to tell whether PPC was a factor in those changes.

Evaluation of the Massachusetts Voluntary Self Exclusion Program: June 24, 2015 – November 30, 2017. Nelson, S., Klechinsky, J., LaPlante, D., Shaffer, H. (Released on September 27, 2018)

As required by statute, the Voluntary Self-Exclusion program is available to assist patrons who recognize that they have experienced a loss of control over their gambling and wish to invoke external controls. Once on the list, persons are prohibited from entering the gaming floor and if they do, gambling wins and losses are transferred to the MGC Gaming Revenue Fund. Enrollment terms are 1-year, 3-years, or 5-years. The VSE contract covers all Massachusetts casino properties. The MGC self-exclusion process utilizes an engaged approach, ensuring that the patron obtains the assistance needed, is responded to in a respectful, timely, and discreet manner, and feels supported.

The MGC contracted with the Cambridge Health Alliance, Division on Addiction to provide an evaluation of the Massachusetts Voluntary Self-exclusion Program (VSEP). This initial report summarizes data collected from the program and its enrollees during its first twenty-nine months of operation in Massachusetts. Evaluation goals were to (1) evaluate the VSEP as implemented in collaboration with Plainridge Park Casino (PPC), and (2) assess the gambling behaviors, problems, mental health, and well-being of VSEP enrollees across time.

Methods

The sample for this evaluation included all 263 VSEP enrollees who entered the program between June 25, 2015 and November 30, 2017. Within this full sample, the DOA also examined several overlapping subsamples, including enrollees who used player cards at PPC after May 2016 (n = 116), VSEP enrollees who agreed to a one-week check-in with MA Council on Compulsive Gambling staff as part of their initial VSEP enrollment (n = 67), and enrollees who agreed to complete baseline and follow-up study surveys (n = 63 baseline; n = 46 baseline and follow-up).

Results

Reasons for enrollment

- VSEP enrollees who answered questions about gambling behavior on either the VSEP application or the baseline survey endorsed a variety of reasons for enrollment but were more likely to endorse self-focused reasons (e.g., didn't want to lose any more money; couldn't control gambling) than other-focused reasons (e.g., felt pressured; family or friends asked me to sign up).

Enrollees' impressions of and experiences with the VSEP

- Overall, VSEP were satisfied with the enrollment process and held positive impressions of it as well as the GSAs who facilitated enrollment; however, program satisfaction declined over time, possibly indicating a need for program-related maintenance activities.
- At follow-up, among VSEP enrollees who had enrolled in other VSE programs previously, more than 80% rated their VSEP enrollment experience as better than their previous experiences.

Many indicated that the VSEP process was more caring and positive than other enrollment processes.

- More than 40% of VSEP enrollees who completed the follow-up interview indicated that VSEP enrollment influenced them to access additional help and resources.
- VSEP enrollees who completed the follow-up interview indicated that the program was helpful to them because of the support it provided, as well as its role as a deterrent because of the risk of being caught.
- Specific suggestions to improve the program included incorporating more follow-up and check-ins, better advertising the program, allowing regional VSEP, and setting up the program so that an individual does not have to enter the casino or be near the gaming floor to sign up.
- Among the 46 VSEP enrollees who completed the follow-up interview, more than three quarters did not violate their contract. However, 10 (22%) returned to PPC during their exclusion term, 7 (15%) tried to enter the gaming floor, and 2 (4%) were caught. Among VSEP enrollees with player card records we could access, only one recorded gambling activity on his player card after VSEP enrollment.

Enrollees' behavior and well-Being change after enrollment

- VSEP enrollees who completed the follow-up interview reported statistically significant improvements in gambling problems, mental health, and relationship quality.
- VSEP enrollees who completed the follow-up interview significantly reduced the frequency and amount they gambled. Though more than 70% continued to gamble, 80% reported that they were gambling less at follow-up than prior to VSEP enrollment.
- VSEP enrollees who completed the follow-up interview and intended to quit all gambling upon VSEP enrollment had less success fulfilling that goal (i.e., only one third stopped gambling) according to their follow-up interviews than enrollees who intended to quit only casino gambling.
- Exploratory analyses suggest that VSEP enrollees who selected longer enrollment terms at VSEP enrollment demonstrated less reduction in their gambling than other enrollees according to the follow-up interview.

Enrollees' access to additional resources after enrolling in VSEP

- Enrollment did not appear to serve as a gateway to treatment. Few of the VSEP enrollees who completed the follow-up interview reported newly engaging with gambling treatment after VSEP enrollment. This finding might be related to the high numbers of enrollees who reported already having a treatment history. However, more were engaged in some way with mental health, substance use, or gambling services after enrollment than in the year prior to enrollment. For most who reported engaging with services after enrollment, the follow-up service engagement represented a return to treatment or services, not a new engagement with services. For these individuals, enrollment appeared to provide a nudge to re-engage with services or self-help groups.
- Accessing treatment and self-help resources after VSEP enrollment did not relate to any of the follow-up outcomes (e.g., gambling behavior, gambling problems, mental health) we investigated among follow-up interview respondents.

SEIGMA-MAGIC Fact Sheets (Delivered to MGC September 24, 2018)

The SEIGMA-MAGIC team created one-page fact sheets which summarize findings from the SEIGMA-MAGIC studies for a general audience. The fact sheets have eight areas of focus, which include: (1) Gambling Participation in MA Prior to Casino Development, (2) the Patron Survey at PPC, (3) Casino Employees at PPC, (4) Gambling Attitudes of MA Residents prior to Casino Development, (5) the Economic Impacts of PPC, (6) the Impact of PPC on Lottery Sales, (7) Gambling Behavior in MA Prior to Casino Development, and (8) Gambling Behavior Transitions from the MAGIC Study.

Deeper Analyses Manuscript: The importance of friends and family to recreational gambling, at-risk gambling, and problem gambling. Mazar, A., Williams, R. J., Stanek, E. J., Zorn, M., & Volberg, R. A. (2018). *BMC Public Health*, 18(1), 1080. (Published on September 4, 2018) https://doi.org/10.1186/s12889-018-5988-2

Background
The variables correlated with problem gambling are routinely assessed and fairly well established. However, problem gamblers were all 'at-risk' and 'recreational' gamblers at some point. Thus, it is instructive from a prevention perspective to also understand the variables which discriminate between recreational gambling and at-risk gambling and whether they are similar or different to the ones correlated with problem gambling. This is the purpose of the present study.

Method
Between September 2013 to May 2014, a representative sample of 9,523 Massachusetts adults was administered a comprehensive survey of their past year gambling behavior and problem gambling symptomatology. Based on responses to the Problem and Pathological Gambling Measure, respondents were categorized as Non-Gamblers (2,523), Recreational Gamblers (6,271), At-Risk Gamblers (600), or Problem/Pathological Gamblers (129). With the reference category of Recreational Gambler, a series of binary logistic regressions were conducted to identify the demographic, health, and gambling related variables that differentiated Recreational Gamblers from Non-Gamblers, At-Risk-Gamblers, and Problem/Pathological Gamblers.

Results
The strongest discriminator of being a Non-Gambler rather than a Recreational Gambler was having a lower portion of friends and family that were regular gamblers. Compared to Recreational Gamblers, At-Risk Gamblers were more likely to: gamble at casinos; play the instant and daily lottery; be male; gamble online; and be born outside the United States. Compared to Recreational Gamblers, Problem and Pathological Gamblers were more likely to: play the daily lottery; be Black; gamble at casinos; be male; gamble online; and play the instant lottery. Importantly, having a greater portion of friends and family who were regular gamblers was the second strongest correlate of being both an At-Risk Gambler and Problem/Pathological Gambler.

Conclusions
These analyses offer an examination of the similarities and differences between gambling subtypes. An important finding throughout the analyses is that the gambling involvement of family and friends is

strongly related to Recreational Gambling, At-Risk Gambling, and Problem/Pathological Gambling. This suggests that targeting the social networks of heavily involved Recreational Gamblers and At-Risk Gamblers (in addition to Problem/Pathological Gamblers) could be an important focus of efforts in problem gambling prevention.

- Future evaluation of changes will have to use multiple analytical models, in particular depending on whether the crime was already showing an increasing or decreasing trend.

Scientific Significance: There is a need to address gender differences in psychiatric conditions and their related healthcare needs.

Pending Reports and Studies

Massachusetts Gambling Impact Cohort (MAGIC)

- To date, four waves of data have been collected from a cohort of 3,139 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 November 2018. Wave 4 data collection was completed in July 2018. Wave 4 data will be delivered to UMass and cleaned and prepared for analysis in fiscal year 2019. Other deliverables in fiscal year 2019 include: (1) publication of low-risk gambling guidelines for Massachusetts residents; (2) publication of a report on deeper analyses of Wave 2 data; and (3) publication of a report on etiological predictors of transitions between Waves 1-3 of the study.

Social and Economic Impacts of Gambling in Massachusetts (SEIGMA)

- **The Social and Economic Impacts of Gambling in MA, 2018**
    - Report summarizing the social and economic impacts to date of introducing casinos to MA.
    - This first report will primarily focus on the impacts associated with Plainridge Park Casino.
    - **STATUS:** Preliminary findings have been presented at the SEIGMA and MAGIC annual meeting on 5/23 as well as MGC open public meeting on 6/26. Report was finalized on September 29, 2018. Dr. Volberg will present the finalized report to the Gaming Policy Advisory Committee on November 27, 2018, which is when the report will be officially released.

- **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 (published—*BMC Public Health*), (2) analysis of differences in predictors of problem gambling by gender, (3) risk of harm

based on analysis of associations between problem gambling and specific forms of gambling, and (4) veterans and problem gambling.
    - **STATUS:** Gender manuscript will be submitted to public health journal by January 2019; Risk of harm manuscript will be submitted to a public health journal by December 2018; Veterans and problem gambling manuscript revisions submitted to the *Journal of Gambling Studies* on October 18, 2018.

Data Storage and Sharing

- **Exportable Baseline General Population Survey (BGPS) and Baseline Online Panel (BOPS) dataset and codebook**
    - Allows other investigators to access and use SEIGMA data for their own analyses.
    - **STATUS:** A solution to store and deliver dataset to eligible parties is being negotiated with MDPH.

Evaluation of Key Responsible Gaming Initiatives

- **Play My Way**
    - The initial evaluation of PlayMyWay was released November, 2017. 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 was fielded in June, 2018.
    - **STATUS:** December, 2018

Special Population Research

- The University of Massachusetts Boston, Institute for Asian American Studies is conducting a pilot study to develop and test methods for recruiting, screening, and conducting diagnostic interviews among Chinese immigrants living and working in Boston's Chinatown.
    - **STATUS:** Final Report is anticipated December 2018.
- Bedford VA Research Corporation Inc. (BRCI) is evaluating 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 anticipated December 2018.

Research Deliverables Added in FY19

- **Complete 1st Wave of the 1st MGM Springfield Patron Survey**
    - An essential component of the economic analysis that will clarify patron origin and expenditure.
    - Inform the analysis of social impacts of the introduction of casino gambling in MA.
      STATUS: March 31, 2019

- **Complete report on Design Based and Model Based Approaches**
    - Report containing model results with comparison to weighted analyses.
    - This approach, if successful, may translate to different populations and avoid reliance on weights.
    - **STATUS:** June 30, 2019

- **Report on Plainville Targeted Surveys**
    - Analyze changes in gambling attitudes, gambling participation, and problem gambling prevalence in host and surrounding communities between 2014 and 2016.
    - **STATUS:** March 31, 2019

- **Submit Manuscript Analyzing CHIA data**
    - Comparing acute to chronic problem gamblers in a longitudinal sample.
    - **STATUS:** June 30, 2019

- **Low-Risk Gambling Guidelines for MA**
    - Evidence-informed guidelines to help Massachusetts residents make well-informed, responsible decisions about their gambling behavior and so avoid gambling-related harms.
    - Understand the point at which level of gambling engagement (i.e., frequency, expenditure) increases the risk of harm.
    - **STATUS:** March 31, 2019

- **Deeper Analyses of MAGIC Wave 2 report**
    - Analyses will focus on predictors of problem gambling onset and whether there are racial/ethnic, income, gender, and/or regional differences in these predictors.
    - **STATUS:** June 30, 2019

- **Etiological Predictors of MAGIC Transitions**
    - Focus on predictors of problem gambling onset and remission and the extent to which accessing treatment is one of these factors.
    - Highlight risk and protective factors important in developing effective prevention, intervention, treatment, and recovery support services.
    - **STATUS:** June 30, 2019

- **New Employee Report, PPC Year 3**
    - Analysis of new, third year employees at PPC.
    - Report identifies several important characteristics of new hires at PPC and the emergent casino workforce in Massachusetts.
    - **STATUS:** December 31, 2018

- **Operator Spending Report, PPC Year 3**

- Summary report analyzing operating impacts of PPC in year three of operations.
- **STATUS:** December 31, 2018

- **Operator Construction Spending Report, MGM Springfield**
  - Technical report detailing construction spending impacts of MGM Springfield.
  - **STATUS:** April 30, 2019

- **Real Estate and Development Report, MGM Springfield**
  - Update to baseline analysis of real estate conditions and trends before the advent of MGM Springfield casino.
  - **STATUS:** June 30, 2019

- **Public Safety**
  - Baseline study of Everett and surrounding communities in advance of Region A casino opening.
  - **STATUS:** August, 2019

Reports and Studies (2014- November, 2018)

All reports and publications listed in this section are available at:
https://massgaming.com/about/research-agenda/ or https://www.umass.edu/seigma/

Social

- Analysis of the Massachusetts Gambling Impact Cohort (MAGIC) Wave 2: Incidence and Transitions. (December 22, 2017)
- Gambling and Problem Gambling in Massachusetts: In-Depth Analysis of Predictors. (March 23, 2017)
- Impacts of Gambling in Massachusetts: Results of a Baseline Online Panel Survey (BOPS). (January 10, 2017)
- Key Findings from SEIGMA Research Activities: Potential Implications for Strategic Planners of Problem Gambling Prevention and Treatment Services in Massachusetts. (December 18, 2015)
- Gambling and Problem Gambling in Massachusetts: Results of a Baseline Population Survey. (September 15, 2017)

Publications

- Mazar, A., Williams, R. J., Stanek, E. J., Zorn, M., & Volberg, R. A. (2018). The importance of friends and family to recreational gambling, at-risk gambling, and problem gambling. *BMC Public Health*.
- Rodriguez-Monguio, R., Brand, E., & Volberg, R. (2017). The Economic Burden of Pathological Gambling and Co-occurring Mental Health and Substance Use Disorders. *Journal of Addiction Medicine.*

- Rodriguez-Monguio, R., Errea, M., & Volberg, R. (2017). Comorbid pathological gambling, mental health, and substance use disorders: Health-care services provision by clinician specialty. *Journal of Behavioral Addictions.*
- Okunna, N. C., Rodriguez-Monguio, R., Smelson, D. A., Poudel, K. C., & Volberg, R. (2016). Gambling involvement indicative of underlying behavioral and mental health disorders. *The American Journal on Addictions.*
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Economic

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- Lottery Revenue and Plainridge Park Casino: Analysis After Two Years of Casino Operation. (May 10, 2018)
- Plainridge Park Casino First year of Operations: Economic Impacts Report, October 6, 2017
- New Employee Survey at Plainridge Park Casino: Analysis of the First Two Years of Data Collection. (May 10, 2017)
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- Real Estate Profiles of Host Communities. (August 30, 2016)
    - Real Estate Impacts of the Plainridge Park Casino on Plainville and Surrounding Communities (October 11, 2018)
- The Construction of Plainridge Park Casino: Spending, Employment and Economic Impacts. (September 19, 2016)
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- Assessing the Impact of Gambling on Public Safety in Massachusetts Cities and Towns
    - Baseline Analysis of Crime, Call-for-Service, and Collision data in the Communities near MGM Springfield. (October 25, 2018)
    - Analysis of change in police data after two years of operation at Plainridge Park Casino. (March 1, 2018)
    - Analysis of Changes in Police Data After the First Year of Operation at Plainridge Park Casino. (December 12, 2016)
    - Analysis of changes in Police Data After the First Six Months of Operation at Plainridge Park Casino. (April 12, 2016)
    - Baseline Analysis of Crime, Call-for-Service, and Collision Data in the Plainville Region. (August 24, 2015)

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- Preliminary Study of Patrons' Use of the PlayMyWay Play Management System at Plainridge Park Casino: June 8, 2016 – January 31, 2017 (October, 2017)
- Summary Analysis of the Plainridge Park Casino GameSense Program Activities & Visitor Survey: December 1, 2015 – May 31, 2016, (July 2016)

Data Presentation

- *MASS-AT-A-GLANCE: An interactive app of social and economic trends in MA communities (May 10, 2018)*
- *SEIGMA-MAGIC Fact Sheets* (September 24, 2018)

Assessing the Impact of Gambling on Public Safety in Massachusetts Cities and Towns

Baseline analysis of crime, call-for-service, and collision data in the communities near MGM Springfield

Christopher W. Bruce
Crime Analysis Consultant to the Massachusetts Gaming Commission
18 October 2018
v. 1.6

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Executive summary

This report is part of a series of studies commissioned by the Massachusetts Gaming Commission to determine the effects of Massachusetts' new casinos on the public safety of the surrounding regions. A crime analyst with expertise in police data systems and police data analysis was contracted to extract data and provide before-and-after comparisons of crime, calls for service, and traffic collisions.

This is the first report concerning the Springfield-area agencies likely to be affected by the opening of MGM Springfield in the summer of 2018. It is baseline report, and as such, there are no particular "findings" in relation to any changes in public safety issues caused by the casino. Those will be covered in a series of 2019 reports. The most important points covered in this report are:

- Springfield, Agawam, Chicopee, East Longmeadow, Hampden, Holyoke, Longmeadow, Ludlow, Northampton, West Springfield, and Wilbraham all contributed data to this report.
- Statistics were calculated by fusing data on crimes, calls for service, and collisions extracted from each participating agency's records management system (RMS) and computer-aided dispatch (CAD) system.
- All 11 participating agencies use the same RMS and CAD.
- There are means by which its presence could cause crime to increase (e.g. a larger population of visitors and vehicles providing more opportunities for offenders) and there are means by which it could decrease (e.g., by supplying more law enforcement presence, economic development, and legitimate activity in the area). We are prepared to analyze either possibility.
- Full statistics for crimes, calls for service, and traffic collisions are given for each participating agency from the 2010-2017 period. The data tables indicate how much the categories typically fluctuate from year to year and how the trend has been progressing over time. Potential errors and pitfalls are noted. No agency has data so poor that it cannot be effectively used to compare changes after MGM opens.
- An analysis of likely travel routes to and from MGM shows several routes and exit areas that will be analyzed in-depth for changes.
- Analysis will need to consider the presence of several existing types of facilities have seen increased traffic and usage in other communities across the nation with new casinos, including hotels, gas stations, convenience stores, transportation centers, pawn shops, and social service agencies.
- Local police agencies supply most of the actual crime data from the region, but State Police data was collected primarily to determine patterns on state roadways. Crashes have been on an upward trend (as they have for many area communities), which may be accelerated with extra traffic in the area.
- Future evaluation of changes will have to use multiple analytical models, in particular depending on whether the crime was already showing an increasing or decreasing trend.
- There were many possible statistics from the collected data that this report does not cover, but that does not necessarily mean that such statistics will not be used in subsequent evaluations. The importance of this process is less this baseline *report* and more in having a baseline *dataset*, a process that went relatively smoothly.

Background and methodology

Background

In 2014, the Massachusetts Gaming Commission, in an effort to better assess the impacts of new gaming facilities across the state, commissioned a series of efforts to study, assess, and prepare for the social and economic impacts of gambling. Primary work in this area is being done by the Social and Economic Impacts of Gambling in Massachusetts (SEIGMA) study at the University of Massachusetts Amherst School of Public Health & Health Sciences, drawing upon research and experiences in many other states. For public safety issues specifically, however, the MGC felt it best to contract with someone with direct experience analyzing the crime, call-for-service, and collision records collected daily by Commonwealth police agencies.

While many studies had attempted to study the effects of gambling on overall rates for serious crimes, aggregated annually, hardly any studies have attempted to 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 MGC was interested in the answers to these questions—in analyzing public safety at a level of detail that would actually help police agencies anticipate and respond to emerging and changing problems.

In 2014, the MGC contracted with a career crime analyst, the author of this report, to extract data from the agencies likely to be affected by the opening of Massachusetts's new casinos, and to design a process for assessing changes in those agencies' activity on a periodic basis. Work began in 2015 with baseline and first-quarter analyses of the Plainville area, where Plainridge Park opened in June. This is the first report to look at the Springfield area, where MGM is set to open in August of 2018.

Publicly-issued and planned reports on changes in crime and police activity from this project

Issued	Report	Notes
August 2015	Report on baseline activity at Plainville area agencies	Established statistical measures for post-casino comparison
November 2015	Evaluation of change in police data after the first three months of Plainridge Park	Few changes discernible in immediate 3 months.
April 2016	Analysis of changes in police data after the first six months of operation at Plainridge Park Casino	Identified traffic-related calls for service as likely related to PPC. Noted increases in fraud-related crimes.
December 2016	Analysis of changes in police data after the first year of operation at Plainridge Park Casino	Continued to note increases in traffic-related calls; established credit card fraud increases as "likely related."
December 2017	Analysis of changes in police data after the first 2 years of operation at Plainridge Park Casino	Most comprehensive report so far. Included comparative analysis of control areas.
June 2018	Report on baseline activity in Springfield-area agencies	First report in preparation for MGM casino.
December 2018	Three-year analysis of Plainridge Park area.	Will include comprehensive traffic study.
February 2019	Three-month analysis of MGM Springfield	

Methodology

The data used in this report was extracted from the individual records management systems of the Springfield, Agawam, Chicopee, East Longmeadow, Hampden, Holyoke, Longmeadow, Ludlow, Northampton, West

Springfield, and Wilbraham Police Departments. I established an ODBC connection to each of these agencies' records management and computer-aided dispatch databases, connected to the databases via Microsoft Access, and used a series of "make table" queries to copy the data into Access data tables. I then copied the Access databases to my own computer, password-protecting them in the process, but leaving the originals on the agencies' networks so they could be updated by designated agency members when necessary. No information specific enough to identify any person (offender or victim) was collected, and I complied with various agency requests to exclude particular data elements of concern to them. These requests did not affect the integrity and completeness of the overall dataset.

After extracting the data from each individual system, I combined each table into a series of "master" tables. This required translating each dataset into a common set of codes. The uniformity imposed by the NIBRS reporting system (and the fact that all 11 agencies use the same records management and computer-aided dispatch systems) made the translation fairly easy for crime tables; it was a bit more difficult for CAD tables, which have no uniform coding even among agencies using the same system.

The resulting *baseline dataset* supplied the data organized in this report. It is important to recognize that any complex dataset is capable of generating statistics, maps, and charts in a near-infinite number of ways. The metrics offered in this report represent my assessment of the most important figures and indexes against which to measure activity after MGM opens. In some cases, I will probably *not* be using the specific figures in this report. For instance, I offer annual breakdowns and averages for crimes and calls for service, but it is more likely that I will take quarterly slices of this data to compare to activity post-casino (otherwise, we would have to wait an entire year to measure changes). I do not offer quarterly breakdowns of activity simply in the interests of space.

Nor do I offer many statistics involving multiple variables, such as crimes committed by juveniles on weekends, or property stolen at nighttime from newer-model vehicles. There are innumerable ways to slice data this way, and some of them might turn out to be important in analysis of data after MGM opens. Until we have this post-casino data, however, we don't know what will be important, and at the present time it would simply waste everyone's time if I tried to slice the data too thinly. In this regard, the data tables and figures in this report are best regarded as examples of *the types of outputs possible from the baseline dataset*. The dataset itself, rather than this report, is the true "baseline" against which changes in any combination of factors can be measured.

CaseN	ReportDT	Agency	IBR	Street1	LocType	Weapon
17-4793-	12/31/2017 22:37:00	SP	13A	KENSINGTON A	Residence	Knife/Cutting
17-1377-	12/31/2017 22:30:00	SP	13A	LIBERTY ST	Bar	Handgun
17-1540:	12/31/2017 19:08:00	SP	13A	CHESTNUT ST	Other/Unknow	Personal
17-5419-	12/31/2017 18:42:00	SP	120	WALDEN ST	Street	Blunt Object
17-1539:	12/31/2017 15:07:00	SP	13A	WEST ALVORD	Residence	Firearm
17-2072:	12/31/2017 14:44:00	WS	120	ELM ST	Residence	Personal
17-5412-	12/31/2017 13:17:00	HO	13A	NEWTON ST	Residence	None
17-5411-	12/31/2017 12:59:00	HO	13A	ADAMS ST	Street	Firearm
17-2071:	12/31/2017 08:52:00	WS	13A	ELM ST	Other/Unknow	Knife/Cutting
17-2071:	12/31/2017 08:32:00	WS	13A	BALDWIN ST	Other/Unknow	Personal
17-1538:	12/30/2017 22:19:00	SP	120	WALNUT ST	Convenience S	Handgun
17-2067:	12/30/2017 15:00:00	WS	120	ELM ST	Gas Station	Knife/Cutting
17-6478-	12/29/2017 23:55:00	HO	120	SOUTH ST	Street	Knife/Cutting
17-5383-	12/29/2017 20:41:00	SP	13A	HOPE ST	Residence	Knife/Cutting
17-4770-	12/29/2017 19:59:00	SP	13A	WORCESTER ST	Residence	Knife/Cutting

Figure 1: The result of a query using the combined dataset.

Threats to validity

The primary threat to the validity of the statistics in this report is the data structure of the TriTech/IMC records management system, which makes it difficult to calculate precise crime statistics. All of the participating agencies use this system.

Almost every other commercial records management system on the market stores crime incidents and their associated offenses in a master table. All crimes, whether they result in an arrest, go into the same table. If an arrest accompanies the incident, immediately or sometime after, additional data elements specific to the arrest are entered in supplemental arrest tables that link to the master tables. Crime statistics are calculated from the master tables.

The IMC system, in contrast, stores criminal incidents in two separate tables: arrests and non-arrests. (There is technically a third table, storing warrants, but agencies that use this table seem to duplicate those crimes in the incidents table.) Some incidents appear in only one table; an arrest made at the time that an incident is reported, for instance, goes in the arrest table.

This immediately creates a problem when multiple individuals are arrested for the same incident. Two offenders arrested for a single robbery "incident" should count as a single robbery, but there no unique index that ties two arrest records to the same crime.

Accurate statistics cannot be calculated by simply adding the two tables, as it is possible for a single incident to appear in *both* tables. For instance, an incident may be reported on Monday. Lacking any evidence to make an arrest or issue a warrant, the reporting officer enters data into the incident table. On Tuesday, evidence points to a particular offender, he is arrested, and the officer enters the data into the arrest table.

To account for such situations, the records system contains a field in the arrest table for the original incident number. Both the arrest and incident tables also contain the original call number, which should help deconflict duplications. However, in practice, few agencies use these fields with any fidelity. Moreover, different crime types can appear associated with the same incident in each of the two tables.

Finally, the TriTech/IMC system does not appear to enforce National Incident-Based Reporting System (NIBRS) standards when it comes to the recording of secondary offenses. NIBRS recognizes "natural included offenses." For instance, it is assumed that every robbery is accompanied by an assault and a theft, and that almost every burglary is accompanied by a theft and a vandalism. Thus, no single crime should report both a burglary and a theft nor a robbery and an assault. Such extraneous offenses co-exist frequently in the IMC/TriTech system. Indeed, by failing to distinguish between *arrest charges* and *incident offense codes*, the system creates a situation in which multiple extraneous charges often accompany an arrest.

To account for these problems, the statistics in this report adopt the following conventions:

1. Arrests and non-arrests are combined into a single record when the proper cross-indexing values were entered by the reporting officer in the system.

2.Even in absence of the index value entries, arrests and non-arrests are assumed to be part of the same incident if the reporting date/time and address are the same.

3. Multiple arrests are combined into the same "incident" if they happened at the same location and time.

4. Only the most serious offense code is counted with each incident. This is in contrast with the reports previously written on the Plainridge Park Casino area, where I counted all offenses associated with each crime.

Because rule #4 essentially mimics the "hierarchy rule" of the pre-NIBRS Uniform Crime Reporting (UCR) system, we should expect these rules to produce statistics identical or at least similar to what the participating agencies have reported to the UCR program. (The exception is for aggravated assault, where the UCR counts each *victim* and this report counts each *incident*.)

UCR Part 1 crime statistics reported by the participating agencies

	2015		2016	
Crime	**Calculated for this report**	**Reported to UCR**	**Calculated for this report**	**Reported to UCR**
Murder	22	22	18	17
Rape	210	225	225	223
Robbery	693	714	708	737
Aggravated Assault	1427	1838	1450	1814
Burglary	2597	2739	2682	2733
Theft	7644	8129	7326	7815
Auto Theft	936	1013	923	993

In fact, this report's statistics are almost universally lower than the UCR, though always (again excepting aggravated assault) within 10%. I'm convinced this is because many of the participating agencies have been systematically over-reporting certain crimes by failing to account for duplication among the various master tables. This, I should emphasize, is not the fault of the agencies, who are at the mercy of the crime reporting processes of a records system from which this poor approach to data structuring results.

The IMC/TriTech system also makes a mistake—although this one is replicated among many RMS vendors—of trying to resolve Massachusetts General Law codes directly to NIBRS incident type codes. This allows officers to enter the statute violated by the offender (a code list with which they are familiar because of training and practice) and have the system itself convert it to the appropriate NIBRS code. While this seems a valuable shortcut, in truth there is a poor relationship between statutes and NIBRS codes, and such a system ensures that many crime types—principally in the theft category—will be under-reported and a few crime types will be consistently over-reported. Throughout this report, I have measured these errors by the percentage of thefts coded as "Other Theft," meaning it is not coded in one of the more specific theft categories. Use of this "other" code ranges from 76% (Agawam) to 24% (Northampton) and should rarely top 40% when crimes are coded accurately.

The IMC/TriTech system does enforce some NIBRS validation rules, and to that extent it is common for police officers in some agencies to "solve" error messages by changing the NIBRS code for a crime to 90Z ("All Other"). "All Other" is a perfectly valid code for some crimes, but an excessive percentage of crimes using this code raises the possibility that other crimes are being under-reported. (This is not an inevitability, however, as another common misuse of "All Other" is to record non-crimes with that code.) Among the participating agencies, the percentage of crimes coded "All Other" ranged from 2% to 33%.

The only other major threat to validity is if agencies significantly change their reporting processes during the evaluation period, perhaps in response to my analysis of their statistics below. In the end, of course, I would rather the participating agencies record crimes accurately than maintain consistent-but-inaccurate statistics.

Interpreting the statistics in this report

This report looks at crime, calls-for-service, and collision statistics for each of 11 participating agencies. In doing so, it attempts to assess, qualitatively and quantitatively, any errors and oddities in the data that mght affect future evaluation reports. To assist with this analysis, each data table offers a common set of statistical measures:

- Actual values for the two most recent full years, 2016 and 2017.
- The simple mean of the seven years between 2010 and 2017.
- The standard deviation for the same time period, which indicates how much the category typically deviates from its mean from year to year.
- The *coefficient of variation* (c.v.), which is calculated by dividing the standard deviation by the mean. The c.v. indicates how reliable, predictable, or consistent the category is across time, with 0 indicating no variance at all and scores close to 1 indicating a extreme amount of variance. Lower c.v. scores make it easier to detect changes in the category after a new element—such as a nearby casino—is introduced. In categories with high coefficients, new patterns may go undetected because they get lost in the overall volume and variance of the category. However, note that it is also common to find high coefficients of variation with small numbers, and that high coefficients can indicate inconsistency in reporting int hat category. High coefficients are flagged in yellow for each agency.
- The *slope as a percentage of the mean* (SPM). The SPM assesses the overall trendline of the category for the past 7 years, with the steepness of the line (slope) divided by the mean to generate a percentage. Crimes that are naturally increasing or decreasing over time must be evaluated differently that crimes that maintain a consistent average. After all, a 20% increase in a crime after MGM opens is hardly significant if the crime was increasing by 20% every year anyway. Think of the SPM as the "grade" of the trendline through the past seven years.

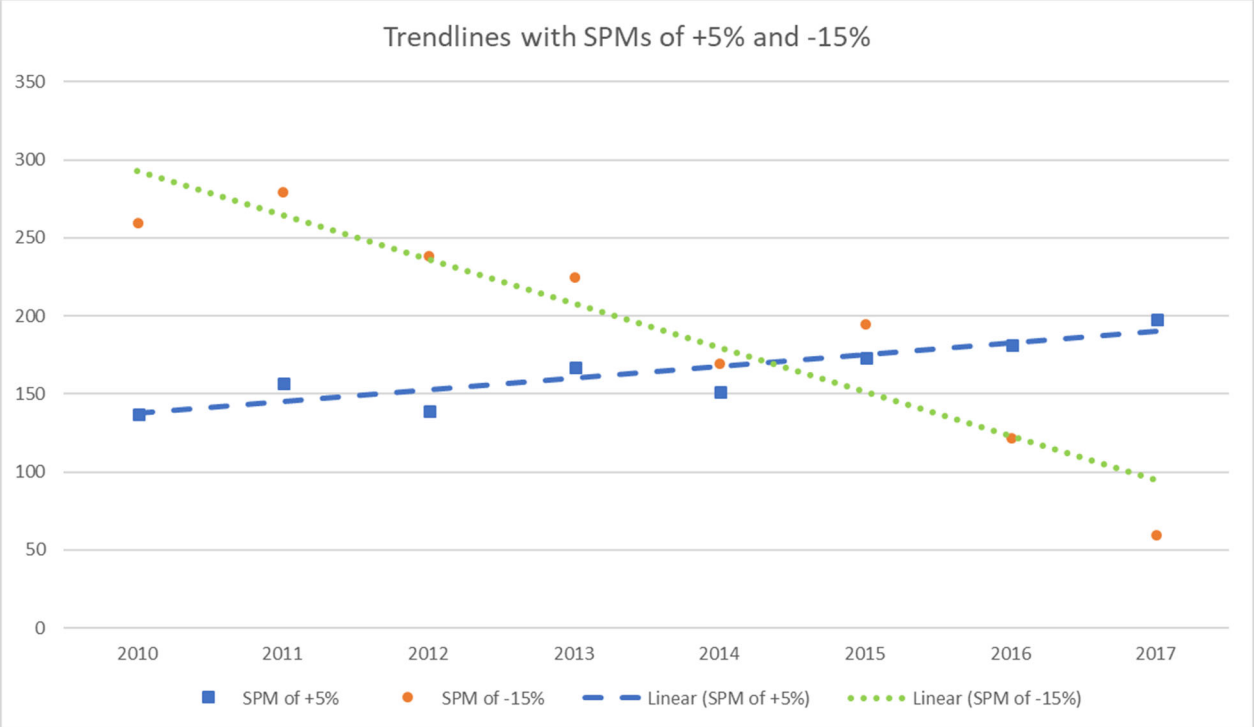


Figure 2: The SPM helps determine the steepness of the 7-year trend. The higher or lower the SPM, the steeper the trend.

It is finally important to note the nature of the three tables. *Crimes* are actual offenses of the law for which a police officer wrote a full report after speaking with victims and witnesses. They may or may not have resulted in arrests.

Calls for service represent the initial "incident" that summoned police officers to a scene. Such events can be both criminal and noncriminal. I have selected noncriminal events for the tables, since the criminal event codes would

simply duplicate (though less accurately) the data offered in the crime tables. The remaining noncriminal events it the table still represent significant issues that affect residents' quality of life.

Collisions are those traffic collisions that meet the threshold to be reported to the state Department of Transportation—namely, those that involve injury, or that occur on public property and involve damage in excess of $1,000. Many minor "fender-benders" do not meet this threshold and will thus not appear in these statistics. The "traffic collision" call for service category does include such minor incidents and will therefore usually be higher than the collision figures.

About the author

Christopher W. Bruce is a career crime analyst with previous service at the Cambridge Police Department (1994–2001) and the Danvers Police Department (2001–2010). He was president of the Massachusetts Association of Crime Analysts from 2000 to 2004 and president of the International Association of Crime Analysts from 2007 to 2012; he currently serves as vice president of membership for the IACA. He has served as an instructor in criminal justice and crime analysis topics at Suffolk University (2001–2010), Westfield State University (2009–2010), the University of Massachusetts Lowell (2009–2010), Middlesex Community College (2007–2011), Western Oregon University (2012-2016), and Tiffin University (2006-present).

Christopher is an internationally-recognized expert in police data systems and police data analysis. He currently trains, consults, and provides technical assistance for various programs of the U.S. Department of Justice, Bureau of Justice Assistance; the U.S. Department of Transportation, National Highway Traffic Safety Administration; the Texas Department of Transportation; the U.S. Department of Justice, International Criminal Investigative Training Assistance Program; and the International Association of Directors of Law Enforcement Standards and Training. He lives in Maine.

Analysis of baseline activity: All Agencies

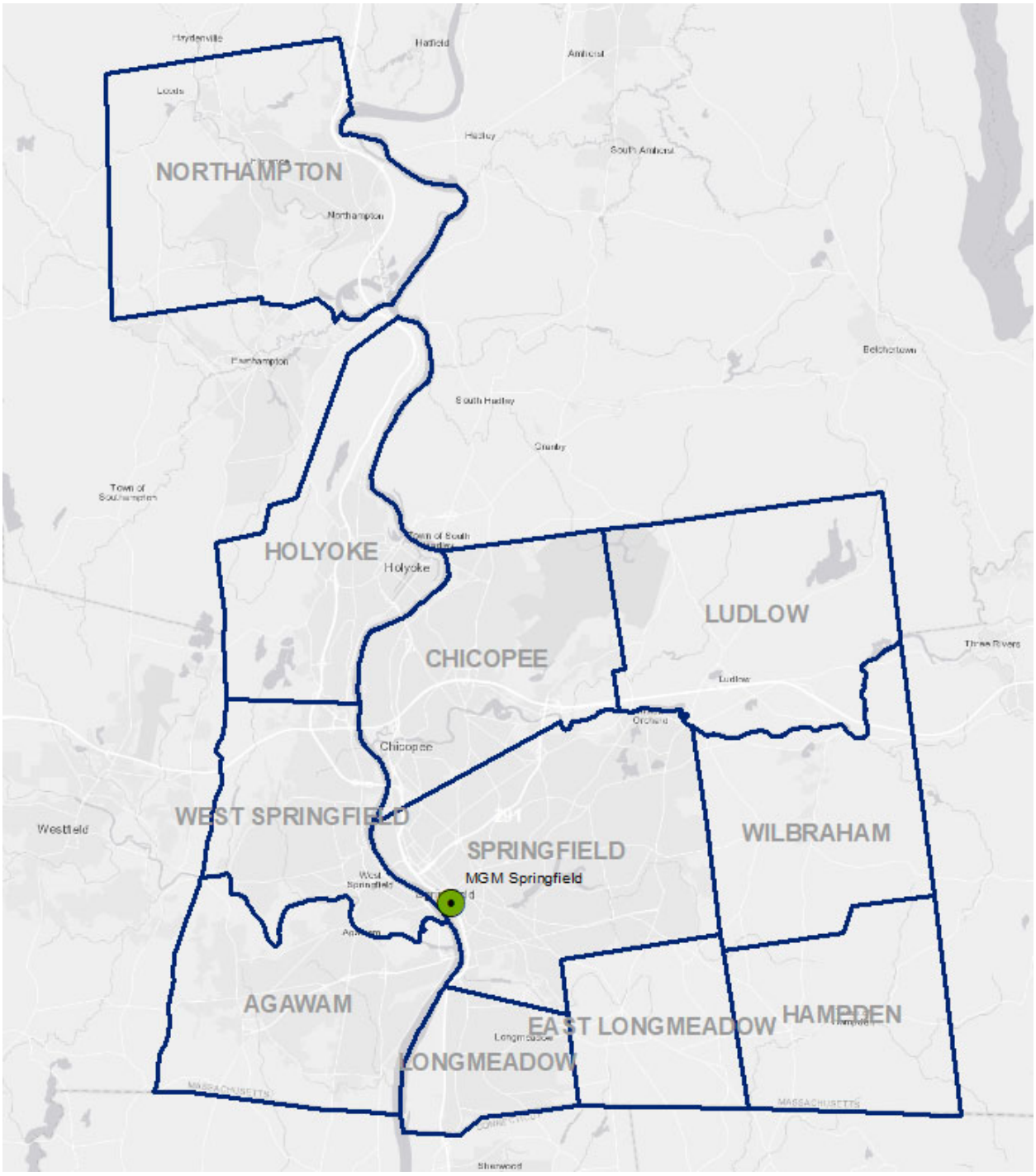


Figure 3: Agencies contributing to this report.

Figure 3 shows a map of contributing agencies. The agencies either share a border with Springfield, and thus a proximity to the new casino, or one of the major interstate travel routes leading to and from the casino. All have at least some probability of seeing changes in crime after MGM opens.

Crimes in all 11 participating communities

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Murder	20	21	21.4	4.32	0.20	-2.06%
Sexual Assault	337	329	342.8	22.06	0.06	-2.32%
Kidnapping	72	94	88.0	10.30	0.12	-2.71%
Robbery	708	574	724.1	67.26	0.09	-2.61%
Aggravated Assault	1450	1482	1427.4	107.97	0.08	-0.66%
Simple Assault	4374	4537	4625.3	391.46	0.08	-3.00%
Threats	2087	2014	2278.5	262.59	0.12	-4.75%
Arson	72	54	76.3	15.70	0.21	-7.77%
Burglary	2682	2230	3348.6	694.09	0.21	-9.18%
Thefts from Persons	58	50	53.0	8..72	0.16	-0.09%
Purse Snatching	22	20	33.4	10.25	0.31	-10.66%
Shoplifting	1382	1401	1245.8	119.88	0.10	+4.11%
Thefts from Buildings	1244	1157	1015.5	148.54	0.15	+1.40%
Thefts from Machines	9	16	3.9	5.02	1.29	+39.38%
Thefts from Vehicles	1404	1442	1650.4	275.32	0.17	-6.82%
Thefts of Vehicle Parts	495	470	396.6	167.48	0.42	-2.85%
Other Thefts	2712	2878	3857.9	608.11	0.16	-5.71%
Auto Theft	923	865	1041.9	150.07	0.14	-6.21%
Forgery/Counterfeiting	226	262	241.9	14.35	0.06	-0.02%
Fraud/Con Games	478	512	468.4	32.41	0.07	+2.23%
Credit Card Fraud	181	187	140.1	33.60	0.24	+9.03%
Identity Theft	496	502	607.4	75.94	0.13	-1.69%
Employee Theft	40	65	43.8	11.53	0.26	+5.33%
Extortion	9	12	8.5	4.76	0.56	+12.89%
Stolen Property	124	153	144.4	13.65	0.09	+0.21%
Vandalism	3073	2887	3350.8	419.70	0.13	-5.25%
Drug Offenses	1036	1247	1128.4	71.13	0.06	-0.50%
Drug Equipment	0	1	0.9	0.57	0.63	-9.26%
Statutory Rape	52	38	40.4	7.61	0.19	+0.21%
Pornography	44	48	32.0	9.39	0.29	+12.28%
Prostitution	33	44	62.0	33.21	0.54	-21.04%
Gambling Offenses	1	1	1.6	1.70	1.06	-21.58%
Weapon Offenses	212	225	172.5	37.46	0.22	+9.16%
Bad Checks	39	22	50.8	13.69	0.27	-11.81%
Disorderly Conduct	214	308	361.9	108.98	0.30	-12.28%
Drunk Driving	287	385	280.6	40.89	0.15	+3.35%
Drunkenness	159	209	197.3	44.00	0.22	-6.54%
Family Offenses	127	227	75.8	72.65	0.96	+39.92%
Liquor Laws	49	61	73.1	21.44	0.29	-11.61%
Trespassing	203	277	227.6	53.64	0.24	-4.67%
Violent Crime	**6961**	**7037**	**7228.9**	**475.95**	**0.07**	**-2.46%**
Property Crime	**15558**	**15109**	**17652.0**	**1801.61**	**0.10**	**-4.63%**
Total Crime	**27136**	**27308**	**29947.3**	**2612.78**	**0.09**	**-3.85%**

Most traditional violent and property crimes show consistent and predictable values throughout the participating area, making it easier to evaluate changes. There are a few exceptions. Burglary has plummeted in the past two years (mirroring statewide trends), so even slight increases in 2019 and beyond may be significant. I am slightly

skeptical of the low number of thefts from vehicles, thefts of vehicle parts, and thefts from persons—crimes that I suspect are being miscoded by many agencies as "other thefts." Any changes in reporting practices in these areas, while desirable, may confound attempts to analyze changes in these categories.

Most of the values indicating steep trends or unusual inconsistency are among the NIBRS "Group B" offenses, but these are believably low. Drug equipment violations are rarely recorded as a primary crime. Gambling offenses are more typically investigated by state agencies. A decrease in liquor-related arrests and disorderly conduct, which also seems to mirror statewide trends, may have to do with increased public scrutiny of police authority.

"Family offenses" was a category that we saw increase in the Plainridge Park area. It has recently been increasing in the Springfield area; whether this is a result of better coding or an actual increase remains to be seen. If the former, it will be difficult to analyze post-casino changes except among the agencies with more consistent reporting practices.

Selected calls for service in all 11 participating communities

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Abandoned Vehicle	699	756	485.6	150.62	0.31	+13.36%
Disabled Vehicle	2410	3007	2563.1	226.21	0.09	+0.72%
Disturbance	25648	26452	24374.4	1124.32	0.05	+1.12%
Domestic Dispute	13286	14074	13026.6	484.86	0.04	+0.61%
Gunshots	967	914	1120.9	208.10	0.19	-3.91%
Hunting	19	27	28.4	6.90	0.24	-5.91%
Liquor	523	390	477.6	63.18	0.13	-4.10%
Lost Property	649	702	673.8	39.12	0.06	+0.61%
Medical	24244	24216	21630.1	1693.96	0.08	+2.86%
Overdose	269	528	119.8	166.01	1.39	+52.65%
Psychological	3259	3918	1745.4	1267.47	0.73	+32.07%
Suspicious Activity	20154	19323	18529.9	1010.13	0.05	+0.29%
Traffic Collision	16600	18121	15940.4	1079.20	0.07	+1.50%
Traffic Complaint	4929	4789	4272.5	427.40	0.10	+3.31%
Vagrancy	465	575	416.9	79.38	0.19	+5.39%

Providing call-for-service sums for the area is a bit misleading because not all agencies have codes that correspond with all categories. Despite this problem, the summation creates surprisingly consistent categories. The major exceptions are in overdose and psychological calls. Few agencies had any way of tracking these growing problems in 2010; most introduced call codes to deal with them between 2014 and 2017, accounting for the wild variances and steep upward trends. Since we lack good baselines for these call types, changes will be hard to detect from police datasets, and the large SEIGMA project should look into medical datasets to compensate.

We will be keeping a particular eye on call types that fluctuate with a large visiting population. These include disturbance, medical aids, suspicious activity, traffic collisions, traffic complaints, and lost property.

Collisions in all participating communities

Collision Category	2016	2017	2011–2017 Avg.	St. Dev.	C.V.	SPM
Vehicle in Traffic	7832	8519	7499.3	595.94	0.08	+2.02%
Parked Vehicle	1698	1819	1637.4	123.37	0.08	+1.61%
Pedestrian	291	306	285.4	20.27	0.07	-0.54%
Bicyclist	141	140	143.4	9.42	0.07	-0.65%
Animal	120	196	121.0	31.99	0.26	+9.39%
Fixed Object	969	1017	860.7	121.91	0.14	+6.71%
Curb/Barrier/Embankment	473	487	454.3	25.94	0.06	+1.68%
Rollover/Non-Collision	51	50	50.6	4.03	0.08	-0.64%
Other/Unknown	241	267	296.1	37.09	0.13	-5.80%
Total	11816	12801	11348.3	820.50	0.07	+2.07%

Collision figures are only calculated from 2011, since Springfield did not record collisions in 2010.

Although some agencies increased and some decreased during this period, the area in general has highly-predictable annual collision totals with only a small upward trend. That trend has grown more notable since 2014, however, and an analysis of changes post-MGM should take the upward trend into account.

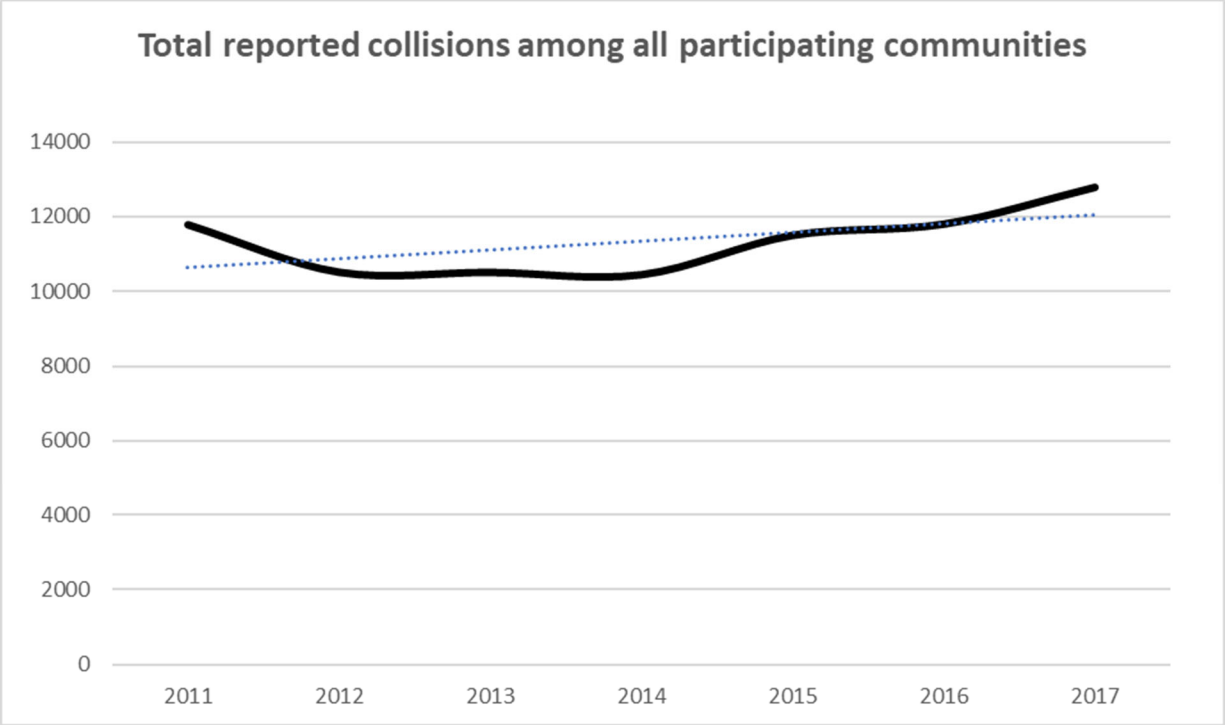
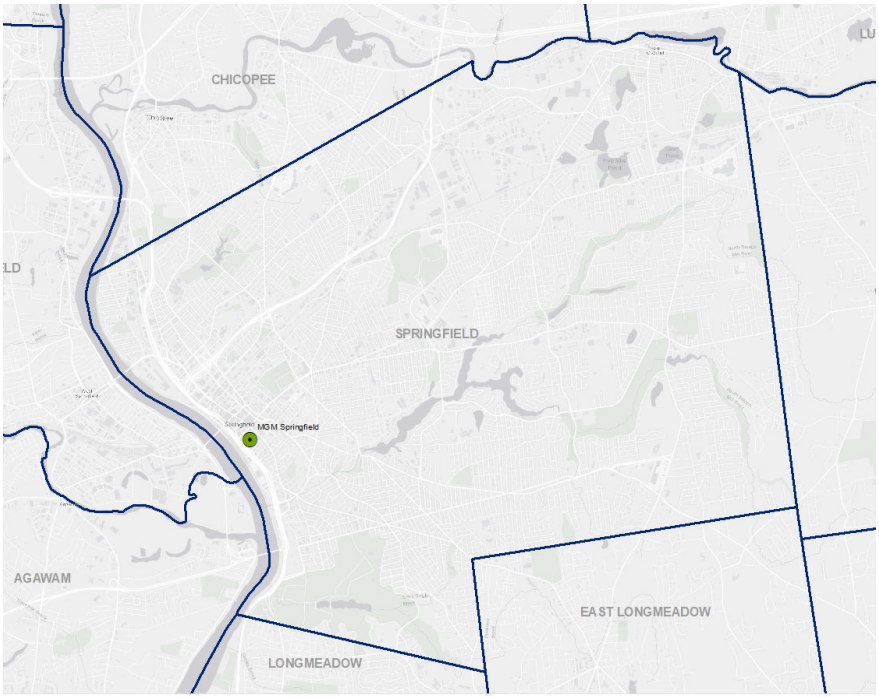


Figure 4: Collisions have seen an increasing trend since 2014 in the Springfield area.

Analysis of baseline activity: Springfield



Population (est. 2016): 154,758

Area: 33.1 square miles

Police officers: 504

City center distance from MGM: 2.77 miles

The host agency, Springfield is the third-largest city in Massachusetts and fourth-largest in New England. Dense, urban, impoverished, and historically reporting a higher-than-average rate of crime and violence, Springfield is poised to see numerous changes from the MGM Springfield casino. The first of those—an additional 59 police officers—has already taken place (and is reflected in the total above).

MGM Springfield will bring thousands of legitimate visitors per day, with attendant law enforcement presence, to an area that has historically faced challenges with economics and crime. The city thus stands to see significant decreases around the Metro Center and South End, as MGM contributes to a larger revitalization project. At the same time, an increase in people and vehicles traveling to and from the casino (as it does to any location) may increase some types of victimization as well as calls for service related to visitors and traffic. We will have to carefully monitor activity on major travel routes, along PVTA bus routes, at local businesses, and in residential areas abutting the downtown such as Six Corners, Maple Heights, and Old Hill.

Springfield has a robust crime analysis program ready to participate in this project. The department's analysts work out of a Real-Time Analysis Center with access to real-time crime data, surveillance cameras, license plate readers, and a wide variety of information and intelligence sources. It is likely that they will be able to detect changes in crime and other public safety patterns long before the Gaming Commission's contracted analyst. As such, the agency's crime analysts are vital partners in this evaluation project.

Crimes in Springfield

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Murder	13	13	15.8	3.26	0.21	-4.52%
Sexual Assault	168	142	177.5	25.29	0.14	-5.84%

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Kidnapping	50	49	59.1	9.18	0.16	-5.66%
Robbery	510	370	519.9	60.74	0.12	-3.53%
Aggravated Assault	805	751	839.1	94.76	0.11	-3.34%
Simple Assault	2579	2578	2772.3	261.18	0.09	-3.67%
Threats	1329	1335	1492.3	177.36	0.12	-5.00%
Arson	42	33	47.4	10.11	0.21	-7.96%
Burglary	1457	1106	1880.0	482.57	0.26	-11.39%
Thefts from Persons	35	36	36.3	10.17	0.28	-0.46%
Purse Snatching	7	2	13.1	6.81	0.52	-22.99%
Shoplifting	340	288	214.4	57.88	0.27	+7.47%
Thefts from Buildings	668	694	417.8	160.04	0.38	+8.62%
Thefts from Machines	9	16	3.3	5.31	1.61	+54.11%
Thefts from Vehicles	775	767	868.0	139.52	0.16	-5.03%
Thefts of Vehicle Parts	348	356	191.4	151.04	0.79	+11.69%
Other Thefts	689	641	1669.6	564.54	0.34	-12.03%
Auto Theft	549	494	636.1	96.71	0.15	-6.92%
Forgery/Counterfeiting	113	118	98.6	11.89	0.12	+3.30%
Fraud/Con Games	199	160	146.5	22.59	0.15	+4.23%
Credit Card Fraud	91	98	45.0	28.85	0.64	+26.51%
Identity Theft	240	216	385.6	88.84	0.23	-8.36%
Employee Theft	21	36	17.9	8.46	0.47	+8.85%
Extortion	4	9	4.9	2.81	0.57	+15.79%
Stolen Property	61	66	57.4	7.16	0.12	-0.85%
Vandalism	1497	1457	1601.9	120.03	0.07	-3.01%
Drug Offenses	539	471	417.5	66.05	0.16	+2.34%
Drug Equipment	0	0	0.4	0.46	1.15	-20.83%
Statutory Rape	6	7	10.5	3.65	0.35	-6.58%
Pornography	10	13	8.8	3.15	0.36	+9.74%
Prostitution	28	42	57.9	33.45	0.58	-22.51%
Gambling Offenses	0	0	0.1	0.31	3.10	-35.71%
Weapon Offenses	149	157	115.6	31.64	0.27	+10.91%
Bad Checks	11	5	17.3	6.63	0.38	-13.21%
Disorderly Conduct	83	116	182.1	83.18	0.46	-19.37%
Drunk Driving	30	28	42.1	11.68	0.28	-11.45%
Drunkenness	3	2	6.9	4.95	0.72	-28.12%
Family Offenses	108	219	41.4	71.44	1.73	+59.15%
Liquor Laws	18	17	18.5	7.76	0.42	-10.30%
Trespassing	123	179	110.3	31.53	0.29	+4.53%
Violent Crime	**4125**	**3903**	**4383.6**	**369.21**	**0.08**	**-3.71%**
Property Crime	**7103**	**6560**	**8287.6**	**1073.11**	**0.13**	**-5.87%**
Total Crime	**13707**	**13087**	**15240.1**	**1624.13**	**0.11**	**-4.82%**

This data table illustrates some of Springfield's successes over the last decade in reducing its violent and property crime rates. Aggressive policing models, a partnership with the State Police, strong investment in crime analysis, and economic development of the city have come together to produce consistent reductions in violent and property crime. The figures for 2017 are the lowest in several decades.

Among the individual categories, we can detect some results of improved coding starting in about 2015. Many "Other Thefts" were properly redistributed among the correct categories, causing artificial increases and

decreases accordingly. "Family Offenses" were not properly coded at all until 2016. Our comparative analysis post-MGM will have to consider the missing data of the past as well as the overall decreasing trends.

Selected calls for service in Springfield

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Abandoned Vehicle	532	568	291.8	169.05	0.58	+26.05%
Disabled Vehicle	649	838	665.4	74.89	0.11	+1.65%
Disturbance	13633	14650	11707.0	1435.03	0.12	+5.04%
Domestic Dispute	9957	9881	9805.6	278.22	0.03	-0.33%
Gunshots	837	790	962.9	192.16	0.20	-3.80%
Medical	10381	10662	9921.5	631.57	0.06	+0.82%
Overdose	0	248	NA	NA	NA	NA
Psychological	3131	3288	NA	NA	NA	NA
Suspicious Activity	8692	8184	7457.8	582.55	0.08	+2.46%
Traffic Collision	6520	7505	6070.5	615.58	0.10	+2.86%

Springfield's CAD incident type coding system makes it hard to distinguish certain categories that are useful to analyze post-casino. These include lost property calls and traffic complaints. The agency did not start recording overdose calls as a unique category until 2017 and psychological calls as a unique category until late 2013. Hence, it will be difficult to see changes in these categories.

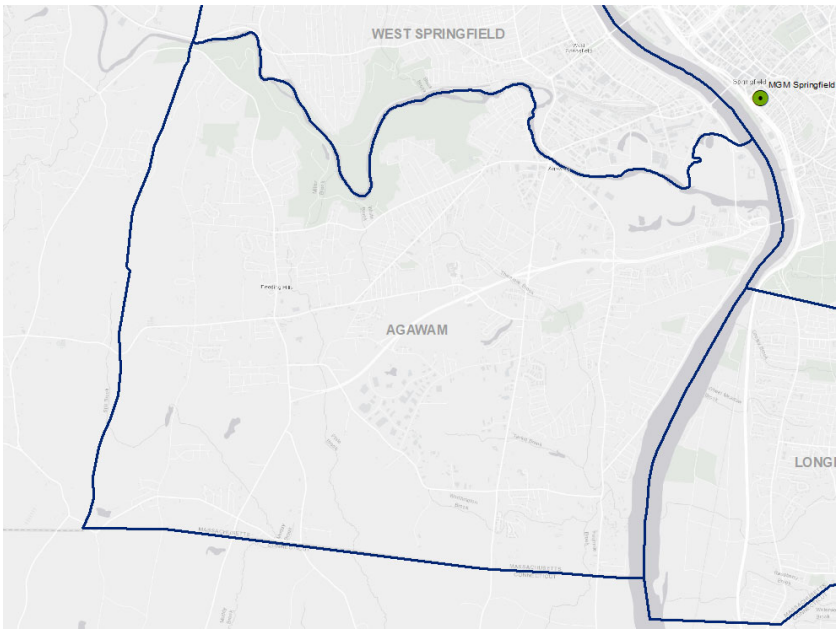
Collisions in Springfield

Collision Category	2016	2017	2011–2017 Avg.	St. Dev.	C.V.	SPM
Vehicle in Traffic	3129	3513	2965.9	276.40	0.09	+9.08%
Parked Vehicle	570	716	555.7	70.23	0.13	+10.47%
Pedestrian	150	170	155.3	11.26	0.07	+6.78%
Bicyclist	76	70	73.0	6.80	0.09	+9.10%
Animal	10	12	7.7	3.49	0.45	+19.17%
Fixed Object	366	391	323.7	58.01	0.18	+12.50%
Curb/Barrier/Embankment	179	177	152.9	20.01	0.13	+10.93%
Rollover/Non-Collision	17	11	15.7	2.81	0.18	+4.09%
Other/Unknown	78	58	80.7	12.79	0.16	+2.12%
Total	4575	5118	4330.6	384.51	0.09	+9.36%

Springfield did not start collecting collision data in its records management system until late in 2010, so the average and standard deviation are calculated using 2011–2017 figures only.

Springfield's collision totals have been on a clear increasing trend since 2015, and 2017 was the highest year by far among the past seven. The increase is reflected in a few categories in particular, and the total increase is high enough that comparison of post-MGM activity will have to consider the trendline rather than the historical mean and variance alone.

Analysis of baseline activity: Agawam



Population (est. 2016): 28,718

Area: 24.2 square miles

Police officers: 47

City center distance from MGM: 7.97 miles

Just across the river from the new casino, Agawam's northeast corner practically touches MGM Springfield. The city is serviced by a bus loop directly out of Springfield's downtown. State Route 57 (Bodurtha Highway) may deliver much of the traffic from southwest of Springfield and northwest of Hartford to the casino. 57 is an isolated highway for most of its length, and patrolled by the State Police, but its few exits may deliver visitors to a handful of restaurants and gas stations in the area. The terminus of the isolated part of the highway in west Agawam may offer opportunities for traffic issues if travel on this route is heavy.

To non-residents, Agawam is probably best known as the location of Six Flags New England and the associated nearby restaurants and shopping. Six Flags is currently the Agawam Police Department's top crime and call for service location, reporting just under 100 crimes per year. Whether MGM Springfield brings additional traffic to Six Flags remains to be seen.

Agawam's bridge connection with Springfield, the South End Bridge, does not offer pedestrian access, limiting the likelihood of foot traffic despite the technical proximity. The city also has no hotels; Enfield, Connecticut offers the closest hotel cluster for Six Flags visitors.

Crimes in Agawam

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Murder	0	0	0.1	0.31	3.10	-59.52%
Sexual Assault	12	6	12.0	3.09	0.26	-3.37%
Kidnapping	0	1	0.3	0.41	1.37	+0.00%
Robbery	7	9	4.8	1.93	0.40	+14.38%
Aggravated Assault	38	44	23.5	11.29	0.48	+20.57%

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Simple Assault	103	158	71.4	38.85	0.54	+22.59%
Threats	29	41	17.5	11.77	0.67	+27.48%
Arson	3	2	2.8	2.04	0.73	-17.01%
Burglary	167	179	120.3	44.56	0.37	+15.54%
Thefts from Persons	1	0	0.4	0.66	1.65	+20.83%
Purse Snatching	0	0	1.0	0.94	0.94	-26.19%
Shoplifting	26	30	12.3	10.60	0.86	+36.20%
Thefts from Buildings	19	33	19.0	8.60	0.45	+16.04%
Thefts from Machines	0	0	0.0	0.00	NC	NC
Thefts from Vehicles	1	3	11.4	11.03	0.97	-37.70%
Thefts of Vehicle Parts	8	3	2.8	2.53	0.90	+28.91%
Other Thefts	218	244	149.4	60.92	0.41	+17.62%
Auto Theft	32	26	26.3	3.88	0.15	+1.99%
Forgery/Counterfeiting	12	7	7.8	3.26	0.42	+11.90%
Fraud/Con Games	18	32	19.4	7.51	0.39	+13.93%
Credit Card Fraud	9	4	6.3	4.02	0.64	+13.98%
Identity Theft	23	38	16.0	14.25	0.89	+35.86%
Employee Theft	1	1	1.0	1.25	1.25	+30.95%
Extortion	1	2	0.6	0.81	1.35	+41.67%
Stolen Property	7	9	5.4	2.62	0.49	+9.04%
Vandalism	77	100	49.9	27.04	0.54	+21.02%
Drug Offenses	14	18	17.0	4.47	0.26	-4.06%
Drug Equipment	0	1	0.1	0.31	3.10	+83.33%
Statutory Rape	12	7	5.1	3.38	0.66	+15.17%
Pornography	3	3	1.5	1.15	0.77	+20.63%
Prostitution	1	0	0.3	0.41	1.37	+31.75%
Gambling Offenses	0	0	0.0	0.00	NC	NC
Weapon Offenses	3	5	2.4	1.41	0.59	+18.35%
Bad Checks	1	2	2.1	1.20	0.57	-5.10%
Disorderly Conduct	10	14	13.0	2.98	0.23	-0.73%
Drunk Driving	14	21	18.8	4.80	0.26	-2.03%
Drunkenness	6	4	3.1	3.18	1.03	+32.64%
Family Offenses	12	2	26.6	42.96	1.62	+23.32%
Liquor Laws	0	4	3.4	1.82	0.54	-10.15%
Trespassing	7	6	5.4	2.00	0.37	+10.80%
Violent Crime	**160**	**218**	**112.0**	**50.01**	**0.45**	**+18.92%**
Property Crime	**620**	**711**	**448.9**	**167.69**	**0.37**	**+15.85%**
Total Crime	**895**	**1059**	**679.9**	**251.49**	**0.37**	**+15.38%**

Notable in Agawam is the increasing trend in almost all of its crime figures, particularly property crimes, since 2015. Total crimes increased 39% in that year alone. The increase seems to be legitimate—not simply a result of improved coding—and it is centered almost entirely at Six Flags. I have not yet been able to determine what changed at the park between 2014 and 2015 that would cause such an increase in crime. It is likely that new attractions drew greater park attendance. Either way, analysis of changes in Agawam will have to consider these existing trends or (more likely) analyze Six Flags separately from the rest of the city.

Agawam has the highest percentage of theft calls coded as "Other Theft" (76%), which is worthy of investigation. Theft-from-vehicle crimes, in particular, are probably not that low. Its use of the "All Other" category, on the other hand, is equal with regional averages.

Selected calls for service in Agawam

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Abandoned Vehicle	0	0	0.1	0.31	3.10	-35.71%
Disabled Vehicle	313	462	317.0	56.46	0.18	+3.85%
Disturbance	451	425	434.8	42.39	0.10	+1.37%
Domestic Dispute	255	299	338.1	63.65	0.19	-7.86%
Hunting	16	15	20.9	5.74	0.27	-5.53%
Liquor	2	2	2.3	1.22	0.53	-7.25%
Lost Property	28	9	11.8	7.71	0.65	+19.98%
Medical Aid	1873	1756	1571.9	219.45	0.14	+4.13%
Psychological	16	20	14.3	4.47	0.31	+11.99%
Suspicious Activity	1529	1493	1291.6	139.83	0.11	+3.03%
Traffic Collision	876	979	808.8	83.14	0.10	+3.74%
Traffic Complaint	371	389	353.4	18.62	0.05	+1.50%

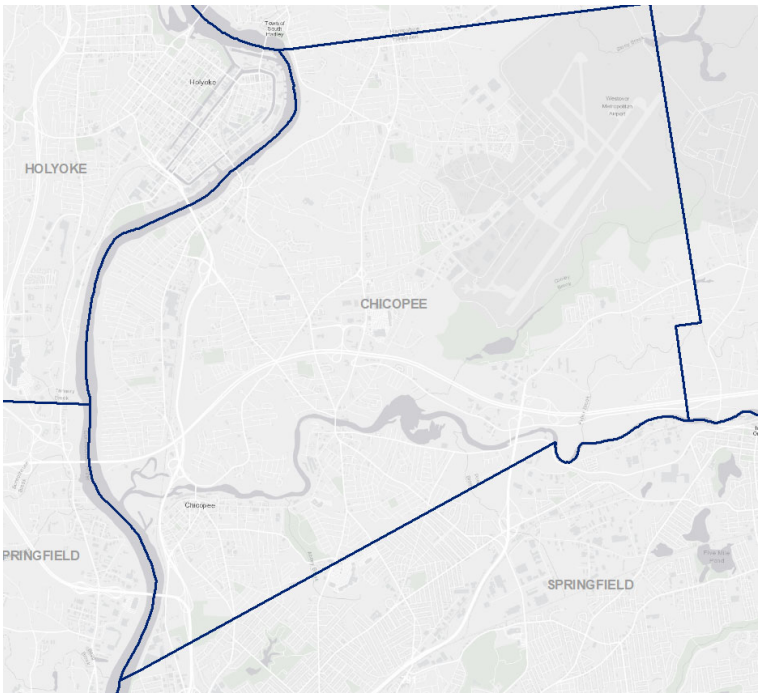
Agawam has codes for abandoned vehicles and liquor law violations but rarely uses them, making these categories unhelpful for analyzing the town's activity in these areas. The town uses an explicit "DOMESTIC DISPUTE" code making it easier to see changes in this important activity. Lost property calls are erratic from year to year and seem under-coded. Traffic calls, disturbances, and suspicious activity are at expected levels and are highly predictable from year to year, making changes easy to note. "Psychological" calls will be hard to measure because the agency only has a couple of explicit codes related to suicide. A generic "MEDICAL/MENTAL" call code makes it impossible to determine the nature of the call.

Collisions in Agawam

Collision Category	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Vehicle in Traffic	406	425	371.9	34.17	0.09	+2.39%
Parked Vehicle	51	46	43.8	8.01	0.18	+2.23%
Pedestrian	6	9	9.0	2.12	0.24	-3.17%
Bicyclist	5	7	5.6	2.55	0.46	-3.19%
Animal	7	3	4.6	2.29	0.50	+4.92%
Fixed Object	53	74	49.3	12.75	0.26	+7.68%
Curb/Barrier/Embankment	30	43	28.4	7.18	0.25	+6.33%
Rollover/Non-Collision	1	7	4.3	1.85	0.43	-3.32%
Other/Unknown	10	24	13.0	4.64	0.36	+9.52%
Total	569	638	529.8	56.82	0.11	+3.08%

Only a few low-volume collision categories pose any validity issues. Most categories including total collisions, are relatively predictable from year to year, and the overall trend line shows only a slight upward trend. Major changes post-MGM will be relatively easy to detect.

Analysis of baseline activity: Chicopee



Population (est. 2016): 55,991

Area: 23.9 square miles

Police officers: 132

City center distance from MGM: 5.52 miles

In some ways a northern extension of Springfield, Chicopee has long experienced higher-than-average crimes rates, although the city saw a significant reduction in crimes in the 2000s and has maintained that reduction through the 2010s. With many streets, highways, and bus routes heading directly to downtown Springfield, Chicopee will be likely to share in any trends that affect the region as a whole. Specific places to watch include business around the I-90/i-291 interchange, businesses and restaurants along Memorial Drive, and in particular the hotel cluster off I-90 at Memorial Drive.

Crimes in Chicopee

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Murder	2	3	1.0	0.94	0.94	+21.43%
Sexual Assault	53	67	51.4	7.84	0.15	+2.43%
Kidnapping	7	18	9.8	3.42	0.35	+10.93%
Robbery	45	52	53.1	9.04	0.17	-0.52%
Aggravated Assault	125	160	125.8	17.81	0.14	+1.17%
Simple Assault	573	594	532.6	49.20	0.09	+0.00%
Threats	282	220	223.0	41.30	0.19	-0.11%
Arson	2	0	2.4	1.49	0.62	-18.35%
Burglary	320	284	412.0	80.68	0.20	-7.67%
Thefts from Persons	11	1	4.1	2.81	0.69	+6.10%
Purse Snatching	4	8	5.6	2.79	0.50	+3.19%
Shoplifting	100	130	111.3	10.92	0.10	+2.44%
Thefts from Buildings	193	105	178.0	27.67	0.16	-3.20%

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Thefts from Machines	0	0	0.0	0.00	NC	NC
Thefts from Vehicles	142	151	150.0	17.98	0.12	-2.73%
Thefts of Vehicle Parts	126	91	143.0	43.75	0.31	-12.29%
Other Thefts	270	430	293.4	52.65	0.18	+4.19%
Auto Theft	87	116	105.4	13.63	0.13	-2.25%
Forgery/Counterfeiting	25	33	39.4	8.14	0.21	-6.86%
Fraud/Con Games	102	101	127.6	18.30	0.14	-4.21%
Credit Card Fraud	10	8	11.3	3.49	0.31	-6.32%
Identity Theft	98	73	59.6	18.74	0.31	+11.96%
Employee Theft	4	7	8.0	3.40	0.43	+0.30%
Extortion	1	0	0.3	0.41	1.37	+15.87%
Stolen Property	10	12	14.6	4.29	0.29	-0.57%
Vandalism	325	309	376.3	70.49	0.19	-7.71%
Drug Offenses	47	68	63.8	11.60	0.18	-3.55%
Drug Equipment	0	0	0.0	0.00	NC	NC
Statutory Rape	8	6	7.5	2.16	0.29	+1.27%
Pornography	7	9	5.0	2.45	0.49	+17.14%
Prostitution	2	0	0.9	0.74	0.82	+9.26%
Gambling Offenses	0	0	0.0	0.00	NC	NC
Weapon Offenses	16	14	10.3	3.88	0.38	+14.33%
Bad Checks	5	3	5.6	2.79	0.50	-13.82%
Disorderly Conduct	16	23	19.5	4.22	0.22	-5.37%
Drunk Driving	34	34	26.1	5.78	0.22	+2.78%
Drunkenness	39	69	64.5	13.11	0.20	-5.83%
Family Offenses	1	0	0.8	0.91	1.14	+0.00%
Liquor Laws	0	6	3.1	1.52	0.49	-3.46%
Trespassing	12	18	13.1	2.77	0.21	-1.54%
Violent Crime	**805**	**894**	**773.6**	**67.89**	**0.09**	**+0.48%**
Property Crime	**1828**	**1859**	**2039.8**	**179.21**	**0.09**	**-3.76%**
Total Crime	**3104**	**3223**	**3258.9**	**234.66**	**0.07**	**-2.41%**

Chicopee's overall crime has seen a decreasing trend during the last seven years, though violent crime specifically has been flat. As with many departments contributing to this project, I am concerned about the agency's use of the 90Z ("All Other") NIBRS code, which accounts for 33% of its total crimes, three times as high as the next highest agency in the region. Thefts, however, specifically seem to be coded correctly, with low uses (33%) of the "Other Theft" category.

Selected calls for service in Chicopee

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Abandoned Vehicle	40	49	40.3	9.00	0.22	-1.83%
Disabled Vehicle	389	463	379.5	39.31	0.10	+2.01%
Disturbance	3332	3110	3281.1	175.28	0.05	-0.85%
Domestic Dispute	1728	2457	1764.4	266.05	0.15	+2.90%
Medical Aid	1883	1709	1502.6	265.98	0.18	+5.92%
Overdose	131	130	NA	NA	NA	NA
Psychological	0	191	NA	NA	NA	NA

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Suspicious Activity	1847	1765	1644.9	130.47	0.08	+2.33%
Traffic Collision	2300	2377	2153.0	157.23	0.07	+1.54%
Traffic Complaint	2162	1887	1523.0	324.06	0.21	+8.14%

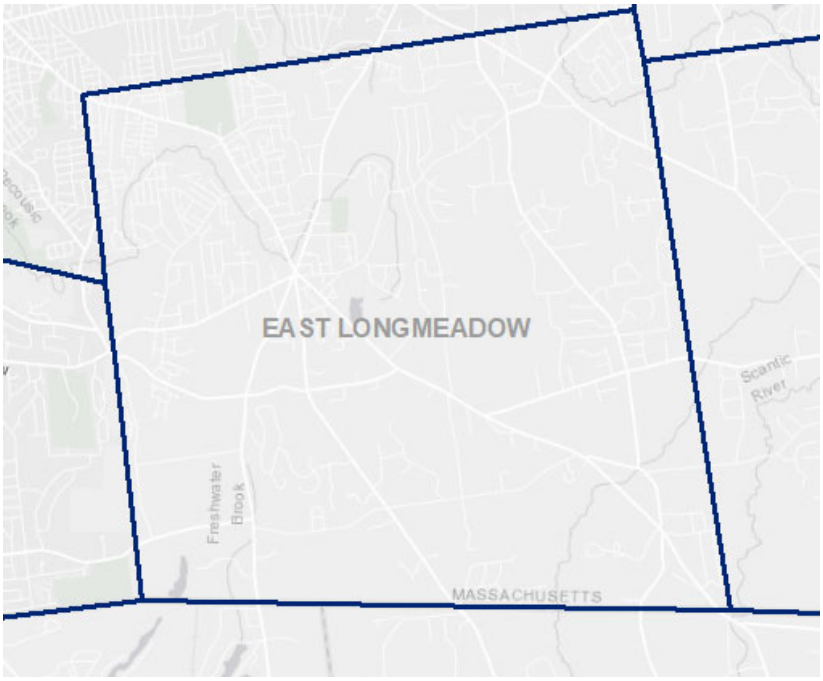
Chicopee did not introduce an "overdose" category until 2015 or a "psychological" category until 2017, so it will be difficult to evaluate changes in these categories without a more consistent historical norm. Other high-volume categories, on the other hand, are consistent and predictable.

Collisions in Chicopee

Collision Category	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Vehicle in Traffic	1139	1228	1024.1	119.95	0.12	+3.50%
Parked Vehicle	332	316	306.9	27.09	0.09	+0.30%
Pedestrian	36	34	33.9	3.18	0.09	-1.30%
Bicyclist	20	17	16.6	2.29	0.14	+2.80%
Animal	3	12	5.3	2.86	0.54	+11.23%
Fixed Object	124	130	116.5	18.41	0.16	+4.07%
Curb/Barrier/Embankment	65	60	66.1	4.81	0.07	-0.05%
Rollover/Non-Collision	10	13	8.9	2.67	0.30	+9.50%
Other/Unknown	39	41	44.9	7.66	0.17	-4.96%
Total	1768	1851	1623.1	149.93	0.09	+2.51%

Like many agencies, Chicopee has seen a slight upward trend in collisions, although its trend goes back a bit further (to 2012) than the other surrounding communities. Its total in 2017 was the highest on record. Despite the increase, yearly variances have been moderate. There are no validity concerns, and it should be possible to identify any major changes to the overall trend.

Analysis of baseline activity: East Longmeadow



Population (est. 2016): 16,267

Area: 13.0 square miles

Police officers: 26

City center distance from MGM: 5.28 miles

Though immediately adjacent to Springfield, East Longmeadow benefits from limited major travel routes and thus manages to keep a low (and decreasing) crime total. Still, the north part of the city, lacking a hard border, sees some spillover from some of Springfield's hot spots, and its northwest corner is close enough to MGM Springfield that it might share in any crime increases, if any, that may radiate from the casino.

Route 83 East Longmeadow is likely to serve as a travel route for some Connecticut points, and we may see some increased activity at a small number of service stations and restaurants northwest of downtown.

Crimes in East Longmeadow

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Murder	0	0	0.0	0.00	NC	NC
Sexual Assault	8	2	4.8	1.99	0.41	+3.47%
Kidnapping	1	1	0.9	0.74	0.82	-6.61%
Robbery	1	3	2.9	2.51	0.87	-20.11%
Aggravated Assault	10	16	13.0	5.03	0.39	-0.92%
Simple Assault	23	53	49.9	11.59	0.23	-6.18%
Threats	20	20	51.1	23.28	0.46	-19.36%
Arson	0	2	1.1	0.74	0.67	-3.25%
Burglary	33	51	53.4	14.97	0.28	-9.47%
Thefts from Persons	1	1	1.0	1.25	1.25	-2.38%
Purse Snatching	3	2	2.5	1.89	0.76	+13.33%
Shoplifting	36	44	42.5	8.49	0.20	-0.50%
Thefts from Buildings	20	30	25.0	5.42	0.22	-2.86%
Thefts from Machines	0	0	0.0	0.00	NC	NC

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Thefts from Vehicles	19	25	40.9	16.02	0.39	-14.47%
Thefts of Vehicle Parts	0	1	8.4	6.56	0.78	-31.60%
Other Thefts	68	114	100.8	18.50	0.18	-4.72%
Auto Theft	3	9	7.9	2.47	0.31	-2.86%
Forgery/Counterfeiting	4	5	4.8	1.99	0.41	+0.50%
Fraud/Con Games	19	25	29.5	7.77	0.26	-1.21%
Credit Card Fraud	8	11	8.8	3.64	0.41	+4.06%
Identity Theft	13	10	10.1	3.28	0.32	+2.00%
Employee Theft	3	4	2.3	1.55	0.67	+11.39%
Extortion	0	1	0.1	0.31	3.10	+83.33%
Stolen Property	2	7	5.4	2.71	0.50	-9.04%
Vandalism	54	54	82.3	26.46	0.32	-13.19%
Drug Offenses	10	11	28.1	14.69	0.52	-10.63%
Drug Equipment	0	0	0.3	0.41	1.37	+0.00%
Statutory Rape	4	3	1.9	1.20	0.63	+11.90%
Pornography	4	0	2.4	1.24	0.52	-1.49%
Prostitution	1	0	0.1	0.31	3.10	+59.52%
Gambling Offenses	0	0	0.0	0.00	NC	NC
Weapon Offenses	2	6	3.5	2.67	0.76	+13.61%
Bad Checks	3	0	2.6	1.82	0.70	-5.95%
Disorderly Conduct	6	6	13.4	5.81	0.43	-19.28%
Drunk Driving	6	27	11.0	6.20	0.56	+14.07%
Drunkenness	0	6	2.8	2.35	0.84	+19.56%
Family Offenses	0	0	1.1	0.99	0.90	-27.06%
Liquor Laws	8	11	8.3	1.99	0.24	-0.86%
Trespassing	9	19	10.8	4.37	0.40	+0.66%
Violent Crime	**43**	**75**	**71.4**	**13.79**	**0.19**	**-5.15%**
Property Crime	**286**	**394**	**425.4**	**81.23**	**0.19**	**-7.05%**
Total Crime	**402**	**580**	**635.1**	**129.15**	**0.20**	**-7.37%**

East Longmeadow has seen significant reductions over the last seven years, in both overall crime and in many individual categories.

Selected calls for service in East Longmeadow

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Disabled Vehicle	59	67	61.0	9.18	0.15	-0.04%
Disturbance	51	81	56.0	13.22	0.24	+3.49%
Domestic Dispute	93	170	55.8	56.18	1.01	+42.80%
Lost Property	36	28	39.0	5.62	0.14	-5.25%
Medical	1890	2053	1674.9	177.47	0.11	+4.40%
Psychological	12	29	6.9	9.29	1.35	+52.28%
Suspicious Activity	1056	1137	1028.3	72.38	0.07	+0.91%
Traffic Collision	505	559	533.4	23.26	0.04	+0.12%

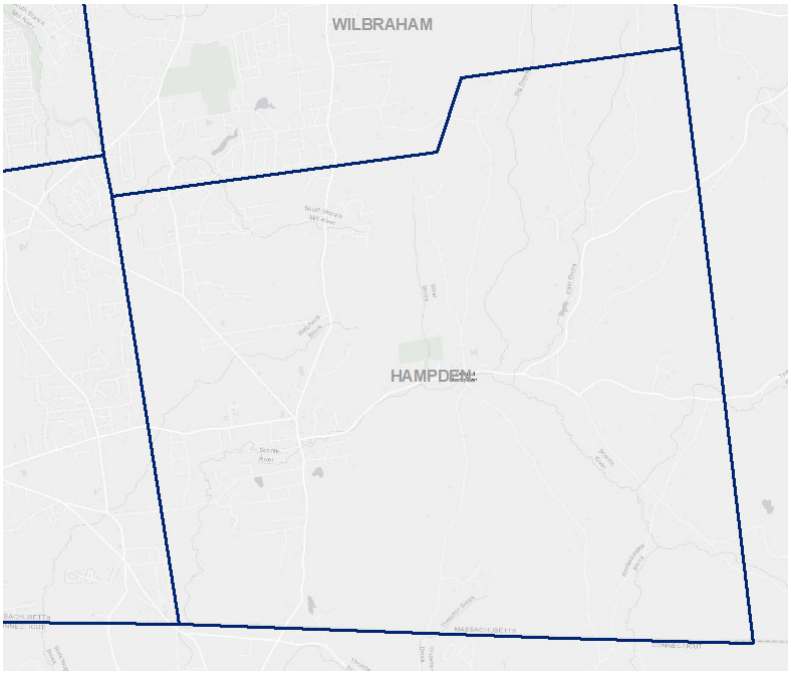
East Longmeadow added a domestic dispute code in 2014 and a psychological call code in 2015, which accounts for the erratic values and trends. Other categories are mostly consistent and valid.

Collisions in East Longmeadow

Collision Category	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Vehicle in Traffic	314	345	327.6	18.54	0.06	+0.29%
Parked Vehicle	68	77	83.0	10.87	0.13	-4.39%
Pedestrian	6	5	5.4	1.49	0.28	-0.66%
Bicyclist	1	2	3.6	2.64	0.73	-22.82%
Animal	29	26	25.0	5.24	0.21	-1.43%
Fixed Object	51	46	43.1	5.97	0.14	+3.67%
Curb/Barrier/Embankment	14	23	19.6	5.15	0.26	-2.49%
Rollover/Non-Collision	2	6	2.5	2.12	0.85	+12.38%
Other/Unknown	11	18	30.3	13.51	0.45	-11.24%
Total	496	548	540.1	32.24	0.06	-1.10%

East Longmeadow's vehicle (in traffic and parked) and total collisions have low variances and only a slight decreasing trend. Yearly totals for non-vehicle collisions are surprisingly low and variable from year to year, but not so much that they will confound analysis of changes.

Analysis of baseline activity: Hampden



Population (est. 2016): 5,227

Area: 19.7 square miles

Police officers: 11

City center distance from MGM: 9.06 miles

Hampden is the most isolated agency in this study. It has no highways or major state routes, nor is it near any, and it is the only surrounding community with no PVTA bus routes. Criminals are unlikely to travel so far afield from major getaway routes. However, it is not impossible that the town will see some increased traffic from the south and east, which would most likely manifest in greater activity around Reid's Corner, with its concentration of shops and its single gas station. With its existing crime totals so low, any changes will, of course, be readily noticeable.

Crimes in Hampden

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Murder	0	0	0.1	0.31	3.10	-83.33%
Sexual Assault	1	0	0.4	0.46	1.15	+8.93%
Kidnapping	0	0	0.0	0.00	NC	NC
Robbery	0	0	0.4	0.46	1.15	-14.88%
Aggravated Assault	1	3	1.5	1.05	0.70	+12.70%
Simple Assault	3	8	5.1	2.81	0.55	+1.17%
Threats	3	1	5.4	2.58	0.48	-20.50%
Arson	0	0	0.0	0.00	NC	NC
Burglary	18	4	14.3	5.53	0.39	-10.66%
Thefts from Persons	0	0	0.0	0.00	NC	NC
Purse Snatching	0	0	0.0	0.00	NC	NC
Shoplifting	0	0	0.3	0.41	1.37	+0.00%
Thefts from Buildings	1	4	5.6	3.68	0.66	-16.37%
Thefts from Machines	0	0	0.0	0.00	NC	NC

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Thefts from Vehicles	10	12	6.0	3.06	0.51	+16.27%
Thefts of Vehicle Parts	0	0	0.0	0.00	NC	NC
Other Thefts	19	17	20.3	4.76	0.23	-3.28%
Auto Theft	8	5	2.9	2.23	0.77	+22.58%
Forgery/Counterfeiting	1	0	0.6	0.66	1.10	-17.86%
Fraud/Con Games	2	3	2.1	0.87	0.41	-2.83%
Credit Card Fraud	0	1	0.4	0.46	1.15	+2.98%
Identity Theft	3	5	3.3	1.13	0.34	+9.38%
Employee Theft	0	0	0.0	0.00	NC	NC
Extortion	0	0	0.0	0.00	NC	NC
Stolen Property	1	0	0.5	0.67	1.34	-4.76%
Vandalism	19	16	22.6	8.81	0.39	-13.64%
Drug Offenses	1	3	2.6	1.94	0.75	-20.60%
Drug Equipment	0	0	0.0	0.00	NC	NC
Statutory Rape	0	0	0.0	0.00	NC	NC
Pornography	0	1	0.6	0.66	1.10	+5.95%
Prostitution	0	0	0.0	0.00	NC	NC
Gambling Offenses	0	0	0.0	0.00	NC	NC
Weapon Offenses	0	0	0.3	0.41	1.37	-47.62%
Bad Checks	1	0	1.1	1.10	1.00	-31.39%
Disorderly Conduct	1	0	1.3	1.03	0.79	-25.64%
Drunk Driving	3	11	6.4	2.26	0.35	+1.67%
Drunkenness	0	1	1.0	1.05	1.05	-4.76%
Family Offenses	0	0	0.0	0.00	NC	NC
Liquor Laws	2	1	2.9	1.97	0.68	-17.65%
Trespassing	1	2	3.3	1.68	0.51	-9.38%
Violent Crime	5	11	7.5	3.23	0.43	+1.90%
Property Crime	82	67	78.8	14.24	0.18	-5.62%
Total Crime	99	98	111.0	21.37	0.19	-6.74%

As these statistics show, Hampden is an extremely low-crime community, offering by far the lowest crime totals of any of the participating agencies. Because of this, practically any crime—particularly in the violence category—is unusual, creating such variances from the norm that nearly every single category seems "unusually erratic." There is no particular reason to doubt any of the numbers, however, except perhaps "other thefts," which accounts for 63% of all Hampden thefts against a regional average of 48%.

Selected calls for service in Hampden

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Abandoned Vehicle	5	1	2.6	1.41	0.54	+5.95%
Disabled Vehicle	31	35	39.9	11.26	0.28	-8.92%
Disturbance	30	35	44.0	9.19	0.21	-6.33%
Domestic Dispute	29	24	27.8	5.57	0.20	-4.80%
Medical	323	333	300.9	27.71	0.09	-0.34%
Suspicious Activity	219	178	212.8	32.30	0.15	-4.93%
Traffic Collision	81	96	85.9	10.46	0.12	-0.29%
Traffic Complaint	17	23	12.8	6.01	0.47	+10.04%

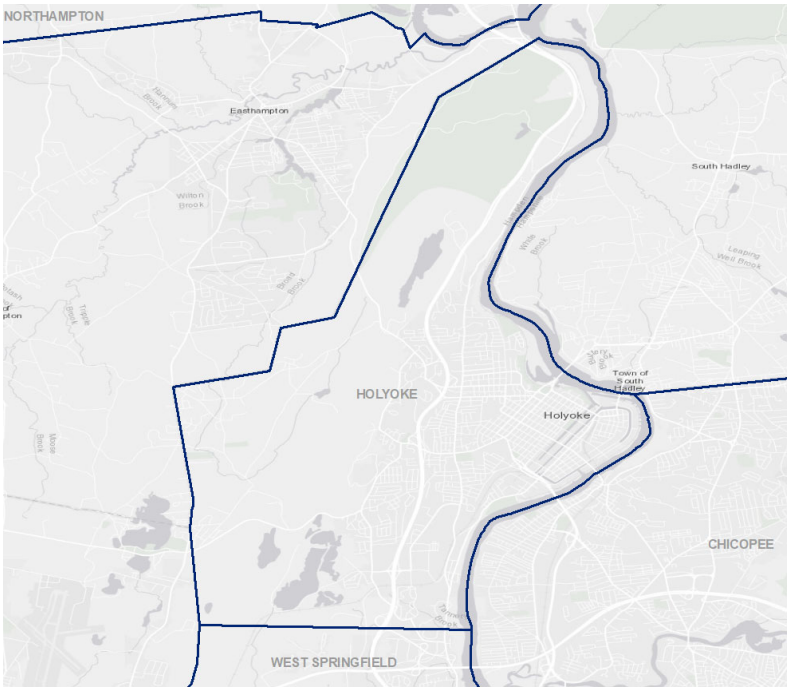
Hampden's call-for-service totals are lower than most agency's crime totals, and the town does not experience (or does not track) several of the categories I typically evaluate for change. The categories it does report have relatively consistent figures. Traffic complaints have shown an upward trend (among admittedly low numbers) since 2015, but with numbers this low, a single address could account for such an increase.

Collisions in Hampden

Collision Category	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Vehicle in Traffic	22	21	18.0	5.92	0.33	+4.37%
Parked Vehicle	10	8	7.5	2.60	0.35	+5.08%
Pedestrian	1	1	0.5	0.50	1.00	+14.29%
Bicyclist	0	0	0.9	0.78	0.87	-11.90%
Animal	11	28	13.4	6.63	0.49	+10.57%
Fixed Object	17	17	15.9	3.59	0.23	+2.62%
Curb/Barrier/Embankment	2	3	5.1	2.93	0.57	-7.70%
Rollover/Non-Collision	2	0	0.8	0.97	1.21	-8.93%
Other/Unknown	3	3	5.4	2.00	0.37	-14.77%
Total	68	81	67.4	10.62	0.16	+2.53%

With few heavily-trafficked routes, Hampden has the lowest collision totals of the contributing communities. Although the small numbers cause large coefficients of variation and trends, they also mean that any significant changes in collision totals will stand out in the coming years.

Analysis of baseline activity: Holyoke



Population (est. 2016): 40,341

Area: 22.8 square miles

Police officers: 124

City center distance from MGM: 7.97 miles

Although Holyoke is one of the furthest-removed jurisdictions, in distance, from MGM Springfield, almost all traffic coming from the north will inevitably pass through Holyoke on Interstate 91 or local roads. Numerous restaurants, gas stations, hotels, convenience stores, and retail shops off I-91 may see increased activity from travelers, and we will have to monitor the Holyoke Mall and the Holyoke Shopping Center for increases in retail or vehicle crime. Northampton Street, Main Street, and other roads adjacent to I-91 may see increased traffic and thus traffic-related calls for service, including collisions. Downtown Holyoke is densely served by the Pioneer Valley Transit Authority bus system, and we will monitor activity around bus stops as well.

Crimes in Holyoke

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Murder	3	3	3.1	1.20	0.39	-1.15%
Sexual Assault	20	32	31.1	5.74	0.18	-4.48%
Kidnapping	8	5	8.4	3.23	0.38	-10.91%
Robbery	92	95	88.3	9.57	0.11	+1.32%
Aggravated Assault	243	258	229.9	19.27	0.08	+0.32%
Simple Assault	664	647	684.0	61.10	0.09	-3.32%
Threats	301	269	318.5	28.72	0.09	-3.20%
Arson	11	8	12.0	3.06	0.26	-7.94%
Burglary	306	292	379.3	74.49	0.20	-7.75%
Thefts from Persons	0	1	0.1	0.31	3.10	+83.33%
Purse Snatching	0	1	0.6	0.81	1.35	-1.98%
Shoplifting	359	377	418.6	46.87	0.11	-1.65%
Thefts from Buildings	1	3	6.8	5.79	0.85	-14.36%

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Thefts from Machines	0	0	0.0	0.00	NC	NC
Thefts from Vehicles	211	214	254.9	56.01	0.22	-8.67%
Thefts of Vehicle Parts	0	4	16.3	12.51	0.77	-33.30%
Other Thefts	798	836	883.6	61.49	0.07	-2.36%
Auto Theft	119	103	123.1	34.27	0.28	-9.08%
Forgery/Counterfeiting	15	21	25.1	7.82	0.31	-9.44%
Fraud/Con Games	3	5	3.5	0.82	0.23	+7.48%
Credit Card Fraud	17	26	27.1	7.85	0.29	-6.63%
Identity Theft	0	0	0.0	0.00	NC	NC
Employee Theft	0	0	0.8	0.78	0.98	-17.86%
Extortion	2	0	1.3	1.22	0.94	+0.00%
Stolen Property	21	31	29.8	4.54	0.15	-4.87%
Vandalism	577	506	609.1	109.86	0.18	-6.43%
Drug Offenses	255	446	355.8	52.86	0.15	+2.55%
Drug Equipment	0	0	0.0	0.00	NC	NC
Statutory Rape	0	0	0.0	0.00	NC	NC
Pornography	0	6	2.4	1.56	0.65	+11.41%
Prostitution	0	1	0.6	1.24	2.07	-9.92%
Gambling Offenses	1	0	1.4	1.49	1.06	-28.06%
Weapon Offenses	27	30	26.6	5.16	0.19	+2.73%
Bad Checks	0	0	0.3	0.41	1.37	-7.94%
Disorderly Conduct	53	89	83.4	15.87	0.19	-5.50%
Drunk Driving	30	30	29.5	8.50	0.29	-7.59%
Drunkenness	0	0	0.0	0.00	NC	NC
Family Offenses	0	0	0.8	0.78	0.98	-29.76%
Liquor Laws	3	1	3.3	1.99	0.60	-17.32%
Trespassing	0	1	33.4	32.88	0.98	-37.25%
Violent Crime	1030	1040	1044.8	75.30	0.07	-2.22%
Property Crime	2429	2420	2779.9	331.16	0.12	-5.09%
Total Crime	4140	4341	4692.4	440.75	0.09	-3.97%

Holyoke shows a lot of variance in certain offense types, but fortunately most are low-volume, thus still ensuring that significant changes will be identifiable. My primary concerns are in the categories of thefts from persons, thefts from buildings, thefts from machines, thefts of vehicle parts, employee theft, and identity theft. None of the extremely low values in these categories are credible for a city of Holyoke's size, and the overwhelming likelihood is that all of these offense types are being erroneously coded as "Other Thefts," as the city's use of this category for thefts (56%) is among the highest in the region. Thus, any improvement in reporting practices will undoubtedly cause these categories to skyrocket, and their increases will have to be considered against decreases in the "Other Theft" category.

I am also concerned at the relatively low coding of NIBRS Group B crimes, including drunkenness, family offenses, liquor law violation, and trespassing. Given averages from other agencies, it seems likely that Holyoke had more of these arrests than are reflected in these totals. I suspect the missing reports will be found within the 90Z ("All Other") category, which account for 14% of the department's crimes, against a agency average of around 8%. Finally, the sudden drop off in trespassing crimes makes little sense unless the agency simply isn't coding them anymore.

Selected calls for service in Holyoke

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Abandoned Vehicle	94	100	109.9	19.59	0.18	-6.86%
Disabled Vehicle	266	319	313.4	34.88	0.11	-1.26%
Disturbance	3459	3405	3684.6	227.62	0.06	-2.63%
Domestic Dispute	437	421	399.8	48.63	0.12	-0.23%
Gunshots	111	99	135.9	21.53	0.16	-6.63%
Liquor	112	100	107.1	4.79	0.04	-0.28%
Lost Property	93	83	106.1	12.04	0.11	-4.84%
Medical	2231	1823	1598.5	325.99	0.20	+7.85%
Overdose	98	92	34.6	34.75	1.00	+41.32%
Psychological	94	368	113.6	94.56	0.83	+27.38%
Suspicious Activity	1293	1383	1335.0	152.80	0.11	-2.56%
Traffic Collision	2023	2144	2010.5	115.91	0.06	+0.55%
Traffic Complaint	163	180	233.8	54.86	0.23	-9.34%
Vagrancy	401	460	373.9	64.89	0.17	+3.06%

Analyzing calls for service in Holyoke posed a particular challenge, as the agency had 8,888 unique call-for-service incident codes, each of which had to be assigned to a common category. (The average number of unique type codes among other agencies was 257.) Holyoke's CAD system is apparently set up to allow its users to type a free-text code for each incident. Because of this sheer volume, I am less confident in the validity of the above statistics than I am with most agencies, although most of them are remarkably consistent.

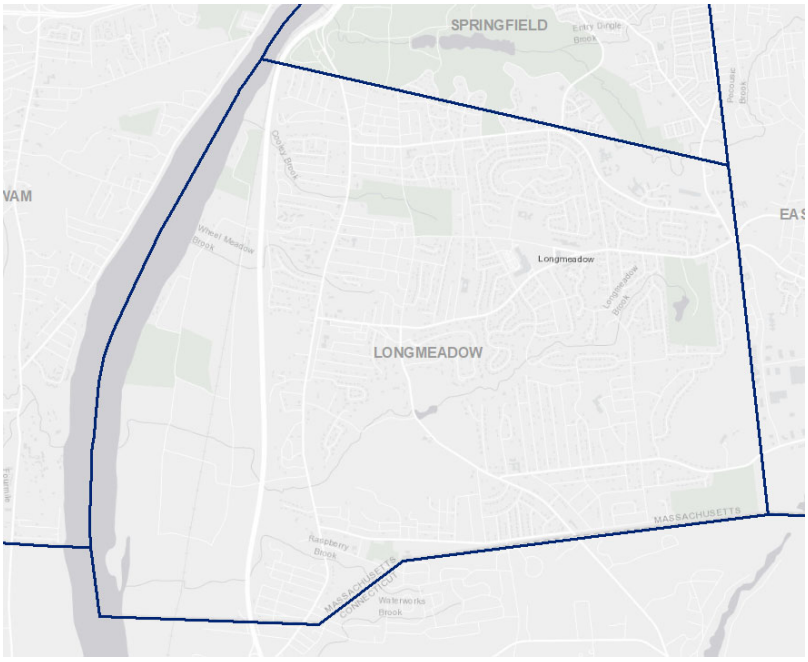
An increase in overdose calls starting in 2015 seems to be related to more accurate coding of the call type. On the other hand, the increase in "psychological" calls seems to be more of a gradual but legitimate rise.

Collisions in Holyoke

Collision Category	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Vehicle in Traffic	1100	1234	1114.1	96.47	0.09	0.42%
Parked Vehicle	361	354	335.1	27.58	0.08	1.93%
Pedestrian	45	40	34.4	6.42	0.19	3.84%
Bicyclist	10	12	13.1	2.62	0.20	-1.18%
Animal	9	9	5.9	2.89	0.49	15.54%
Fixed Object	86	90	72.9	13.35	0.18	6.58%
Curb/Barrier/Embankment	47	46	47.1	8.68	0.18	1.29%
Rollover/Non-Collision	6	2	5.6	3.37	0.60	-2.65%
Other/Unknown	33	42	39.4	10.15	0.26	-7.28%
Total	**1697**	**1829**	**1666.9**	**126.52**	**0.08**	**0.95%**

Holyoke's collision totals have been relatively consistent over the historical period. Only a few low-volume categories show any unusual statistics. Changes should be relatively easy to detect, and very slight upward trend poses no challenges to validity.

Analysis of baseline activity: Longmeadow



Population (est. 2016): 15,876

Area: 9.7 square miles

Police officers: 26

City center distance from MGM: 3.67 miles

Longmeadow is physically quite close to MGM Springfield, though somewhat insulated by Forest Park and limited travel routes. Though it has no exits off I-91, traffic coming from the hotels in the Enfield, Connecticut area may choose to use Route 5 through the city, which has one restaurant and two gasoline stations.

We will be watching carefully for additional activity along this travel route, as well as displacement in general coming across the Springfield border and into the northern part of the city.

Crimes in Longmeadow

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Murder	0	0	0.0	0.00	NC	NC
Sexual Assault	3	3	1.5	0.94	0.63	+25.40%
Kidnapping	0	0	0.4	0.46	1.15	-20.83%
Robbery	2	2	2.5	1.05	0.42	-11.43%
Aggravated Assault	7	2	5.4	2.05	0.38	+1.98%
Simple Assault	14	8	11.8	2.66	0.23	-6.26%
Threats	9	9	15.0	4.00	0.27	-11.43%
Arson	0	0	0.8	1.22	1.53	-35.71%
Burglary	40	39	32.9	8.43	0.26	-2.93%
Thefts from Persons	1	1	1.1	0.87	0.79	-11.90%
Purse Snatching	0	1	1.0	0.82	0.82	+4.76%
Shoplifting	7	11	9.3	2.53	0.27	-3.07%
Thefts from Buildings	27	25	24.9	6.82	0.27	+4.35%
Thefts from Machines	0	0	0.0	0.00	NC	NC
Thefts from Vehicles	22	29	38.6	15.58	0.40	-15.27%

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Thefts of Vehicle Parts	0	0	0.8	1.31	1.64	-44.64%
Other Thefts	35	37	56.0	23.00	0.41	-16.62%
Auto Theft	11	4	4.1	2.77	0.68	+7.84%
Forgery/Counterfeiting	3	7	6.1	3.07	0.50	-16.20%
Fraud/Con Games	24	25	19.1	4.20	0.22	+6.54%
Credit Card Fraud	6	5	5.4	2.00	0.37	+3.75%
Identity Theft	23	34	20.8	7.83	0.38	+15.11%
Employee Theft	1	0	0.9	0.99	1.10	-33.07%
Extortion	0	0	0.0	0.00	NC	NC
Stolen Property	0	3	1.0	1.05	1.05	+30.95%
Vandalism	41	35	50.4	14.54	0.29	-10.75%
Drug Offenses	3	6	4.3	1.93	0.45	+9.41%
Drug Equipment	0	0	0.0	0.00	NC	NC
Statutory Rape	3	2	1.0	0.94	0.94	+26.19%
Pornography	3	0	0.8	0.91	1.14	+14.88%
Prostitution	0	0	0.0	0.00	NC	NC
Gambling Offenses	0	0	0.0	0.00	NC	NC
Weapon Offenses	1	1	1.0	0.82	0.82	+0.00%
Bad Checks	3	0	3.3	2.10	0.64	-20.92%
Disorderly Conduct	1	1	0.6	0.46	0.77	+1.98%
Drunk Driving	8	17	10.0	4.78	0.48	+6.67%
Drunkenness	0	1	0.8	0.78	0.98	-8.93%
Family Offenses	0	1	0.1	0.31	3.10	+83.33%
Liquor Laws	1	1	4.4	3.40	0.77	-33.82%
Trespassing	3	2	2.9	1.73	0.60	-6.16%
Violent Crime	**26**	**15**	**21.5**	**3.23**	**0.15**	**-2.88%**
Property Crime	**241**	**256**	**272.3**	**46.50**	**0.17**	**-6.35%**
Total Crime	**302**	**312**	**338.5**	**53.84**	**0.16**	**-6.14%**

Longmeadow's low crime rate creates large variances when a handful of crimes do appear, but despite the large coefficients and trends, any major changes in the next few years will still stand out against the small baseline. Classic theft-related property crimes have decreased significantly in the past few years from an already-low total.

The data quality seems strong among the Longmeadow reports. The agency has the lowest use of the "All Other" category among the participating agencies (2%), and its use of "Other Theft" in contrast to total thefts is average and credible.

Selected calls for service in Longmeadow

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Disabled Vehicle	97	117	125.1	18.34	0.15	-4.50%
Disturbance	115	118	134.8	30.40	0.23	-8.73%
Domestic Dispute	58	73	67.6	10.24	0.15	-0.23%
Medical	1012	1096	1018.3	46.36	0.05	+1.13%
Suspicious Activity	554	515	546.3	37.05	0.07	-2.32%
Traffic Collision	355	381	387.1	19.03	0.05	-0.68%
Traffic Complaint	183	147	144.0	21.06	0.15	+2.79%

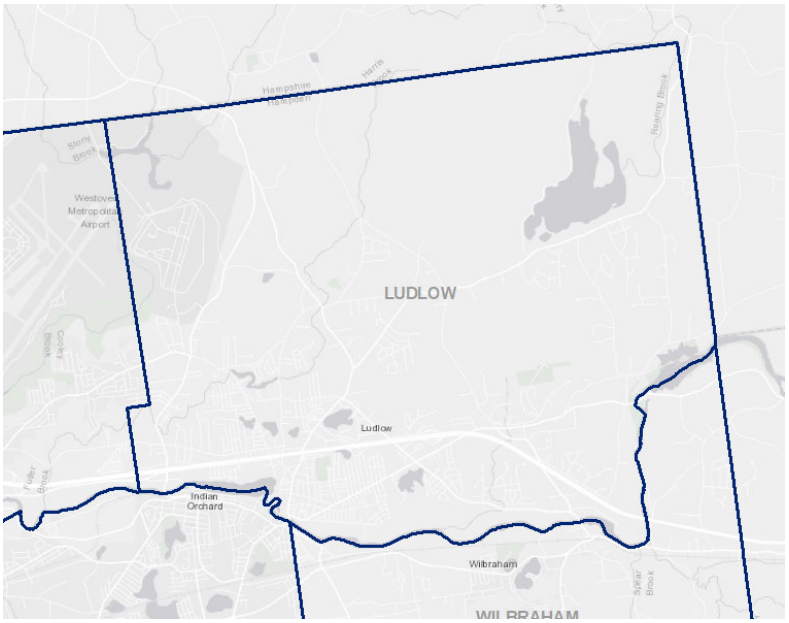
Longmeadow has specific call-for-service codes tracking the fewest of the relevant categories—which makes sense given its low crime rate and probable lack of need for calls related to gunshots and overdoses. The remaining categories listed above are highly consistent, with only noise and disturbance calls showing any major trend over the seven years.

Collisions in Longmeadow

Collision Category	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Vehicle in Traffic	229	230	243.9	17.45	0.07	-0.32%
Parked Vehicle	68	69	76.4	11.52	0.15	-4.16%
Pedestrian	2	5	2.5	1.41	0.56	+4.76%
Bicyclist	3	4	3.6	1.58	0.44	+0.99%
Animal	8	26	14.3	6.40	0.45	+11.16%
Fixed Object	29	29	26.9	5.25	0.20	-0.31%
Curb/Barrier/Embankment	8	13	10.1	1.96	0.19	+0.35%
Rollover/Non-Collision	0	0	0.1	0.33	3.30	-35.71%
Other/Unknown	7	6	8.8	2.28	0.26	-7.85%
Total	354	382	386.5	19.84	0.05	-0.77%

Longmeadow has a very consistent collision total with only a small decreasing trend. Although some categories have seen interesting swings, overall there are no validity or reliability concerns with this dataset.

Analysis of baseline activity: Ludlow



Population (est. 2016): 21,484

Area: 28.2 square miles

Police officers: 38

City center distance from MGM: 9.55 miles

Although somewhat distant from the casino, Ludlow has several travel routes that serve Springfield-area visitors from the north, northeast, and east, including a Massachusetts Turnpike exit. Shops, restaurants, and gas stations off the Turnpike on Route 21 may see extra activity, and its one hotel (the Holiday Inn Express) may see increased occupancy. The police department will want to monitor its one pawn shop, and we will of course pay close attention to changes in the town's low crime rate.

Crimes in Ludlow

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Murder	1	0	0.1	0.31	3.10	+59.52%
Sexual Assault	7	4	3.8	2.30	0.61	+12.53%
Kidnapping	1	2	0.9	0.74	0.82	+11.90%
Robbery	5	3	6.1	2.23	0.37	-12.30%
Aggravated Assault	24	33	13.5	9.44	0.70	+30.16%
Simple Assault	41	55	42.6	10.81	0.25	-2.26%
Threats	23	22	32.3	9.80	0.30	-8.48%
Arson	1	1	0.6	0.94	1.57	+5.95%
Burglary	64	43	67.8	18.95	0.28	-6.92%
Thefts from Persons	1	2	1.0	0.67	0.67	+21.43%
Purse Snatching	1	1	1.6	1.24	0.78	-14.14%
Shoplifting	14	26	18.5	4.69	0.25	-1.16%
Thefts from Buildings	37	20	30.5	7.35	0.24	-3.59%
Thefts from Machines	0	0	0.0	0.00	NC	NC
Thefts from Vehicles	46	24	39.3	7.57	0.19	-1.03%

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Thefts of Vehicle Parts	0	1	0.1	0.31	3.10	+83.33%
Other Thefts	76	68	102.0	20.19	0.20	-7.54%
Auto Theft	22	21	16.1	5.88	0.37	-0.96%
Forgery/Counterfeiting	10	20	11.4	3.40	0.30	+6.58%
Fraud/Con Games	17	35	20.8	7.68	0.37	+10.42%
Credit Card Fraud	11	3	7.5	3.46	0.46	+7.30%
Identity Theft	20	33	19.9	8.23	0.41	+15.85%
Employee Theft	1	2	1.9	1.20	0.63	-3.13%
Extortion	1	0	0.4	0.66	1.65	+20.83%
Stolen Property	1	1	1.3	1.03	0.79	-16.48%
Vandalism	77	70	93.9	24.33	0.26	-9.57%
Drug Offenses	12	36	19.5	7.85	0.40	+6.11%
Drug Equipment	0	0	0.0	0.00	NC	NC
Statutory Rape	7	2	1.5	2.05	1.37	+31.75%
Pornography	1	4	1.0	1.15	1.15	+42.86%
Prostitution	0	0	0.0	0.00	NC	NC
Gambling Offenses	0	1	0.1	0.31	3.10	+83.33%
Weapon Offenses	1	6	2.0	1.76	0.88	+21.43%
Bad Checks	3	4	4.5	1.41	0.31	-7.94%
Disorderly Conduct	6	10	5.9	2.68	0.45	+16.34%
Drunk Driving	25	44	19.4	9.68	0.50	+17.24%
Drunkenness	2	8	5.4	2.05	0.38	-5.95%
Family Offenses	1	1	0.4	0.46	1.15	+14.88%
Liquor Laws	6	7	3.6	2.00	0.56	+19.51%
Trespassing	7	7	4.9	2.85	0.58	+0.24%
Violent Crime	**79**	**97**	**67.0**	**14.41**	**0.22**	**+4.48%**
Property Crime	**399**	**370**	**433.8**	**38.29**	**0.09**	**-3.86%**
Total Crime	**573**	**620**	**601.8**	**34.38**	**0.06**	**-1.57%**

Ludlow's crime figures are small enough that even a few incidents per year can cause large variances and steep trends. Its totals, however, remain pleasingly flat. Statistics for drug, liquor, and disorder-related offenses suggest either a recent increase in such activity or a recent commitment to better coding in those categories. I am slightly concerned about a high percentage of thefts in the "all other" category (53%), which exceeds the local average.

Selected calls for service in Ludlow

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Abandoned Vehicle	8	5	6.4	1.56	0.24	-4.28%
Disabled Vehicle	140	193	164.5	19.60	0.12	+0.46%
Disturbance	810	835	1021.9	147.56	0.14	-5.95%
Domestic Dispute	149	153	157.1	13.51	0.09	+0.95%
Lost Property	8	3	3.1	1.97	0.64	+8.06%
Medical	1794	1763	1603.4	146.28	0.09	+4.09%
Overdose	0	11	1.4	3.43	2.45	+65.48%
Psychological	4	9	7.3	3.88	0.53	+1.30%
Suspicious Activity	784	686	567.5	117.40	0.21	+8.81%
Traffic Collision	540	650	543.8	45.41	0.08	+2.31%

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Traffic Complaint	53	85	18.6	28.60	1.54	+56.64%

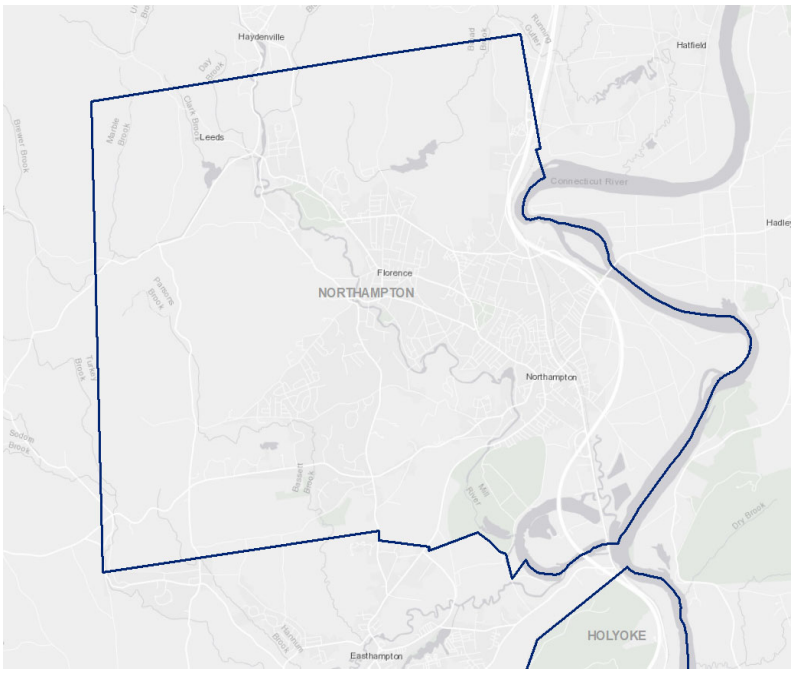
Most of Ludlow's call-for-service statistics are even and predictable, but the agency did not begin explicitly coding traffic-related complaints until late 2015 or overdoses until 2017, so changes in these categories will be difficult to assess with no baseline average.

Collisions in Ludlow

Collision Category	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Vehicle in Traffic	358	431	325.1	50.84	0.16	+4.80%
Parked Vehicle	95	104	79.1	12.95	0.16	+5.55%
Pedestrian	8	5	7.5	3.28	0.44	-9.21%
Bicyclist	3	3	3.1	1.36	0.44	-8.06%
Animal	6	19	7.8	4.76	0.61	+16.48%
Fixed Object	73	84	58.5	14.13	0.24	+10.09%
Curb/Barrier/Embankment	24	27	26.1	3.79	0.15	+1.69%
Rollover/Non-Collision	5	7	4.9	1.54	0.31	+3.16%
Other/Unknown	25	25	28.0	4.58	0.16	-4.08%
Total	597	705	540.1	77.70	0.14	+4.76%

Ludlow's total collisions and most voluminous categories are consistent and thus easy to compare new activity against. Its major variances are primarily in low-volume categories, and its overall trend is slight. The exception is in the "fixed object" category, which spiked in 2016 and 2017.

Analysis of baseline activity: Northampton



Population (est. 2016): 28,549

Area: 35.8 square miles

Police officers: 63

City center distance from MGM: 16.70 miles

Northampton is an outlier in this analysis. Farthest in distance from MGM Springfield, it shares no contiguous border with Springfield nor with any other jurisdiction participating in this study. However, it sits along the same major northern travel routes as Holyoke, with both I-91 and U.S. Route 5 cutting through the eastern part of the city and offering several hotels, service stations, and other amenities for motorists. PVTA also loops through the city, linking Springfield with Northampton's vibrant cultural and counter-cultural institutions. MGM could easily add to the heavy visiting traffic that Northampton already experiences.

Crimes in Northampton

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Murder	0	0	0.3	0.41	1.37	-23.81%
Sexual Assault	28	34	31.1	5.61	0.18	+0.88%
Kidnapping	2	6	3.3	1.39	0.42	+7.22%
Robbery	10	19	12.8	3.46	0.27	+7.81%
Aggravated Assault	69	99	65.5	13.99	0.21	+7.96%
Simple Assault	182	234	217.4	28.79	0.13	-3.59%
Threats	31	35	50.8	13.73	0.27	-10.78%
Arson	7	2	3.5	1.94	0.55	+15.65%
Burglary	84	75	127.8	38.03	0.30	-12.71%
Thefts from Persons	2	3	3.1	0.99	0.32	-7.30%
Purse Snatching	1	2	1.1	1.20	1.09	+7.58%
Shoplifting	133	130	114.9	27.93	0.24	+8.73%
Thefts from Buildings	135	123	193.9	45.09	0.23	-9.03%
Thefts from Machines	0	0	0.5	0.67	1.34	-33.33%

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Thefts from Vehicles	72	64	68.6	23.03	0.34	-9.94%
Thefts of Vehicle Parts	12	12	29.5	16.49	0.56	-24.21%
Other Thefts	121	118	127.3	20.80	0.16	-1.12%
Auto Theft	11	12	20.4	7.16	0.35	-13.71%
Forgery/Counterfeiting	14	17	19.5	5.37	0.28	+1.22%
Fraud/Con Games	37	49	37.9	4.46	0.12	+3.30%
Credit Card Fraud	15	16	13.3	4.24	0.32	+3.22%
Identity Theft	36	29	44.1	10.20	0.23	-3.37%
Employee Theft	1	3	2.5	1.33	0.53	-2.86%
Extortion	0	0	0.0	0.00	NC	NC
Stolen Property	6	8	7.0	1.76	0.25	-0.68%
Vandalism	166	121	187.9	47.76	0.25	-10.90%
Drug Offenses	51	53	74.9	24.20	0.32	-11.08%
Drug Equipment	0	0	0.0	0.00	NC	NC
Statutory Rape	6	3	3.4	1.82	0.54	-0.35%
Pornography	8	9	4.8	2.48	0.52	+19.35%
Prostitution	0	0	0.1	0.31	3.10	+11.90%
Gambling Offenses	0	0	0.0	0.00	NC	NC
Weapon Offenses	5	1	4.8	3.15	0.66	+1.98%
Bad Checks	6	2	3.8	2.15	0.57	-5.64%
Disorderly Conduct	18	23	23.4	5.87	0.25	-4.83%
Drunk Driving	90	113	65.5	23.91	0.37	+15.30%
Drunkenness	100	106	104.4	27.30	0.26	-7.33%
Family Offenses	0	0	0.5	0.94	1.88	+19.05%
Liquor Laws	7	8	16.8	8.27	0.49	-20.12%
Trespassing	0	0	0.4	0.46	1.15	-44.64%
Violent Crime	**21**	**23**	**23.0**	**6.39**	**0.28**	**-7.45%**
Property Crime	**541**	**593**	**552.3**	**48.78**	**0.09**	**-1.03%**
Total Crime	**1466**	**1529**	**1686.1**	**187.03**	**0.11**	**-4.64%**

Among the agencies, Northampton has some of the widest year-to-year variances and some of the starkest trends over the last seven years, both of which will pose problems (though not unsurmountable ones) for analysis of change. Despite all these variances, their coding systems seem more accurate than the typical agency's. Among the departments, Northampton had the lowest percentage of thefts in the "other" category (24%) and one of the lowest uses of the 90Z ("All Other") NIBRS code (7%).

The city's existing decreasing trends in burglary, thefts, auto thefts, vandalisms, and many other crimes will have to be considered when assessing change.

Selected calls for service in Northampton

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Abandoned Vehicle	13	22	23.8	6.66	0.28	-10.00%
Disabled Vehicle	259	326	317.3	35.12	0.11	-2.09%
Disturbance	1773	1751	1758.5	91.01	0.05	-0.26%
liquor	406	286	361.3	58.77	0.16	-5.07%
Lost Property	440	511	465.4	40.33	0.09	+1.38%

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Medical	1834	1959	1576.5	201.72	0.13	+5.33%
Overdose	40	47	15.6	16.98	1.09	+46.63%
Psychological	1	13	209.3	159.60	0.76	-28.44%
Suspicious Activity	1909	1806	2254.9	494.22	0.22	-8.76%
Traffic Collision	1347	1308	1307.5	68.42	0.05	+0.03%
Traffic Complaint	859	903	937.5	53.92	0.06	-1.11%
Vagrancy	53	32	18.9	19.21	1.02	+40.25%

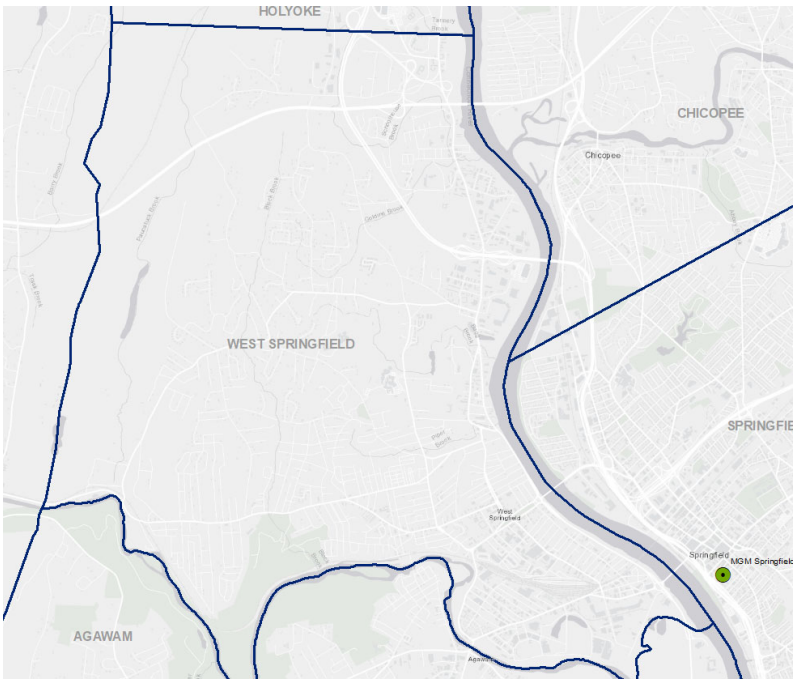
Northampton is used to a high visiting population and thus high traffic-based call-for-service totals. A few of the categories will unfortunately be unusable for comparison. The department didn't create special categories for overdoses and vagrancy-related calls until 2014, and it stopped using its categories denoting psychological calls for service the same year. Traffic-related categories are consistent and steady.

Collisions in Northampton

Collision Category	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Vehicle in Traffic	416	384	405.8	28.10	0.07	-1.53%
Parked Vehicle	39	40	57.4	14.85	0.26	-5.41%
Pedestrian	16	13	15.1	2.71	0.18	-3.55%
Bicyclist	12	13	15.0	2.18	0.15	-4.29%
Animal	10	20	12.1	3.55	0.29	+6.00%
Fixed Object	52	48	48.5	7.71	0.16	+1.33%
Curb/Barrier/Embankment	32	30	25.6	5.02	0.20	+2.93%
Rollover/Non-Collision	1	1	3.5	1.73	0.49	-7.48%
Other/Unknown	12	16	13.1	2.20	0.17	+2.09%
Total	**590**	**565**	**596.1**	**33.36**	**0.06**	**-1.40%**

Collision totals for Northampton are consistent for a town with such a large visiting population. It is one of the few in the area to show an overall decrease, though not particularly steep, and its pedestrian and bicycle collisions are low given the foot traffic in the area. This consistent dataset will be very easy to analyze for changes.

Analysis of baseline activity: West Springfield



Population (est. 2016): 28,529

Area: 17.5 square miles

Police officers: 84

City center distance from MGM: 3.83 miles

With its eastern border just across the river from MGM Springfield, West Springfield is practically the co-host of the casino. As the home of the Eastern States Exposition, the Century Shopping Center, and the Riverdale Center, and several major PVTA bus routes from the north and west, the city is no stranger to a high volume of visiting traffic, all of which is likely to be boosted by the presence of MGM Springfield. It may even see an increase in foot traffic over the Memorial Bridge to the Century Shopping Center.

The primary concern for West Springfield is hotels. Travelers who eschew the more expensive hotels in the immediate vicinity of MGM are likely to stay at one of the Big E area hotels or one of the lower-cost establishments of Highway 5. Restaurants, gas stations, and other stores near these hotels are likely to be affected by additional traffic.

Crimes in West Springfield

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Murder	1	2	0.9	0.99	1.10	+27.78%
Sexual Assault	31	32	24.8	4.71	0.19	+5.47%
Kidnapping	3	11	4.4	2.83	0.64	+12.18%
Robbery	36	19	32.1	5.36	0.17	-4.26%
Aggravated Assault	121	109	101.5	13.95	0.14	+2.70%
Simple Assault	168	160	210.9	45.01	0.21	-9.06%
Threats	40	40	44.0	13.21	0.30	-9.69%
Arson	3	5	4.4	1.88	0.43	-9.47%
Burglary	143	126	214.9	51.11	0.24	-9.01%

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Thefts from Persons	6	5	5.3	2.97	0.56	-0.45%
Purse Snatching	6	2	6.4	2.40	0.38	-10.60%
Shoplifting	351	321	282.9	56.05	0.20	+8.31%
Thefts from Buildings	130	107	97.3	20.39	0.21	+2.57%
Thefts from Machines	0	0	0.1	0.31	3.10	-83.33%
Thefts from Vehicles	81	134	140.5	38.24	0.27	-9.66%
Thefts of Vehicle Parts	1	0	3.6	4.24	1.18	-42.00%
Other Thefts	374	329	398.9	33.18	0.08	-2.67%
Auto Theft	70	64	88.9	15.09	0.17	-5.69%
Forgery/Counterfeiting	26	31	24.6	3.40	0.14	+4.60%
Fraud/Con Games	48	66	54.1	9.18	0.17	+3.06%
Credit Card Fraud	10	13	12.3	3.70	0.30	+6.19%
Identity Theft	29	47	38.9	9.09	0.23	+5.60%
Employee Theft	7	10	7.0	1.76	0.25	+7.82%
Extortion	0	0	1.0	1.05	1.05	-14.29%
Stolen Property	12	11	19.5	5.01	0.26	-11.11%
Vandalism	205	199	233.9	36.45	0.16	-6.45%
Drug Offenses	72	111	106.0	35.02	0.33	-10.74%
Drug Equipment	0	0	0.0	0.00	NC	NC
Statutory Rape	4	5	6.3	2.30	0.37	-13.23%
Pornography	8	2	3.5	2.40	0.69	+0.68%
Prostitution	1	1	2.0	1.83	0.92	-5.95%
Gambling Offenses	0	0	0.0	0.00	NC	NC
Weapon Offenses	5	5	4.3	1.81	0.42	-6.64%
Bad Checks	6	4	9.0	3.16	0.35	-10.85%
Disorderly Conduct	14	18	15.5	3.97	0.26	-6.14%
Drunk Driving	16	17	27.1	11.85	0.44	-12.87%
Drunkenness	4	2	3.3	4.44	1.35	-33.91%
Family Offenses	5	4	4.0	2.54	0.64	-3.57%
Liquor Laws	1	1	5.5	2.75	0.50	-9.96%
Trespassing	16	16	18.4	6.45	0.35	-9.77%
Violent Crime	**360**	**333**	**374.5**	**41.02**	**0.11**	**-4.16%**
Property Crime	**1499**	**1465**	**1629.9**	**90.16**	**0.06**	**-2.21%**
Total Crime	**2054**	**2029**	**2257.5**	**176.95**	**0.08**	**-3.45%**

West Springfield's size and demographics result in low crime totals and thus sometimes erratic coefficients of variation. My primary concern is a disproportionally-high "other theft" category, which may be concealing thefts from buildings, vehicles, and other thefts that should have been coded in a more specific category. The figure for "family offenses" also seems low, and I would ask the police department to verify that it is coding restraining order violations and child neglect cases with the "90F" code.

Selected calls for service in West Springfield

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Disturbance	1865	1896	2108.8	300.82	0.14	-5.68%
Domestic Dispute	386	447	272.1	132.55	0.49	+20.12%
Suspicious Activity	1226	1276	1269.5	119.97	0.09	-2.53%

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Traffic Collision	1659	1690	1640.6	112.73	0.07	-1.27%
Traffic Complaint	870	932	831.5	115.86	0.14	+2.25%

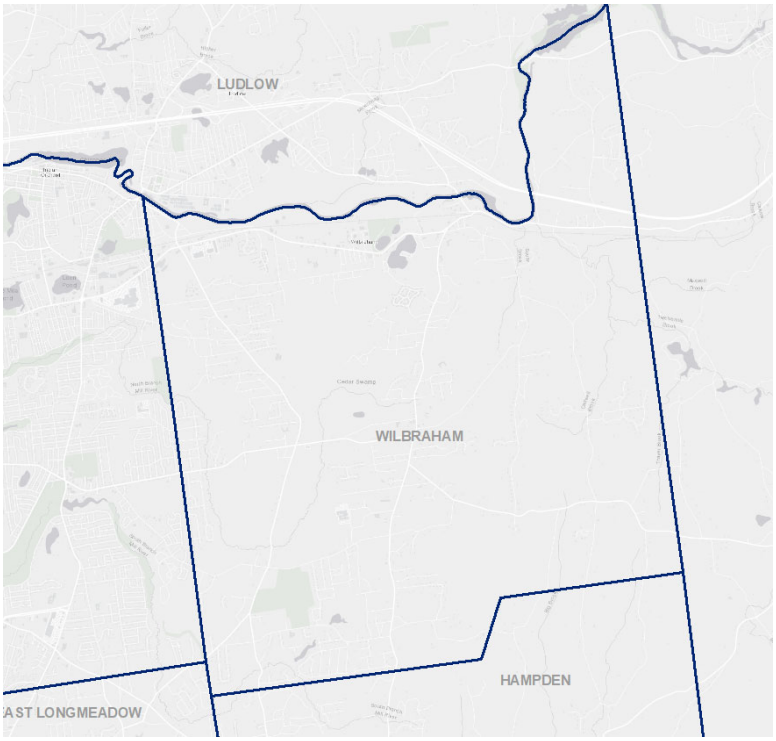
West Springfield uses fairly broad offense codes; at 53 unique codes between 2015 and 2017, it has the smallest number of any of the participating agencies. This makes it more difficult than in other agencies to find particular patterns within more specific codes. Even among this small list, "domestic dispute" did not appear as a code type until late in 2011.

Collisions in West Springfield

Collision Category	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Vehicle in Traffic	521	511	489.6	45.57	0.09	+0.33%
Parked Vehicle	69	54	57.5	10.74	0.19	-0.95%
Pedestrian	20	22	19.5	2.78	0.14	+1.22%
Bicyclist	10	9	7.4	2.55	0.34	+0.16%
Animal	3	2	2.6	1.49	0.57	-2.29%
Fixed Object	63	52	56.4	7.33	0.13	-3.19%
Curb/Barrier/Embankment	52	41	47.6	3.90	0.08	-0.88%
Rollover/Non-Collision	5	1	2.6	1.41	0.54	-2.29%
Other/Unknown	15	17	22.0	4.95	0.23	-2.27%
Total	**758**	**709**	**705.3**	**57.40**	**0.08**	**-0.21%**

There are very consistent totals and patterns in West Springfield's collisions, with hardly any long-term trend. Any significant changes post-MGM should be easy to detect.

Analysis of baseline activity: Wilbraham



Population (est. 2016): 14,684

Area: 22.4 square miles

Police officers: 27

City center distance from MGM: 8.36 miles

Despite its physical proximity, Wilbraham is least likely to be affected by traffic patterns to MGM Springfield. Only travelers from Wilbraham itself, and a few areas of Monson, are likely to cut through the town. It has a small portion of the Massachusetts Turnpike but no exits. However, the string of restaurants and a single hotel off Route 20 may see some additional traffic, and it is served by two major PVTA bus routes from downtown Springfield. And of course we'll be monitoring any changes in crime in the town's primarily-residential areas.

Crimes in Wilbraham

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Murder	0	0	0.0	0.00	NC	NC
Sexual Assault	6	7	4.5	1.94	0.43	+5.82%
Kidnapping	0	1	0.8	0.62	0.78	+8.93%
Robbery	0	2	1.4	0.94	0.67	-7.65%
Aggravated Assault	7	7	8.8	4.42	0.50	-7.58%
Simple Assault	24	42	27.4	5.85	0.21	+4.65%
Threats	20	22	28.8	6.63	0.23	-9.67%
Arson	3	1	1.4	1.05	0.75	-9.35%
Burglary	50	31	46.3	11.69	0.25	-6.79%
Thefts from Persons	0	0	0.6	0.94	1.57	-17.86%
Purse Snatching	0	1	0.4	0.46	1.15	-2.98%
Shoplifting	16	44	21.0	10.07	0.48	+9.75%
Thefts from Buildings	13	13	16.9	7.55	0.45	-9.09%
Thefts from Machines	0	0	0.0	0.00	NC	NC

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Thefts from Vehicles	25	19	32.3	18.81	0.58	-20.86%
Thefts of Vehicle Parts	0	2	0.9	1.10	1.22	+11.90%
Other Thefts	44	44	56.8	9.40	0.17	-4.99%
Auto Theft	11	11	10.8	4.24	0.39	-3.75%
Forgery/Counterfeiting	3	3	4.0	1.33	0.33	-5.36%
Fraud/Con Games	9	11	7.9	2.47	0.31	+9.49%
Credit Card Fraud	4	2	3.0	1.70	0.57	+1.59%
Identity Theft	11	17	9.1	3.84	0.42	+17.66%
Employee Theft	1	2	1.6	1.24	0.78	+11.16%
Extortion	0	0	0.0	0.00	NC	NC
Stolen Property	3	5	2.6	1.56	0.60	+14.19%
Vandalism	35	20	42.8	14.52	0.34	-14.52%
Drug Offenses	32	24	39.0	17.03	0.44	+0.31%
Drug Equipment	0	0	0.1	0.31	3.10	-83.33%
Statutory Rape	2	3	3.3	0.78	0.24	-6.49%
Pornography	0	1	1.4	1.33	0.95	+9.35%
Prostitution	0	0	0.1	0.31	3.10	-83.33%
Gambling Offenses	0	0	0.0	0.00	NC	NC
Weapon Offenses	3	0	1.9	1.73	0.91	-0.63%
Bad Checks	0	2	1.3	0.91	0.70	-5.49%
Disorderly Conduct	6	8	3.9	2.13	0.55	+14.96%
Drunk Driving	31	43	24.8	8.93	0.36	+15.75%
Drunkenness	5	10	5.3	1.93	0.36	+8.54%
Family Offenses	0	0	0.1	0.31	3.10	+11.90%
Liquor Laws	3	4	3.5	1.05	0.30	-7.48%
Trespassing	4	4	2.4	1.15	0.48	+14.38%
Violent Crime	**37**	**59**	**42.8**	**8.26**	**0.19**	**+1.95%**
Property Crime	**225**	**225**	**256.8**	**46.32**	**0.18**	**-6.27%**
Total Crime	**371**	**406**	**416.5**	**43.39**	**0.10**	**-3.21%**

Wilbraham's crime dataset is clean and consistent, although at times its low crime totals make for erratic trends. Its commercial corridor along Route 20 is responsible for more than half of the recorded offenses, and shifting businesses and store policies can create inconsistent reporting from year to year. Almost all of the city's crimes show fairly steep increasing or decreasing trends during the seven-year period.

Selected calls for service in Wilbraham

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Abandoned Vehicle	7	11	10.5	2.79	0.27	-1.81%
Disabled Vehicle	207	187	180.1	18.99	0.11	+3.70%
Disturbance	129	146	143.0	13.06	0.09	-0.83%
Domestic Dispute	194	149	138.4	25.63	0.19	+6.53%
Gunshots	19	25	22.0	7.53	0.34	+8.77%
Lost Property	42	55	44.8	6.63	0.15	+3.03%
Medical Aid	1023	1062	861.8	118.45	0.14	+2.77%
Psychological	40	46	29.9	963	0.32	+14.21%
Suspicious Activity	1045	900	921.5	106.62	0.12	+2.19%

Crime	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Traffic Collision	394	432	399.4	30.24	0.08	+0.30%
Traffic Complaint	250	242	213.0	27.82	0.13	+5.31%

Wilbraham's calls for service are mostly consistent and exhibit only mild trends. The exception is in the "psychological" category, which has seen a sharp increase since 2014, mirroring a regional trend.

Collisions in Wilbraham

Collision Category	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Vehicle in Traffic	198	197	198.1	11.34	0.06	+0.04%
Parked Vehicle	35	35	32.3	2.99	0.09	+2.36%
Pedestrian	1	2	2.6	0.99	0.38	-14.19%
Bicyclist	1	3	2.0	0.71	0.36	+0.00%
Animal	24	39	20.4	8.08	0.40	+8.58%
Fixed Object	55	56	48.0	8.86	0.18	+3.47%
Curb/Barrier/Embankment	20	24	22.3	5.14	0.23	-1.39%
Rollover/Non-Collision	2	2	2.0	1.00	0.50	-9.52%
Other/Unknown	8	17	14.5	4.30	0.30	-4.27%
Total	344	375	342.1	21.54	0.06	+0.81%

Wilbraham offers a very consistent dataset with low collision totals and almost no long-term trend. Changes on local roads are likely to stand out.

Spatial patterns of activity

Traditional crimes within the participating communities follow several broad patterns. Namely:

- For almost all crimes, Springfield's Metro Center, Six Corners, Old Hill, Memorial Square, McKnight, and Bay neighborhoods show the highest density. MGM Springfield is on the western edge of this large hot spot.
- Springfield's Indian Orchard neighborhood often appears as a hot spot for property crime, but not violent crime.
- Violent crime in Chicopee is relegated to a few concentrated neighborhoods.
- Property crime patterns extend away from Springfield's center along Highway 5 to the west, Route 33 to the north (extending into Chicopee), and Boston Road/Route 20 to the northeast.
- Holyoke's Downtown frequently shows up at as a secondary hot spot.
- Northampton sees small concentrations around Smith College and the Main Street downtown
- Southeast Springfield, Agawam, western West Springfield, western Holyoke, Ludlow, Wilbraham, East Longmeadow, Longmeadow, and Hampden are mostly insulated from Springfield's major crime patterns despite proximity.
- Collision hot spots naturally appear at major travel routes and intersections for all communities.

As we analyze changes in crime after the opening of MGM, it will be important to determine if crime disperses or displaces from the downtown to other areas, or if current areas with low crime volume start seeing new spatial patterns. To assist with this analysis, we will create a series of "analytical zones" based on existing geography and hypothetical anticipation of crime patterns. Although the boundaries will be drawn in consultation with the participating agencies, a logical set of zones will include:

- Immediate region of MGM Springfield, to include Metro Center and river frontage.
- A larger radius around the first zone to cover residential neighborhoods adjacent to the Metro Center
- Northwest Springfield
- Northeast Springfield
- Central Springfield
- Southwestern Springfield
- Southeastern Springfield
- Northern section of Longmeadow, along Springfield border
- Western half of Longmeadow, to include travel routes to Springfield
- Eastern half of Longmeadow
- Northern East Longmeadow
- Southern East Longmeadow
- Hampden
- Western Wilbraham
- Eastern Wilbraham
- Southern Ludlow
- Northern Ludlow
- South Chicopee
- Northwest Chicopee
- Northeast Chicopee
- West Springfield Hwy 5 corridor
- Remainder of West Springfield
- Northeast Agawam
- Remainder of Agawam
- Eastern Holyoke
- Western Holyoke
- Northampton

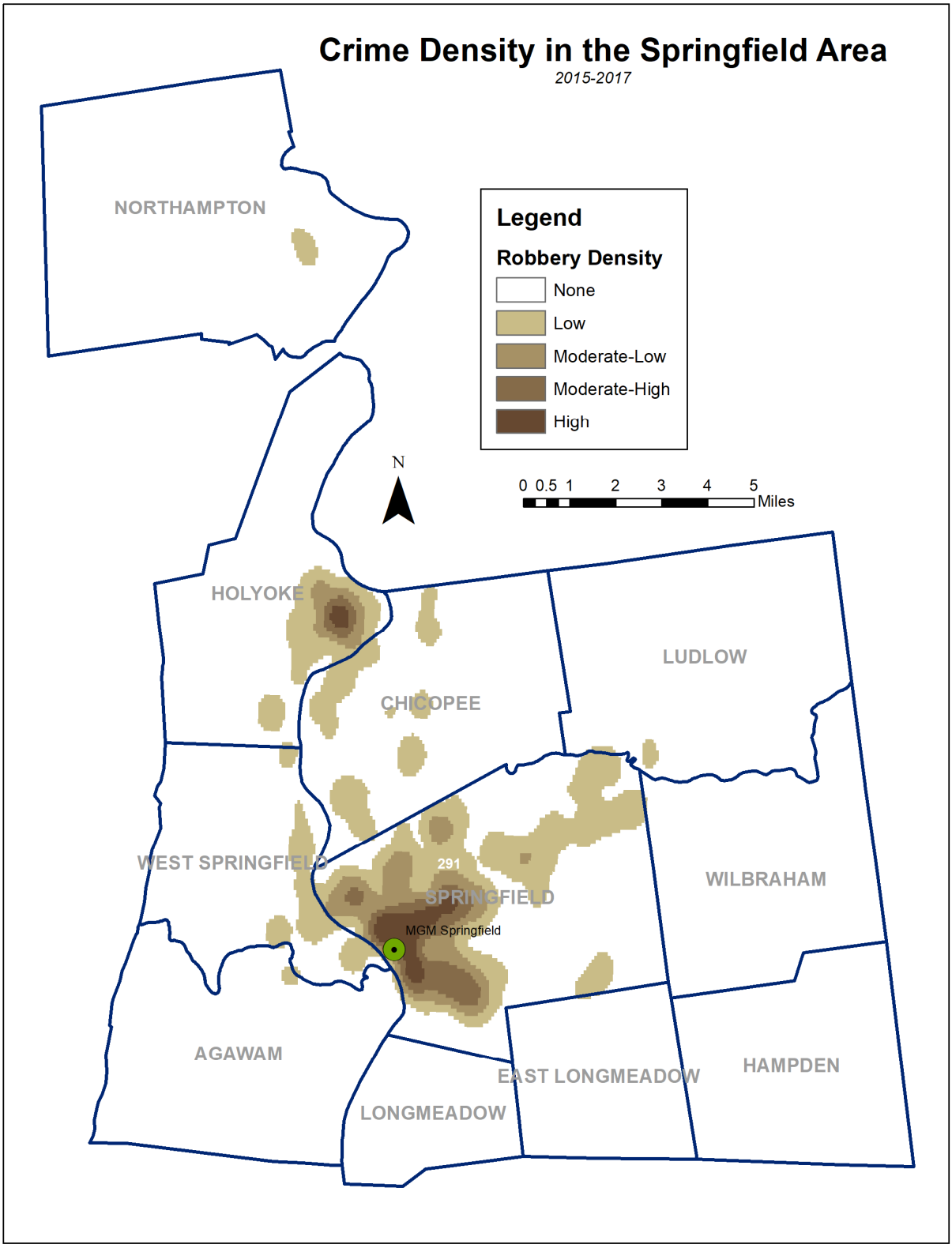


Figure 5: Density of robberies among the participating communities

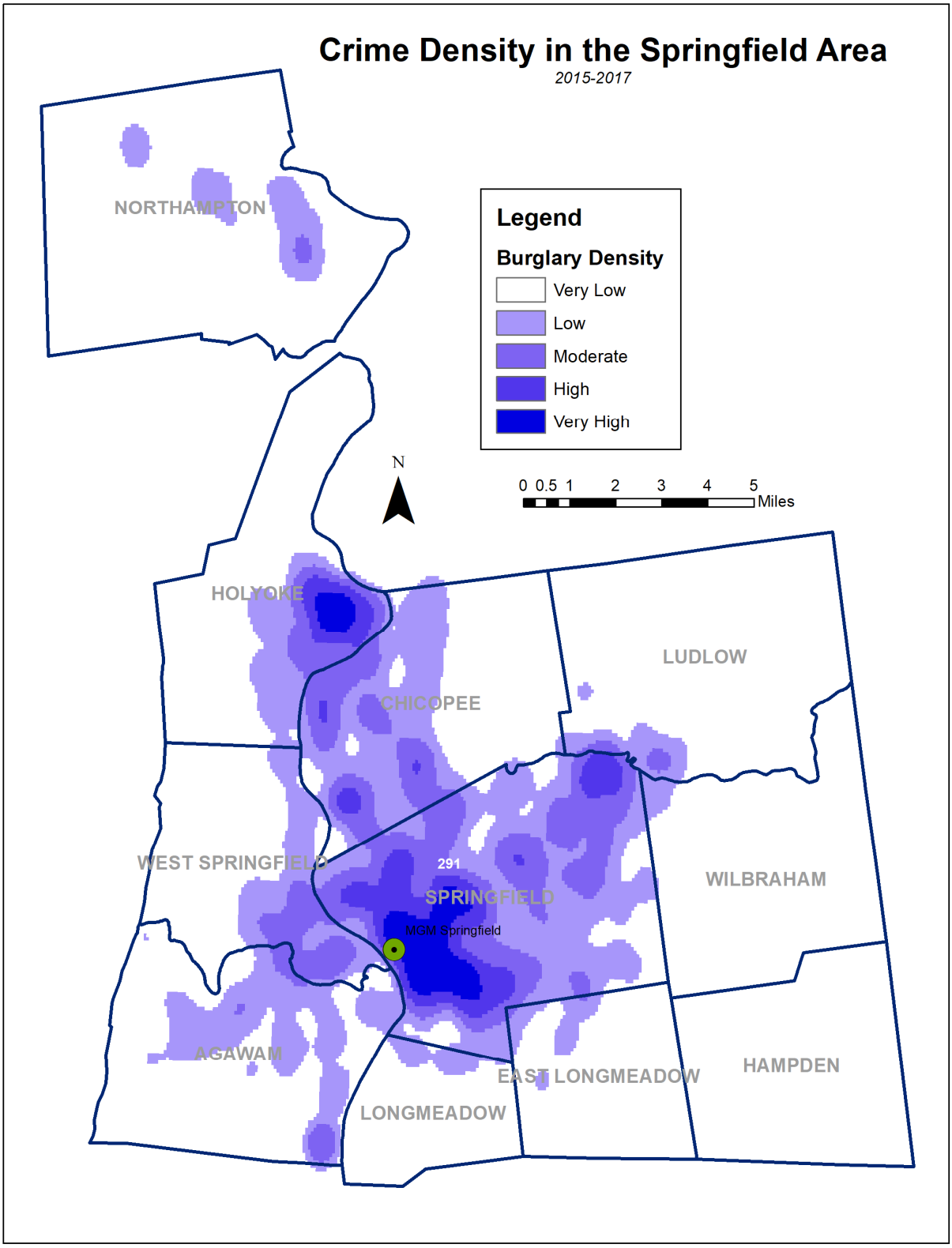


Figure 6: Density of burglaries among the participating communities

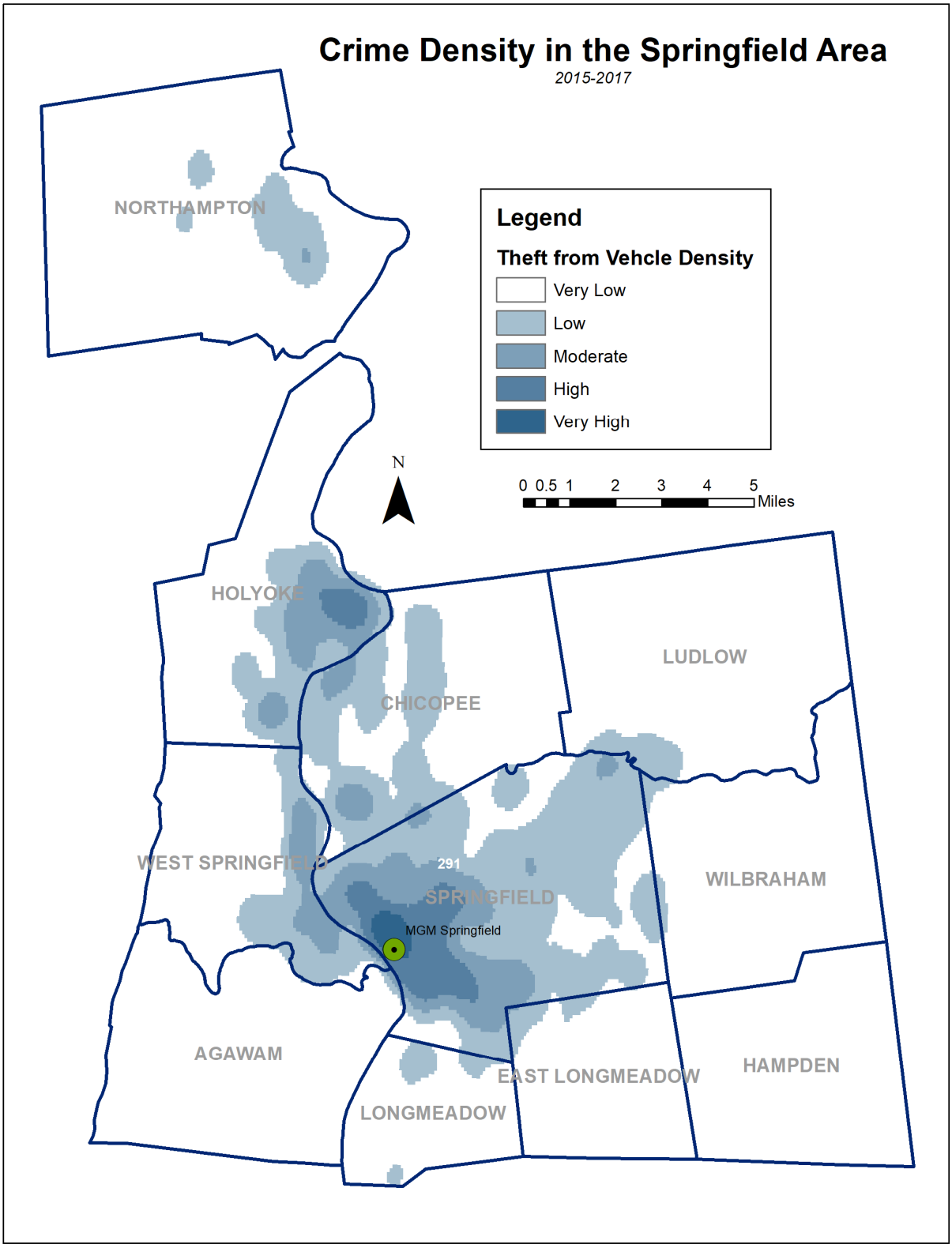


Figure 7: Density of thefts from vehicles among the participating communities

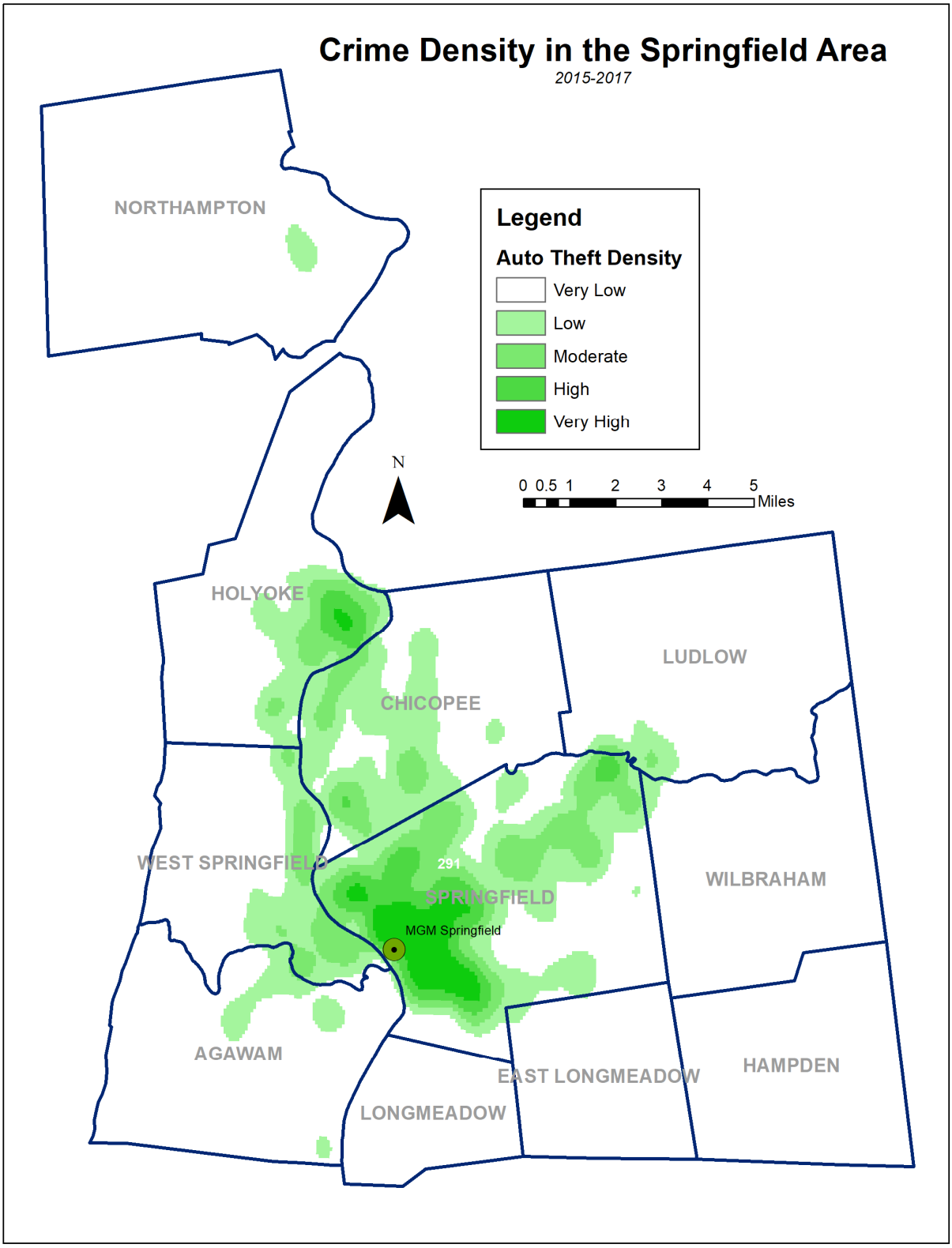


Figure 8: Density of auto theft among the participating communities.

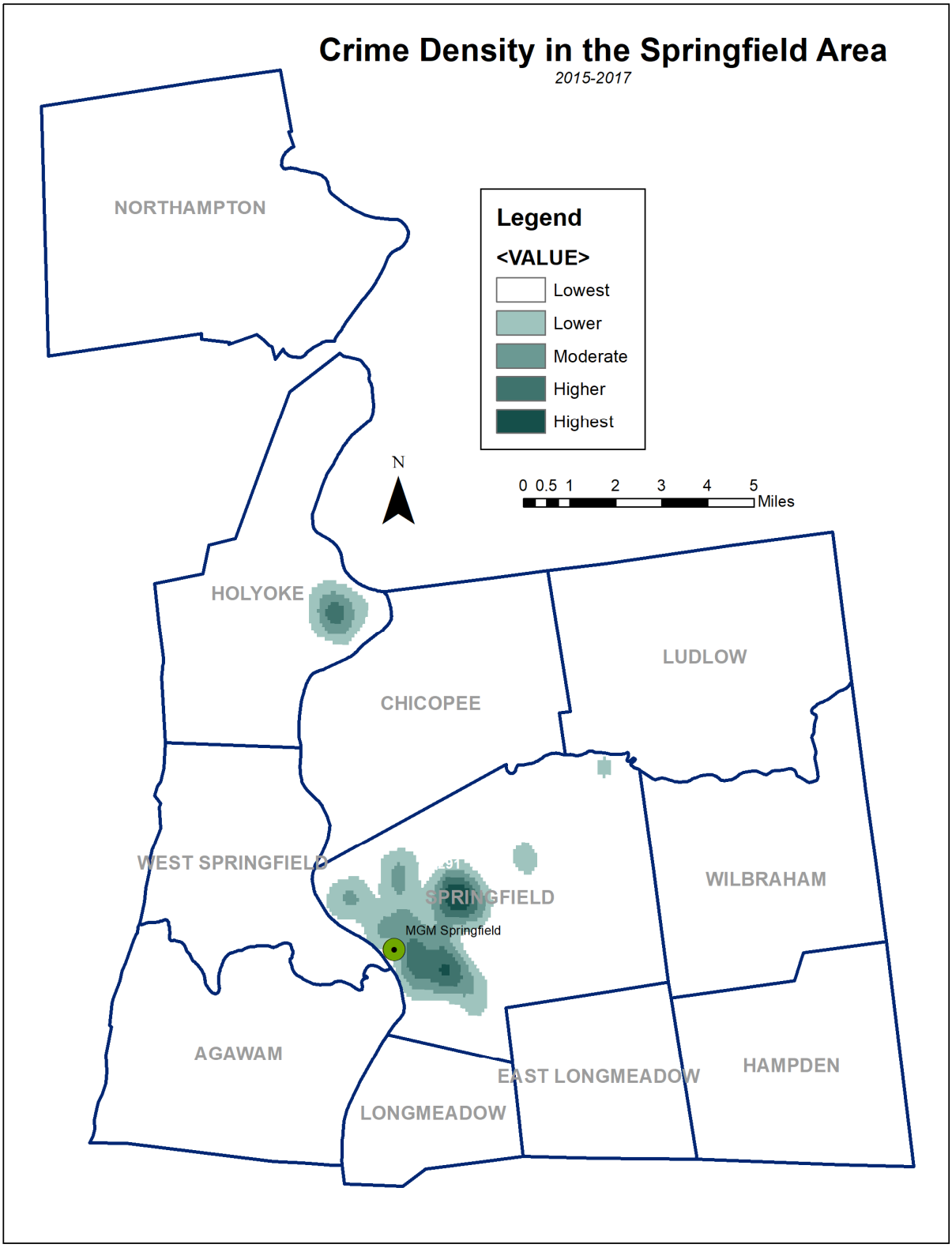


Figure 9: Density of gun violence (robberies and assaults) among the participating communities.

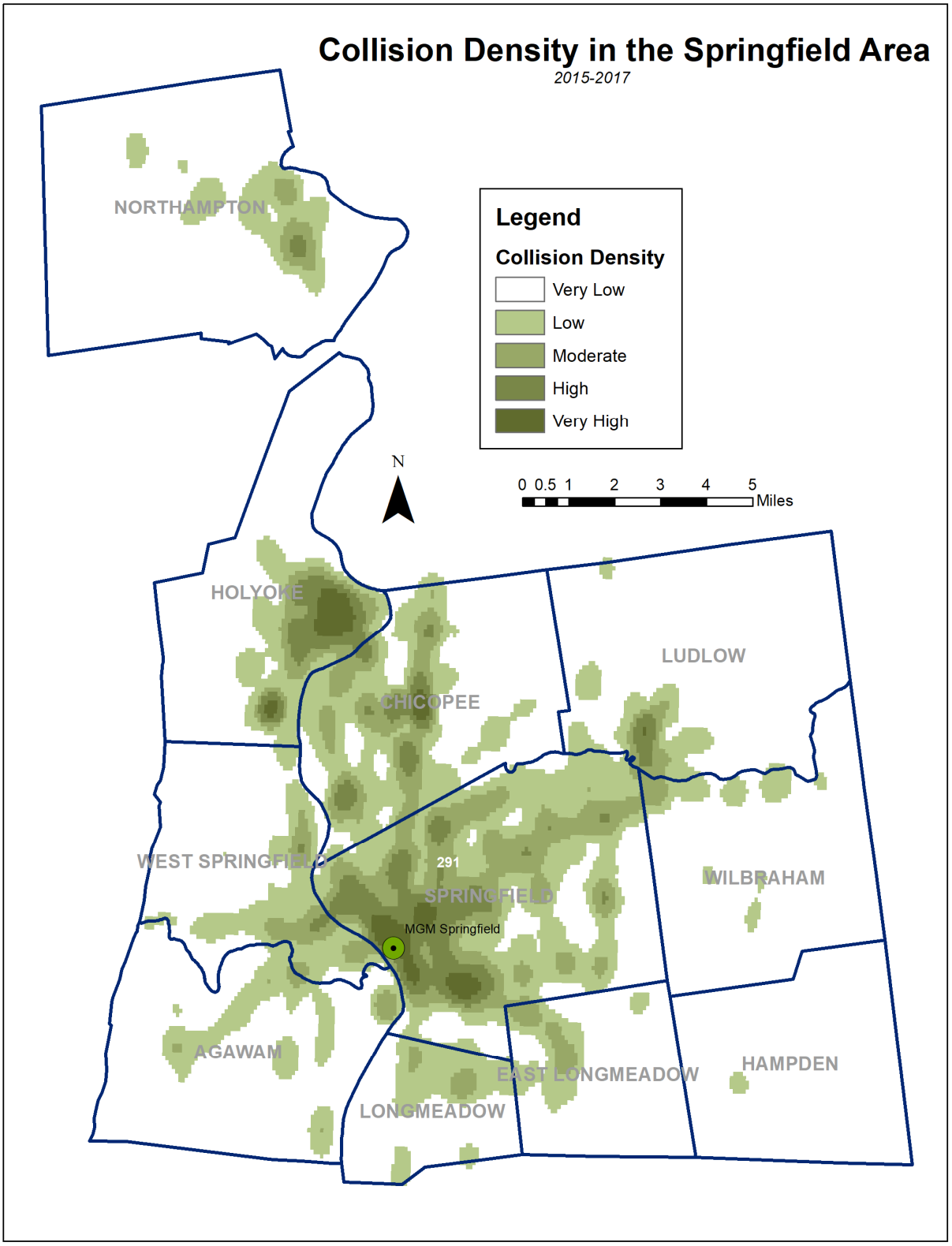


Figure 10: Density of vehicle collisions among the participating communities.

Possible effects based on travel patterns

The primary concern that many surrounding communities will face is a simple increase in traffic. Even without any criminal intent, a traffic increase brings traffic collisions, traffic complaints, disabled vehicles, medical issues, lost property, suspicious activity complaints, disturbances, and a variety of other calls for service related to the sheer number of people in an area.

As MGM Springfield is right off I-91, most traffic from out of town, particularly far out of town, will arrive on one of four routes:

From the north: I-91 southbound to MGM.
From the south: I-91 northbound to MGM
From the east: I-90 westbound to I-291 to I-91 southbound to MGM
From the west: I-90 eastbound to I-91 southbound to MGM

Extra traffic on these routes—which might be scarcely noticeable given the volume the highways already support—will mostly impact the State Police. Local communities will have to be concerned with travelers using their exits for food, gas, lodging, and shopping, and thus it will be important to analyze changes in activity within a certain radius of those exits. Holyoke and Springfield have four such exits, Northampton three, and Ludlow, Chicopee, and West Springfield one each. Wilbraham, Hampden, Longmeadow, East Longmeadow, and Agawam are least likely to be affected by heavy long-distance traffic.

The pattern changes a bit when we consider traveler from within a 20-mile area of each cardinal direction. There are some travelers from within this radius who will be routed to the major highways, but others will take local routes for at least part of the way. Based on my analysis of Google Maps ® recommendations from three dozen origin points, I believe that such travelers are most likely to affect Route 32 in Ludlow, Route 21 in Ludlow and Chicopee, Route 20 in West Springfield, Highway 57 in Agawam, and Route 83 in East Longmeadow and Springfield.

Finally, there are a few roads likely to carry travelers from within surrounding cities only. Again, based on an analysis of Google Maps recommendations from scattered population-weighted origin points within the local area, the affected routes include Main Street and Allen Street in Hampden and Springfield, Springfield Road in Wilbraham, Wilbraham Road in Springfield, Route 33 in Chicopee, and I-391 in Chicopee. Most other travelers were routed to one of the major out-of-town arteries even if a local route was technically shorter.

It is beyond the scope of this report to estimate the actual traffic volume on these routes, and of course any individual traveler may have reasons for ignoring his GPS; traffic is likely to increase in general on other local roads. Nonetheless, it will be important to analyze changes in activity on likely travel routes in particular.

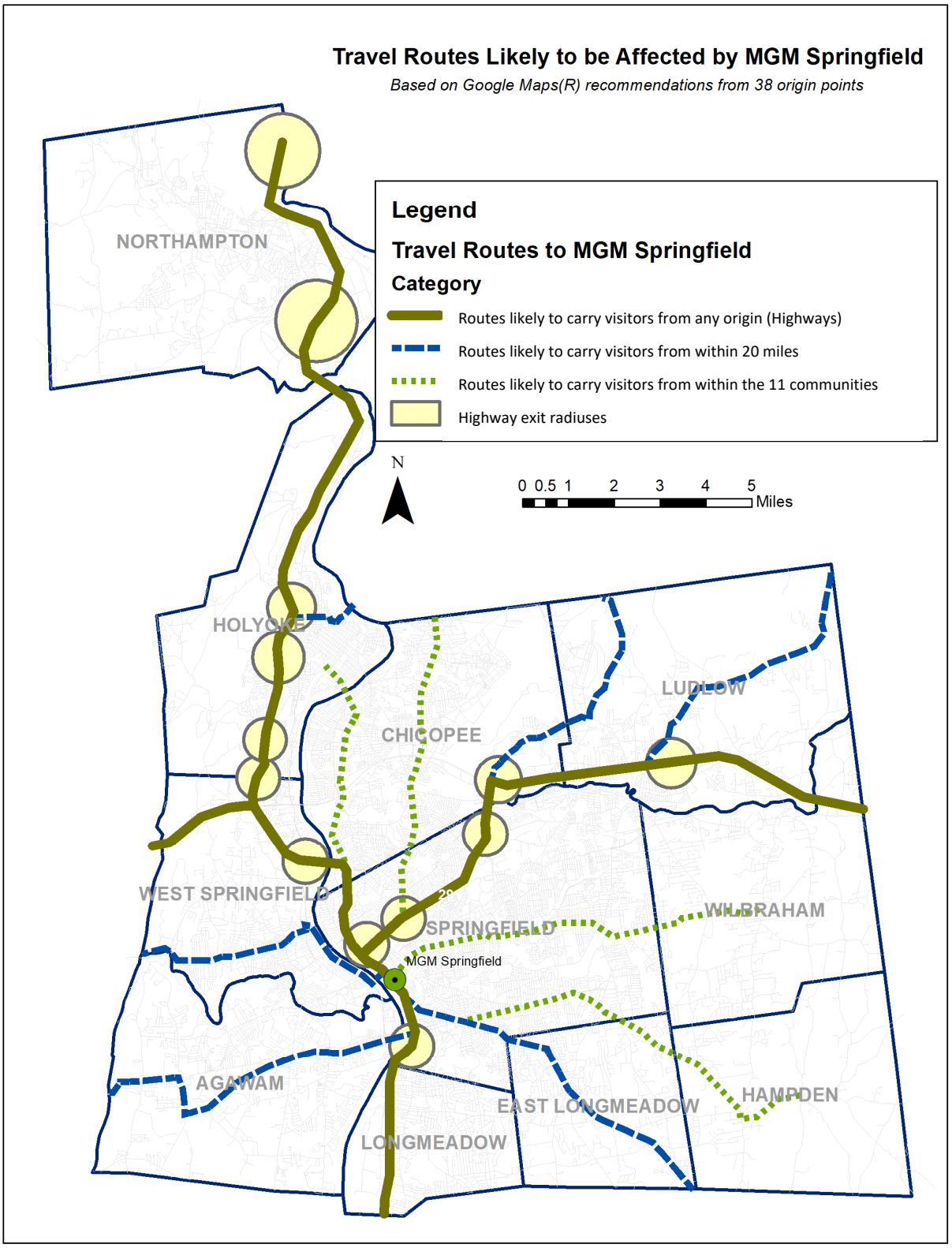


Figure 11: Major travel routes to and from MGM Springfield.

Possible effects based on outlets for sale

One factor that separates the Springfield area from the Plainridge Park area—which saw no increase in thefts, burglaries, or classic profit-motivated crimes—is that the Plainville area had no existing outlets for sale of stolen property. The closest pawn shops and used jewelry shops to Plainridge Park were in Central Falls, Rhode Island, and Taunton. Because there were no outlets for sale within the Plainville area, thieves had no incentive to commit thefts in the area immediately surrounding the new casino.

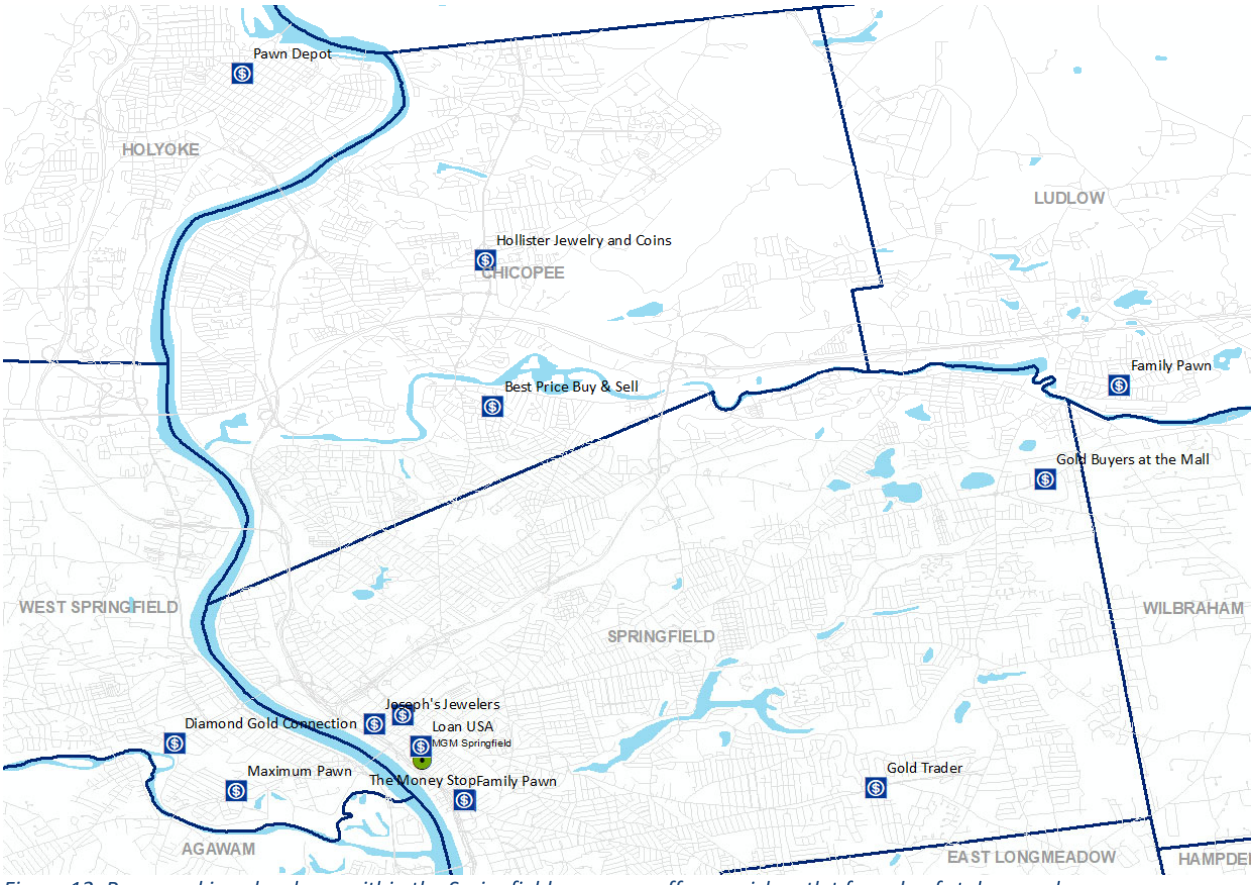


Figure 12: Pawn and jewelry shops within the Springfield area may offer a quick outlet for sale of stolen goods.

The same is not true of Springfield, where numerous pawn and used jewelry stores (amid other used goods stores) pepper the area, including a large cluster on the same block as the casino. The Springfield Police report the occasional sale of stolen property at these shops (which record sales and report them to the police), so it will be extra important to monitor such activity with new people and vehicles in the area.

Possible effects in immediate casino area

As noted previously, MGM Springfield is opening in an area with something of an existing crime rate. Even if we consider just the last three months of 2017, and just four crimes—robbery, aggravated assault, burglary, and thefts from vehicles—incidents overwhelm the map. Many of these crimes are committed between people who know each other, and that their presence alone does not make the area inherently unsafe. Nonetheless, the volume is considerable.

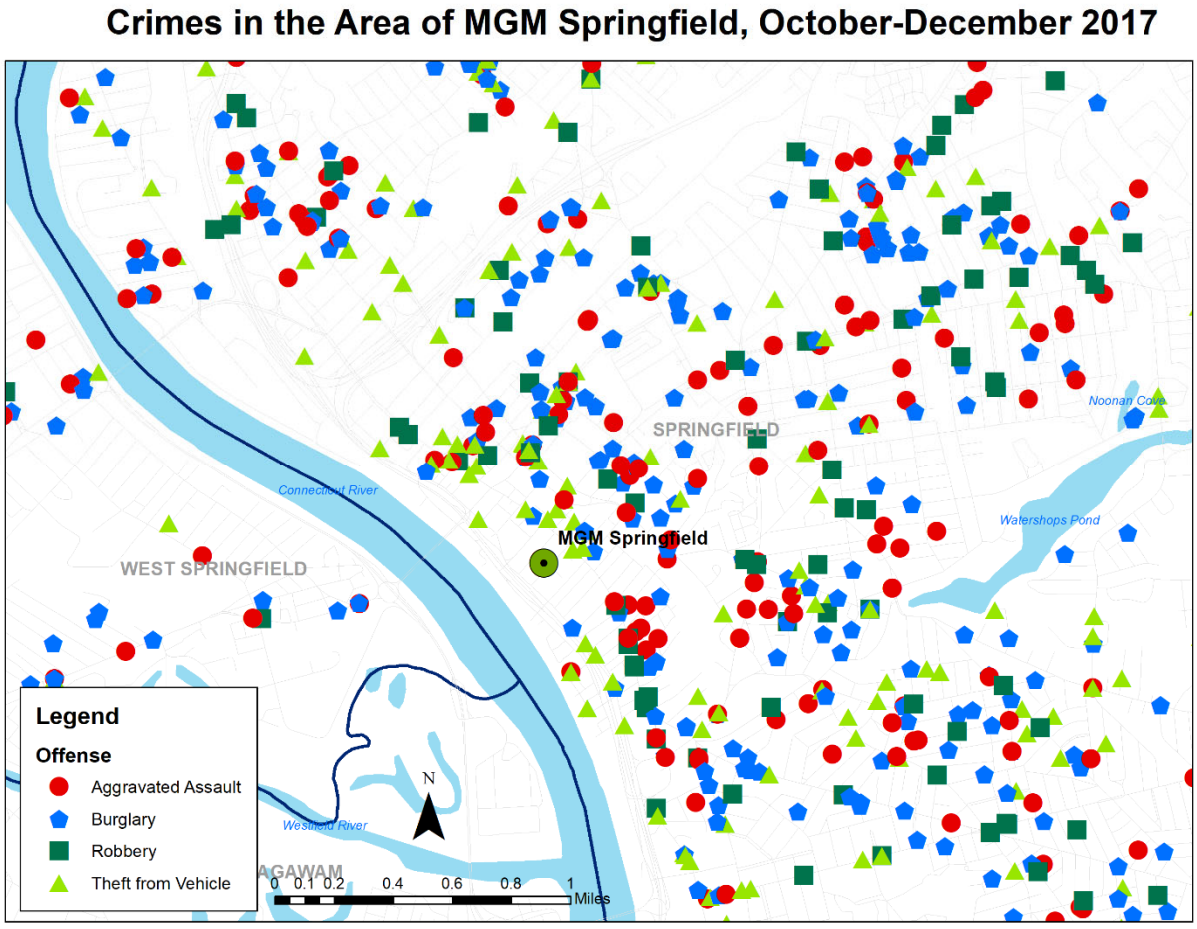


Figure 13: Numerous crimes already surround the MGM Springfield area. Please note that this is a standard GIS symbology set for these crime types, and the symbols do not necessarily denote the specific weapon or modus operandi.

It is possible that MGM Springfield will exacerbate this existing hotspot. However, it is equally possible that an increase in legitimate traffic, consequent economic revitalization, and extra law enforcement presence will have the opposite effect, with benefits for patrons and non-patrons alike.

The river between Springfield and West Springfield serves as a real barrier, with few crimes spilling over except occasional burglaries. Again, this may change either way, complicated by the possibility of increased foot traffic over Memorial Bridge.

In both cases, we will monitor crime, call-for-service, and crash volume in the immediate area around the casino separately from general increases and decreases in the participating agencies.

We lack formal, citable research on the specific types of facilities likely to see increased activity in the area surrounding the casino. However, testimonials from crime analysts in communities with recently-constructed casinos suggest that we should keep an eye on gasoline stations on major travel routes to and from the casino, hotels, transit centers, pawn shops, entertainment centers, and social service providers. (Such activity is not necessarily illegitimate, but increases in visiting population invariably lead to increases in calls for service.) Figure 14 shows some of these facilities in the immediate area of MGM Springfield.

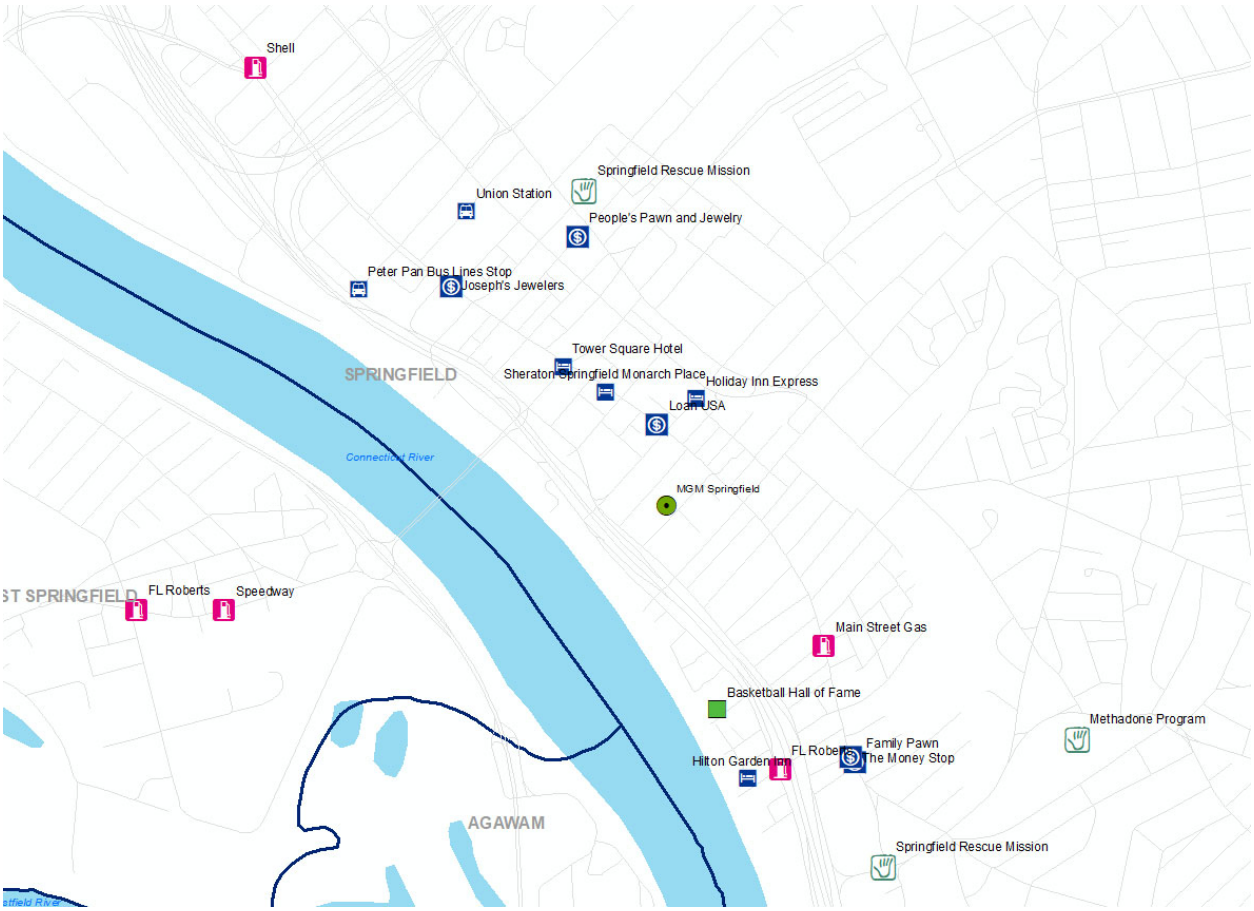


Figure 14: A number of specific locations in the MGM Springfield area are likely to see increased activity.

Location type

If crimes do increase in the areas surrounding MGM Springfield, we might expect them to increase particularly at the types of establishments frequented by users of a casino (or any entertainment venue), particularly hotels, restaurants, bars, and transit hubs. Calculating baseline volumes by type of location allows us to measure these specific changes.

Location type codes are based on IBR definitions. See the appendix for a list of crimes in each category.

Average annual crimes by category at selected location types, all participating agencies

Location Type	Violent Crimes	Property Crimes	Drug/Alcohol Crmies	Societal Crimes	Other Crimes
Air/bus/train terminal	28.9	31.9	3.0	5.3	9.3
Bank	35.7	187.9	3.4	1.7	32.1
Bar	147.6	154.7	30.1	18.0	60.9
Church	20.4	92.0	5.4	2.6	17.3
Construction site	2.9	47.9	0.9	1.0	5.6
Convenience store	171.9	366.0	35.0	15.4	105.4
Department store	131.3	1092.9	11.6	11.4	125.6
Doctor/hospital/drug store	137.4	267.7	21.3	18.7	93.7
Field/woods	63.9	77.6	17.6	14.1	58.6
Gas station	77.7	211.9	17.3	8.9	65.3
Government/public building	204.3	251.3	24.3	23.0	312.3

Location Type	Violent Crimes	Property Crimes	Drug/Alcohol Crmies	Societal Crimes	Other Crimes
Grocery store	50.6	396.4	10.3	4.3	58.3
Hotel/motel	85.3	139.3	19.4	8.7	89.4
Liquor store	20.9	76.0	7.9	6.4	22.1
Office	163.9	673.1	47.0	17.7	175.7
Park	20.6	15.6	3.9	2.4	7.7
Parking lot/garage	241.0	1175.9	64.7	25.7	189.0
Residence	5617.0	9214.7	278.9	218.7	3127.0
Restaurant	168.0	357.1	40.4	13.3	128.1
School	640.3	355.4	40.4	111.9	285.0
Specialty store	86.4	464.9	18.4	8.1	86.1
Street	1982.9	2544.4	997.4	349.3	3444.3

State police data

Figure 15: A network of State Police-patrolled highways and routes feeds the MGM Springfield area.

State Police patrol state highways (principally I-90, I-91, I-291, and I-391) in the Springfield area, plus state properties and parks. They assist local police in response to some crime issues, and in particular have a longstanding partnership with the Springfield Police to patrol hot spots and reduce street violence and gang

activity. The State Police Gaming Enforcement Unit will soon take over primary enforcement responsibilities at MGM Springfield.

The Massachusetts State Police operate a records system with different conventions and reporting rules than the local agencies, so the categories and totals are not directly compatible. In some cases, where both agencies responded to an incident, the two systems may duplicate each other.

Naturally, the State Police are poised to see an increase in traffic on state roads that feed MGM Springfield as well as at the casino itself. This will primarily be reflected in traffic-related calls for service and crimes, including collisions, drug possession, and drunk driving.

The data below comes from a combination of multiple State Police stations, including B-3 (Springfield), B-6 (Northampton), several sections of Troop E eliminated and re-allocated in 2018, and various mobile statewide units such as headquarters units, canine units, and investigators.

Selected activity

Activity	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
Abandoned vehicle	18	35	14.3	9.02	0.63	-20.98%
Aggressive driver	42	51	58.8	12.08	0.21	-6.96%
Assaults	15	14	14.3	2.49	0.17	+1.83%
Burglary	9	3	12.4	5.96	0.48	-15.65%
Collision	2128	2188	1962.8	136.22	0.07	+2.31%
Disturbance	16	16	16.9	7.01	0.41	+8.38%
Disabled vehicle	2294	2408	2714.1	273.01	0.10	-4.05%
Drugs	37	26	51.4	24.97	0.49	-6.60%
Erratic operation	380	341	394.6	35.17	0.09	-2.53%
Medical	101	85	95.6	18.14	0.19	-3.37%
Pedestrian on highway	179	164	227.1	46.73	0.21	-7.48%
Robbery	6	1	10.1	4.31	0.43	-13.55%
Sexual Assault	0	3.0	6.9	2.59	0.38	-15.32%
Suspicious activity	43	42	47.1	9.17	0.19	-4.32%
Vehicle stop	3662	3230	3913.9	618.84	0.16	-4.58%

In situations where local police usually handle the report, as in most crimes, State Police activity varies considerably from year to year, though maintaining low numbers overall. But for highway-specific activity such as aggressive driving, disabled vehicles, erratic driving, vehicle stops, and traffic collisions, the figures are more consistent and predictable and thus will make it easier to note changes occasioned by the extra traffic in the area.

Note that these categories are based on the initial circumstances of the call and not necessarily the final criminal charges. The number of drug arrests is likely far higher than indicated here, as they would have initially been coded as vehicle stops, suspicious activity, or some similar call type.

Crashes on state roadways

Activity	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
I-90	303	283	281.5	29.99	0.11	+2.61%
I-91	1107	1158	961.1	105.03	0.11	+3.57%

Activity	2016	2017	2010–2017 Avg.	St. Dev.	C.V.	SPM
I-291	216	217	218.4	26.62	0.12	+1.44%
I-391	161	172	156.4	19.40	0.12	+4.13%
Hwy 5	119	126	109.8	15.46	0.14	-0.37%
Hwy 57	80	70	62.8	9.76	0.16	+4.74%

Most of the state routes in the area have shown remarkable consistency in crash volume (at least as represented by calls for service) over the past 7 years. There is a very slight upward trend during the period that will have to be accounted for in any change analysis.

Conclusion and planned analysis of changes

Springfield is a dense, urban area with a relatively high existing crime total. Its surrounding agencies exhibit a wide range of sharing and not sharing Springfield's existing patterns, but all of them have at least some probability of seeing increases in criminal and non-criminal activity if based on nothing but travel routes.

Although there are some concerns with data validity in particular communities and categories, no participating agency has done such a poor job that its changes will be undetectable. Increases and decreases in most traditional crimes and traffic collisions, if not calls for service, will be detectable with the right techniques.

MGM Springfield is set to open on 24 August 2018, and we will have three months of post-casino data at the end of November 2018. Shortly after the beginning of 2019, I will perform another extract from each of the participating agencies' records management systems and compare activity in previous September–November or December periods to what happened after the opening of MGM. I will:

- Assess in overall volume of crimes, calls for service, and collisions in this period
- Analyze for patterns in any categories that did experience significant change
- Look for changes in hot spots and temporal patterns, including those immediately around the casino
- Study changes in offender and victim demographics, including journey to crime
- Flag emerging problems involving particular types of crime, properties, or offenders

Unlike my evaluations of the Plainridge Park area, where crime had been relatively consistent over the previous five years before the casino, the analysis of the MGM Springfield area will have to use multiple methods of looking at change, some to account for trends that were already increasing or decreasing before the casino was built. This will bring a greater statistical complexity to the MGM Springfield evaluations.

I will work with the agencies and the IMC vendor to find a standardized method for flagging incidents that have a known relationship to the casino. While this will not provide a comprehensive statistical measure of casino-related crimes (particularly since the offender is unknown in most incidents), it will help identify casino-specific trends.

In all my work, of course, I will work closely with each of the participating agencies, and particularly the Springfield crime analysis unit, to achieve their perspectives and additional data elements.

I will repeat this analysis in the spring of 2019, after which the Massachusetts Gaming Commission and the participating agencies will help determine if continual three-month reports are needed or whether we can move to a 6-month report cycle.

Appendix: Abbreviations and definitions

Acronyms and abbreviations

CAD	Computer-aided Dispatch (system)	A police database that holds information about police dispatches to calls for service, including incidents discovered by police officers. Some but not all of the incidents reported in CAD are crimes and have longer records in the RMS.
IBR	Incident-based reporting	See NIBRS.
MGC	Massachusetts Gaming Commission	The commonwealth agency charged with overseeing and regulating gaming in Massachusetts
FBI	Federal Bureau of Investigation	National investigative agency, part of the U.S. Department of Justice, in charge of collecting national crime statistics.
IACA	International Association of Crime Analysts	A global nonprofit professional association that provides training, literature, and networking to individuals who analyze crime data.
MACA	Massachusetts Association of Crime Analysts	A nonprofit professional association that provides training, literature, and networking to individuals who analyze crime data in New England.
NIBRS	National Incident-based Reporting System	FBI program for data collection that supersedes UCR. Collects more specific data about a wider variety of crimes. With only a few exceptions, all Massachusetts agencies report to NIBRS and all Massachusetts RMS vendors have implemented NIBRS coding standards.
ODBC	Open Database Connectivity	A technology developed by Microsoft that allows any application that uses a database to connect to any database source. The primary mechanism by which we can extract data from police CAD and RMS databases.
PVTA	Pioneer Valley Transit Authority	The organization that operates bus service and other public transportation in western Massachusetts.
RMS	Records Management System	A police data system that stores information about crimes and offenders. See also CAD.
SEIGMA	Social and Economic Impacts of Gaming in Massachusetts	A multi-year research project hosted by the University of Massachusetts Amherst School of Public and Health Sciences. The SEIGMA project has a much broader mandate for its study than just crime.
UCR	Uniform Crime Reporting (program)	National program for the reporting of crime statistics to the FBI. Captures only summary data about a limited number of crime types. Contrast with NIBRS.

Crime definitions

The following are definitions of the crime categories used in this report. These are mostly drawn without modification from the FBI's definitions for NIBRS crime categories. In almost all cases, *attempts* to commit these crimes are counted equally with completed offenses. These crimes must, of course, be reported to the police to be included in this report.

Aggravated Assault: An attack by one person upon another for the purpose of inflicting severe bodily injury. Aggravated assault is either accompanied by the use of a deadly weapon (e.g., gun, knife, club) or some mechanism that would result in serious harm (e.g., pushing someone down a staircase), or by serious injury even with a weapon that isn't normally "deadly" (e.g., punching someone and breaking his jaw). If the incident involved neither a deadly weapon nor serious injury, it's coded as a simple assault instead.

Arson: Intentional burning of a structure, vehicle, or personal property.

Auto theft: Thefts of vehicles capable of operating under their own power, including automobiles, trucks, buses, motorcycles, and snowmobiles.

Bad checks: The issuance of checks on accounts with insufficient funds. This type of crime is typically only reported by police when an arrest is made or an individual is charged.

Burglary: Unlawful entry of a structure, including residences, commercial buildings, and government buildings. The entry does not have to occur by force (e.g., a "break-in"). The usual motive for burglary is to steal something inside, but this isn't a necessary part of the definition.

Counterfeiting/forgery: Use or possession of an altered, copied, or imitated negotiable or non-negotiable instrument, including U.S. currency, checks, and money orders.

Credit card fraud: Use of a stolen credit card or credit card data to obtain goods or services.

Disorderly: Disorderly conduct that rises to the level of a criminal charge.

Drug offenses: Manufacturing, sale, trafficking, transporting, or possession of controlled substances. Typically, "incidents" of such crime are arrests, as the only way such incidents are reported is when they are discovered by the police.

Drunk driving: Operation of a motor vehicle while intoxicated; usually while above a state-designated legal blood alcohol level. As with many of the drug and alcohol categories, such incidents are only reported when discovered by the police, usually resulting in an arrest.

Drunkenness: Naturally, not all incidents of intoxication are a police matter. Police incidents that fall into this category are usually incidents of either public intoxication or individuals so dangerously intoxicated that they are placed into protective custody until sober.

Employee theft: Also, "embezzlement." Theft of an employer's property by an employee.

Extortion: Theft or attempted theft of money, goods, or services through non-violent coercion.

Family offenses: Unlawful, nonviolent acts by a family member that threaten the physical, mental, or economic well-being of another family member and are not classified under any other category. This category is only reported when someone is charged, and it almost always involves violations of restraining orders or child neglect.

Forgery: Forgery of personal checks, business checks, U.S. currency, or similar negotiable and nonnegotiable documents.

Fraud. Theft of property by lying in such a way that convinces a victim to surrender money or goods. It is theft through some kind of scheme, "con game," or ruse.

Gambling offenses: Crimes related to illegal gambling, promoting gambling, operating gambling machines, bookmaking, and sports tampering.

Identity theft: Representation of oneself as another (actual) person or use of another person's identifying information to obtain goods or services, housing, medical care, or status.

Kidnapping: The abduction of one person by another, whether through force or guile. Most incidents coded as such as "custodial" kidnappings involving a parent taking a child in violation of a custodial agreement.

Liquor law violations: Illegal manufacturing, sale, possession, or consumption of intoxicating drinks, often because the offender is below the legal age.

Murder: the killing of one person by another, including non-negligent homicides.

Other thefts: A general category that includes thefts of services (e.g., gas drive-offs), thefts from persons (e.g., pocket-picking), thefts from outdoor public areas. Essentially, any non-burglary, non-robbery theft that is not covered in one of the "theft" or "shoplifting" categories (below) is categorized here.

Pornography: Possession, sale, or manufacturing of illegal pornography. Since pornography is legal in Massachusetts, such incidents generally involve minors, either as the subjects or recipients of the pornography.

Property crime: An aggregate category that sums the totals of arson, burglary, thefts from persons, purse snatching, shoplifting, thefts from buildings, thefts from machines, thefts from vehicles, thefts of vehicle parts, other theft, auto theft, forgery, fraud, credit card fraud, identity theft, employee theft, extortion, stolen property, and vandalism.

Prostitution: Promotion or participation of sexual activities for profit. As with drug offenses, most "incidents" of prostitution are arrests, as the crime is rarely reported except when discovered by the police.

Purse snatching: A theft in which an offender grabs a purse off the arm of the victim. If any significant force, violence, or threats are employed, this crime becomes a robbery.

Robbery: Taking or attempting to take anything of value from another person by force or violence or threat of force or violence. "Muggings" and "hold-ups" are examples of robberies. A robbery requires a direct confrontation between the offender and victim; houses and buildings cannot be "robbed."

Sexual assault: Any sexual act directed against another person (of either sex), either by force or otherwise against the person's will, or non-forcibly but when the victim is incapable of giving consent because of temporary or permanent mental or physical incapacity. This category combines rapes, indecent assaults, molestation, and sexual penetration with an object.

Shoplifting: Thefts of items offered for sale at retail establishments.

Simple assault: An assault that does not involve a dangerous weapon and does not result in significant injury.

Statutory rape: Consensual sexual activity with an individual who is unable to give legal consent because of age.

Stolen property offenses: Possession or sale of property previously stolen including motor vehicles and personal property. Often, the person possessing the property is the one who stole it in the first place, but this category is used when the actual thief cannot be determined.

Thefts from buildings: Thefts of items from commercial or government buildings open to the public, where such entry does not constitute burglary. This often takes the form of thefts of employees' property at businesses open to the public.

Thefts from machines: Thefts from coin-operated machines, either for the coins or for the products inside.

Thefts from persons: Thefts of personal property from the direct control of the owner. These often take the form of pocket-pickings or thefts of or from diners' purses at restaurants. If any force, violence, or threats are employed, this crime becomes a robbery.

Thefts from vehicles: Thefts of items from motor vehicles. The category includes breaking into vehicles (e.g., smashing a window), unlocked entry, and thefts of items from a vehicle's exterior, such as pickup truck beds. Note that thefts of vehicle parts are in a separate category.

Thefts of vehicle parts: Theft of parts or accessories from motor vehicles, including wheels, license plates, and engine parts.

Threats: Threats to commit physical violence by one person against another. If any weapon is actually displayed or employed, or if an assault is actually attempted, the crime is categorized as a simple or aggravated assault instead.

Trespassing: Illegal entry to a non-public part of a residence or business. Such entry is rarely to the *interior* of the property, or it would be coded as burglary instead. Most reportable incidents of trespassing are either after notice (e.g., a repeat shoplifter who is ordered not to return to a store) or at posted locations (e.g., construction sites, abandoned buildings).

Vandalism: Destruction or defacement of public property, buildings, vehicles, or personal property.

Violent crime: An aggregate category that sums totals for murder, sexual assault, kidnapping, robbery, aggravated assault, simple assault, and threats.

Weapon offenses: Possession, sale, or manufacturing of illegal weapons. This is often an additional offense discovered by police during arrests for other crimes.

Call for service definitions

Calls for service include both criminal and noncriminal police incidents and activities. In the case of criminal activities, such incidents receive a longer, more detailed report in the police records management system, and it so it makes more sense to analyze them using the crime categories above than in their original call-for-service form. Thus, the only incident types we have selected for analysis in this report are noncriminal. Definitions of those types appear below. Because the police officer does not usually write a full report for calls for service, the dataset available for analysis is more limited.

Administrative: A wide variety of call types that have to do with the administration of a police department, such as delivery of documents to businesses or other government facilities, attendance at meetings, vehicle maintenance, or even meal breaks. Agencies use their call-for-service systems to document such activities so that, later, they can determine what a particular officer or unit was doing at a particular time, although the incidents

are not truly "calls for service." Practices differ significantly between police agencies as to what is reported under this category, and it is generally not useful for analysis.

Alarm: A burglar, panic, or medical alarm that required a response but (probably) turned out to be false or would have a different final code.

Animal complaint: Calls involving sick, dangerous, or wild animals, animals in danger (e.g., left in a hot or cold car), or loose or noisy pets.

Assist other agency: A call type that involves rendering aid to a neighboring police or other government agency for any number of purposes, including serious crimes, fire and medical issues, and traffic issues.

Crime enforcement: Any number of pro-active police activities meant to deter crime, generally taking the form of a "directed patrol" to a particular location during a peak time for criminal activity (based either on citizen complaints or internal analysis). Though not a technical "call for service," such incidents are recorded in the CAD database to document the officer's activity.

Disabled vehicle: A call for service for a vehicle suffering physical or mechanical trouble, usually broken down in an active roadway.

Disturbance: Any of a variety of types of disorderly conduct, disputes, fights, and excessive noise.

Domestic dispute: A dispute between family members, spouses, or intimate partners that has not risen to the level of physical violence.

General service: Minor calls for service that involve rendering aid to residents and visitors for a variety of issues such as giving directions, installing car seats, dealing with lockouts, and providing physical aid.

Gunshots: Reports of gunshots fired, whether phoned in by a resident or received from automatic detection services.

Hunting: Reports of hunters hunting off-season, in protected areas, with illegal gear, or in an unsafe manner.

Lost property: Calls for service involving lost personal property such as wallets and mobile phones. If there is any indication of theft, these incidents are typically reported under the appropriate crime category.

Medical aid: All calls for medical aids except unattended deaths and overdoses. Police responses only are included in the figures in this report.

Missing person: a runaway or other missing person.

Prisoner transport: documentation of a police agency transporting an arrested person from one facility to another.

Psychological issue: Calls for service involving individuals with mental health issues.

Suspicious activity: Any suspicious person, vehicle, or other activity, whether identified by an officer or citizen.

Traffic collision: A collision involving at least one motor vehicle.

Traffic complaint: Complaint about reckless driving, illegal or unsafe parking, or other traffic issues.

Trespassing: Trespassing on private or public property.

Vehicle stop: An officer pulls over a vehicle for a moving or equipment violation.

Warrant service: a call type that documents the service, or attempted service, of an arrest warrant or search warrant. The category is entirely police-directed.

Youth disorder: Disorderly incidents involving youths congregating, skateboarding, making noise, and so forth.

Offense types by associated crime category

Offense	Category
Aggravated Assault	Violent Crime
All Other	Other Crime
Arson	Property Crime
Auto Theft	Property Crime
Bad Checks	Property Crime
Burglary	Property Crime
Credit Card Fraud	Property Crime
Disorderly	Societal Crime
Drug Equipment Offense	Drug/Alcohol Crime
Drug Offense	Drug/Alcohol Crime
Drunk Driving	Drug/Alcohol Crime
Drunkenness	Drug/Alcohol Crime
Employee Theft	Property Crime
Extortion	Property Crime
Family Offenses	Other Crime
Forgery	Property Crime
Fraud/Con Games	Property Crime
Gambling	Societal Crime
Identity Theft	Property Crime
Kidnapping	Violent Crime

Offense	Category
Liquor Law Violations	Drug/Alcohol Crime
Murder	Violent Crime
Other Thefts	Property Crime
Peeping Tom	Other Crime
Pornography	Societal Crime
Prostitution	Societal Crime
Robbery	Violent Crime
Runaway	Other Crime
Sexual Assault	Violent Crime
Shoplifting	Property Crime
Simple Assault	Violent Crime
Statutory Rape	Other Crime
Stolen Property Offense	Property Crime
Thefts from Buildings	Property Crime
Thefts from Vehicles	Property Crime
Thefts of Vehicle Parts	Property Crime
Threats	Violent Crime
Trespassing	Other Crime
Vandalism	Property Crime
Weapon Offenses	Societal Crime

Casinos and Gambling in Massachusetts: African-American Perspectives

A report submitted to:

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Executive Summary

Background

This report was funded by the Massachusetts Gaming Commission to examine perceptions and beliefs of African Americans towards casino gambling as well as other forms of gambling. The Massachusetts Gaming Commission also funded the Social and Economic Impact of Gambling in Massachusetts (SEIGMA) study — one of the largest longitudinal studies on gambling ever implemented in the United States.

The purpose of this study was threefold: 1) conduct an exploratory qualitative analysis describing the main themes, concerns, and perceptions regarding gambling and casinos among African Americans in Massachusetts; 2) complement SEIGMA's quantitative findings related to gambling among African American residents in Massachusetts; 3) explore environmental and contextual factors that might influence gambling behavior of African Americans.

JSI conducted five focus groups with African American participants (N=49) between November 2017 and April 2018. Three of the focus groups were conducted with residents of Boston, a fourth one with residents of Everett-Chelsea, and the fifth one in Springfield. All participants completed an intake survey comprised of basic sociodemographic and the Canadian Problem Gambling Index (CPGI) which we used solely as a screening tool. The focus group discussions were guided by the following themes: life context, overall gambling experiences and behavior i.e., problem gambling, help-seeking behavior, casino gambling and the community, and views about casinos in Massachusetts. Finally, data collection and interpretation was focused on understanding, from the perspective of the individual, common gambling experiences, as well as views about casino gambling.

Main findings

Life context

- Participants described their communities as impoverished, lacking employment opportunities and needed social services to address mental health and substance abuse problems.

Overall gambling experiences and problem gambling

- Participants' motivation to gamble include financial need, recreation, and *thrill-seeking*, which can be interpreted as urge reduction.
- Religious beliefs appeared to play an important role as both a catalyst and a deterrent to gambling among participants: they pray to God for good luck and they pray to God to help them cope with problem gambling.

- Participants trajectory to problem gambling was described as involving playing lottery games compulsively and obsessively.
- Participants reported a host of negative consequences associated with problem gambling, including divorce, bankruptcy, homelessness, mental health issues, losing money intended for living essentials, such as food and rent, losing key elements that help them to gain their livelihood (e.g., car, jobs), and social (and family) isolation.

Help-seeking behavior

- Shame and stigma deter individuals experiencing problem gambling from seeking help or accessing and utilizing services. This seems to be related to the fact that treatment for problem gambling is usually delivered by mental health service providers and seeking mental health services is highly stigmatized.
- Participants highlighted the need of mental health services in their communities.

Gambling at casinos

- Overall, participants are aware that casinos are purposely designed to entice people to gamble more. They used terms such as "a setup, a ploy, a trap, demonic, and a classic plantation scenario" to describe casinos.
- Participants described normative gambling strategies, such as setting spending or losing limits and crafting specific gaming strategies that they employed to manage betting money at casinos.

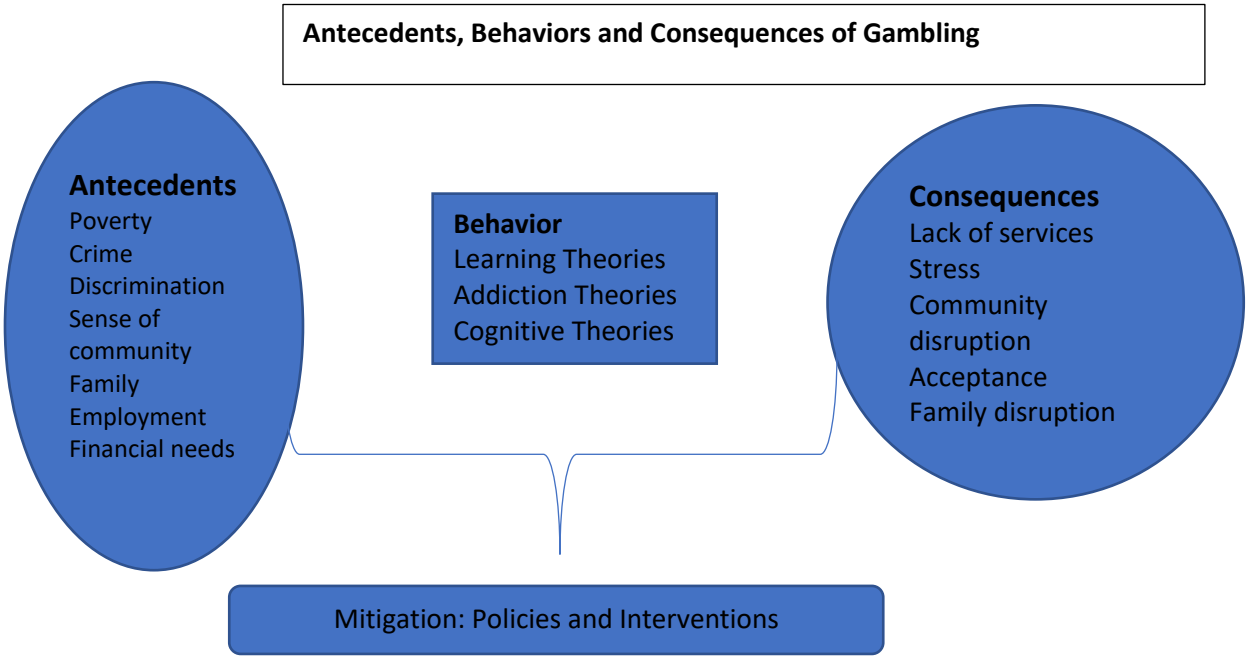
Views about casinos in Massachusetts

- Participants view the advent of casinos as both positive and negative. Their positive views regarding casinos are related to casinos' potential to create new jobs and other economic opportunities. The negative aspects associated with the presence of casinos relate to concerns that already exist within the participants' communities: crime, drugs, gentrification, and the dissolution of community ties.
- They are concerned that casinos will bring new types of criminal activities and attract new criminals to the community. According to some participants, police departments are overstretched, and they wonder if current law enforcement staff will be able to absorb their additional responsibilities.
- Participants are also worried about the impact casinos will have on the drug epidemic in their communities. Their concerns revolve around two main issues: the dearth of services in the community and the added burden that casinos will place on police.
- Gentrification is a concern among participants in Springfield. They worry that the presence of casinos will increase both property values and taxes, thus, pushing them out of the area.

- Participants feel that opportunities to interact with neighbors (playing Keno at a game parlor, buying scratch tickets, street games) may vanish as a result of casinos, as they would force the corner stores and parlors to close.

Conclusions

Based on the findings presented in this report, we propose the following conceptual framework to organize future efforts to prevent and treat problem gambling behavior among African Americans:



Findings from this exploratory qualitative study highlight the importance of including place and context to help pursue a clear understanding of factors anteceding gambling, gambling behavior, and consequences among African Americans in Massachusetts that could inform the development of effective strategies to prevent and treat problem gambling behavior.

Introduction

This report presents the findings of an exploratory qualitative study sponsored by the Massachusetts Gaming Commission to examine the perceptions and beliefs of African Americans towards casino gambling. Casino gambling became legal in Massachusetts in November 22, 2011, when Governor Deval Patrick signed Chapter 194 "An Act Establishing Expanded Gaming in the Commonwealth," into law. The legislation authorized one slots facility and three casinos in as many regions in the state. Eventually, two casinos were established: one in Springfield and the other in Everett. Both casinos are expected to open within the next year. The slot facility, Plainridge Park Casino, opened its doors in June 24, 2015 in Plainville, MA.

The legislation specified that the revenue from these casinos would be used specifically for local aid, health care payment reform initiatives, education, transportation infrastructure, manufacturing initiatives, debt reduction, and tourism. Massachusetts legislators also included several measures to identify and mitigate potential negative consequences of casino gambling. For instance, Section 71 of the legislation calls for:

- *Understanding the social and economic effects of expanded gambling*.
- *Collecting scientific information about the neuroscience, psychology, sociology, and public health impacts of gambling.*
- *Carrying out a study of problem gambling and the existing prevention and treatment programs that address its harmful results, before any casinos open in Massachusetts.*[1]

To pursue these three objectives, the Massachusetts Gaming Commission funded the Social and Economic Impact of Gambling in Massachusetts (SEIGMA) study — one of the largest longitudinal studies on gambling ever implemented in the United States. The SEIGMA Team created a database for strategic analysis and decision-making with the purpose of gauging the social and economic impact of casino gambling, promoting responsible gambling, and mitigating problem gambling through refinement of services (Volberg et al., 2017).

The purpose of this study is threefold: 1) conduct an exploratory analysis describing the main views, concerns, and perceptions regarding gambling and casinos among African Americans in Massachusetts; 2) complement SEIGMA's quantitative findings related to African American residents in Massachusetts; 3) explore environmental and contextual factors that might influence gambling behavior of African Americans.

Unless otherwise indicated, the research findings listed below are those of the SIEGMA study.

[1] SEIGMA FACT SHEET Number 01 June 2016

Background: SEIGMA's findings

According to the SEIGMA study, in Massachusetts African Americans gamble less than White people do (68% vs 76%). Those African Americans who do gamble, however, do so slightly more frequently than Whites (40% vs 35%) but the prevalence of problem gambling among them is about four times higher than that of the White community (5.8 vs 1.4%). Those differences are statistically significant. Furthermore, 12.8% of the members of the Black community are "at risk" gamblers. The demographic factors associated with increased risk for gambling in the Black community include higher unemployment, having a high school education or less, and an annual household income under $15,000. These are all variables that correlate with higher levels of problem gambling across racial/ethnic lines (Volberg et al., 2017).

Although Blacks are the group most affected by the negative aspects of gambling, they perceived gambling in the Commonwealth as beneficial to their communities.

Research approach

Despite the remarkable SEIGMA Team efforts, research on gambling behavior among subpopulations such as African Americans is wanting. Relatively little has been written about gambling and Blacks in the United States and much less about gambling among Blacks in Massachusetts. As a matter of fact, this limitation is one of the guiding rationales of the funding allocated for this study. Furthermore, the limited research on Blacks and gambling that is available is mostly person-centered, that is, it focuses on the biological and psychological aspects of the person and ignores the environment and context in which gambling behavior occurs. But, this is true of the field of gambling research in general.

There is a dearth of knowledge on how contextual factors affect gambling behavior among African Americans. As noted above, the leading problem gambling models are mostly person-centered and pay little attention to the context in which individuals (and the casinos) are placed. For instance, learning models see gambling as influenced by rewards, reinforcements, and punishment (Anderson, 1984). Cognitive theory emphasizes the role of faulty cognitions around gambling (Walker, 1992). The addiction model extends the tenets of the research on substance abuse or drug addiction and applies it to problem gambling (Blaszczynski & Nower, 2002). Personality theories examine the role of traits such as impulsivity, sensation-seeking, and risk taking behavior as they relate to problem gambling. Even psychoanalytic theory has been advanced to explain the origin and development of problem gambling with the unconscious desire of the person to "lose and be punished" (Bergler (1957).

Our research approach acknowledges that the consequences of problem gambling reach beyond the individual and affect the family and community in which participants live. Thus, we examine the relationship between problem gambling and the presence of casinos from a systemic perspective that takes into account the life contexts in which study participants live, work, and

play. Life contexts influence the motivations, consequences, impact of problem gambling, and ultimately, how people seek help. In addition to focusing on the life contexts in which gambling occurs, this study also borrowed concepts from the field of help-seeking behavior to understand the processes that lead individuals at risk of problem gambling to recognize, seek help, find help, and use services to address problem gambling behavior. Finally, data collection and interpretation was guided by a phenomenological approach which, in this particular study, focused on understanding a group of individuals' common gambling experiences, as well as views about casino gambling.

Methods

After receiving Institutional Review Board approval, JSI conducted five focus groups with African American participants between November 2017 and April 2018. Three of the focus groups were conducted with residents of Boston, a fourth one with residents of Everett-Chelsea, and the fifth one in Springfield. All the focus group sessions were audio-recorded and later transcribed.

The eligibility criteria included individuals who were age 18 or above, self-identified as African American, and had participated in some form of gambling activity in the last 12 months. Three recruitment attempts were made through flyers placed in community settings and requesting referrals from health care providers. These attempts were not successful. We then opted to recruit participants through local leaders in the community: one in Boston who (recruited 30), another one in the Chelsea-Everett area (recruited 12), and a third one in Springfield (recruited 5). This strategy resulted in a participant sample comprised of mostly women (85%).

Upon consenting to participate in the focus group, participants completed an intake survey comprised of basic sociodemographic information and the Canadian Problem Gambling Index (CPGI), used solely to assess problem gambling risk. The CPGI was scored using Dichotomous Weighting, one of four scoring procedures described in its User's Manual (Ferris & Wynne, 2001). A 4-point response item was treated like a dichotomous item by scoring any response other than "never" (i.e., sometimes, most of the time, almost always) as 1. In total, we scored nine items.

The focus group interview guide was used to facilitate all five focus groups. The textbox below shows the guideline questions. All focus groups were audio recorded with participants' permission. At the end of the focus group, each participant received a $50 gift card as a token of appreciation for taking part in the group discussion.

Focus group sessions were transcribed verbatim and transcripts were analyzed following phenomenological data analysis procedures. To facilitate sorting and comparison of the data, coding was done using Dedoose — a qualitative research computer software. Dr. Vega and a trained research assistant coded and analyzed the transcripts through multiple readings and coding iterations. The first level of analysis involved identifying all the themes emerging from the transcripts and developing a codebook through a series of recursive analyses. The second level of analysis involved horizonalization (Moustakas, 1994) or extracting quotes that reflected an understanding of participants' lived experienced of pertinent areas of inquiry (i.e., participants' lived experiences and views about gambling and the context in which they emerged). This step was followed by developing clusters of meanings from the statements which resulted in the themes presented in the results section below. (Creswell, 2007)., The textbox below shows the frequency of codes and segments included in this study.

Focus Group Guideline Questions

As you know, three new casinos will open in Massachusetts within the next five years. We are interested in knowing your opinion about the impact of these casinos on the communities where they will be located:

Questions: Casino gambling and the community
- How do you think they could benefit the community?
- What are some of the potential negative effects of those casinos?

Questions: Gambling experiences

Tell me about your gambling experiences.
- What type of gambling do you prefer?
- How often do you gamble?

Questions: Motivations to gamble
- What are some of the things that motivate you to gamble?
- What is the "fun" aspect of gambling?

Question: Impact and life context of gambling
- Some folks encounter problems due to gambling (i.e., negative consequences of gambling); please tell us about the kinds of problems that you, friends, or relatives have experienced as a result of gambling.

Questions: Help-seeking behavior
- What are the signs that someone is experiencing problem gambling?
- When do you think folks experiencing problem gambling should seek help?
- Where do they go to get the help that they need?
- Are there any final points you wish to share with us?

Participants

A total of 49 adult participated in five focus groups: three held in Boston (n=17, 12, 4), and the other two in the Chelsea-Everett area (n=12), and Springfield (n=5). Five participants did not answer the survey. There were 9 men, and 35 women with ages ranging from 29 to 80. Most participants reported an income between $30,000 and $49,000 and a level of education was a high school diploma. Table 1 below shows the participants' demographic and behavioral descriptors for each focus group.

All the participants had been actively involved in some form of gambling within the past 12 months. Of the 44 participants that completed the intake survey, 15 participants were classified as at-risk gamblers, 14 as problem gamblers, and the remaining as recreational gamblers based on the Canadian Problem Gambling Index classification.

Table 1: Demographic and behavioral descriptors of focus group participants (5 participants did not answer the survey)					
	Chelsea (n=12)	**Boston 1 (n=12)**	**Boston 2 (n=11)**	**Boston 3 (males) (n=4)**	**Springfield (n=5)**
Age	61.58	63.4	58.75	58	45
Gender	2 male, 10 female	1 male, 6 female (5 missing)	1 male, 10 female	4 male	5 female
Recreational Gamblers	10	1	1	1	2
At Risk Gamblers	1	7	3	2	2
Problem Gamblers	1	4	7	1	1

In the results sections below, we show salient quotes from the participants that are exemplars of the themes that emerged from the analysis. Because each quote is shown verbatim, it is literally unique to the person. However, the quotes represent clusters of meaning or illustrative themes of lived experiences and views shared by research participants.

Results

The findings of this study provide a glimpse of both the lived experience and the context in which gambling manifests itself, as described by a sample of African American residents of Massachusetts. More specifically, these findings provide snapshots of how participants construe their beliefs, experiences, and behaviors related to gambling and the expansion of the local casino industry.

The entire qualitative database is comprised of the focus group transcripts (N=5). The analysis generated 36 codes and 454 excerpts. This report, however, includes excerpts that are most representative of the identified themes that reflect the lived experiences and views about gambling by participant

Overall life context

Across all the focus groups, participants described their communities as lacking essential tools for economic success such as accessibility to jobs. Poverty and a constant struggle to pay bills were recurrent themes throughout the focus group discussions. The participants articulated their frustrations with the drought of income-generating resources in their communities and the lack of external support in bolstering their livelihoods. One participant stated, *"we've always been the invisible population. Services, money, everything get chucked right past us."*

The participants mentioned the pervasiveness of substance abuse problems within their communities.

There are a lot of issues we have in this [Springfield] community. The opiates' rapid high, there's not a lot of money that's in our community, especially the black community, to get the services.

Well, I'm going to tell you something, black people in our community are smoking crack a lot. They are shooting dope, heroine was around over many many many years. But that's been in our community for a long time.

The participants pointed out the need for additional mental health services in their communities, as one participant put it: "*here in the black community, there's a lot of people that's untreated for their mental health*."

In Springfield, MA, participants mentioned the overall lack of social services in the area.

We need more housing for African Americans, we need more jobs for African Americans, we need more counseling or addiction service for black Americans. We only have one family center for the black community, that's the MLK and they took away Dunbar, [in Springfield] right?] So we only have one of those. They really need some after school programs, more of that for the children. We need drop-in centers, like a resource center.

When services are available, individuals face multiple barriers to accessing them, including: long waiting lists, lack of African American providers, stigma, and location:

Right. Because there's always a waiting list for them to get services. And I was just talking the other day at work about how they don't have a lot of black therapists, who black people could identify with them, the services. But mental health plays a big part in the black community. Oh yeah. Because what we believe in years in years and years in our household, that was never talked about. When they say that you have a mental health problem, people always look at that, "That's crazy folks." Right? So they don't get treated.

We don't have that in our community, we always have to go out to the white community to get that, you know? You know what we really need here too? We need treatment beds. We need our own detox. We need a women program. They had programs for African American women, they were sort of pilot programs for three years. They didn't even ... that was only what, three years? And then they opened up another program, it was a women program, mostly white girls in there. We don't have much.

Participant 1: ***In Boston? Boston has a lot of services. I know that for a fact. They have a lot of services out there, especially for the mental health, and the social.***

Participant 2:	*And they have a lot of black, African Americans-*
Participant 3:	*The best services.*
Participant 1:	*They do, they have the best services out there in Boston. From Worcester, to Framingham, Boston, great services.*
Participant 2:	*So, when they opened the casinos in Boston, the community-*
Participant 1:	*They got a lot of support.*

Gambling as experienced by participants

Motivation to gamble

Participants outlined three main reasons why they gamble: financial need, recreation, and thrill-seeking, all of which have been identified within the research literature on gambling (Andrade & Petry, 2014).

Financial need

Similar to the findings of an earlier study (Martin, Lichtenberg, & Templin, 2010), motivation to gamble was rooted in escaping poverty and financial strain. One participant's narrative echoes what the others shared when asked about their motivation to gamble:

> *"whether you hit big or small, people sometimes gamble because out of a need. Sometimes…they say, 'Well, you know' ... they ... maybe they don't have enough money take care of this, so they say, 'If I could just play this number.' Sometime, it not about a million ... hitting the $1,000,000 dollar lottery. It's about ... it's getting that, you know, $50 dollar, $100 dollar, $300, just ... so I can just bailout."*

> *"If I just get that number tonight, I can take care of 'this' for my kid."*
>
> *"Then I'd be able to take care of this, and I'd be able to take care of that," you know. It's out of a need sometime, you know, when you really gamble, you see- you see- you think this is your only way out."*

Another participant added that there is no such thing as healthy gambling when one is playing out of financial need.

Recreation

The participants often described gambling as a fun activity and casinos as welcoming of people of all races, social classes, and creeds. In the words of the participants:

Participant 1:	*See, a lot of people don't know if you homeless or if you poor or if you rich, or if you whatever,*
Participant 2:	*They don't discriminate. They do not.*
Participant 1:	*Yeah they don't screen you walking through*

	that door, ""Did you get a license? You gotta address? Do you got a bank account?"" You just walk through that door.
Participant 2:	*The rich and the famous, the poor ...*
Participant 1:	*Yeah, everybody. Elderly, the homeless ... You could be high and rich, but when you get through you coming on right on down with everybody else.*

The participants appeared to also value the many non-gambling activities offered by the casinos. These include affordable food, spa facilities, and other forms of entertainment such as live music. In fact, some participants indicated that these non-gambling activities were additional incentives for them to visit casinos:

> *"[Las Vegas is] the best place to go eat because breakfast will cost you $100 in some nice restaurant there. So, those casinos have the best food for reasonable [prices]."*

Thrill-Seeking or urge reduction

The rush of winning, buying a new ticket, and waiting for the winning lottery numbers to be announced were all described as part of the thrill or urge reduction that many participants experienced.

> *Say we're doing the lottery and the number comes up, you hear this it just says oh my God, my number is here. So you look at your number, you like "Damn, I got all this money. I can't even go to sleep. The rush is like…What we gonna spend it on? Scratch tickets bought them, well later you broke.*

Participants also pointed to the sensorial experience of the casino environment—persistent sound of slot machines and bright lights—as a contributor to their motivation to gamble. Some participants thought that these features were intentional tactics used by casinos to lure them into an alternative reality with no clocks, no windows, lighting, and drinks:

> *You know how the machines don't have horns anymore. They have the sound of horns, but they don't have horns. They ain't foolin' nobody!,*
>
> *Have you ever noticed when you walk into the casino, those machines that got the lights going, the beautiful lights going all over the place and that's sort of like a movement of psychology that they're drawing you in there*
>
> *And that person bringing that drink over to you and that drink telling you "you could put a little bit more in there."*

For some participants, the thrill of gambling is framed in terms of addiction. They gamble to appease an urge.

> "*it's kind of like when you drink alcohol, you need more of the alcohol to achieve the same high, for example. So with gambling, do you need to gamble more, put more money in, to be able to achieve the same level of happiness, excitement, thrill, whatever it is that you do."*

The role of religion in gambling

Religious beliefs appeared to play an important role as both a catalyst and a deterrent to gambling among participants. For example, participants described praying to God for good luck so they could win and solve financial situations and also praying so they could stop gambling. The following quotes illustrate these views:

Praying to win:

> *The last time I bought scratch tickets was when I was really stressed. I needed money for my Christmas spending, finish up my Christmas shopping. So I really, I said, "Lord, I don't have no money." And the spirit said to me, "Go straight to [inaudible 00:10:15] and buy two $10 scratch tickets." That's what I did. I needed $500. And I haven't played since.*

Praying to end problem gambling:

Facilitator:	***If you have a friend that had problem gambling, where would you send him or her for help?***
Participant:	*Well, myself, personally, I got delivered by God, and I prayed my way through, you know*

> *"You don't need no program if you seek God, cause he can take away everything. He's the all in all."*

> *"that woman that came to my church- she was addicted to drugs in the streets. We prayed and prayed. She came in here and today she is clean, 10 years later."*

> *"I started going to church and then I got delivered."*

Problem gambling: trajectory and negative consequences

For many participants, problem gambling began with lottery games such as the daily numbers. Playing those games led to obsessive/compulsive urges to play every day as they were haunted by the thought that if they miss playing one day, their number would come up. Those obsessions

were manifested in their daily activities. For example, things like a peculiar license plate number, a sign, a picture, a conversation could trigger thoughts of a specific number that they must play.

Participant 1: ***Just when we were coming here, I was looking license plates saying, "Ooh, look at that number. I was like five-five-six-six. I said, "Ooh, I'm gonna play that five-five-six " crosstalk 00:40:43] for like, four minutes. Smoking a cigarette. I was like, "Ooh, that number, that number." [crosstalk 00:40:52]. We saw my daughter's father, his birthday is 05/06. And he …. And I'm telling her, I'm like "Here's six times with the same number. That's when we was coming in.")***

Participant 2: *I'm gonna play five-five-six-six.*

Dreams also featured prominently in the discussion of problem gambling. A dream would often result in the selection of a number or a justification for playing, as this exchange among focus group participants illustrates:

because I know when I used to gamble, you know, I used to, you know, dream up dream number, and you play it.
Participant 3: (Laughs). Yes, sir.
Participant 4: You dream a number, and you-
Participant 3: Yes, sir.
Participant 4: And all this nonsense about dream numbers; you know what I mean?
Participant 3: Yes, sir.
Participant 4: So, you hit it then. You know, you write dreams on the wall, and every number you see, "Oh, that's a good number," and you- and you play it; you know what I mean, and you lose out, you know.

Participants were very aware of the effects of problem gambling on anyone's life. They correctly identified a host of conditions associated with problem gambling including: the weakening of social networks, divorce, job loss, financial difficulties, mood swings, and depression. Among the list of problem gambling issues that most affected them, borrowing money was number one. The need to constantly "beg" for money creates social alienation and family disruptions:

"So I borrowed and you borrow, and now you got a debt here, you still gotta debt ... it gets worse. And now you can't pay back their part…You burn your bridges. You borrowing from everybody. People see you coming, they don't even wanna open the door, let you in to give you no bread and water no more. They don't want you to visit. They know you coming to beg."

One participant discussed the negative impact that gambling had on his family:

"when you start gambling, you know, and when you really get addicted to it, you'll spend your last without even thinking about the need of the family…and my family suffered for that…that was damage to the family"

Participants described past experiences that led to homelessness, losing money for essentials such as food and rent and even destruction of relationships with kids and families.

You wouldn't even know it. See, nobody knows my business. I keep it to myself, but I deal with it on a day-to-day basis. I didn't just lose money, I lost children, I lost my home, I lost everything by hiding my gambling too. That's a horror story. You wanted one, I gave you one.

Yet, there is an even more horrific story.

Facilitator: Annie, you mentioned that there is a group of people, seniors, that are getting into trouble. That sometimes they play out their whole check their whole-

Annie: And eat dog food for the rest of the month. [crosstalk 00:15:36]

Facilitator: You say that literally or figuratively?

Annie: I know this as a fact.

Help-Seeking Behavior

Problem recognition is critical to triggering help-seeking behavior for problem gambling. However, participants indicated that self-awareness of problem gambling is not easy and it differs from one person to another. While others may see a problem, the gambler may not admit to it. This is how a participant described the kind of gambling that calls for an intervention:

When they don't pay their bills. Yeah, you get taking money from Paul to pay Peter and you're still trying to get back there. Then, in my eyes, that's a problem, but for that person ... Just like some people who are addicted to drugs. When they started out it was because it made them feel good and they felt something that they hadn't felt before. So, now you continue that pattern and now they're addicted to this drug because they're chasing that high that they had in the beginning. Same thing. When you look at them on that line, it's the same thing. But then when does it get to be too much?

Others participants reflected on the subjectivity of defining problem gambling and the need to seek help:

the question is, when does it become a problem? Is it when you go once a month?...Or is it when you go four times a month?...I put $200 in my pocket and if I end up losing it, I lose it…it's not my rent; it's not my food; it's not my electric bill."

According to participants, the point at which people seek help for problem gambling is *"different for everybody, but it usually comes after a loss,"* particularly extreme financial hardship:

> *…. about someone might be living out their car…if they lost their home, they lost their job, but they're scrapping to just go to that casino. They still trying to get on the bus with everybody else; they are living on the streets basically."*

There are barriers that deter individuals from seeking help for problem gambling. Stigma, for instance, was described as a barrier to taking the initiative to seek help. At one point in the focus group discussions, the moderator asked, "if you were to develop services to help people address gambling problems, what do you think these services should be?" Consistently, the participants recommended avoiding the use of the "gambling" label and instead offering help to tackle financial difficulties or family disruption as the pathway to addressing gambling behavior because the use of specific gambling language triggers feelings of embarrassment and shame.

> *"there's a lot of…alcoholics, drug addicts that know they have a problem, are ashamed of their problem. Some don't even know where to go, but because of a shame of it, and it's the same with gamblers."*

> *Drugs, gambling, it's the same. And so if you have that drive, like they say, drive to go and get some help, well there' a lot of people, alcoholics, drug addicts that know they have a problem, are ashamed of their problem. Some don't even know where to go. But because of a shame of it and it's the same with gamblers. They know they have a problem. Yet, they continue to go gambling and gambling and gambling.*

> *… black people have a lot of pride. Look I already know somebody now who's already too prideful to attend the gambling anonymous meeting.*

Denial is another obstacle to seeking help:

> "*You can lead a horse to water, but you can't make it drink…If you don't choose to sit down and admit to yourself…that you've got a problem, you ain't getting nowhere. Until you break that chain in that circle, there's nothing that's going to change."*

> *Sometimes there's not a lot that you can do. Because when they're in that zone, they're in that zone and they're not gonna hear you so wait.*

Finally, participants also recognized that problem gambling is sometimes accompanied by other problems, such as mental health issues:

> *…you're depressed, you've got anxiety and stuff, you're not going to be... you're not going to think right. So if you get yourself in a hole and you get in your right mind, I'm not depressed if you're not depressed or a person has a lot of anxiety, you might be able*

to pull yourself out of it, forget about that, and go and find yourself a job, if you lost your job and you might... you know, you can sort of pull yourself up. But if you let yourself get down on a hole and bad health, you got that to worry about, then you got to worry about the other problem, too.

Gambling at casinos

Participants were asked to share their experience gambling at casinos, and they immediately described how casinos entice people to gamble more: no windows, thrilling sounds, free drinks, no clocks, lighting, etc. Terms such as "a setup, a ploy, a trap, demonic, and a classic plantation scenario" were used by participants to describe casinos.

When asked about their experience of gambling at casinos, participants described adopting various strategies to manage the amount of money they spend gambling. For example, they would place a limit on wins, set aside a certain amount of money for gambling, or rely on a gaming strategy. This is how one participant described his strategies:

you usually just start off with five dollars or ten dollars. When you hit, then you start putting more. you know, the machine will pay you back. And each time, you... you don't stay at the level but you have a certain... most everybody has a concept of how much money you wanna spend before they go there. Some people can stay on their limit and adhere to it really well. Others like me who will win and say I'm putting it in this pocket. I'm not taking it back out, but then again... (unintelligible 6:37) through and I say if I just throw a hundred more dollars at it I might catch a five hundred or...

Another participant turns to other activities once he reaches his gambling money limit:

And whatever I have in money. And I have $200 limit, that's it. Once it's gone, and $200 can be gone in 20 minutes. And once it's gone ... I can literally go to the casino for three hours. Most people would say, "Why are you wasting your time?" Because I have eaten and I have used my $200.

Other participants stretch their money to prolong their game time at slot machines:

.. I would stay on 30 or 40 cents while she would hit the $3 button. But, she generally, she'll win. But once my $200 dollars is done, I'm done, which could be done in 33 minutes. So, I could be ready to go in an hour because I could lose the 200 and eat in a half an hour, it's done.

A participant shared the strategic advice on how to play at slot machines that he once received from a fellow gambler:

"*…you have to pay the machine. Which means you're gonna have to put some change in it. You gotta put your money in and eventually, at some point, it's gonna release because you just put in $50. It behooves the casino to give you something back so that you could come back".*

The participants also reported involvement in other gambling activities such as playing scratch tickets, keno, the numbers, and street games. The textbox below shows an exchange describing street games. In the past, the participants used to have dice games and Three Card Monte; they pointed out that those activities were part of the community fabric.

A dialogue on street games

Participant 1:	*... shooting craps, but there was another game?*
Participant 2:	*Right. The same- the same thing, but- but it used three dice instead of two.*
Participant 1:	*Three dice.*
Participant 2:	*But it was, like, a community thing. All the guys came on the corner that day; you know what I mean? And- and they would- they would play- they would play that kind of ... they would do that kind of gambling, and it was, you know, basically the same people every day. So, it was, like, a- like, a little group.*
Participant 1:	*And you don't see guys doing ... now, as the weather breaks, you may find a couple of games like that, you know.*
Participant 2:	*Different spots, you know.*
	Mm-hmm (affirmative).
Participant 1:	*But now, it's ... you know, it's too cold to be out there, and they're only taking the dice and bumping against the wall, and there's about 70 guys standing around with money in their hand, and you know, but now it's a little too cold to be outside.*
Participant 2:	*Alright. Here ... for instance, here ... the basketball courts, over here- Okay.*
Participant 1:	*In the summertime, there's cards, there's people that you may get two or three guys to come out, and they always keep some dice in their pocket. They always wanna gamble, and they got a few dollars in their hand, and there's two or three of them playing. Then, all of a sudden, you'd see another guy come over, and another one come over. "Hey, man, bet $10 dollars here." Boom. There you go, and then, you'll have a crowd, you know. Speaker 1: Mm-hmm (affirmative).*
Participant 2:	*And they gambling back and forth, but it's not a big thing anymore, you know.*
Participant 1:	*They used to have after hour places*
Participant 2:	*Right. Yeah.*
Participant 1:	*You know, in the neighborhoods. Right. That you can go to after hour place, and they would have a- a, you know, a table that they built, put wood on it, all peace signs or something like that, and down here, a guy gets the dice and he throws them from there; or a guy could be over on this side, and it's, "Okay. Next shooter," and it goes around this way. You gotta turn the dice over to him over*

	here, he puts his money down. "Oh, I bet $21." "No, I bet $51." The dice hit.
Participant 1:	*And then it would be Card Monte.*
Participant 2:	*Three card Monte. Yeah. Those games and the- and the cups, and the- and the- Speaker 3: The ones with the cups, that's ... and then, like you say, you got this three cards, and the guy's got two in one hand and one over here.*

The participants said that such community structures were lost once the lottery and casinos arrived. In the words of a participant: "*Casinos came in and messed it up."*

Views about Casinos in Massachusetts

Participants identified positive and negative aspects related to the presence of casino gambling in Massachusetts. Among the positive contributions was the business associated with tourism.

> *Oh yeah. I think it's gonna be a little more positive, because anything that brings money to the general area is always a plus. You got tourism, you know, for the hotels, restaurants, and the shows that are gonna be there. They're gonna attract money, and when people ... and when there is an area where entertainment is- is available, there's gonna be money, and- and- and not only that. The powers that be are gonna upgrade that general area. So, it's gonna be better for the community around there.*

Casinos were also viewed as contributing to the local economy. They would attract people looking for entertainment, and in turn, people looking to spend money, stay in hotels, eat in restaurants, and explore the area.

The participants also want to see the casinos create opportunities for local residents and invest in the growth of the surrounding area's infrastructure.

> *"Come back and build some affordable housing for people in the neighborhood that grew up and that was born here."*

A participant acknowledged that since people are going to gamble anyway, the revenue should stay in Massachusetts instead of going to other states:

> *"First of all, we won't have to take any buses and ride all the way to Connecticut or to Rhode Island, ok. and people are going to gamble, which they are going to do. You might as well keep the revenue right here in Massachusetts, ok. They'll be doing the same thing they have hotels, they have restaurants, and all that stuff. So why take the money out of Massachusetts and give it to the other communities like Rhode Island and Connecticut and just stay right here."*

Participants were also hopeful that casinos will provide much needed employment opportunities to the community. One participant stated:

"I got super excited when I heard the news as a black person struggling to get a job in the city. It's really, really hard…different ethnic groups will come in and get the jobs before us… maybe this will help us economically, the black community, to find employment."

However, participants were cautiously optimistic about these potential benefits given the long history of racial discrimination. They were concerned that many African American residents will suffer discrimination:

Participant 1:	***And I bet you, a black man with a high education, has the background to run the financial department, and a white man comes in there with the same qualifications, the white person gonna get it.***
Participant 2:	*Alright.*
Participant 1:	*That's it, that's the way of the world.*
Participant 2:	*But me? I'm gonna go to school and make a difference.*

A participant was concerned that casino marketing would place more emphasis on encouraging folks to play and ignore the announcement of job training and opportunities.

"And my only concern is, you know, how is this thing going to be marketed? Because I would hate for ... you know, you see the MBTA buses in our neighborhood promoting more the opportunity going gamble before it does the opportunity of going to work at the casino, and so, it's almost like we're being set up to fail, anyway, you know.

There's expectation that maybe we're too dumb. Okay. And that's all we wanna do. So, we get targeted that way, but then there's no effort to target the economic opportunity to go to work, and work at the casino."

Negative impact of casinos and gambling

Participants mentioned four main concerns or examples of how casinos could adversely impact the community: increase in crime, social services, gentrification, and weakening of community ties. Please note that concerns about crime and gentrification were mostly mentioned by focus group participants in Springfield.

Crime

Participants from Springfield believe that law enforcement resources are going to be diverted to secure the area around the casino and this is going to result in an increase of criminal activity elsewhere:

"I don't think that there's gonna be a lot of crime in the vicinity of the casino, because with that type, they'll have a lot of security. So, whatever's done will be done away from the casino."

A Chelsea resident indicated that the casino in Everett will increase the burden on the Chelsea police.

Chelsea's got 112 police officers right now we have on the police force. 112 police officers are not out there working 24/7 for us. There are some nights, weekends especially when you may have four police officers on midnight shifts. Out of 112 you may have four cops out here. People don't know all that. So when you get the casino next year in Everett, the crime's gonna go even higher in our city.

A participant was concerned about the casino attracting criminals who will prey on its visitors.

"You have the have, and you have the have not. You have people ... You're going to have people that's going to be on front of the scene looking for change, you're going to have jack boys looking for loose women. You're going to have people that rob casinos, rob patrons. And personally, what I feel about it, that it would probably be higher arrests, with all the police. And you have all this tourism stuff already, you're going to deal with the city being more congested, more out-of-towners, foreigners."

Social Services

The current opiate crisis has taxed social services even more and participants worry that casinos are going to create an increased need for these kinds of services.

There's a lot of issues we have in this community. The opiates rapid high, there's not a lot of money that's in our community, especially the black community, to get the services. So at least I know for me, I didn't want this casino to come.

Gentrification

The issue of gentrification also arose when discussing the economic impact casinos would have. Participants were concerned about rising rent prices that are subsequently pushing them out of their communities.

Participant 1:	***I can see where something was now, I can see the whole gentrification of neighborhoods.***
Facilitator	*Gentrification?*
Participant 1:	*Yeah, I can see just because a casino come into town, the town of Springfield, property value is about to go up all around there.*
Participant 2:	*Oh yeah.*
Participant 1:	*Up and down, the property value about to go up and down, that means people who've got an apartment down there by the Fayette building about to be sky-high. They're about to turn around and turn those into condominiums, and it's about to be ...*

Weakening of community ties

Closely related to gentrification is the disruption of community ties. Places where neighbors can play Keno or Lotto create opportunities in the community to foster social interactions. Going to the store on a daily basis to get the numbers or scratch tickets, greeting the regulars at the store or Keno parlor, and catching up with peoples' comings and goings creates a sense of community.

> *"When I go into the store in Dudley, a lot of people that come in there. I know them just by coming in, you know, just "Hey, how you doing?" You know, "How's your luck going?" "Oh, not too good," you know. …. "I missed a number because I didn't play it," you know."*

According to a participant, the Keno and lotto places "*will be dead*" due to the casinos. He reasons: "*…for $5 dollars I can play 25 times in a slot machine or buy five $1 scratch tickets, with free alcohol…it is a no brainer!* "

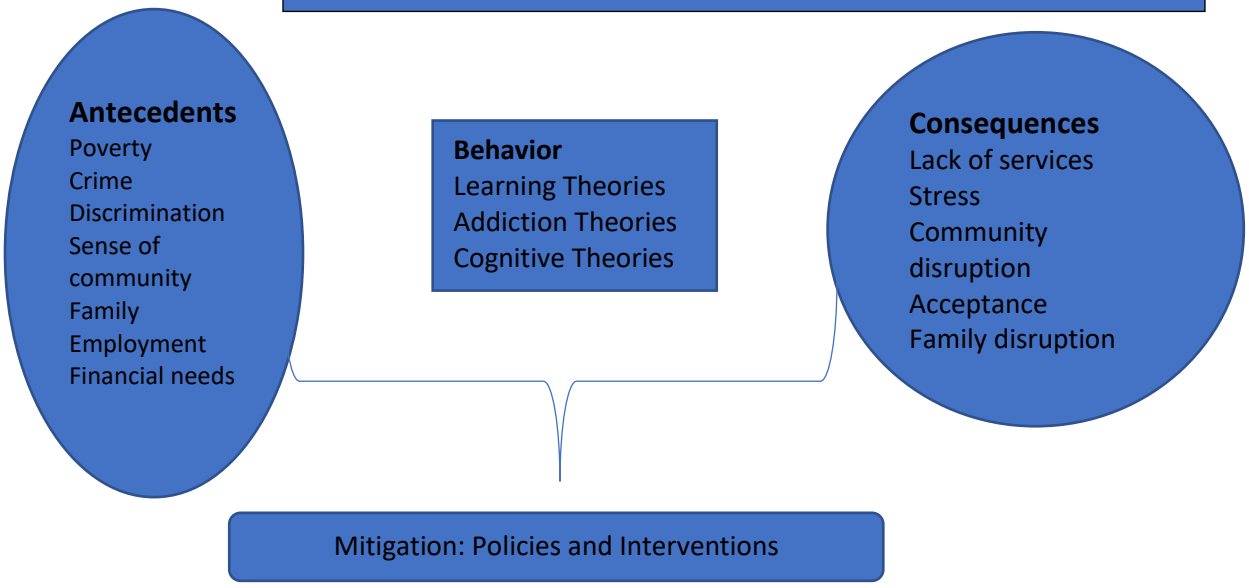
Consequences of at-risk and problem gambling among African Americans

The adverse impact of gambling among participants is not much different from that reported in the research literature. Similar to another study, participants reported a host of negative consequences associated with problem gambling, including divorce, bankruptcy, homelessness, losing money intended for living essentials, such as food and rent, losing key elements that help them to gain their livelihood (e.g., car, jobs), and social (and family) isolation (Nower, Eyrich-Garg, Pollio, & North, n.d.). Reliance on family and friends is a coping mechanism for the poor. Thus, to be disconnected from their social network augments the negative consequences of problem gambling. Unsurprisingly, participants identified depression as another negative product of problem gambling.

Discussion

Gambling can be seen as an event that contains Antecedents (e.g., poverty, crime, discrimination), Behaviors (e.g., gambling), and Consequences (e.g., stress, divorce, community disruption)—the ABCs of behavior (see Figure 1). The body of knowledge created by the SIEGMA Team provides ample insights into part B, that is, the prevalence, frequency, and type of behavior. However, information on the contextual Antecedents, and Consequences of gambling, particularly among African Americans, is lacking.

Figure 1. Antecedents, Behaviors and Consequences of Gambling



Similarly, leading gambling research models in the field, (i.e., learning, cognitive, addiction), do not fully take these antecedents and consequences of gambling such as motivations to gamble, financial need, or coping with stress, into account.

Findings from this study denote the importance of these antecedents and consequences of gambling behavior. Taking place and context into account helps to achieve a clear understanding of factors influencing problem gambling among African Americans in Massachusetts. Such findings could inform the development of effective strategies to prevent and treat problem gambling behavior. For example, participants alluded to many examples of antecedents, such as poverty, crime, discrimination, family dynamics, and financial need. Positive consequences of gambling were also shown, such as the feeling of being accepted in a place where they do not feel discriminated against, and the recreational offers of casinos. Negative consequences included the burden that problem gambling may bring to already overburdened services and disruption of community and family ties. A possible intervention calls for the inclusion of community and family components. The African American community is disproportionally

exposed to a barrage of daily stressors such as crime, poverty, poor health, and homelessness. The effect of these conditions is greatly ameliorated by their family and the fabric of the community. Family and community ties thus appear to serve as a protective factor that could be incorporated when developing interventions or outreach efforts.

A more contextual approach may shed light on the reasons why African Americans gamble less but have over four times the prevalence of problem gambling as Whites.

Limitations

This was an exploratory, qualitative study based on five focus groups. The main limitation of this study is that the sample was overwhelmingly older and female. Perhaps that was due to the reliance on community residents to serve as recruiters. They perhaps focused their recruitment efforts on friends and neighbors that mirrored their sociodemographic profile i.e. females over 50 years of age.

There is a dearth of knowledge about gender-differences among pathological gamblers given that most research has been conducted with male gamblers. This study runs opposite to that trend in the sense that the majority of participants are females. For that reason, in interpreting these findings we need to take into account the little that is known about gender differences in pathological gambling. González-Ortega and his colleagues point to these differences: 1) female gamblers tend to be older than men, 2) are more likely to be divorced or widowed, 3) have a lower annual income, 4) are more anxious and have poorer self-esteem than male gamblers, and 5) are more affected by depressive symptoms. They reported no gender differences with regard to the motivation for treatment.

The authors acknowledge the following limitations:

- These findings are based on a small number of participants and are not generalizable to the Massachusetts' African American population.
- The analyses were not stratified, that is, participants were not selected a priority into categories such as gender and age.
- The JSI Team tried a variety of recruitment strategies (e.g., flyers, recruiting through organizations) unsuccessfully and was finally successful when they enlisted a member of the community to help in recruiting.

Recommendations

These findings are relevant to the goals of the Massachusetts Gaming Commission in a variety of ways. First, any intervention to outreach, educate, or treat gambling problems should recognize that many play out of need, that is, to escape poverty. This also runs counter to casino marketing efforts that highlight their entertainment value and intervention approaches that promote healthy gambling.

Second, many African Americans are family and community oriented. Thus, outreach efforts should use principles that play on the notion of communalism, that is, that highlight family

strengthening and community values. Outreach messages and interventions should be constructed in a way that fosters a sense of community.

Third, some participants view the casino environment as egalitarian. They perceive that it is welcoming, embracing, and discrimination free. However, the institutional or business aspects of the casinos are viewed in a different light. Some participants, for example, were afraid that the most talked about employment opportunities will not materialize and that those opportunities, if available, will be for low paying positions. One approach to address this discrepancy would be to align the marketing efforts that promote the entertainment aspects of casinos with those that highlight their corporate values. Residents need to see the added resources and opportunities that casinos bring to the community and how they could be accessed.

Fourth, there is a demand to increase mental health services for African Americans and to form a workforce capable of dealing with issues of stigma and shame in a culturally competent framework.

Fifth, participants noted the lack of mental health services in the community. It is not clear whether services are non-existent or they exist but the African American community is not aware of them. If the latter is the case, then the need for a culturally competent social marketing campaign to promote those services and resources should be ascertained.

Sixth, residents will need reassurance that the safety of the community will be guaranteed far beyond the geographical boundaries of the casinos.

Finally, regarding future research, the field of gambling studies could benefit from a mixed method research approach to conduct an in-depth examination of contextual factors in general and social determinants and their impact on gambling on African American communities.

In conclusion, African Americans in Boston, Everett-Chelsea, and Springfield are hopeful about the new casinos. Their hopes are grounded on the promises made about new job opportunities, monies, and resources to their communities. They are also weary of the potential negative effect of casinos in their communities and indicated that they lack the resources to mitigate their impact (e.g., they called attention to the lack of social services, the already burdened police force, and the scarcity of affordable housing).

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JSI RESEARCH & TRAINING INSTITUTE, INC.

CASINOS & GAMBLING IN MASSACHUSETTS: AFRICAN-AMERICAN PERSPECTIVES

A report submitted to:

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Purpose

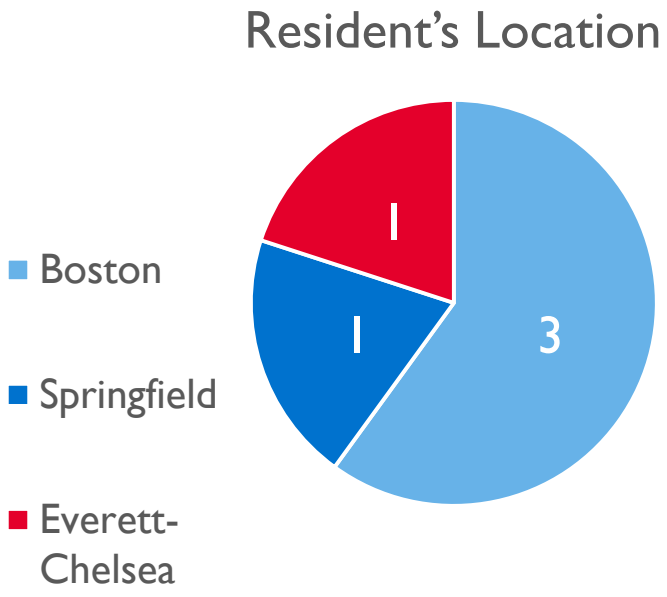
Conduct an exploratory qualitative analysis describing the main themes, concerns, and perceptions regarding gambling and casinos among African Americans in Massachusetts

Complement SEIGMA's quantitative findings related to gambling among African American residents in Massachusetts

Explore environmental and contextual factors that might influence gambling behavior of African Americans

Method

JSI conducted five focus groups with African American participants (N=49) between November 2017 and April 2018.

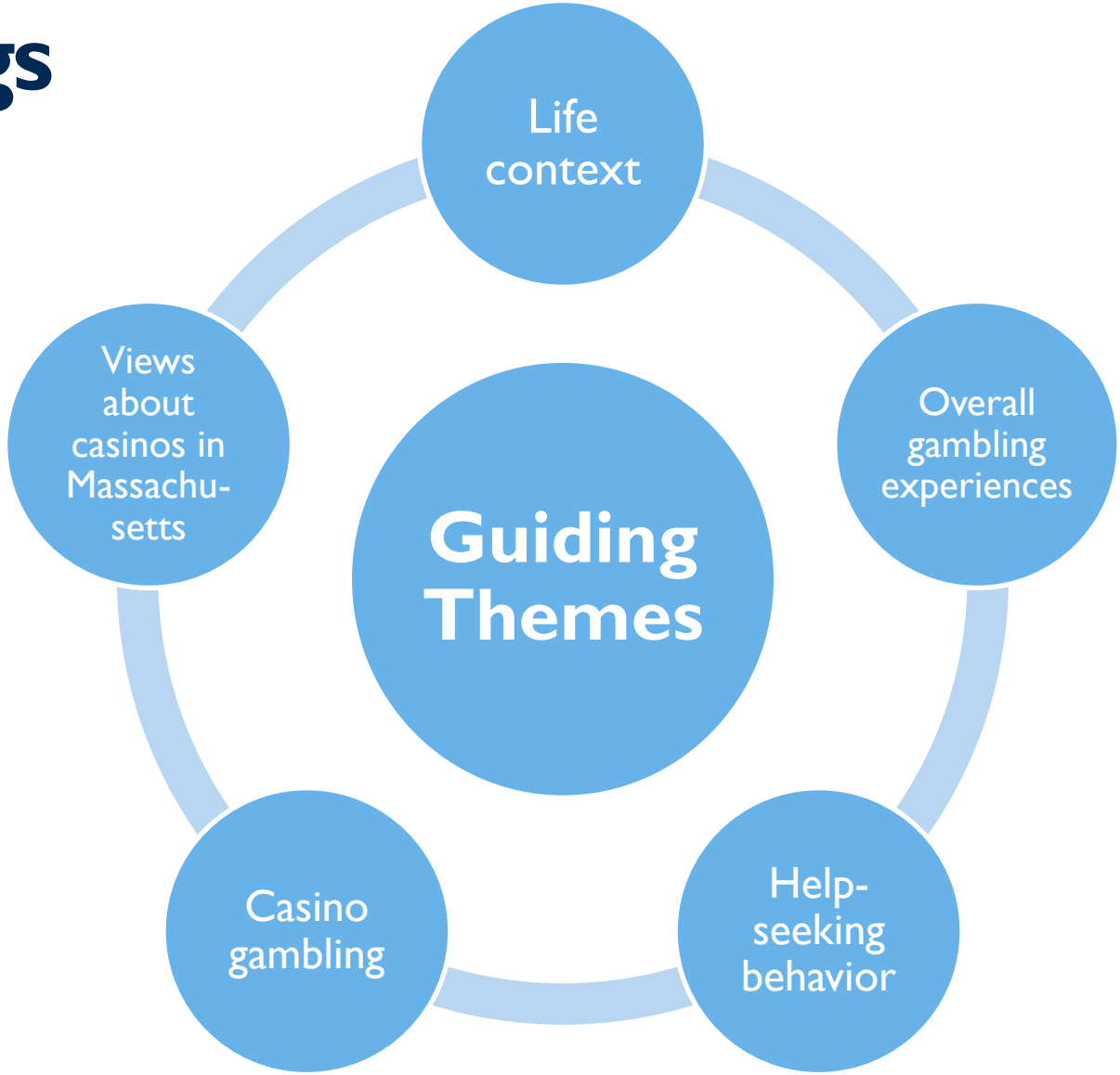


Method

All participants completed an intake survey comprised of basic socio-demographics and the Canadian Problem Gambling Index (CPGI), which we used solely as a screening tool.

Findings

Findings


Life context
Overall gambling experiences
Help-seeking behavior
Casino gambling
Views about casinos in Massachu-setts
Guiding Themes

Findings

Life Context

Participants described their communities as

- being impoverished
- lacking employment opportunities
- in need of social services

to address mental health and substance abuse problems.

Findings

Need of social services

"We don't have that in our community, we always have to go out to the white community to get that, you know? You know what we really need here too? We need treatment beds. We need our own detox. We need a women program."

Findings

Religion

"You don't need no program if you seek God, cause he can take away everything. He's the all in all."

Findings

Overall gambling experiences

Problem Gambling:

Participants' motivation to gamble include:

financial need
recreation
thrill-seeking

(which can be interpreted as urge reduction)

Participants' trajectory to problem gambling was described as involving playing lottery games compulsively and obsessively.

Findings

Overall gambling experiences

Problem Gambling:

Participants reported a host of negative consequences associated with problem gambling including:

- **Losing money intended for living essentials, such as food and rent**
- **Losing key elements that help them to gain their livelihood (e.g., car, jobs)**

Divorce

Bankruptcy

Homelessness

Mental Health Issues

Social (and family) isolation

Findings

Mental Health

"You wouldn't even know it. See, nobody knows my business. I keep it to myself, but I deal with it on a day-to-day basis. I didn't just lose money, I lost children, I lost my home, I lost everything by hiding my gambling too. That's a horror story. You wanted one, I gave you one."

Findings

Help-seeking Behavior

Shame and stigma deter individuals experiencing problem gambling from seeking help or accessing and utilizing services.

> This seems to be related to the fact that treatment for problem gambling is usually delivered by mental health service providers and seeking mental health services is highly stigmatized.

Participants highlighted the need of mental health services in their communities.

Findings

Casino gambling

Overall, participants are aware that casinos are purposely designed to entice people to gamble more.

- They used terms such as "a setup, a ploy, a trap, demonic, and a classic plantation scenario" to describe casinos.

Findings

Views about casinos in Massachusetts

Participant's concerns about the community:

- Casinos hamper opportunities to interact with neighbors.
  - e.g. playing Keno at a game parlor, buying scratch tickets, street games, etc as they would force the corner stores and parlors to close
- Gentrification in Springfield:
  - They worry that the presence of casinos will increase both property values and taxes, thus, pushing them out of the area.

Findings

Views about casinos in Massachusetts

Participant's concerns about the community:

- Casinos will bring new types of criminal activities and attract new criminals to the community.
- Impact on the drug epidemic in their communities
- Police departments are overstretched.
  - They wonder if current law enforcement staff will be able to absorb their additional responsibilities.

Findings

Views about casinos in Massachusetts

Participants view the advent of casinos as both positive and negative.

Their positive views regarding casinos are related to casinos' potential to create new jobs and other economic opportunities.

The negative aspects associated with the presence of casinos relate to concerns that already exist within the participants' communities:

- **crime, drugs**
- **gentrification**
- **the dissolution of community ties**

On racism

Participant 1: See, a lot of people don't know if you homeless or if you poor or if you rich, or if you whatever,

Participant 2: They don't discriminate. They do not.

Participant 1: Yeah they don't screen you walking through that door, ""Did you get a license? You gotta address? Do you got a bank account?"" You just walk through that door.

On racism

Participant 1: And I bet you, a black man with a high education, has the background to run the financial department, and a white man comes in there with the same qualifications, the white person gonna get it.

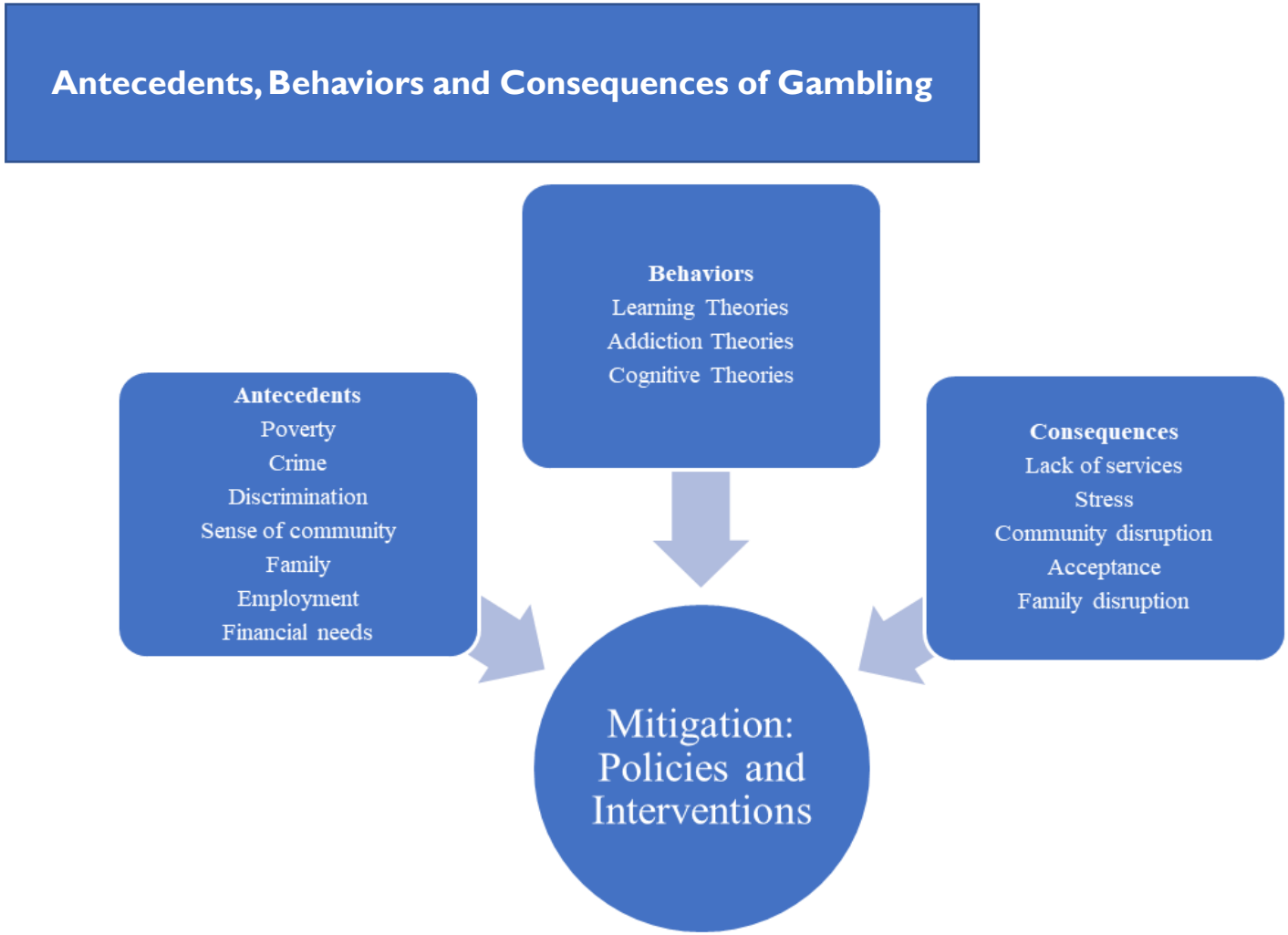
Participant 2: Alright.

Participant 1: That's it, that's the way of the world.

Limitations

- Small number of participants
- Participants are not generalizable to the Massachusetts' African American population.
- Analyses were not stratified
  - Participants were not selected a priority into categories such as gender and age.

Conceptual Framework



Recommendations

Recommendations

Exploratory qualitative study was not intended nor expected to generate final research conclusions.

Interventions & Outreach should focus on:

- ❑ **Community value**
- ❑ **Bringing Value to the Community**
- ❑ **Increased Services and Safety**

Recommendations

Interventions to outreach, educate, or treat gambling problems should **recognize that many gamble out of need -** to escape poverty.

This also runs counter to casino marketing efforts that highlight their entertainment value and intervention approaches that promote healthy

Recommendations

Community Values

Many African Americans are family and community oriented.

- Efforts should use principles that play on the notion of communalism - highlighting family strengthening and community beliefs.
- Outreach messages and interventions should be constructed in a way that fosters a sense of community.

Recommendations

Bringing Value to the Community

Align the marketing efforts that promote the entertainment aspects of casinos with those that highlight their corporate values.

- Residents need to see the added resources and opportunities that casinos bring to the community and how they could be accessed.

Recommendations

Increased Services & Safety

Fourth, there is a demand to increase mental health services for African Americans.

- The workforce should be capable of dealing with issues of stigma and shame in a culturally competent framework.
  - **The need for a culturally competent social marketing campaign to promote those services and resources should be ascertained.**

Recommendations

Increased Services & Safety

Residents will need reassurance that the safety of the community will be guaranteed far beyond the geographical boundaries of the casinos.

Recommendations

The field of gambling studies could benefit from a mixed method research approach to conduct an in-depth examination of contextual factors in general and social determinants, and their impact on gambling on African American communities.

CONCLUSIONS

Findings presented here highlight the importance of including place and context to help achieve an encompassing understanding of factors anteceding gambling, gambling behavior, and consequences among African Americans in Massachusetts.

Conclusions

Participants are hopeful about the new casinos.

Promises made about new job opportunities, monies, and resources to their communities.

They are also weary of the potential negative effect of casinos in their communities and indicated that they lack the resources to mitigate their impact

e.g. the lack of social services, the already burdened police force, and the scarcity of affordable housing.

Conclusions

As the Massachusetts Gaming Commission moves forward with its research agenda, the recommendations presented here should be incorporated in the design and implementation of future community-focused research initiatives.

Lesson Learned

The impact of problem gambling on communities of color cannot be understood without the engagement and involvement of its members. The best approach to do so is by offering a seat at the table and creating meaningful partnerships with key leaders and organizations of said communities.

Screening for Gambling Disorder in VA Primary Care Behavioral Health: A Pilot Study

October 31, 2018

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VA NEW ENGLAND VISN 1 MIRECC
VA HEALTH CARE Defining EXCELLENCE in the 21st Century
VA U.S. Department of Veterans Affairs
Veterans Health Administration
Edith Nourse Rogers Memorial Veterans Hospital

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About the VISN 1 New England Mental Illness Research, Education, and Clinical Center (VISN 1 New England MIRECC)

The VISN 1 New England Mental Illness Research, Education, and Clinical Center (VISN 1 New England MIRECC) was established in 1997 and has two locations: (1) VA Connecticut Healthcare System—West Haven Campus; and (2) Edith Nourse Rogers Memorial Veterans Hospital in Bedford, Massachusetts. The mission of the VISN 1 New England MIRECC is to improve mental health treatments and access to services for dually diagnosed Veterans who have mental health and addiction issues. The center's work focuses on Veterans with co-occurring addictions and mental illnesses as well as related issues such as VA-compensated disabilities, homelessness, criminal justice histories, and medical co-morbidities. We aim to: (1) better understand the prevalence and consequences of co-occurring addictions and mental illness; (2) improve the treatment of dually-diagnosed Veterans by developing innovative new treatments; (3) devise more effective ways to deliver established treatments; and (4) create more effective programs by training VA health care professionals in therapies with proven efficacy.

Acknowledgements

Support for this study came from the Massachusetts Gaming Commission under BD-17-1068-1068C-1068L-13699 establishing one-year funding for the Study of Gambling Behavior among Special Populations in Massachusetts. This project was competitively bid via the Massachusetts Gaming Commission Request for Response (MGC-RPG-2017) in April 2017. The project has the support of the VISN 1 New England MIRECC and Dr. Charles Drebing, PhD, the Mental Health Service Line Manager for the Edith Nourse Rogers Memorial Veterans Hospital. An additional thank you is expressed to Dr. Patricia Sweeney, PsyD, for her feedback on the drafting of this report. We are especially grateful to Mr. Mark Vander Linden, MSW, Director of Research and Responsible Gaming at the Massachusetts Gaming Commission, and Marlene Warner, Executive Director for the Massachusetts Council on Compulsive Gambling for their support of this project highlighting gambling disorder among U.S. Veterans.

Executive Summary

- This report summarizes findings from a pilot study initially designed to assess the utility and feasibility of using the Brief Biosocial Gambling Screen (BBGS) for detecting gambling disorder among Veteran patients seeking mental health treatment services in a primary care medical setting at the Edith Nourse Rogers Memorial Veterans Hospital (Bedford VAMC) in Bedford, Massachusetts.

- Two hundred-sixty Veterans were assessed for gambling behaviors between November 1, 2017 and September 15, 2018 in the Bedford VAMC Primary Care Behavioral Health clinic where Veterans were generally seen for depression and anxiety-related problems. Eighty-five Veterans (32.7%) reported gambling behaviors within the past 12 months. The most common gambling behaviors were traditional lottery (25%), instant lottery (scratch tickets) (31%), and playing cards (10%). No significant differences were found between Veteran gamblers and non-gamblers on demographics, medical, or mental health co-morbidities collected in the study.

- Out of the 85 past-year gamblers, five Veterans (5.9%) screened positive on the Brief Biosocial Gambling Screen (BBGS) and endorsed problems associated with gambling. Three of the five Veterans met full DSM-5 criteria for gambling disorder. Across the 260 Veterans screened in this study, the estimated prevalence of problem gambling was 1.9%.

- The Veterans with gambling disorder were white men with reported histories of anxiety, depression, or post-traumatic stress disorder (PTSD). In addition, all three Veteran problem gamblers were experiencing issues with current suicidal ideation. These results suggest that problem gambling has profound negative effects on Veterans.

- Given the apparent association between gambling disorder and suicidality in this study, there is a need for further research to better understand this association and develop improved strategies for increasing self-disclosure of problem gambling among Veterans, particularly because they may also be at risk for suicide.

- We recommend that future research employ a mixed-method design that uses focus groups to identify barriers to Veterans seeking help, particularly among Veterans

and active duty personnel who are concerned about disclosure of problem gambling-related issues. Additionally, we recommend that future research use a focus group approach to interview VA health care providers, Veterans, and their family members to identify strategies for increasing Veterans' engagement with problem gambling treatment who need it. Specifically, results from this study suggest that self-disclosure of problem gambling among Veterans, as well as outreach efforts by VA health care providers, could serve to increase Veterans' participation in treatment services for problem gambling.

- Additional research is required to determine how best to screen for gambling problems among Veterans, particularly when screening in primary care settings. The use of surveys and focus groups among Veterans and health care providers could help elucidate gaps in current screening approaches, inform the development of improved screening instruments, and promote better health care services for Veterans.

Background

Gambling disorder is characterized by recurrent, maladaptive patterns of gambling behavior which frequently lead to significant distress and dysfunction in one's life [1]. The full diagnostic criteria for gambling disorder are listed in the 2013 *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5) and the criteria are presented in the table in Appendix A. The estimated lifetime prevalence of gambling disorder among U.S. adults range from 0.4% to 1.6% [2-5], and between 1-4% for problem gambling (subthreshold form of gambling disorder) [6, 7]. One subset of problem gamblers often overlooked by researchers is U.S. military Veterans. Estimated rates suggest that the lifetime prevalence rate of gambling disorder in U.S. military Veterans is 2%, while the lifetime rate of problem gambling can be as high as 11% [8-10]. Data from several studies suggest that problem gambling is associated with a host of negative mental health and substance abuse problems, including suicidality and financial and legal problems [4, 11, 12]. Although many Veterans use VA health care services for assistance with their mental health and medical issues, few who are problem gamblers also seek professional help for their gambling issues despite experiencing significant problems attributed to gambling disorder. Additionally, few VA patients are screened for gambling-related issues during routine medical care appointments despite evidence that gambling disorder affects many U.S. military Veterans [13]. One strategy for potentially increasing Veterans' engagement into treatment for gambling disorder is to first identify Veterans with the problem by conducting more screening efforts across VA primary care settings since primary care often serves as the main gatekeeper for millions of Americans seeking mental health care services [14].

A recent study surveyed 3157 Veterans and examined associations between gambling behaviors and psychopathology. Results revealed that 35.1% of Veterans surveyed reported past-year recreational gambling and 2.2% (n=57) screened positive for at-risk/problem gambling. In addition, researchers found that at-risk/problem gambling was significantly associated with greater prevalence of substance use, anxiety and depressive disorders, physical and sexual trauma, history of receiving mental health treatment (particularly from VA health care services), and ethnic minority status [15]. Currently, there is a growing need to develop and refine screening practices across the VA health care system to identify and correctly diagnose Veterans with gambling-related problems and ensure that they obtain access to appropriate treatment services. A widely accepted screening tool for gambling disorder is the Brief Biosocial Gambling

Screen (BBGS), which is a three-item questionnaire that measures past 12-month features of problematic gambling and can be administered in less than one minute. The brevity makes the BBGS advantageous for use in a busy primary care setting.

The current study is the first to seek validation of the BBGS among a sample of treatment-seeking mental health VA patients. We selected the Bedford VAMC Primary Care Behavioral Health clinic because it serves over 900 Veterans per year and is a critical gatekeeper for many VA patients accessing mental health treatment services, often for the first time. We worked with the Primary Care Behavioral Health clinic to add the BBGS to the clinic's routine intake which is currently being used to detect problem gambling in Veterans being served by the clinic.

Primary Aims:

Aim 1: To determine the rate of Veterans who meet full or subthreshold DSM-5 criteria for gambling disorder and its co-occurrence with other medical and mental health problems.

Aim 2: To evaluate the reliability and validity of the Brief Biosocial Gambling Screen (BBGS) to detect gambling disorder among Veterans receiving services in a VA Primary Care Behavioral Health clinic.

Hypotheses:

H1: We expected that Veterans with gambling disorder (including subthreshold) would have higher rates of psychiatric disorders and medical conditions compared to Veterans without gambling disorder.

H2: We expected that the BBGS would have excellent psychometric properties as evidenced by high internal consistency ($\alpha > 0.90$) and high sensitivity and specificity (>95%) at detecting problem gambling among Veterans.

Identifying Problem Gambling

Given the negative consequences associated with problem gambling, multiple brief questionnaires (five items or less) have been developed to aid clinicians in detecting symptom severity and identifying individuals with, or at risk of developing, problem

gambling (e.g., the Lie/Bet Questionnaire [16]; the National Opinion Research Center DSM Screen for Gambling Problems Control, Lying and Preoccupation [6]; and the Brief Biosocial Gambling Screen [17]). Although there are several psychometrically sound brief screeners for problem gambling, we chose to assess the utility of the Brief Biosocial Gambling Screen (BBGS) for detecting problem gambling among Veterans due to its brevity and established psychometric properties.

1. Methods

Type of Study

Problem gambling is currently being assessed in the Bedford VAMC Primary Care Behavioral Health clinic as part of a one-hour clinical interview being completed with all Veterans referred for health care services. Variables were collected as part of the intake procedure. See Appendix B. Data for the current study was retrospectively pulled from the Veterans' electronic medical records.

Study-Related Procedures

We used the BBGS to assess for past 12-month problem gambling in Veterans being seen in the Bedford VAMC Primary Care Behavioral Health (PCBH) clinic for the first time. If a Veteran screened positive for problem gambling on the BBGS (endorsement of any of the three items), then the DSM-5 questionnaire was administered to assess for gambling disorder [1].

Although we had initially proposed to randomly screen 15-20% of Veterans who screened negative on the BBGS to determine the sensitivity and specificity of the BBGS, we were not able to do this as planned due to time constraints. Specifically, over the course of the grant, PCBH appointments were shifted from one hour to 30 minutes for most intakes which impacted the consistency to which providers screened Veterans for problem gambling. However, the current study was successfully able to screen 260 Veterans for problem gambling in primary care. All screening for problem gambling occurred in the Bedford VAMC PCBH clinic. This procedure ensured that Veterans were screened for problem gambling and could receive same-day access to care in PCBH or have an appointment made with the Bedford VAMC outpatient Behavioral Addictions Clinic for follow-up care.

Data Collection and Study Participants

From November 1, 2017 through September 15, 2018, we reviewed 260 electronic medical records for all Veterans seen in PCBH. Specifically, data were aggregated from the medical record's clinical notes that were pertinent to the PCBH intake appointment. Only notes specific to the PCBH intake screening appointment, including scored questionnaires, were reviewed and entered into a data set. Study data obtained from electronic medical record reviews were entered into a password-protected database and stored on a VA shared drive under VA security measures.

Analysis Plan

Using SPSS-23 [18], descriptive statistics were conducted to evaluate sociodemographic and clinical characteristics of the sample. We conducted Wald tests (for categorical variables) and mean comparisons (for continuous variables) to assess bivariate associations between problem gambling and sociodemographic and clinical characteristics of the sample. We employed two-tailed tests and set the overall alpha level to 0.05 for all primary hypotheses.

Inclusion/Exclusion Criteria

All participants were new VA patients attending their first initial appointment in the Bedford VAMC PCBH clinic. All PCBH intake appointments were reviewed during the 7-month retrospective chart review.

2. Key Findings

Results

Sample Characteristics

Over the course of the study, 260 Veterans were screened with the BBGS. Most were male (88.9%), Caucasian/white (84.6%), married (52.5%), working full or part-time (51.9%), middle-aged (mean age=53.7 years, *SD*=17.7), and from the Operation Iraqi Freedom/Operation Enduring Freedom (OIF/OEF) (51.4%) or Vietnam (33.6%) era conflicts. Many Veterans (60.6%) screened were service-connected for a physical and/or mental health disability. The majority attended the PCBH intake appointment for mental health reasons (96.5%).

Sample Gambling Behaviors

We first examined the frequency of past-year gambling among Veterans. Specifically, we found that 85 (32.7%) out of the 260 Veterans reported past-year gambling within the last 12 months. As shown in Table 1, we found that the most common gambling behaviors consisted of gambling on the traditional lottery (25.3%), instant lottery (scratch tickets) (31.3%), or card games (9.6%).

Table 1. Gambling Behavior among Veteran Gamblers

Gambling Type	N (%)
Traditional lottery	21 (25.3%)
Instant lottery (scratch tickets)	26 (31.3%)
Card gambling	8 (9.6%)
Slot machines	3 (3.6%)
Keno	4 (4.8%)
Casino	7 (8.4%)
Horse races	1 (1.2%)
Sports betting	1 (1.2%)
Online	2 (2.4%)
Unknown	10 (12.1%)

Note: Values based upon available data. N=54 due to missing data

Past research of non-Veterans suggests that past-year gamblers may have higher rates of mental health problems compared to non-gamblers [19]. Thus, we examined differences between the Veteran past-year gamblers and the Veteran non-gamblers on sociodemographic characteristics (Table 2) and psychiatric, medical, and substance use diagnoses (Table 3). Overall, we found no significant differences among the Veterans between past-year gamblers and non-gamblers in terms of sociodemographic characteristics and medical and mental health conditions. Across the groups, we found that Veterans mostly sought treatment in PCBH for issues related to depression, generalized anxiety disorder, and PTSD.

Table 2. Comparison of Demographics: Non-gamblers vs. Gamblers

Demographics		Non-gamblers (*n*=175) N (%) / M (SD)	Gamblers (*n*=85) N (%) / M (SD)
Age		52.4 (18.3)	52.9 (16.8)
Gender	Female	22 (12.6%)	7 (8.2%)
	Male	153 (87.4%)	78 (91.8%)
Race	White	150 (85.7%)	70 (82.4%)
	Black	6 (3.43%)	5 (5.9%)
	Other	19 (10.9%)	10 (11.8%)
Employment Status	Currently Employed	84 (48.6%)	50 (58.8%)
	Retired	53 (30.6%)	19 (22.4%)
	Unemployed	22 (12.7%)	12 (14.1%)
Marital Status	Married	96 (55.2%)	40 (47.1%)
	Formerly Married	3 (1.7%)	2 (2.4%)
	Widowed	1 (0.6%)	4 (4.7%)
	Never Married	74 (42.5%)	39 (45.9%)
Homeless	Current	4 (2.3%)	1 (1.2%)
	Life-time	10 (5.8%)	3 (3.5%)
Combat Veteran	Yes	59 (33.9%)	28 (32.9%)
Service Era	Korean	4 (2.3%)	2 (2.4%)
	Post-Korean	5 (2.9%)	1 (1.2%)
	Vietnam	58 (33.1%)	29 (34.1%)
	Post-Vietnam	17 (9.7%)	10 (11.8%)
	Persian Gulf /OEF/OIF	90 (51.7%)	43 (50.6%)

Note: Values based upon available data. Some missing data.

Table 3. Comparison of Psychiatric, Medical, and Substance Use Diagnosis: Non-gamblers vs. Gamblers

Diagnosis	Non-gamblers (*n*=175) N (%) / M (SD)	Gamblers (*n*=85) N (%) / M (SD)
Major Depression	70 (40.2%)	31 (36.5%)
Mood Disorder	2 (1.1%)	1 (1.2%)
Generalized Anxiety Disorder	43 (24.7%)	31 (36.5%)
Panic Disorder	2 (1.2%)	0 (0.0%)
Bi-polar Disorder	1 (0.6%)	2 (2.4%)
Post-Traumatic Stress Disorder	59 (33.7%)	22 (25.9%)
Adjustment Disorder	8 (4.6%)	3 (3.5%)
Schizophrenia	1 (0.6%)	0 (0.0%)
Attention Deficit Hyperactivity Disorder	7 (4.0%)	1 (1.2%)
Military Sexual Trauma	12 (7.1%)	3 (3.5%)
Suicide Ideation		
Thoughts	19 (10.9%)	15 (17.7%)
Plan	3 (1.7%)	1 (1.2%)
Insomnia	8 (4.6%)	5 (5.9%)
Traumatic Brain Injury	11 (6.3%)	2 (2.4%)
Chronic Pain	1 (0.6%)	2 (2.4%)
Sexually Transmitted Disease	5 (2.9%)	3 (3.5%)
Polysubstance	0 (0.0%)	1 (1.2%)
Nicotine Dependence	1 (0.6%)	2 (2.4%)
Alcohol Use Disorder	9 (5.1%)	8 (9.4%)
Cocaine Abuse	0 (0.0%)	1 (1.2%)
Cannabis Abuse	3 (1.7%)	1 (1.2%)
Stimulant Abuse	1 (0.6%)	0 (0.0%)
Opioid Abuse	1 (0.6%)	1 (1.2%)

Note: Values based upon available data.

We also assessed the amount of money spent on gambling behaviors in the past year. Although 15 Veterans reported spending $100 or more a month on gambling, interestingly, 11 of them did not endorse any of the three BBGS items. Among the

remaining four Veterans who spent $100 or more per month on gambling, two Veterans endorsed one BBGS question, and two Veterans were not administered the screening tool. Of the 11 Veterans who did not endorse any of the BBGS items, it was striking that three of them reported high spending on gambling per month ($1,000, $1,440, and $2,000). For the two Veterans who were not screened with the BBGS, one reported spending $450 and the other reported spending $1,600 in the past month. It is noteworthy that the 15 Veterans spent a substantial amount of money each month on gambling activities but most apparently did not see this as a problem. Similarly, it is surprising that the PCBH providers did not use the BBGS screener for two Veterans who both disclosed spending hundreds of dollars per month on gambling. These findings strongly suggest the need to better understand how gambling behaviors are discussed between clients and providers in health care service settings. Given the Veterans' gambling spending habits, we suspect that there was underreporting of problem gambling in our study sample.

Sample BBGS Screening Results

Next, we examined Veterans' endorsement on the BBGS which would be indicative of at-risk/problem gambling (Table 4).

Table 4. Item Endorsement on the Brief Biosocial Gambling Screen (BBGS) (N=5)

Item 1	During the past 12 months, have you become restless, irritable, or anxious when trying to stop/cut down on gambling?	4 Veterans
Item 2	During the past 12 months, have you tried to keep your family or friends from knowing how much you gambled?	2 Veterans
Item 3	During the past 12 months, did you have such financial trouble as a result of your gambling that you had to get help with living expenses from family, friends, or welfare?	2 Veterans

Out of the 260 Veterans who participated in the PCBH intake during our study, there were 85 Veterans who gambled in the past year. Of those 85, five Veterans (5.9%) endorsed at least one item on the BBGS and three of these five Veterans were later diagnosed with gambling disorder after further screening [1]. All three of the Veterans diagnosed with gambling disorder endorsed Item 1 on the BBGS, "During the past 12 months, have you become restless, irritable, or anxious when trying to stop/cut down on gambling?" All three also endorsed current symptoms associated with suicidal ideation (see Table 5). The prevalence of at-risk/problem gambling for the full sample of 260 Veterans is 1.9%. Since a small number of Veterans endorsed issues with

problem gambling on the BBGS, we were unable to examine the sensitivity and specificity of the questionnaire which we had initially intended for the study.

Table 5. Characteristics of the Three Veterans Who Met DSM-5 Criteria for Gambling Disorder

Veteran 1	1. White male in his mid-50s 2. Single, unmarried 3. Post-Vietnam, non-combat 4. Employed 5. Has a history of psychiatric treatment (non-gambling) 6. Endorsed suicidal ideation 7. Met criteria for major depressive disorder 8. Gambling preference: lottery 9. BBGS Score = 3 10. DSM-5 Gambling Disorder = 6 symptoms, moderate 11. Denied referral for specialty care for gambling
Veteran 2	1. White male in his early 30s 2. Married 3. OEF/OIF, combat Veteran 4. Employed 5. No prior mental health treatment 6. Endorsed suicidal ideation 7. Met criteria for chronic pain, alcohol use disorder, major depressive disorder and PTSD 8. Gambling preference: keno 9. BBGS=2 10. DSM-5 Gambling Disorder = 6 symptoms, moderate 11. Denied referral for specialty care for gambling
Veteran 3	1. White male in his early 70s 2. Single, unmarried 3. Vietnam era, non-combat 4. Retired 5. No prior mental health treatment 6. Endorsed suicidal ideation 7. Met criteria for generalized anxiety and major depressive disorder 8. Gambling preference: no specific type reported 9. BBGS = 1 10. DSM-5 Gambling Disorder = 4, mild 11. Denied referral for specialty care for gambling

Summary

In conclusion, our results found that approximately one-third of Veterans seeking mental health services in the Bedford VAMC Primary Care Behavioral Health clinic reported past-year gambling. This finding is consistent with prior research [15]. Among the past-year gamblers in our study, 5.9% of Veterans were considered to exhibit at-risk/problem gambling which is consistent with prior research [6, 7]. Across all study participants, we found a prevalence estimate for at-risk/problem gambling to be less than 2% which mirrors a recent study that found an estimate of 2.2% at-risk/problem gambling in a national study of 3157 U.S. Veterans [15]. Regardless of gambling status, the Veterans screened in this study reported issues of anxiety, depression, and PTSD. Given the low endorsement of gambling behaviors, including at-risk/problem gambling, we were unable to assess the reliability, specificity, and sensitivity of the BBGS. Future research is needed to identify the most effective screening methods to detect problem gambling among Veterans, particularly in a busy treatment setting such as PCBH. The current study also identified possible gaps in screening by VA providers. Future work is needed to identify the barriers around consistent screening for problem gambling among Veterans seeking mental health services within primary care.

Recommendations

Veterans with problem gambling may not disclose this problem nor seek help. More research within Massachusetts is needed to identify barriers regarding self-disclosure and help-seeking for this population, particularly given recent changes in the environment such as expansion of casino gambling in Massachusetts and legalization of sports gambling in the U.S. More research is needed to expand and refine screening approaches for identifying problem gambling among Veterans. This includes evaluating whether the BBGS is effective or if another screening instrument would increase self-disclosure of gambling problems by Veterans to health care providers. Researchers could use focus groups with Veterans, VA health care providers, and community members to help identify implementation challenges and strategies for engaging Veterans into VA health care services. Given the striking finding that all three Veterans identified with gambling disorder in this study had active suicidal ideation, it underscores the crucial need for further research to understand the relationship between problem gambling and suicidality. Lastly, more research is needed to understand what forms of treatment delivery (web-based vs. face-to face psychotherapy, pharmacology) may be most appealing and effective to treat Veterans with gambling disorder and other co-occurring health conditions.

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Appendices

Appendix A

DSM-5 Diagnostic Criteria for Gambling Disorder	
Criterion A	Persistent and recurrent problematic gambling behavior leading to clinically significant impairment or distress, as indicated by the individual exhibiting four (or more) of the following in a twelve-month period:
	1. Needs to gamble with increasing amounts of money in order to achieve the desired excitement.
	2. Is restless or irritable when attempting to cut down or stop gambling.
	3. Has made repeated unsuccessful efforts to control, cut back, or stop gambling.
	4. Is often preoccupied with gambling (e.g., having persistent thoughts of reliving past gambling experiences, handicapping or planning the next venture, thinking of ways to get money with which to gamble).
	5. Often gambles when feeling distressed (e.g., helpless, guilty, anxious, depressed).
	6. After losing money gambling, often returns another day to get even ("chasing" one's losses).
	7. Lies to conceal the extent of involvement with gambling.
	8. Has jeopardized or lost a significant relationship, job, or educational or career opportunity because of gambling.
	9. Relies on others to provide money to relieve desperate financial situations caused by gambling.
Criterion B	The gambling behavior is not better explained by a manic episode.
Specifiers	Episodic: Meeting diagnostic criteria at more than one time point, with symptoms subsiding between periods of gambling disorder for at least several months.
	Persistent: Experiencing continuous symptoms, to meet diagnostic criteria for multiple years.
	In early remission: After full criteria for gambling disorder were previously met, none of the criteria for gambling disorder have been met for at least 3 months but for less than 12 months.

In sustained remission: After full criteria for gambling disorder were previously met, none of the criteria for gambling disorder have been met during a period of 12 months or longer.

Current Severity:

Mild: 4-5 criteria met

Moderate: 6-7 criteria met

Severe: 8-9 criteria met

Appendix B

Bedford VAMC Primary Care Behavioral Health Clinic Intake

Name: |PATIENT NAME|
Preferred Name:
Age: |PATIENT AGE|
GENDER: Do you identify as male, female or transgender?:
SEX: |PATIENT SEX|
RACE: |PATIENT RACE|
PARTNERSHIP/MARITAL STATUS:

PROBLEM ASSESSMENT
Presenting problem:
Problem history:
Past treatment:
Better/worse:
Other problems:

FUNCTIONAL ASSESSMENT
Sleep:
Work/School:
Relationships:
Have you been sexually active within the past six months/ever? With Men, Women, or Both?
What sexual concerns do you (or your partner) have?
Have you ever been tested for HIV/Would you like to be? How do you protect yourself from HIV?
Do you use anything to prevent pregnancy? Are you satisfied with that method?

Recreation/Physical:
Alcohol:
Tobacco:
Substances (including prescription):
Caffeine:

GAMBLING SCREEN (SHORT VERSION)

1. During the past 12 months, have you become restless irritable or anxious when trying to stop/cut down on gambling?
I don't gamble (skip Qs) / no / Yes (+ screen, but continue)

2. During the past 12 months, have you tried to keep your family or friends from knowing how much you gambled?

No / Yes (+ screen, but continue)

3. During the past 12 months did you have such financial trouble as a result of your gambling that you had to get help with living expenses from family, friends or welfare?
No / Yes (+ screen, continue with follow-up questions)

GAMBLING SCREEN (LONG follow-up to Positive Screen)

Gambling History:
- Age when first aged?
- Most common type of gambling:
- Frequency of gambling including w/ money spent in the past month (year):
- How long has gambling been a problem?
_____ Not a problem
_____ Months/Years

DSM-5 GAMBLING DISORDER CRITERIA

Persistent and recurrent problematic gambling behavior leading to clinically significant impairment or distress, as indicated by the individual exhibiting four (or more) of the following in a 12-month period:

1. Over the last year do you need to gamble with increasing amounts of money in order to achieve the desired excitement?
Yes / NO
2. Over the last year are you restless or irritable when attempting to cut down or stop gambling?
Yes / NO
3. Over the last year have you made repeated unsuccessful efforts to control, cut back, or stop gambling?
Yes / NO
4. Over the last year are you often preoccupied with gambling (eg, having persistent thoughts of reliving past gambling experiences, handicapping or planning the next venture, thinking of ways to get money with which to gamble)?
Yes / NO
5. Over the last year do you often gamble when feeling distressed (eg, helpless, guilty, anxious, depressed)?
Yes / NO
6. Over the last year after losing money gambling, do you often return another day to get even (i.e., “chasing” losses)?
Yes / NO
7. Over the last year do you lie to conceal the extent of involvement with gambling?
Yes / NO
8. Over the last year have you jeopardized or lost a significant relationship, job, or educational or career opportunity because of gambling?

Yes / NO

9. Over the last year do you rely on others to provide money to relieve desperate financial situations caused by gambling?
Yes / NO

Specify current severity:
Mild: 4–5 criteria met.
Moderate: 6–7 criteria met.
Severe: 8–9 criteria met.

MENTAL STATUS EXAM

ORIENTATION AND CONSCIOUSNESS:
APPEARANCE AND BEHAVIOR:
SPEECH:
AFFECT:
THOUGHT PROCESS AND ASSOCIATION:
THOUGHT CONTENT (delusions, obsessions etc.):
INSIGHT:
JUDGMENT:
MEMORY:
Safety/Risk Issues (ideation/lethality):

Strengths:

ASSESSMENT
Summary/formulation:

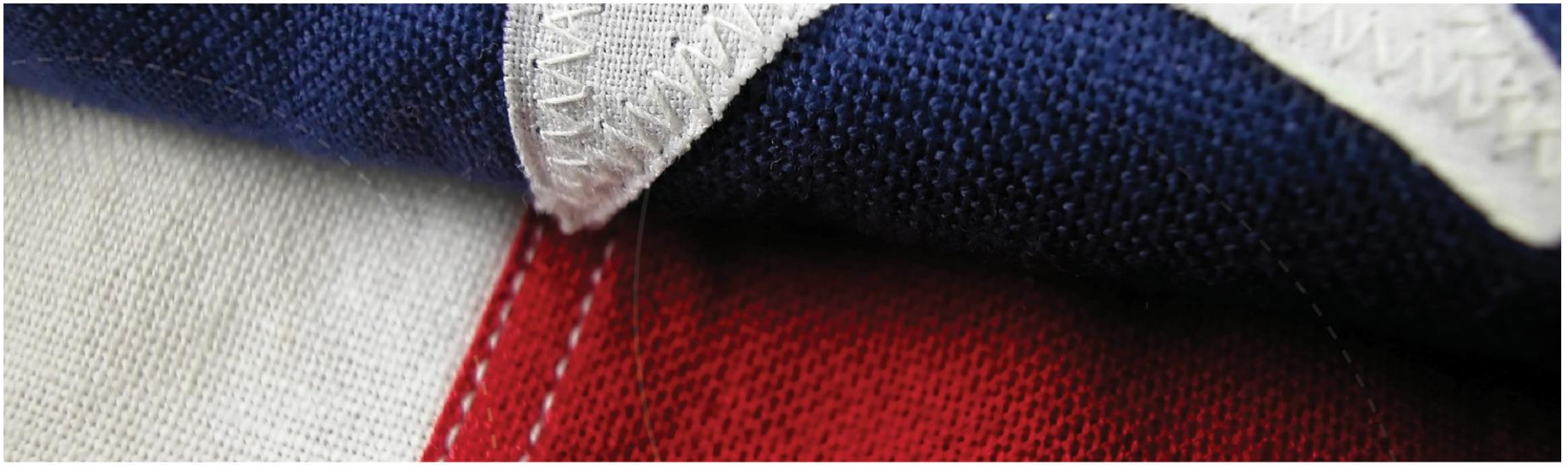
DIAGNOSIS:

TREATMENT PLAN
Patient's ideas to help:

Treatment Recommendations:

Consults/Meds:

Initial Treatment Plan: Veteran was oriented to treatment available through PCBH and consented to brief psychotherapy for treatment of _____. Next session is scheduled with this writer for _____ at _____.



Gambling Problems Among Military Veterans: Screening Study in Primary Care Behavioral Health

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Veterans Health Administration

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Gambling

- U.S. national survey suggests approximately 0.5–2% of adults meet lifetime criteria for gambling disorder (GD) (Lorains, Cowlishaw, & Thomas, 2001).

- Individuals with GD have high rates of co-occurring disorders, including mood, personality, substance-use, and post-traumatic stress disorder (PTSD) (Kessler, Hwang, LaBrie et al., 2008; Petry, Stinson, & Grant, 2005).

- GD is often associated with reduced quality of life and impaired functioning (e.g., bankruptcy, divorce, and incarceration).

Gambling among US Veterans

- U.S. Veterans have been found to have elevated rates of problems with gambling compared to non-Veterans (Westermeyer et al., 2013)

- A national survey of U.S. Veterans found that approximately 2.2% screened positive for at-risk or pathological gambling (Stefanovics, Potenza, & Pietrzak, 2017)
  - 4.2% of Iraq/Afghanistan Veterans exhibit at-risk or probable pathological gambling (Whiting et al., 2016)
  - 8.1% of active military personnel exhibit life-time GD/problem gambling (Bray et al., 1999)

Gambling among US Veterans

- 10.7% of mental health seeking clients reported a lifetime history of GD (Westermeyer et al., 2013).

- 28% of Veterans in an inpatient psychiatric unit had problem gambling; 12% having GD (Westermeyer et al, 2005).

- 40% of Veteran gamblers seeking treatment reported a previous suicide attempt; 64% of those who attempted suicide reported gambling-related attempts (Kausch, 2003).

Clinical Characteristics of Veteran Gamblers

- A recent study by Shirk and colleagues (2018) examined the characteristics of 61 Veterans seeking treatment for GD:
  - Male (98%), White (71%), unmarried/single (95%)
  - Alcohol (77%), cocaine (43%), opioids (23%), and cannabis (16%)
  - Depression (41%), anxiety (56%), PTSD (30%), and suicidal ideation (14%)
  - Most (82%) had a family history of gambling,
  - Average age of regular gambling starting: 19 years of age
  - Preferred gambling methods: playing numbers/lotteries (87%); slot/poker/other (52%); playing cards (50%); and casino (41%)
  - Only 5% had previously sought treatment for GD

Study: Screening for Gambling Disorder in VA Primary Care Setting

- Assessed GD among Veterans seeking mental health services in Primary Care Behavioral Health at the Bedford VAMC.
- Used the Brief Biosocial Gambling Screen (Gebauer, LaBrie & Shaffer, 2010) to assess for problem gambling and DSM-5 criteria for GD.
- Gambling behaviors were assessed during a routine, one-hour intake appointment for all new Veteran patients seeking mental health services in primary care at the Bedford VAMC.
  - **Goal**: Determine rates of GD among VA patients seeking mental health services in primary care.

Study Participants

- 260 Veterans were screened for GD between November 1, 2017 and September 15, 2018.
- Mostly seen in primary care for depression and anxiety.
- 85 (32.7%) reported gambling within the past 12 months.
- Most common gambling behaviors: traditional lottery (25%); instant lottery (scratch tickets) (31%); and playing cards (10%) (Table 1).
- No significant differences between recreational and non-recreational Veteran gamblers on demographics, medical, or mental health comorbidities (Tables 2 and 3).

Table 1. Gambling Behavior among Recreational Gamblers	
Gambling Type:	N (%)
Traditional lottery	21 (25.3%)
Instant lottery (scratch tickets)	26 (31.3%)
Card gambling	8 (9.6%)
Slot machines	3 (3.6%)
Keno	4 (4.8%)
Casino	7 (8.4%)
Horse races	1 (1.2%)
Sports betting	1 (1.2%)
Online	2 (2.4%)
Unknown	10 (12.1%)
Note. Values based upon available data. N=54 due to missing data	

Table 2. Comparison of Demographics: Non-gamblers vs. Gamblers

Demographics:		Non-gamblers (n=175) N (%) / M (SD)	Gamblers (n=85) N (%) / M (SD)
Age		52.4 (18.3)	52.9 (16.8)
Gender	Female	22 (12.6%)	7 (8.2%)
	Male	153 (87.4%)	78 (91.8%)
Race	White	150 (85.7%)	70 (82.4%)
	Black	6 (3.43%)	5 (5.9%)
	Other	19 (10.9%)	10 (11.8%)
Employment Status	Currently Employed Retired	84 (48.6%) 53 (30.6%)	50 (58.8%) 19 (22.4%)
	Unemployed	22 (12.7%)	12 (14.1%)
Marital Status	Married	96 (55.2%)	40 (47.1%)
	Formerly Married	3 (1.7%)	2 (2.4%)
	Widowed	1 (0.6%)	4 (4.7%)
	Never Married	74 (42.5%)	39 (45.9%)

Table 2. Comparison of Demographics: Non-gamblers vs. Gamblers

		Non-gamblers	Gamblers
Homeless	Current	4 (2.3%)	1 (1.2%)
	Life-time	10 (5.8%)	3 (3.5%)
Combat Veteran	Yes	59 (33.9%)	28 (32.9%)
Service Era	Korean	4 (2.3%)	2 (2.4%)
	Post-Korean	5 (2.9%)	1 (1.2%)
	Vietnam	58 (33.1%)	29 (34.1%)
	Post-Vietnam	17 (9.7%)	10 (11.8%)
	Persian Gulf	90 (51.7%)	43 (50.6%)

Note: Values based upon available data.

Table 3. Comparison of Psychiatric, Medical, and Substance Use Diagnosis: Non-gamblers vs. Gamblers		
Diagnosis:	Non-gamblers (n=175) N (%) / M (SD)	Gamblers (n=85) N (%) / M (SD)
Major Depression	70 (40.2%)	31 (36.5%)
Mood Disorder	2 (1.1%)	1 (1.2%)
Generalized Anxiety Disorder	43 (24.7%)	31 (36.5%)
Panic Disorder	2 (1.2%)	0 (0.0%)
Bipolar Disorder	1 (0.6%)	2 (2.4%)
Post-Traumatic Stress Disorder	59 (33.7%)	22 (25.9%)
Adjustment Disorder	8 (4.6%)	3 (3.5%)
Schizophrenia	1 (0.6%)	0 (0.0%)
Attention Deficit Hyperactivity Disorder	7 (4.0%)	1 (1.2%)

Table 3. Comparison of Psychiatric, Medical, and Substance Use Diagnosis: Non-gamblers vs. Gamblers

	Non-gamblers	Gamblers
Military Sexual Trauma	12 (7.1%)	3 (3.5%)
Suicide Ideation:		
Thoughts	19 (10.9%)	15 (17.7%)
Plan	3 (1.7%)	1 (1.2%)
Insomnia	8 (4.6%)	5 (5.9%)
Traumatic Brain Injury	11 (6.3%)	2 (2.4%)
Chronic Pain	1 (0.6%)	2 (2.4%)

Note. Values based upon available data.

Table 3. Comparison of Psychiatric, Medical, and Substance Use Diagnosis: Non-gamblers vs. Gamblers

Diagnosis:	Non-gamblers (n=132) N (%) / M (SD)	Gamblers (n=63) N (%) / M (SD)
Sexually Transmitted Disease	5 (2.9%)	3 (3.5%)
Polysubstance	0 (0.0%)	1 (1.2%)
Nicotine Dependence	1 (0.6%)	2 (2.4%)
Alcohol Use Disorder	9 (5.1%)	8 (9.4%)
Cocaine Abuse	0 (0.0%)	1 (1.2%)
Cannabis Abuse	3 (1.7%)	1 (1.2%)
Stimulant Abuse	1 (0.6%)	0 (0.0%)
Opioid Abuse	1 (0.6%)	1 (1.2%)

Note. Values based upon available data.

Study Results

- Examined endorsement on the BBGS which would be indicative of at-risk/problem gambling.

- Of the 85 Veterans who gambled, 5 (5.9%) endorsed at least one item on the BBGS; 3 of the 5 were later diagnosed with GD.

Results

- Of the three Veterans diagnosed with GD, all endorsed Item 1 on the BBGS, "*During the past 12 months, have you become restless, irritable, or anxious when trying to stop/cut down on gambling?*"
- Also, they all had a diagnosis of depression and endorsed current symptoms associated with suicidal ideation.

- The prevalence of at-risk/problem gambling for the full sample is **1.9%.** Because so few Veterans endorsed issues with problem gambling on the BBGS, we were unable to examine the sensitivity and specificity of the questionnaire.

Money Spent on Gambling

- Of those who spent $100 (*n*=15) or more a month, 2 endorsed 1 BBGS question, 11 did not endorse any of the 3 BBGS items, and 2 were not screened.

- Of those who did not endorse any of the BBGS items, 3 Veterans reported high amounts of spending per month ($1,000, $1,440, and $2,000).

- Of the two Veterans who were not screened with the BBGS, one reported spending $450 and the other reported spending $1,600 in the past month.

Discussion

- We found 1/3 of Veterans seeking mental health services in primary care reported past-year gambling. This finding is consistent with prior research (Stefanovics et al., 2017).
- Among past-year gamblers in the study, 6% were considered to have at-risk/problem gambling. This finding is consistent with prior research (Toce-Gerstein, Gerstein, & Volberg, 2009, Welte et al, 2015).
- Across all study participants, we found a prevalence estimate for at-risk/problem gambling to be less than 2% which mirrors a recent study that found an estimate of 2.2% in a national study of 3157 US Veterans (Stefanovics et al., 2017).

Future Directions

- Future research is needed to identify barriers to Veterans seeking help for problem gambling.
  - There appears to be a disconnect with money spent and endorsement of gambling problems.
  - Barriers exist among both providers and Veterans.
  - Mixed methods research could help identify barriers and solutions for treatment engagement.

- Additional research is required to determine how best to screen for gambling problems among Veterans, particularly when screening in primary care.
  - Unclear if BBGS is an effective tool.

Thank you

VISN 1 New England MIRECC

Marc Potenza, MD, PhD

Tu Ngo, PhD

Community-based research

MGC Research Strategic Planning – Community Research Component

Introduction

MGC is engaged in a strategic planning process to develop a more comprehensive research program. From the outset, the Commission has explored a program of research that is driven by and responsive to community needs, with a focus on at-risk groups in the communities surrounding the three casinos.

There has been strong support for this component throughout extensive consultation and information gathering in the planning process. In response to this strong support, the Commission wishes to fast-track a community research program in order to launch the program in the current fiscal year, ending June 30, 2019.

This brief outlines considerations and options for a community research program that targets social determinants of health in host and surrounding communities.

Terminology

Many terms are used for research that is conducted with community members. Each term may emphasize different methods, roles and levels of involvement for researchers, service providers and community members. The term "***community-based research***" seems the most encompassing, allowing for a range of methods, relationships and roles within a collaborative framework.

Community-based research (CBR) is a **philosophical approach** that emphasizes collaboration, participation and social justice agendas over the notion that research is, or should be, objective and apolitical (Flicker & Savan, 2006).

Objectives and Benefits

CBR has the potential **to more deeply understand and address the impact of the introduction of casino gambling** in Massachusetts's communities.

> Community Based Research is increasingly being recognized as important in yielding concrete knowledge and understanding that can guide policies and programs to reduce health and social disparities (Flicker & Savan, 2006)

Benefits include:

- Suited to research with population groups that are difficult to research with epidemiological or general population studies
- Responsive to communities demand/need for more involvement in research that takes place in their midst
- Targeted to specific groups and related health inequities
- Relevant - Results should be more accessible, accountable and relevant to people's lives
- Capacity-building
- Empowering for all parties, especially community representatives and agencies to make sustainable personal and social change (Wallerstein & Duran, 2003)

Focus

Geographic: Host and surrounding communities where casinos exist or are planned
Target populations: life course (e.g., youth, seniors, parents), ethno-racial, identity groups such as LGBTQ, veterans, etc.
Topics: the relationship of casino gambling with social determinants of health, such as poverty, education, housing, and employment
Outputs: community assessment, evaluation, community awareness, etc.

Team composition

Collaboration among:

- Community representative of organization, agency, or assembly of people with a common focus
- Service providers, may be same as above
- Local public health agency or institute
- Academic researcher, with encouragement to include post doctoral or early career researchers to build capacity (balance CBR experience with capacity building)

Each partner should choose level of involvement at each stage to best accomplish objectives

Promotion of CBR Program

Publicize and promote CBR Program to key audiences, and **provide resources to maximize successful collaborations**, such as:

- Share promotion of CBR program, possibly with Department of Public Health, MASShire, etc.
- Provide profiles of gambling and gamblers in host and surrounding communities
- Identify resources for CBR – tool kits, web links, case studies, and templates are all available from a range of organizations that specialize in this work. Carefully select a resource inventory.
- Consider workshops in target communities
    - To launch process, bring together potential collaborators, assess readiness and related needs for resources or training to actively participate in CBR
    - Ongoing (annually?) among all teams to establish links and share experiences and learning
- Consider supporting training opportunities
- Consider identifying potential researchers or research institutes that specialize in CBR. Evidence shows that outcomes are best when researchers are experienced in CBR

Funding envelope

Current plan is for $200,000 annually, $185,000 in Year One

- Consistent with the formula of 5% of total research awards budget ($50,000 per $1M) recommended in literature
- Consider cost-sharing final stage work (KTE) with DPH or appropriate public organization; so research and outcomes can be linked

Consider allowing budget items often excluded in traditional research funding guidelines:

- Capacity building opportunities such as training, staff-buy- outs, and administrative overhead
- Items that address barriers to participation, especially for community representatives, such as childcare, translation, transportation, refreshments, etc.
- Limits could be set on the proportion of the total budget for these components

Duration and Structure

Consider funding fewer projects longer term rather than diluting resources (funds, community participation, researchers) across many projects. CBR takes time and longer-term support increases the likelihood of success.

Consider stages of work.

- **Seed grants**: Support development phase to establish relationships, define roles, and develop a research program (identify problem, describe target population, research questions, methods)
- **Project grants:** To conduct research
- **Knowledge translation and exchange**: Basic dissemination could be included in project grant. Advocacy work to affect change may require separate support and could be co-funded with an appropriate public organization.

These stages could be

- Combined into one longer term award that details each stage over 2-3 years,
- Award in stages, conditional on completion of previous, or
- Separate awards that allow a team to apply at any stage of their development.

Grant Procurement

Led and managed by MGC, steps to include:

- Establish guidelines
    - Establish frequency and possibly templates for reporting updates and final report (Financial and Research aspects)
- Manage structure and process for (peer) review
    - Establish structure and people for review process
        - Academic peers should include CBR experience
        - Public health
    - Assign and manage peer review, (e.g., matching reviewers to proposals)
    - Assemble recommendations for each funding round
    - Create core team for final decisions – may be same as reviewers or a standing group
- Execute contracts
- Award funds

Grant administration and management

This role is undertaken by the host institution of one of the project team members.

- This role requires institutional infrastructure to manage accountability
- Awarding funds to universities or research institutes, which is typical, establishes a power imbalance from the outset
- Consider asking the local Public Health Institute or agency to assume this role

Tasks include:

- Manage contract compliance
- Administer funds, approve budget expenditures
- Conduct monitoring and reporting to funder
- Oversee knowledge translation and exchange – Post-research
    - Expectations for presentations, briefings, case studies, and publication
    - Requirements, if any, for advance notice to funder prior to publication
    - Advocacy work for policy and program change

Evaluation and Recognition

- Build evaluation requirements into the Grants Program as a whole, to ensure consistency and reduce burden on individual grant teams
- Establish objectives that match anticipated outcomes (building relationships and capacity, satisfaction with process, satisfaction with results, dissemination of results, changes advocated and implemented), including outcomes that are specific to each stage
- Build assessment of some objectives into grant reporting process, e.g., brief confidential survey of team members
- Establish a reasonable period for results to manifest, and consider evaluating different aspects in stages. For example, seed grants could be evaluated on their own criteria almost immediately, as opposed to changes in policy or programs, which may take three years or more.
- Potential Outcomes:
    - Working relationships and new coalitions
    - Community capacity
    - Plans for future projects
    - Changes in agency programming
    - Changes in government policy
- Support and reward agencies for effectively using research to improve their program and advocacy objectives

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thinkargus

To: Office of Problem Gambling Services

From: ThinkArgus

Date: October 30, 2018

Subject: DPH Problem Gambling Campaign Launch

The first phase of the Problem Gambling Campaign created by ThinkArgus for the Department of Public Health is scheduled to launch on Wednesday, November 7th, 2018.

ThinkArgus developed three creative executions for this project, illustrating: 1) a family 2) a group of friends, and 3) a workplace setting.

The media buy portion of the campaign will include:

- **Transit advertisements (Bus Kings, Junior Kings, and Interior Car Cards) of each creative execution**
- **A pre-roll and YouTube video adaptation of one of the creative executions, in English and Spanish**
- **A Facebook advertisement version of one of the creative executions, targeting families and loved ones, in English and Spanish**

Coinciding with the media buy, is a plan to distribute educational materials to recovery centers and agencies in the communities most impacts by gambling.

These educational materials include:

- **Three (3) campaign posters, one of each creative execution, in English and Spanish**
- **Trifold brochures with information about problem gambling and how to get help, in English and Spanish**
- **Flyers, in English and Spanish, to promote meetings and events around the topic of problem gambling (such as Gamblers Anonymous); specific meeting dates and times can be written in the blank space at the bottom of the flyers**

All of the assets and advertisements will direct people to the campaign website: mass.gov/ProblemGambling.

The website will include:

- **General information about problem gambling**
- **Resources on how to find help for yourself or a loved one, including how to call the state's Problem Gambling Helpline: 1-800-426-1234**
- **Tips on how to talk to loved ones about their gambling habits**
- **Tips on how to talk to recovery clients about problem gambling**
- **Personal stories from members of the recovery community who have dealt with problem gambling**

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Date: November 2, 2018

To: Victor Ortiz, Director
Office of Problem Gambling Services
MA Department of Public Health
From: Rodolfo R. Vega, PhD
JSI Research & Training Institute, Inc.
Re: Springfield Stakeholders Listening Session: Emerging Themes

Below you will find the main themes that emerged from the Stakeholders Listening Session (SLS), held on September 7, 2018 in Springfield, MA. Over 45 community stakeholders from Western Massachusetts participated. In this meeting, you provided an update of the FY18 initiatives, results from the Regional Planning Process-Region B, and an overview of the upcoming FY19 initiatives. After the presentation, the attendees formed three groups and engaged in in-depth discussions about the top four priority areas of the Public Health Trust Fund Strategic Plan: 1) Prevention for youth 2) Prevention for at-risk populations; 3) Community Level Interventions; and 4) Coordination of Services.

The entire SLS, including group discussions, was recorded and transcribed. Afterwards, we analyzed the transcript. Please find the preliminary findings in summary form below, with key emerging themes outlined. The outlined findings have been paraphrased for simplified review. However, all relevant quotes are available in the transcription of this session. Please note as you review this summary, that one breakout group combined two priority areas: 1) Prevention for youth 2) Prevention for at-risk populations.

The Springfield area has become more diverse and more segregated

- There is a need to translate educational materials into languages other than Spanish
- Expand the lens through which problem gambling is seen to include social determinants of health such as isolation, drugs, and alcohol addiction
- Include elements of cultural humility and types of racism such as internalized, intrapersonal, institutional, and structural
- Consideration of the cultural and historical background of people in the community to identify issues such as the long-standing exposure of Puerto Ricans to gambling in activities such as cockfighting
- Recognize that members of poor communities' gamble to fulfill their financial responsibilities and/or support their family
- Participants felt that the Gamesense videos showing a white educator named Chip delivering a message about health gambling practices should have instead included a person reflective of the racial and cultural makeup of the community
- A workforce that is reflective of the language and culture of Springfield residents is needed. The employment of Community Health Workers as a strategy that increases community representation

Strategic use of existing data to inform interventions

Stakeholders expressed that data should be utilized to:

- Understand the extent of the problem
- Have real time prevention data available to field workers to strengthen their intervention
- Vet and be compared to local database findings with existing gambling surveys
- Identify individuals at risk and connect them with recovery coaches
- Identify and address service gaps

The notion that Springfield should get its fair share of services and financial resources.

- Services should be sustainable in order to ensure their continuity, accountability, and stability
- There is a need for educational services such as financial literacy and responsible gambling behavior
- Services should be guided by data that show the negative impact of gambling