

## Abstract

In 2015, the City of Worcester's Community Health Assessment identified substance abuse, mental health issues, and access to care as the greatest challenges to public health. In 2018, WPI students created the *Stigma Free Worcester* app. We designed a marketing plan to increase public awareness of the app. This plan, which targets vulnerable populations, local industry workers, first responders and students, will be implemented by the Worcester Department of Health and Human Services, beginning in the spring of 2019.

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## Appendix A: Introduction

Substance abuse and related deaths have been dramatically increasing since the 1990s, an epidemic that affects the entire nation. The amount of opioid-related deaths recently reached an all time high, accounting for 47,600 deaths in 2017 (National Institute on Drug Abuse, 2019). In many cases, people struggling with substance abuse do not receive treatment. In 2015, the Substance Abuse and Mental Health Services Administration (SAMHSA) found that approximately 81.5% of Americans needing treatment for substance abuse did not receive treatment.

Drug addiction and preventable diseases are a major problem in the City of Worcester. Reported overdoses have been drastically increasing over the last 20 years, and more than doubled from 2011 (271) to 2014 (712) (CHA, 2015). According to the most recent Worcester Police Department report on July 13, 2018, there have been 1,051 opioid related overdoses, both fatal and non-fatal, since July of 2017 (CHA, 2018). Mental health can have an affect on substance abuse, as opioid use and the risk of drug overdose was significantly higher for people diagnosed with depression (Turner, Liang, 2015).

The main goal of the Department of Health and Human Services (DHHS) is to coordinate public health services for the city of Worcester, Massachusetts. Every three years, the Worcester DHHS conducts Community Health Assessments (CHA) that identify the major challenges impacting residents' health. Identified in the 2015 CHA, access to care is regarded as a main priority area, and is critical to community health. A survey, also conducted by the 2015 CHA, ranked behavioral and mental health, opiate and prescription abuse, substance abuse, insurance costs and coverage, and health knowledge as the top five main health challenges in Worcester. To address access to substance abuse and mental health resources in Worcester, the DHHS

worked with a Worcester Polytechnic Institute student project team to create the *Stigma Free Worcester* application. The application consolidates information about local addiction treatment programs, food and clothing relief organizations, clinics and advocacy groups. With the help of this application, the Worcester community will be more informed about health care services and resources available in the city.

The goal of our project was to make recommendations to the City of Worcester's Department of Health and Human Services on implementing a long term marketing campaign for the application and developing a plan for ongoing promotion of the application. This started with initial research and outreach by contacting both local resources such as the ones on the app, and larger organizations who could give us information on marketing techniques. By increasing public knowledge of the app, the Worcester DHHS aims to decrease the stigma around substance use and mental health issues, and increase access to care.

Following this section, this report introduces further background on the Worcester Department of Health and Human Services; substance abuse and the opioid crisis in the United States and Worcester; and the state of health care access in the city of Worcester; the application *Stigma Free Worcester* and similar applications, and marketing techniques used in successful public health campaigns. The methodology section provides a step by step plan on how we created the framework for a public health outreach campaign. These methods include analyzing previous public health campaigns' marketing methods, increasing public awareness of the application, utilizing focus group feedback, and collaborating with our sponsor. The findings section provides information information that we gained through interviews and the final deliverables of our project. These are meant for the Department of Health and Human Services to use towards long term marketing.

## Appendix B: Background

The Substance Abuse and Mental Health Services Administration (SAMHSA) found that in 2015 approximately 81.5% of Americans needing treatment for substance abuse did not receive treatment (National Institute on Drug Abuse, 2019). This project intends to assist the City of Worcester Department of Health and Human Services by developing a large-scale marketing campaign for the mobile application *Stigma Free Worcester*, which provides information on critical resources for health and wellbeing, such as clinics and shelters.

This background chapter describes the purpose of our project. In the first two sections, we discuss substance abuse and the opioid crisis in the United States and Worcester. Access to care and barriers in Worcester are covered in the third section of this chapter, followed by an introduction to the *Stigma Free Worcester* mobile application and similar resources. The last section goes over effective marketing techniques for public health campaigns. The background chapter of this report analyzes the major problem of substance abuse, and identifies methodology for developing a marketing campaign for the *Stigma Free Worcester* application.

### Substance Abuse in the United States

Substance abuse and related deaths have dramatically increased since the 1990s, an epidemic that affects the entire nation. Many factors contribute to the sharp rise in substance abuse, which is part of the increasingly global problem of the opioid crisis. The epidemic harms several domains of society— social, economic, and health. Former Massachusetts Governor Deval Patrick declared the opioid epidemic a Public Health Emergency in 2014, and in result Commissioner Cheryl Bartlett requested the Public Health Council to take a series of actions:

1. Add \$300,000 to the Bystander Naloxone Program for increased training and recognition in an overdose situation
2. Prohibit the prescribing and distribution of hydrocodone-only medication until measures are in place to prevent potential diversion, overdose and misuse
3. Permit first responders to carry and administer naloxone (Narcan)

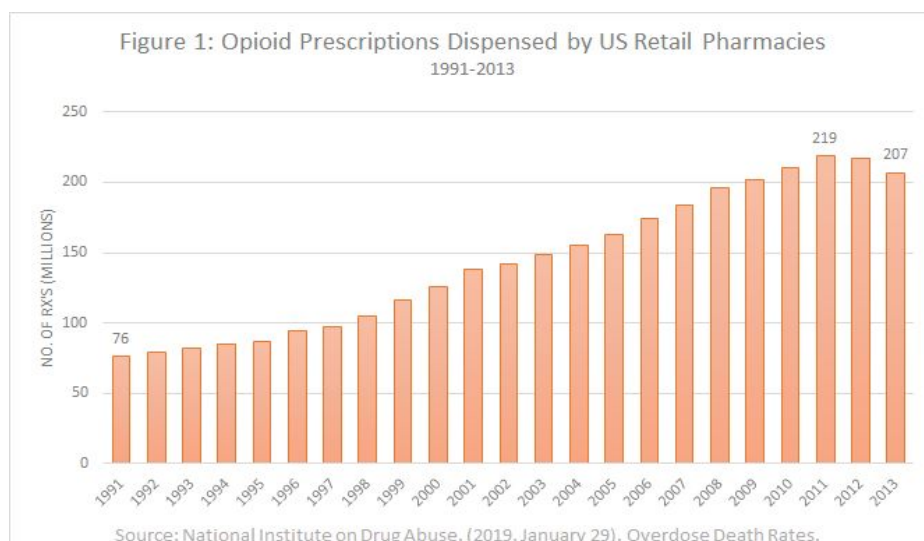
4. Develop a proposal to the Council in order to accelerate the mandatory use of prescription drug monitoring by physicians and pharmacies

(Massachusetts Department of Public Health, 2014)

### The Cost of the Opioid Epidemic

Opioid addiction has taken a great financial and emotional toll on many people in the United States. In Massachusetts, the effects of what has become a substance abuse epidemic are felt in every community. Individuals and families find themselves inundated with the financial costs of treatment, while many struggle to find and access affordable care. Substance abuse also brings emotional turmoil that extends beyond the individual, impacting family, friends and close community members. The majority of the children from families with parental substance abuse have been taken into the foster care system (Brook, Mcdonald, 2009), and many grandparents have found themselves raising grandchildren while their own children struggle with addiction (CBS News, 2018).

Opioid prescriptions and abuse have increased significantly within the past decade. Increased instances of unnecessary opioid prescriptions have exacerbated the epidemic. Shown in Figure 1, from 1991 to 2013 opioid prescriptions rose from 76 million to 207 million. The United States is the largest consumer of opioids, namely hydrocodone (almost 100%) and oxycodone (about 81%) (National Institute on Drug Abuse, 2019). According to the National Institute on Drug Abuse, in 2014 approximately 2.1 million people abused opioid painkillers in the United States. A 2018 retrospective cohort study of 2013 health claim outcomes examined the health care costs of



people at high risk of abusing prescription opioids (BMC Medicine, 2018). The study focused on non-elderly adults prescribed opioid medications, including chronic users and concomitant use—using two or more opioids at the same time, prescribed or otherwise. The study found that people suffering from opioid use disorders had average health care costs upward of \$25,000 with \$4,400 in pharmacy costs. Chronic users on average had \$30,000 in health care cost and \$11,000 in pharmacy costs; one third of the expenses acquired by chronic users were in pharmacy costs. In comparison, the health care expenses of the average American in 2013 was \$9,121 (Centers for Medicare and Medicaid Services.gov, 2017). A study by the Kaiser Family Foundation, a non-profit organization dedicated to understanding health care issues facing the United States, analyzed how health care spending varies across population demographics. The study found that in 2016 the average health care spending for individuals aged below 19 to above 65 years, per person, was \$5433.

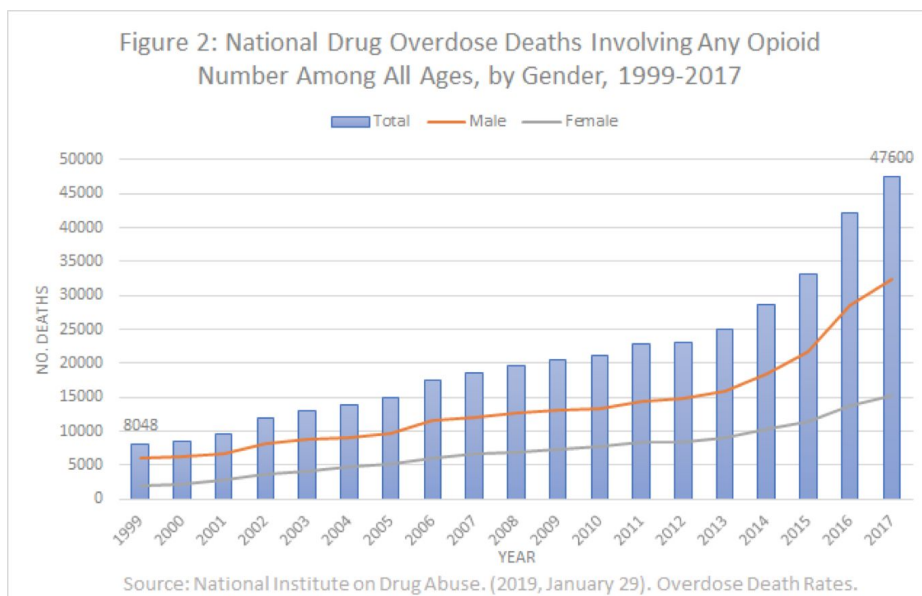
In 2001, annual healthcare costs in the U.S. were \$1.486 trillion, and \$2.295 trillion in 2007 (Centers for Medicare and Medicaid Services.gov, 2017). Of these costs, roughly \$139 billion accounted for prescription drug use in 2001, and \$235 billion in 2007 (Centers for Medicare and Medicaid Services.gov, 2017). The costs of prescription opioid use disorders also increased over this period, rising from \$8.1 billion to \$56 billion (Birnbaum et al., 2006). Over this six year period, the percentage of annual health care spending increased by 69% for prescription drugs and 591% for prescription opioid abuse.

Substance abuse affects not only the individual user, but also those immediately around them, particularly children (Huff, Lala & Straussner, 2006). Parental substance abuse is a major reason for children entering the foster care system, with approximately 60% of cases involving parental alcohol and drug abuse (Brook, McDonald, 2009). Additionally, cases where the primary caretakers abused both alcohol and drugs as opposed to neither or one or the other in general had poor rates of successful reunification of the family and had significantly higher rates of the children re-entering the child welfare system (Brook, McDonald, 2009). Research suggests that the widespread problem of substance abuse, while not as simple as a cause/effect relationship, could have a significant impact the maltreatment of children (Sheridan, 1995). An article in the

journal *Child Abuse and Neglect* reported that in a juvenile court 67% of serious child abuse and neglect cases involved parental alcohol and substance abuse (Sheridan, 1995).

A 2015 article in *The New England Journal of Medicine* titled “Trends in Opioid Analgesic Abuse and Mortality in the United States” states that in 2010 there were 16,651 documented opioid-related deaths. The National Institute on Drug Abuse tracked the number of opioid overdose deaths

from 1999 through 2017. Shown in Figure 2, there is a dramatic upward trend starting in 1999. The number of opioid-related deaths drastically increased over this short span of time, reaching an all time



high 47,600 deaths in 2017 (National Institute on Drug Abuse, 2019). The orange and grey lines in Figure 2 represent the differences in the amount of overdoses between males and females. Males have consistently accounted for more overdose deaths involving any opioid over this time period. This data shows an increasing need for recovery resources for those who are dealing with opioid addictions.

## Challenges to Worcester Community Health

The 2015 Worcester CHA held 24 stakeholder interviews and 23 focus groups, totalling at 221 individuals. Stakeholders included members of the Umass Memorial Medical Center, Community Health Link, Fallon Health, Shrewsbury Public Schools, and other city organizations. Organizations that took part in the focus groups were Everyday Miracles, Hector Reyes House, HOPE coalition, AIDS Project Worcester, and many others. The 2015 Worcester



CHA conducted a survey to rank their main health challenges. Behavioral and mental health was ranked the highest health concern, followed by opiate and prescription abuse (CHA, 2015). Substance abuse was ranked the third prominent health concern.

### Mental Health

In part with the 2012 Greater Worcester Community Health Improvement Plan (CHIP), a Mental Health Assessment was completed to gain a better understanding of community members mental health and the challenges they face. There were 61 participants in this assessment, including general Worcester residents, consumers of mental health services, and service providers in Worcester. The Mental Health Assessment was used as a guide to improve the way the city deals with mental health disorders.

According to the Behavioral Risk Factor Surveillance System, between 2011 and 2013, approximately 15-18% of Worcester residents experienced more than 15 days of poor mental health in the past month, noticeably higher than the state average (10-12%). Represented in Figure 3, Worcester residents had more mental health concerns than the state average from 2011 through 2013. The system in which this was weighed included three categories; 15 or more days of poor mental health, 15 or more days that were limited by physical or mental health, and needing to see a doctor but could not.

**Figure 3: 2011-2013 BRFSS data on three mental health indicators**

Geography	Year	15+ days of poor mental health	15+ days limited by physical or mental health	Needed to see doctor but could not
Worcester	2011	16.3 (11.7 - 20.9)	8.9 (6.5 - 11.3)	11.2 (8.3 - 14.1)
Worcester	2012	17.8 (13.4 - 22.1)	12.0 (8.0 - 15.9)	14.9 (10.5 - 19.4)
Worcester	2013	15.6 (11.5 - 19.8)	9.8 (6.9 - 12.8)	10.4 (6.2 - 14.7)
MA Total	2011	10.4 (9.7 - 11.1)	6.5 (6.0 - 7.0)	9.5 (8.8 - 10.2)
MA Total	2012	10.9 (10.2 - 11.6)	6.6 (6.1 - 7.1)	9.2 (8.6 - 9.9)

MA Total	2013	11.2 (10.3 - 12.0)	7.0 (6.3 - 7.7)	8.5 (7.8 - 9.3)
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Between 2008 and 2012, mental health related issues resulted in 25,371 visits to the hospital emergency department (CHIP, 2012). The average amount of hospitalizations steadily increased over these four years from 4,103 in 2008 up to 6,104 in 2012. Comparing this to the state average, there were roughly 350 more hospitalizations in Worcester per 100,000 people in 2008 and 1,150 more in 2012 (CHIP, 2012). To understand why there are higher rates of mental health disorders in Worcester, the challenges and stressors that can lead to these disorders need to be analyzed.

The 2012 Worcester Community Mental Health Assessment determined the common challenges in Worcester that play a role in mental health disorders. The most common challenge that Worcester residents faced on a daily basis were economic difficulties. Economic difficulties include accessing health and social services, meeting basic necessities, and finding affordable and safe housing options (CHIP, 2012). For people with mental health disorders, finding and keeping work can be difficult as they have less experience dealing with the work process, including how they will get there and how to talk to customers, coworkers, or supervisors (CHIP, 2012). When struggling to find stable housing, turning to homeless shelters and other services can also present a challenge. Homeless shelters are generally not safe, and people struggling with mental health disorders often avoid them (CHIP, 2012). These issues related to economic difficulties are a significant source of stress for Worcester residents.

Exposure to violence and trauma can result in lifelong mental health effects and disorders. In Worcester, many residents are exposed to violence either in their homes or on the streets (CHIP, 2012). Specifically, community members affected the most from violence and trauma are children, immigrants and refugees, and veterans (CHIP, 2012). Traumatic experiences can produce significant problems, including both physical and psychological symptoms, that ultimately can lead to mental health disorders.

Mental health is often linked to substance and opioid abuse. In a 2015 article in *The Journal of General Internal Medicine* titled “Drug Overdose in a Retrospective Cohort with Non-Cancer Pain Treated with Opioids, Antidepressants, and/or Sedative-Hypnotics: Interactions

with Mental Health Disorders”, mental health disorders were found to increase opioid use. Opioid use was higher for people diagnosed with depression, and the risk of drug overdose was significantly greater (Turner, Liang, 2015). Substance use is a common method for people trying to manage the stressors in their lives. According to the Worcester Community Mental Health Assessment, a majority of the people using substances are “self-medicating” to help aid mental illness and stress symptoms (CHIP, 2012). A mental health consumer was quoted in the assessment referencing the use of drugs to cope with mental health disorders:

“...only way most people deal with it is drugs, that’s how I’ve always dealt with it... it’s the easiest, most cowardly way to walk out of it I guess, and not deal with any of the issues... just pop something and go into a different place... it’s hard, you have all that stress and pressure, and not everybody can deal with all that.”

The stigma around mental health significantly enhances the challenges that play a role in these disorders (CHIP, 2012). A mental health consumer that participated in the mental health assessment stated: “Employers don’t want to hire individuals with mental health illness [because] they think we’re crazies who won’t be able to do the job right.” People suffering from mental illness can be viewed

### **Prescription and Substance Abuse**

Substance abuse is one of the top health concerns in Worcester, affecting the whole community. The impacts of substance abuse go beyond the physical health of users. According to Healthy People 2020, through the 2015 Worcester Community Health Assessment (CHA), substance abuse disorders can often lead to motor vehicle crashes, homicide, suicide, sexually transmitted diseases, domestic violence, child abuse, teenage pregnancy and crime (CHA, 2015).

An effective way to track the amount of substance abuse-related health concerns is through hospitals. Examining the number of hospitalizations due to substance-related issues gives insight on the scale of the problem. The 2018 Worcester CHA tracked emergency department discharges involving alcohol and substances from 2008 through 2012, comparing the number with the state average and neighboring cities. Shown in Figure 3, emergency department

discharges related to alcohol and substance abuse, including opioids, were much greater in Worcester. Compared to the Massachusetts state average, Worcester's opioid related hospitalizations and emergency department discharges per 100,000 people were 143.5% and 177.2% higher, respectively (CHA, 2018).

Table 2: Substance Abuse (Service Area), Age-adjusted rates per 100,000								
Alcohol/Substance Abuse	Worcester	Grafton	Holden	Leicester	Millbury	Shrewsbury	W. Boylston	MA
Related hospitalizations (2008-2012)	338.8	136.9	145.5	194.7	198	122	164.7	337.5
Related ED discharges (2008-2012)	1209.2	426.6	389.6	426.3	649.2	372.3	488	858.8
<b>Opioids</b>								
Hospitalizations (2008-2012)	452.8	150.6	118.6	170.6	224.1	122.2	158.3	315.5
Related ED discharges (2008-2012)	315.6	158.2	125.3	166.4	203.7	148.8	184.1	259.6
Opioid-related fatal overdoses (2015)	43.6	1	1	1	1	1	0	24.6

In the case of an overdose, 911 is often called. Between August 2014 and July 2015, 712 overdoses were documented through 911 calls, and five percent (33) of these overdoses were fatal (CHA, 2015). Since there are many cases where 911 is not called during an overdose, the total number of overdoses during that time may be even larger. Worcester's 2015 CHA gathered information on reported overdoses over a 20 year span from 1994 to 2014;

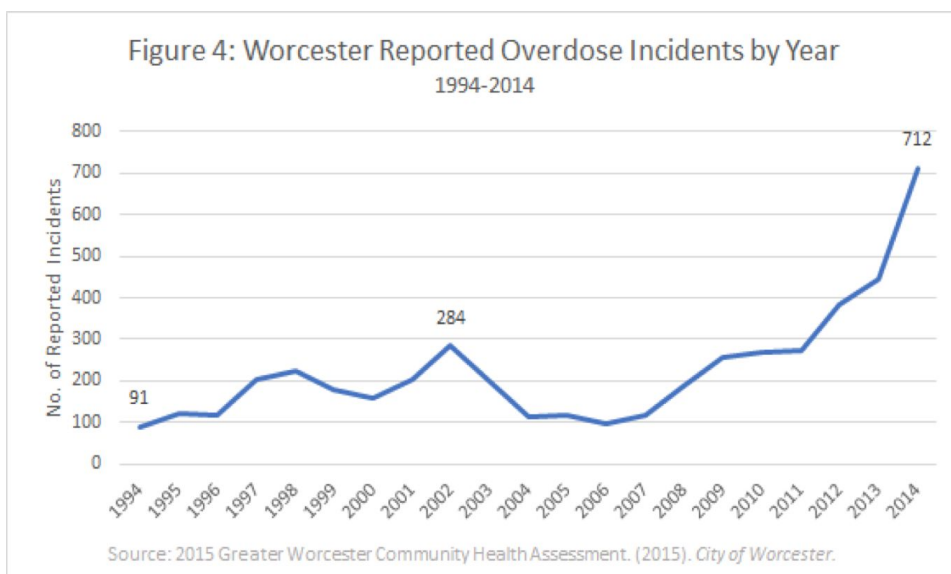


Figure 4 (pictured below) from the CHA shows the overdose trend. Over the 20 year span reported overdoses increased exponentially, starting in 2006. Reported overdoses more than doubled from 2011 (271) to 2014 (712) (CHA, 2015). To track the overdose epidemic, the Worcester Police Department creates a monthly report of all reported overdoses (CHA, 2018). According to the most recent report on July 13, 2018, there have been 1,051 opioid related overdoses, both fatal and non-fatal, since July of 2017 (CHA, 2018).

## Accessing Care

Lack of access to care is a major cause of disease and death in the United States. The inability to access care has many causes, such as not having health insurance or not proper means of transportation to and from clinics and scheduled doctors appointments. Access to care was one of the 2015 CHA's nine priority areas. These priority areas represent where the City of Worcester will concentrate improvement efforts. Through the 2015 CHA, a survey was conducted to identify the many barriers affecting access to care in Worcester. The most prominent barriers were wait times and access to health insurance. These problems generally affect lower income populations in Worcester. Populations most likely to experience low or poor health care are older adults, racial and ethnic minorities, people with low levels of education, low income individuals, people who speak English as a secondary language, and people with a compromised health status. (CHA, 2018) There are resources available for low income and at risk populations, but they are often not aware of these resources or cannot afford to pay for them. With health insurance costs and health knowledge being the fourth and fifth most noticeable health challenges in Worcester, it is common for vulnerable populations to struggle finding affordable health care. (CHA, 2015)

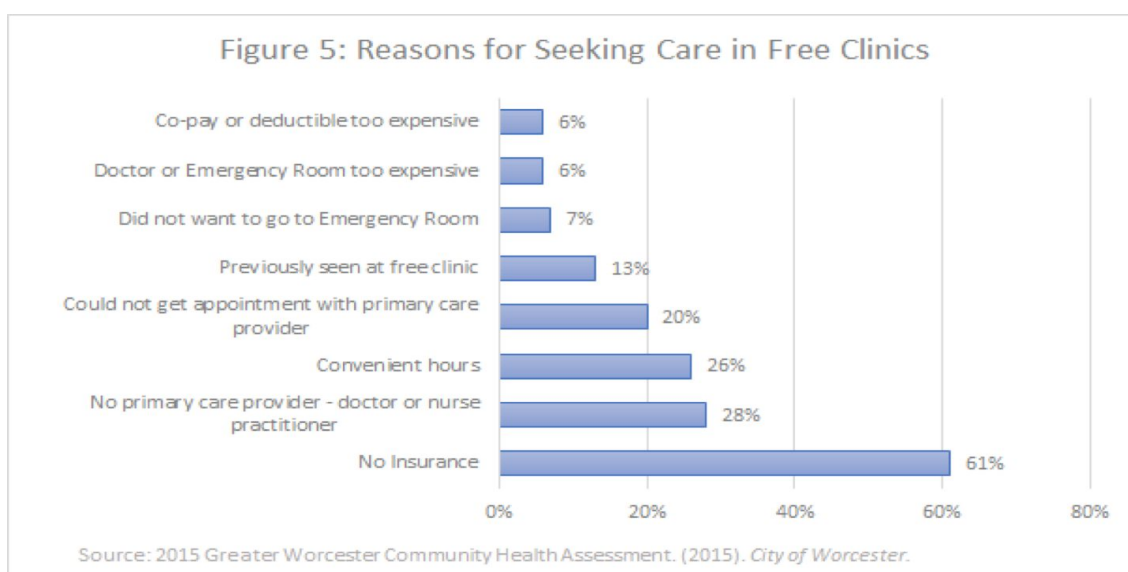
## Wait Times

Patient wait times have a serious impact on the care people in Worcester receive. In 2013 the Massachusetts Medical Society conducted a study to find the average health care wait times in Worcester. Scheduling an appointment with a health care professional generally takes 30 days. Specialty appointments, such as family medicine or cardiology, can take closer to 50 days (Massachusetts Medical Society, 2013). The cause for these extended wait times is due to the

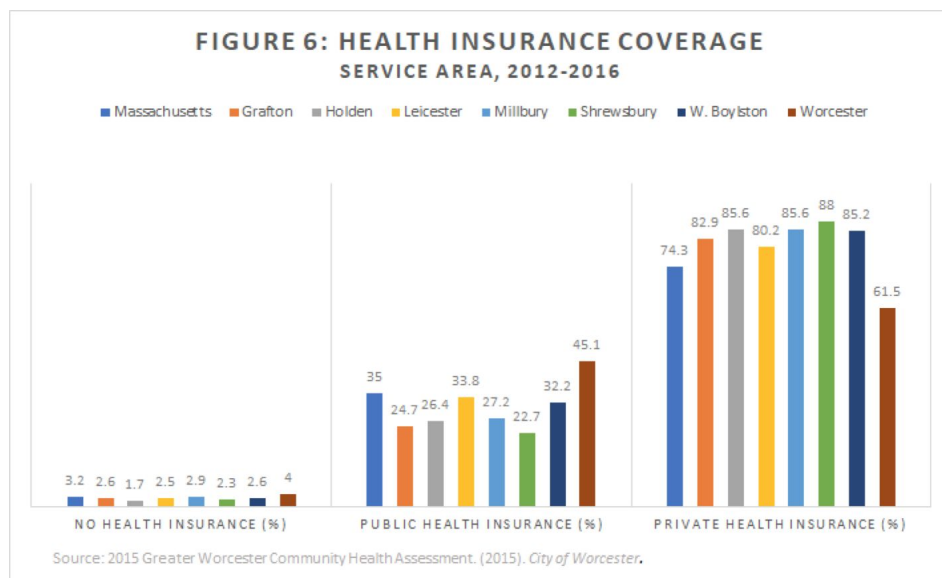
lack of health care providers caring for low income populations of Worcester. Designated by the United States Health Resources and Services Administration, Worcester is a Health Professional Shortage Area for low income populations, meaning there are not enough health care providers caring for low income patients (Health Resources and Services Administration, 2019).

### Health Insurance

Health insurance is a huge barrier for the low income population in Worcester. Often times, people will seek health care at free clinics rather than with private medical professionals. In 2015, the Worcester CHA ran a survey on why people seek care at free clinics. Figure 5 (pictured below) represents the most popular reasoning for participants seeking health care at free clinics. With 61% of the responses, having no insurance was the number one reason why participants received health care at a free clinic (CHA, 2015).



As seen in Figure 6, Worcester has a higher percentage of residents without health insurance compared to the Massachusetts state



average. The 2015 CHA compared Worcester's percentage of individuals with health insurance to the state average from 2009 until 2013. Of the Worcester population, roughly 5% was not covered by health insurance. Even residents who do have health insurance coverage still face the extremely high costs of copays and deductibles for their doctors appointments and medication. These upfront payments for routine tests and medication can cost thousands of dollars. According to a 2010 study, lower income families are more likely to put off medical care compared to upper class families, due to the cost of deductibles and copays (Kullgren, 2010).

### Knowledge

For low income and homeless populations of Worcester, it can be difficult to hear about or locate the health care resources that Worcester provides (Kola, Honcharik, Foley, Christie, 2018). Health knowledge was ranked as the fifth most prominent health challenge in Worcester, and having low health literacy can affect a patient's ability to locate health care providers (CHA, 2018). Health literacy is defined as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions” (*U.S. Department of Health and Human Services*). The Worcester Department of Health and Human Services (DHHS), a branch of the Worcester city government that is responsible for coordinating and managing a range of services in the areas of public health, has resources to help with problems regarding substance abuse, fair housing, senior care and veteran assistance (*City of Worcester*, 2019). Without proper exposure or promotion, these resources can be unknown to the people in Worcester that need them most.

### Stigma Free Worcester

The mobile application *Stigma Free Worcester* was created to assist the Worcester DHHS in addressing one of Worcester's most prominent problems: access to substance abuse and mental health care. *Stigma Free Worcester* is an Android application available on the Google Play store that provides information on critical resources in the area, such as clinics, hospitals, shelters, and more to those who need it most. The app has four main categories of resources: substance use, housing and shelter, mental health and support, and food and clothing. Each resource provides essential information about themselves like their address, contact information, hours of operation, types of services provided, payment options and insurance information, and

special accommodations. Having apps and websites like *Stigma Free Worcester* are indispensable because they serve a much needed intermediary role between those seeking help and health care providers. An important part of improving health literacy is using “plain language” in communications about health (*U.S. Department of Health and Human Services*). *Stigma Free Worcester* helps to aid increasing health literacy by displaying critical information about these resources in Worcester in easily readable and understandable language. Access to care is a priority issue in Worcester and *Stigma Free Worcester* directly addresses this problem.

### Similar Resources and Usage Statistics

A 2018 study collected data to determine how people with substance use disorders in Philadelphia, PA, interact with mobile technology, and if there is a significant interest in using a digital platform to aid in recovery. The study reported that the majority of participants would like to use texts (72.3%) and apps (70.15%) to help with relapse prevention (Eyenbach, 2018). Although *Stigma Free Worcester* takes a more passive approach to aid in recovery, this study shows a positive response to using a mobile application for recovery resources.

A 2016 journal article from *Health Marketing Quarterly* studied how people, specifically young adults and teens, search online for health information. The journal discusses searching information specifically for the human papillomavirus, but the trends can apply to how young people access general health information and resources online. This article found that 59% of American adults seek health information online (Park, Go, 2016). With more than half of the American population seeking health information online, a mobile application providing key health resources could have a positive impact on the Worcester population and aid in the Worcester DHHS’s goal to improve access to care.

A mobile application and online platform called *Boston 311* was created by the Boston Digital team on behalf of the City of Boston. *Boston 311* is a non-emergency reporting service, which people can call to be connected with Constituent Service Center representatives. Common service requests through *Boston 311* include asking for a pothole fix, street cleaning, needle clean-up, and repairing street signs and traffic signals (City of Boston). The application allows the City of Boston to directly address issues affecting their citizens. The website and application provides a list of report formats to choose from based on what they would like the City to handle



with many categories, such as Litter and Trash, Health Hazards, Vehicle/Parking, Lights and Trees. The mobile application also features a link to the City of Boston app *Boston Trash Schedule & Alerts*, which keeps residents updated about garbage and recycling schedules.

*Bridge Over Troubled Waters* is another organization based in Boston and is a resource for youth struggling with homelessness and potential drug usage. They were started back in the 1960s by a group of women from St. Joseph’s Church in Boston. It started out as a small mission to help the group of at-risk youth culminating in Cambridge and Boston Common. Now *Bridge of Troubled Waters* has grown into a city-wide resource with both a website and a mobile application available for both Android and iOS devices. The application shows a sorted list of resources around Boston such as shelters, food and health care. *Bridge Over Troubled Waters* also features various hotlines for those facing sexual assault and domestic violence (Bridge Over Troubled Waters, 2018).

With numerous researchers saying that online resources are being heavily depended on by the public for health information, it makes sense that there is a growing amount of websites and mobile applications with information for those dealing drug abuse and homelessness. *Boston 311* and *Bridge Over Troubled Waters* are two great resources that have adjusted to today’s digital world by creating mobile applications. If *Stigma Free Worcester* can be promoted to a more prominent level, it can help many people similarly to how other new, online resources like *Bridge Over Troubled Waters* has.

## Marketing Techniques

In order to market the *Stigma Free Worcester* application, we need to get a better understanding of what goes into a marketing campaign and the different techniques associated with it. A basic summary of marketing focuses on the “4Ps”: product, price, place and promotion (Brown et al., 2018). In the case of marketing a free application such as *Stigma Free Worcester*, emphasis is on product, place and promotion. The public must understand the product, why it is useful, and how it relates to the place— concerning public health in Worcester and the primary health issues facing the city. The following subsections explore marketing techniques to address the last P, promotion.

## Rhetoric

In the 2018 *Journal of Pharmacy Practice and Research*, Chris Alderman discusses utilizing rhetorical appeals in the article “Ethos, pathos, logos: a script for clinical communication.” Ethos utilizes the perceived character and expertise of the individual or organization to communicate information effectively; “the conveyor must be credible, [and] empathetic to the needs of the recipient” (Alderman, 2018). In the promotional campaign for *Stigma Free Worcester*, the City of Worcester and the Department of Health and Human Services, namely Commissioner Dr. Matilde Castiel, function as the credible entities.

Pathos is an appeal to the target audience’s emotions. In clinical communication, conveying factual information is the most important, and appealing to audience emotions strengthens the message. Logos is the clear communication of data and facts, evidence to back up and give weight to claims made in public health campaigns. The most compelling messages in marketing utilize all of these appeals.

A 2018 paper on developing a social media campaign to reduce tobacco use among pregnant Alaska native women discussed the results of focus groups for different campaign poster concepts utilizing rhetorical appeals, and a media development plan (Patten et al.). The concept study had multiple stages, starting with qualitative surveys to understand perceptions and preferences. The second stage of the study took a quantitative survey approach, providing feedback about the posters produced based on the results of the first stage of the study. The three key concepts piloted in the focus groups were grouped as factual, emotional, and spiritual and cultural. The factual concept focused on the loss and harm caused by tobacco use during pregnancy, aiming to persuade the audience by detailing the negative health impacts tobacco use has on a developing baby. This concept is utilizing a combination of logos and pathos appeal, providing data and presenting it in a way to elicit a strong emotional response. The emotional (pathos) concept focused on the benefits of quitting smoking. The spiritual and cultural concept emphasized quitting smoking for the sake of future generations, and creating a cultural shift to improve community health, another pathos-type appeal. The study found that 50% of participants ranked the factual concept as the most preferable, 25% preferred emotional, and 25%

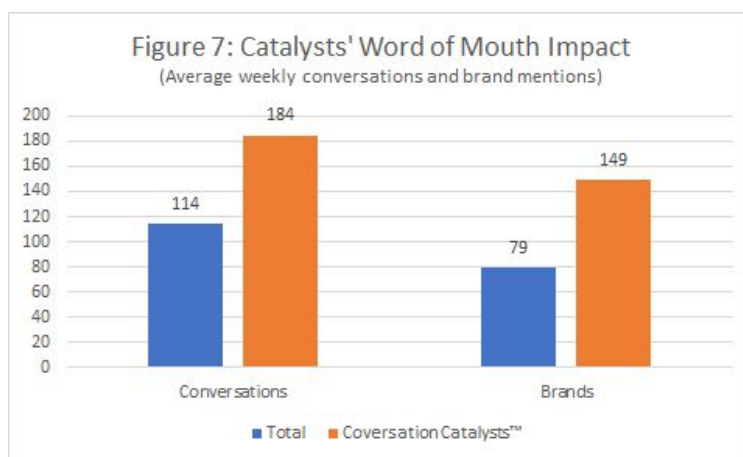
cultural/spiritual. The study also cited “factual-based and culturally specific messaging” as having the most potential for community-level engagement; the structure of a public health campaign framework needs to match marketing materials demographics within the broader target audience, to communicate the message to as many people as possible (Patten et al., 2018).

### Word of Mouth Marketing

Word of mouth marketing refers to informal conversations and recommendations from customers about products or services (Karlíček, Tomek, 2010). Product-related messages can be extremely persuasive when coming from someone you know. When a friend, family member, or colleague describes the food, clothing, or electronics they use and like, you are more prompted to buy one of these products because the information is coming from someone you know and trust (Karlíček, Tomek, 2010). According to Karlíček and Tomek, the impact of word of mouth marketing generally exceeds that of actual marketing techniques. In fact, up to 90% of people will believe a friend, colleague, or trusted individual while just 14% of people will trust advertisements (Alford, 2009). Research has been done to examine the impact of word of mouth marketing compared to advertisement or direct mail marketing. Customers acquired through word of mouth usually add more long-term value to a company, while customers who saw advertisements were more valuable in the short-term (Villanueva, Yoo and Hanssens, 2008).

Research was conducted in the Czech Republic with over 500 participants to analyze the fundamentals of this marketing technique. This study indicates that word of mouth marketing is between familiar people, including family members, friends, colleagues, and other people you may know (Karlíček, Tomek, 2010). This can be generalized to people that you usually come in contact with during the day. The majority of these conversations occur at home, work, or school (Karlíček, Tomek, 2010). When you hear about a product from a peer, you usually remember the negatives things they say and it can seem as if there is more negative word of mouth marketing compared to positive. Although there is more positive word of mouth marketing than negative, negative information has a much greater impact on customer decision making (Karlíček, Tomek, 2010).

In the 2006 research article titled “*Leading the Conversation: Influencers’ Impact on Word of Mouth and the Brand Conversation*”, it was found that word of mouth marketing used by influencers is an effective marketing strategy. Influencers can range from celebrities, investors, and fashion designers, all the way to friends and family members (Keller Fay Group, 2006). The term “influencer”, or “catalyst”, refers to trusted resources that people receive information from. Catalysts was the term used in this study, and they were identified by how large their social network was, how often they communicate with these networks, and how often they used word of mouth marketing in the past. This study compared how often word of mouth marketing was used for the



average catalyst and the average person. Shown in Figure 7, catalysts had 61% more weekly word of mouth marketing conversation than the average person and 89% more word of mouth conversations involving specific brands. Catalysts can significantly increase the effectiveness of word of mouth marketing by prompting conversations about brands and their missions.

## Social Media

The use of social media as a no or low cost marketing tool is an effective way to reach a large audience that you may not be able to reach with physical advertisement. The term social media defines as the use of online technology and practices to share opinions, experiences, perspectives, and more (Gupta, Sharma & Tyagi, 2013). In terms of marketing, it is used to build networks, distribute information, and gain trust and confidence from the public. The marketing can be presented in many forms, including text, images, and videos. There are multiple social media platforms that are effective for marketing public health, including collaborative projects, content communities, online blogs, and social networking sites (Haenlein, Kaplan, 2009). In healthcare, collaborative projects are used as a joint effort between the public and professionals

in health promotion (Gupta, Sharma & Tyagi, 2013). A platform like Wikipedia allows any user to edit information, keeping information up to date from both the patients and providers perspective.

Content communities were identified as the second platform used to market public health issues. Content communities are platforms where multimedia materials are shared, including Youtube and Flickr (Haenlein, Kaplan, 2009). The Centers for Disease Control and Prevention (CDC) has been extremely successful in raising awareness of public health problems through social media, specifically using Flickr and Youtube. During the Swine Flu outbreak, the CDC used their Youtube page to upload a video describing symptoms of the virus and warning signs to look for. In less than two years, the video reached approximately 2.1 million views (Haenlein, Kaplan, 2009). Content communities can be an effective way to quickly spread information on a public health issue.

An online blog is the term used to describe a journal of opinions and experiences (Haenlein, Kaplan, 2009). The non-profit medical practice organization, Mayo Clinic, utilized many forms of blogs to promote health education and treatment, including a news blog, a sharing platform, and podcast blog, and a Twitter page. The news blog was primarily used for posting audio and video segments discussing medical research and other medical news. The sharing blog was the most engaging, and provided patients with a platform to upload their experiences at Mayo Clinic. This also included links to their Facebook and Youtube pages. The Mayo Clinic's podcasts were the most popular, and gave users a brief news story on common diseases and conditions. Users could subscribe to the podcasts and receive updates on when new ones were available. Lastly, the Twitter page was used by Mayo Clinic experts to post discussion links pertaining to health issues, tips, and other information. Followers of their page could retweet and share this content to their contacts, further promoting Mayo Clinic. Spreading information in various forms, such as through videos, podcasts, and on a Twitter page, can be an effective way to promote public health information.

Social networking sites, such as Facebook and Twitter, are used by approximately two thirds of Americans, translating to roughly 148 million people (Park, Rodgers, Stemmler, 2013). Facebook is the most prominent social media site for those using networking sites for health

information (Dolan, 2011). For health organizations, such as government agencies, pharmaceutical companies, and medical centers, Facebook allows effective communication with target audiences and the ability to widely spread information (Park, Rodgers, Stemmler, 2013). In a 2013 research article from the *Journal of Interactive Advertising*, health organizations' use of Facebook to manage their brand and advertisements were analyzed. Specifically, they examined who is using Facebook the most to promote health issues and what features they were using. The health organizations were broken into five groups; Government agencies, health care institutions (hospitals and medical centers), schools and universities, businesses and pharmaceutical companies, and community or non-profit organizations. Non-profit organizations were more active in posting on Facebook compared to the other groups. With low or no budget for marketing, posting general information about their campaign and frequently posting updates was important to promote their health issue. Health care institutions effectively connected other social media outlets to their Facebook page, including Twitter and Youtube. This ultimately led to more awareness of their organizations and services. Government agencies and Universities incorporated more interactive features and branding techniques on their Facebook pages. These features include videos, widgets, and photo-sharing, among others. Government agencies and schools have a much larger budget and have the ability to produce professional content on their pages.

Although all methods of promotion were effective, visually appealing interactive features were able to get the attention of more users who could further connect the page to their contacts (Park, Rodgers, Stemmler, 2013). Constant evaluation of the page is also critical to track the effectiveness of the materials being posted. Diversifying social media efforts casts a wider net of outreach.

### Large Media

Utilizing larger media such as being featured in local newspapers, radio stations, and television advertisements has several benefits for an application like this. Having information about *Stigma Free Worcester* spread through these outlets would provide an immediately larger reach because local newspapers and news stations on the radio and television already have a large audience that trusts the source, whereas creating social media accounts and passing out

flyers requires a typically slow accumulation of viewers and followers who may or may not engage with the material. However, getting featured through these outlets is fairly costly.

## Marketing Methods for a Public Health Campaign

For our project, we will be marketing the *Stigma Free Worcester* application so its resources can be recognized by the community. To develop the methods we will use to accomplish this goal, our group researched social marketing methods for public health issues and analyzed successful public health campaigns. Two research articles that outlined effective marketing methods for public health issues are the 1993 study “Social Marketing for Public Health” in *Health Affairs*, and the 2004 Lead Poisoning Prevention Program (LPPP) campaign “*Peeling Lead Paint Turns into Poisonous Dust. Guess Where It Ends Up?*” conducted by the New York City Department of Health and Mental Hygiene (DOHMH). The methods we found most useful for our project are:

1. Identifying a target populations
2. Using surveys, focus groups, and interviews
3. Finding supporters of the campaign
4. Creating effective advertisements

Our team analyzed both of these research articles to identify how they were able to use these methods to successfully promote their campaigns. The first step was to identify a target population.

### Identifying Target Populations

Target populations can be determined by reviewing existing data. The LPPP collected data from the DOHMH childhood lead poisoning surveillance registry, the U.S. Census, and the NYC Department of City Planning (Greene, 2015). Additionally, at-risk neighborhoods and language distributions can be identified using existing data (Greene, 2015). Reviewing existing research on successful public health campaigns helped Walsh, Rudd, Moeykens, and Moloney, the authors of “Social Marketing for Public Health”, find ways to locate their target population.

Once the target population is established, it is critical to assess their existing knowledge of the issue the campaign is seeking to address. The people a public health program is aimed to assist can also provide feedback on the effectiveness of the campaign. The best ways to obtain this feedback are through surveys, interviews, and focus groups.

### **Utilizing Surveys, Interviews, and Focus Groups**

Surveys can be a useful technique for marketing public health campaigns. For example, the LPPP conducted surveys to understand people's knowledge on lead poisoning. An effective way to use surveys is to implement them before and after the launch of a campaign (Greene, 2015). Using surveys before the launch can help to understand what people already know about the issue (Greene, 2015). This identifies baseline knowledge, which can later be used for project benchmarking. After launching or completing a public health program, surveys can be distributed to gain feedback on its progress and the effectiveness of its promotional materials (Greene, 2015; Walsh, Rudd, Moeykens, & Moloney, 1993).

Similar to surveys, one-on-one interviews can be used to understand people's knowledge on the problem being assessed (Greene, 2015). Instead of scheduling ahead of time, interviews can be conducted by asking people to participate in public places, such as schools, libraries, and grocery stores (Greene, 2015). Incentives are often provided to participants to draw them in, such as the four dollar New York public transportation pass given to interviewees during the lead poisoning health campaign (Greene, 2015).

Focus groups are another effective technique to gain community feedback on a campaign's progress (Greene, 2015; Walsh, Rudd, Moeykens, & Moloney, 1993). They are simple ways to gather feedback without asking each participant separately. The Partnership for Drug-Free America, the Stanford cardiovascular disease prevention program, and Brazil's breast-feeding programs all received feedback by distributing questionnaires during their focus groups (Walsh, Rudd, Moeykens, & Moloney, 1993). By providing incentives, focus groups can also be used to influence further promotion of a marketing campaign. The oral rehydration project in Honduras and Egypt, the Stanford cardiovascular disease prevention program, and the "Beautiful Babies Right from the Start" infant mortality reduction campaign all used incentives during focus groups to contribute to the promotion of their campaign (Walsh, Rudd, Moeykens,



& Moloney, 1993). After identifying a target population and interacting with community members through surveys, interviews, and focus groups, finding people and organizations that want to support the campaign can be crucial.

### **Rallying Campaign Supporters**

Gaining support from organizations and public figures can help with the promotion of a marketing campaign. Involved organizations can post advertisements in their businesses and promote the program by informing their customers (Walsh, Rudd, Moeykens, & Moloney, 1993). To stress the significance of the problem, having political figures or experts in the field involved in promotion is critical. In the United States anti-smoking campaign, former United States Surgeon General C. Everett Koop referenced the campaign and publically explained the importance of it (Walsh, Rudd, Moeykens, & Moloney, 1993). Community participation is also important for facilitating public health change. Connecting stakeholders to the program can show the rest of the community that the problem being addressed is significant and its prevention is important (Walsh, Rudd, Moeykens, & Moloney, 1993).

Support from organizations, public figures or experts in the field, and the community can make a health challenge seem relevant and further promote the program. Once a target audience is identified, feedback from the community is received, and supporters of the campaign are found, advertisements need to be created and placed throughout the community.

### **Effective Advertisements**

Advertisements are often used in marketing campaigns to promote messages to the general public. To effectively use advertisements, it is important to find what forms will be most useful, the associated costs, and where they will be placed (Walsh, Rudd, Moeykens, & Moloney, 1993). Instead of creating advertisements themselves, the Lead Poisoning Prevention campaign worked with a professional advertising company (Greene, 2015). Multiple forms of promotional materials may be necessary depending on where they will be placed. Bigger advertisements with less detail should be placed where people will quickly read them in moving vehicles, such as on city busses, large billboards, and sanitation trucks (Greene, 2015). Smaller, more detailed versions can be placed where people are stationary, including kiosks, bus shelters, subway entrances, and check cashing stores (Greene, 2015). Placing promotional materials

around the community will increase the campaigns exposure. If at-risk neighborhoods can be identified, posters can be put on buildings and bus stops in these areas to ensure the target populations see the advertisements (Greene, 2015).

## Conclusion

After researching successful public health campaigns, the marketing methods we found most effective are identifying a target population and at-risk neighborhoods; using surveys, interviews, and focus groups to gain community feedback; connecting with organizations or stakeholders; and creating effective advertisements. This research will help our group develop our own marketing methods to properly promote the *Stigma Free Worcester* application. With the help of the Worcester Department of Health and Human Services, our group will develop a large-scale marketing campaign for the app *Stigma Free Worcester*, which provides information on critical resources for health and wellbeing such as clinics and shelters. In the next chapter, we describe the methodology we will use to accomplish our project goal.

## Appendix C: Methodology

### Introduction

This project assisted the City of Worcester Department of Health and Human Services by developing an outreach program to inform the Worcester community about the *Stigma Free Worcester* application so that it could be recognized as a resource for accessing care. To accomplish this goal, we followed four objectives. First, we contacted cities and organizations that use social media marketing. Our team then connected with organizations on the *Stigma Free Worcester* application to explain its uses and analyze what types of media our target users prefer and have access to. An electronic toolkit was created and distributed, including general information about *Stigma Free Worcester* and an instructional video on how to download and navigate through the app. Lastly, we developed a long term plan for ongoing promotion; the *Stigma Free Worcester* application did not have a marketing campaign in place prior to this project. The City of Worcester held a formal launch of the application at the completion of the IOS version. In the following sections, we explained our four objectives and discussed the methods required to accomplish them.

### Objective 1: Gain Knowledge About How City Employees and Organizations Conduct Their Social Media Marketing

We identified other cities and organizations that have successfully promoted some form of digital resource, such as a website or mobile application. Many of these resources have specific departments or employees that are responsible for social media marketing. Our team scheduled and conducted phone interviews with employees from these resources to gather information on the marketing techniques they used to promote their product. For example, the City of Boston has a Digital Team that handles all of the city's social media, as well as an application called Boston 311, which is an easy to remember phone service that helps with myriad non-emergency services. Talking with them and other cities with similar resources aided in further shaping our own promotional methods. This information helped us develop successful tools to market *Stigma Free Worcester*.

Interviews were conducted in a way that aligns with a semi standardized interview. We created a predetermined list of questions, but also had the freedom to delve deeper into certain areas of interest where appropriate (Berg, 2017). Appendix C-1 is comprised of the types of questions that we asked these organizations. Interviews typically ended with asking the participants if they had any recommendations for other possible respondents who may have insightful information.

The City of Worcester has employees who specifically work with marketing and media relations; we worked closely with them and asked them questions similar to the ones used in our interviews. After analyzing the successful methods these organizations used, we adjusted them to fit our market and incorporate them into our plan. This will be further explored in the following objectives, however this objective had a major impact on our project as the information gathered greatly influenced our marketing campaign.

## **Objective 2: Connect with *Stigma Free Worcester* Organizations and Target Users to Introduce the Application**

The target users are the people who would benefit from using the application or connect people to the application and its resources. The resources included in *Stigma Free Worcester* are organizations providing substance use, homelessness and mental health services, and other related resources (Kola, Honcharik, Foley, Christie, 2018). Through research conducted in our background chapter, along with information gathered by the project team that developed the *Stigma Free Worcester* application, the target users were identified as Worcester community members affected by substance abuse, mental health issues, and homelessness (Kola, Honcharik, Foley, Christie, 2018). For our second objective, we connected with the resources on the *Stigma Free Worcester* application to establish rapport and explain the application and its uses. To connect with these resources, our team contacted many of the listed organizations through email and phone calls. In our initial interviews, we gathered background information on the organizations and scheduled focus groups. In these focus groups, we gave background information on *Stigma Free Worcester* and explained how it could be used most effectively. Focus groups were preferable to distributed surveys. Surveys could easily be ignored or

overlooked, and verbal interactions with respondents allowed our group to build rapport with the community. Benefits of focus groups include being flexible, and including diverse groups that will have their voices heard (Berg, 2017). Focus groups also gave us the ability to conduct snowball and respondent-driven sampling, in which group participants were able to connect us with other potential participants for future focus groups. The *Stigma Free Worcester* application was designed to connect people suffering from substance abuse to care services, meaning a large portion of the application's target users could be classified as members of a hidden population. "Hidden population" is a term used to describe a population of unknown size and boundaries who, due to stigma or illegal activities, are difficult to sample because of privacy concerns (Heckathorn 1997). The two primary sampling methods used for studying members of hidden populations are snowball sampling and respondent-driven sampling. In snowball sampling, focus group participants tell new people about the study to recruit more volunteers. Respondent-driven sampling more specifically refers to when members of a hidden population, who already have established rapport in their community, invite other members of the hidden population to participate in a study. Located in Appendix B-2, we used a specific outline in our first focus group to describe the *Stigma Free Worcester* application.

### **Objective 3: Design and Pilot Informational Materials for Stigma Free Worcester**

After collecting and analyzing data from our previous objectives, our team designed and created informational materials, including flyers, a business card, QR codes and how-to video that provides information about the *Stigma Free Worcester* app. With a limited budget, priority was given to materials that had little or no production cost. No cost methods of promotion included the Facebook and Twitter pages for the app. These social media pages are used to give updates about the app and also to receive feedback from the public. The instructional videos were also posted on the facebook to show people how to download and use *Stigma Free Worcester*.

Flyers were designed with different audiences in mind: the general public, university students/staff and local businesses, and groups such as the Worcester Fire Department and Police

Department. In almost all of the flyers the word “recovery” and a short phrase were made very large so as to attract attention and give just enough information to convince people to scan the QR code or search in the app store and download the app. Elements of the flyer design include bright, eye-catching colors, large images to reinforce messages, and text size, font, and language that is easily readable and understandable. The design and contents of the flyer went through multiple versions and revisions based on sponsor feedback.

The flyer is a low-cost marketing material that can be easily distributed to local organizations. QR codes linking to the *Stigma Free Worcester* application in the Google Play store and Apple App store were also included on the flyer. QR codes can easily be scanned with a mobile device to direct the user to the app for download. The business card included a brief description of the *Stigma Free Worcester* application, the City of Worcester logo, and QR codes. The location for these flyers is very important to how they are read and received. Discrete locations such as bathrooms give people the privacy they need to get information from the flyers. This is important because of the stigma around substance use and homelessness.

An instructional video for the application is a great option for promoting *Stigma Free Worcester* at no additional cost. This video allows the user to have a better experience using the app and helps them find what they really need. The how-to video is a screen recording of the Google Play store being opened, the app being downloaded, and navigation through the app. There is a voice-over that describes the whole process verbally while it is happening visually. The video is a no-cost marketing material that can aid those having trouble finding and using the app; the video is easily shareable and is posted on the Health and Human Services website for additional dissemination. All materials that we have created are available in English and Spanish.

After we created the informational flyer and the how-to video, we held focus groups with care providers and their patients. The purpose of these focus groups was to receive feedback on our informational materials. Appendix C-3 represents the outline and questions used during these focus groups.

To prepare for the public launch of *Stigma Free Worcester*, and increase community awareness of the application, press releases were created for local news organizations. The press releases contained a description of the application, how to download it, and the project work that

has been done by Worcester Polytechnic Institute IQP teams in partnership with the DHHS. We sent the press release information to various news and media outlets in Worcester.

#### **Objective 4: Develop Plan for Long-term Promotion of the Application**

Beyond the scope of the seven-week IQP term, a plan was developed for implementation by the Department of Health and Human Services for ongoing promotion of the *Stigma Free Worcester* application. This plan includes maintaining a social media presence through Facebook and Twitter, instructions for producing and distributing printed promotional materials, conducting follow-up focus groups, and encouraging direct community engagement through app demonstrations at health fairs and organizations.

We developed a plan that the Worcester Department of Health and Human Services will use for continuous promotion of the *Stigma Free Worcester* application beyond the timeframe of our project. The promotional plan included connecting with Worcester's large organizations, human resource departments, and members of the City government. While meeting with these groups, we discussed the applications uses and how they could assist us in promoting the app to the Worcester community. The methods we created for these groups to promote the application were posting a link on their websites, sharing our electronic toolkit with their employees, and posting about the application on their social media accounts. A Facebook page was also created for *Stigma Free Worcester*, to increase knowledge of the application. The page will be useful going forward to post updates about the application, such as new features or if there is scheduled maintenance. Organizations and individuals will be able to share information about *Stigma Free Worcester* posted to the Facebook page, as well as ask questions about the application. Following the conclusion of this IQP project term, the page will be maintained by the DHHS.

#### **Public Launch**

Once the IOS version of the application was completed, a formal launch was held with the City of Worcester and the DHHS. We invited many of the organizations and city employees that we connected with to the launch to show the Worcester community that the City is behind the application. Important people in the Worcester community such as the Fire Chief and the

City Manager were in attendance at the event. The *Stigma Free Worcester* Facebook page was used to promote the event to its followers and the organizations on the app.

## Challenges & Obstacles

There were potential obstacles that can affect the methods we aimed to follow. We used marketing techniques to develop a long-term outreach campaign for the *Stigma Free Worcester* application, and this involved holding focus groups, connecting with the resources on the *Stigma Free Worcester* application, and determining what advertisements we could create and implement. The problems that our group had in accomplishing our project goals were the limited project timeframe, the limited budget our group had, and getting responses from the important people and public figures that we needed to interview and hold focus groups with. With only seven weeks to complete our project, we needed to develop realistic methods to ensure we will accomplish our goals. Many of the events that we wanted to attend to promote *Stigma Free Worcester* fell outside of the seven week timeframe of our project. For example, Worcester Technical High School hosts a health fair that takes place in May, and Southbay Community will not let us hold focus groups until June, both beyond the timeframe of the project. The limited budget also prevented us from utilizing large scale forms of advertisement such as posters and billboards. Smaller advertisements also very costly in large distribution, when we wanted to produce enough for the Worcester population to see and to show at different events and locations.

Scheduling focus groups with employees and patients of different organizations required much more planning and effort than we initially thought. When we met with Michael Earielo, the Program Director at Everyday Miracles, he informed us that to hold focus groups in the Everyday Miracles' space we needed not his permission but permission from community members who attend programs at the center. Our team attended one of the organization's weekly meetings to introduce the *Stigma Free Worcester* application and explain the purpose of focus groups in our project. With community support, we were given permission to hold focus groups at Everyday Miracles.



Reaching out to important individuals for our project proved to be difficult. We received very limited response to emails that we have sent out and phone calls that we made to local officials and business owners. To fix this problem we asked Dr. Castiel, our project sponsor to send emails on our behalf. This got much better response rates from the people that we needed to talk to because of the familiarity of Dr. Castiel's name and importance in the Worcester community. Most of the important people in the city of Worcester just simply did not have the time to talk to a group of college students.

### **Ethical Considerations and the IRB:**

Our project group held focus groups and spoke with Worcester residents that were directly affected by substance abuse and mental health issues. We only collected demographic information from participants of our focus groups, with permission based on informed consent. It was important that the information we received from focus group participants was kept anonymous. For interviews with city employees and experts in any field of our research, we obtained consent from them to collect personal information such as their name and position in order to quote them in our findings. We also ensured that all participants in our study had access to the results of the study by sending them our final project through email or another form of communication.

While advertising the application, we realized that substance abuse, mental health, and other related health concerns are a serious issues. All the information included in our marketing products needed to be both accurate and respectful as to not have any offensive tones toward any part of the community. This created a safer environment and maintained proper rapport. We utilized an Institutional Review Board (IRB), found at <https://wpi.infoedglobal.com> to ensure that our research and project followed a set of ethical guidelines and standards. This not only ensured safety for those in our research and project development but also for ourselves and our principal investigator.

## Appendix C-1: Questions for Organizations Who Have Launched Campaigns Similar to Ours

We are a group of WPI students working on a project with Dr. Castiel from the Worcester DHHS. The goal of our project is to develop and implement an outreach program for the *Stigma Free Worcester* application, which provides information on substance abuse and mental health resources in Worcester. Through this over the phone interview, we want to find what marketing methods you found most useful when expanding public awareness of your services. This focus group is completely voluntary and you can withdraw at any time. The results of this project will be available through the WPI Library website or can be sent directly to participants upon request.

1. May we use your name/identifying information in our report in order to quote you?
2. Did your marketing campaign feature online media or physical advertisements like posters or both?
3. If you used online media what did you use specifically? How effective was it?
4. If you used physical advertisements, what kind? How effective was it?
5. Did you have a specific budget for the campaign that restricted some forms of advertisements?
6. Is there anybody else that we should talk to?

## Appendix C-2: Focus Groups with Stigma Free Worcester Resources to Provide Background Information on the Application

We are a group of WPI students working on a project with Dr. Castiel from the Worcester DHHS. The goal of our project is to develop and implement an outreach program for the *Stigma Free Worcester* application, which provides information on substance abuse and mental health resources in Worcester. Through this focus group, we want to provide background information on the *Stigma Free Worcester* application and its resources. This focus group is completely voluntary and you can withdraw at any time. The results of this project will be available through the WPI Library website or can be sent directly to participants upon request.

1. Has anyone heard of the *Stigma Free Worcester* app?
2. Stigma Free Worcester is an Android application created to assist the Worcester DHHS in addressing one of Worcester's most prominent problems: access to substance abuse and mental health care. Stigma Free Worcester provides information on critical resources in the area, such as clinics, hospitals, shelters, and more to those who need it most.
3. The goal of our project is to develop materials and provide recommendations for the Worcester HHS for an outreach program to inform the Worcester community about the *Stigma Free Worcester* application, so that it can be recognized as a resource for accessing care.
4. At the top of the applications home page, there is a message encouraging users to call 911 if their situation is an urgent medical emergency along with a link to the mass.gov webpage that includes instructions on how to act if someone is experiencing an overdose.
5. Five buttons are also included on the home screen: Substance Use, Housing and Shelter, Mental Health and Support, Food and Clothing, and Events Calendar. Selecting the first four buttons will bring you to new pages composed of resources in the area related to these subjects.
6. The information *Stigma Free Worcester* provides on these resources includes location, contact information, hours of operation, services provided, payments and insurance information, special accommodations, and parking options.

7. The event calendar contains dates and times of events and programs ran by the DHHS, including public meetings, food and clothing drives, and other community events.

## Appendix C-3: Focus Groups with Care Providers and Patients to Receive Feedback on our Informational Materials

We are a group of WPI students working on a project with Dr. Castiel from the Worcester DHHS. The goal of our project is to develop and implement an outreach program for the *Stigma Free Worcester* application, which provides information on substance abuse and mental health resources in Worcester. To provide information on the application and its uses, we created an informational flyer and a how-to video. The informational flyer provides general information on the application and its resources. The how-to video shows how to download the application along with navigation through the application. The purpose of this focus group is to get feedback on these materials. After looking through the pamphlet and watching our how-to video, we will ask two sets of questions about each of our materials. This focus group is completely voluntary and you can withdraw at any time. The results of this project will be available through the WPI Library website or can be sent directly to participants upon request.

### **Informational Flyer**

1. Do you understand what information the application provides?
2. Do you understand how to download the application based off the instructions in the pamphlet?
3. Is the pamphlet aesthetically appealing?
4. Is there any additional information that should be added to the pamphlet?
5. Is the flyer easily readable and understandable?
6. Based off of this flyer, would you use and/or share this application with others?

### **How-to Video**

1. Was the video easily to follow and understand?
2. Did the video provide useful information on the application?
3. Do you understand how to download and use the application based from this video?
4. Based off of this video, would you use and/or share this application with others?

## Appendix D: Findings

### Introduction

Throughout the course of our project we gained valuable information about how to create a community outreach campaign for the *Stigma Free Worcester* mobile application. With the completion of each objective, we gained insight on how to develop an outreach campaign that would reach our target audience. We began by learning how organizations similar to the Department of Health and Human Services marketed their services. We started communicating with organizations on *Stigma Free Worcester* to establish rapport and introduce the application to the community. After speaking with these organizations, we created marketing materials for distribution during the IQP term, and to be used in the long-term plan. We created multiple active social media accounts, designed business cards, electronic and physical flyers, and created an informational video. These materials went through multiple revisions based on sponsor and individual feedback. Lastly, we developed a plan for ongoing promotion of the application through strategic distribution of our informational materials, remaining active on the app's social media account by continually posting updates about the app and related organizations, and providing recommendations to track the app's usage and success. At the completion of our project, we gave our recommendations for a long-term marketing plan to the Worcester Department of Health and Human Services for *Stigma Free Worcester* via a presentation and written report for future use with a condensed marketing guide and list of useful contacts.

### Objective 1: Marketing Advice

Over the course of the first three weeks we met with several city employees and organizations to discuss their use of social media in marketing their programs and resources. In each meeting, we gained valuable insight into their marketing techniques and brainstormed how to incorporate some of their ideas into the framework and recommendations for the *Stigma Free Worcester* outreach campaign. In the following section we discuss the advice we received during meetings with program coordinators and local officials.

#### Everyday Miracles

The first organization that we met with is Everyday Miracles, a peer recovery group for those in every stage of substance abuse recovery, from active addiction to recovery maintenance. We spoke with 3-year Program Director Michael Earielo about methods used to communicate information about programs and services they offer. The primary social media platform Everyday Miracles uses is Facebook. Facebook is used to post updates, provide dates and times of upcoming meetings, and connect with people interested in the services they provide. Additionally, physical materials are utilized by Everyday Miracles in the form of pamphlets and flyers. Everyday Miracles also connects with people through word of mouth and in-person community outreach by visiting sober and halfway houses.

Creating a Facebook page for *Stigma Free Worcester* would be useful for posting updates about the application, such as if it goes down for maintenance, or if new features are added. A Facebook page would also serve as a platform for community members and local organizations to inquire about the app and connect. Originally, a Facebook page for *Stigma Free Worcester* was not part of our project deliverables. Director Earielo explained that Facebook is an easy and effective way to advertise his organization, and this could be applied to the application. Once an informational video on the *Stigma Free Worcester* application is created, Director Earielo offered to post it on the Everyday Miracles Facebook page. Additionally, we were invited to attend weekly meetings led by the community in order to talk about *Stigma Free Worcester* and our project, and pilot informational materials.

### Boston Digital Team

The Boston digital team was the second organization we contacted. Boston's digital team created the Boston 311 application, a non-emergency reporting service in the Boston area. We contacted the team to learn how they marketed and promoted the Boston 311 application. In our phone interview with Sebastian Ebarb, a member of the team, we learned that most of the advertisements and promotional materials created were digital. According to Mr. Ebarb, digital media was the cheapest and easiest way for the Boston Digital team to promote their application. With a budget of roughly \$5,000, the digital team did not focus on physical advertisements. Social media platforms, including Facebook, Twitter, and Instagram, were used for promotion of the Boston 311 application. These forms of social media are free and allowed the Boston Digital

team to connect with people in the city and advertise the application. Facebook is a great outlet for connecting with community members. The page can be utilized as a method of communication between application users with any questions or concerns for the developers and managers of *Stigma Free Worcester*.

### Southbay Community Services

The third organization we met with was Southbay Community Services, an organization in Worcester that provides counseling, programs and resources for people struggling with mental health issues. We met with Carly Wallace, a supervisor who guides clinicians in the organization, to discuss outreach methods and social media marketing. To connect with organizations, Southbay Community Services attends community meetings. To conduct community outreach, they utilize word of mouth and printed materials such as pamphlets, and manage a Facebook page for their organization. Ms. Wallace also informed us of the “Worcester Parents Guide to Community Services,” a booklet listing community resources in the Worcester area. This booklet serves a similar function to *Stigma Free Worcester*, but as print media cannot easily be updated.

### Worcester Fire Chief Michael Lavoie

We met with the Chief of the Worcester Fire Department, Michael Lavoie. In addition to agreeing to be at the official launch of *Stigma Free Worcester*, he provided some valuable insights and suggestions for our marketing materials. Something we were hoping to gain from the meeting was to connect with the Fire Department’s own Human Resources department, but Chief Lavoie had informed us that they were connected through the city HR department; as we already had a meeting scheduled with a representative of the city HR at that point this worked in our favor to streamline the distribution of our materials more. Additionally, he suggested to create business cards for the app since they are small, discrete, and easily distributable.

### Worcester Police Chief Edward McGinn

In a meeting with Worcester Police Chief Edward McGinn, he gave recommendations for reaching our target audience. With the intent of expanding access to care in Worcester, information about *Stigma Free Worcester* must be accessible to people not already connected with care providers. Police Chief McGinn recommended distributing flyers in public locations



such as the Worcester Public Library and Union Station, where many homeless people go to charge cell phones. Police Chief McGinn also expressed an interest in attending the official launch of the application.

#### Pam Callahan

When meeting with Pam Callahan, a representative from the City of Worcester Human Resources department, we discussed how we were planning to market the application. It was suggested that we utilize QR codes on flyers and business cards to allow faster app downloads. QR codes also provide a discrete way for people to access information about the app. With the stigma surrounding substance abuse and mental illness, discrete informational materials may make people feel more comfortable seeking out information about the app. This includes using QR codes, as well as posting flyers in private areas such as bathroom stalls. Additionally, when distributing the *Stigma Free Worcester* toolkit, it should be emailed to all city employees to increase public reach by utilizing the connections of city employees.

#### Diane O'Keefe

Diane O'Keefe is the marketing director at Worcester Polytechnic Institute, whom we met with to discuss our long term marketing plan for the Department of Health and Human Services. She looked over our Long Term Marketing Plan and had a lot of positive feedback about our structure with the different segments of the market. Ms. O'Keefe suggested including a section about potential partnerships for *Stigma Free Worcester*, because there is no reason to have any competition with an app like this. She also gave us recommendations about the app itself, such as including a search bar and creating push notifications that will send alerts to those who have the app downloaded.

## Objective 2: Connecting With Organizations

Initial meetings with local organizations showed that there is currently little public knowledge about the *Stigma Free Worcester* application. Some of the listed organizations on the application were unaware of both the application and that they were included in it as a resource for accessing health care. The community was very open to helping us promote the application.

We contacted around 40-50 different organizations to introduce the application, but only received 5-10 responses, which translates to a response rate ranging from 10% to 25%. These numbers were not ideal and were slowing down our progress, so we reached out to our sponsor, Dr. Castiel, and asked her to contact the biggest organizations that we didn't get a response from initially. She initially contacted 10 organizations and received 8 responses within the first hour, which is a response rate of 80%. Throughout the term our team faced the same obstacle when contacting outside individuals and organizations; whenever Dr. Castiel reached out in our place, more responses were received in a quicker time frame.

With the responses that we did receive, the overall attitude was very positive and the organizations we spoke with were willing to help us promote the app through their organization. Many gave us invaluable feedback and advice on marketing and promotion and about the app itself as well.

To begin our project, many of the organizations we contacted initially were already listed within the application. While this tremendously helped begin introducing the app and creating the connections needed for initial marketing and promotion of the app, some of the feedback we received was to shift our focus to those who are not already receiving treatment and support. Some suggestions for marketing to this population were to connect with Human Resources departments of larger businesses and schools around Worcester and have them disseminate information about the app to their employees. For example, the city's HR department can reach thousands of employees, so the possibilities of how far *Stigma Free Worcester* can go are substantial. By reaching the people who need help and are not already in the system, the app will see much more actual use instead of just random downloads.

### **Objective 3: Designing and Piloting Informational Materials**

In order to help lay the groundwork for a successful marketing campaign, we created informational materials for *Stigma Free Worcester* that will help inform people about the app and make sharing information much easier. The materials we created are both physical and electronic; the materials that we designed and created are flyers, business cards, QR codes, a Facebook page, a Twitter account, an instructional video, and pamphlets.

### No Cost

The majority of our marketing materials that were created fall into the no cost category and can be split into two major sections: social media marketing and the creation of an electronic flyer and toolkit.

For our social media marketing, we created a Facebook page, a Twitter account, and an instructional video about the app that was shared on the app's social media account. The Facebook page is a large form of outreach and advertisement for the app. It is great for connecting with all of the resources already on the app and also other organizations in Worcester who can share our page to reach as many people as possible. The Twitter account was created for the same purpose and will help reach even more people than with just the Facebook page. The accounts will be linked so that posting on the Facebook page will also post on the Twitter page. Lastly, we created an instructional video that was described in the Methodology section as a way to describe how to download and navigate *Stigma Free Worcester* in a different format than our other materials.

Another means of electronic marketing was through sending electronic toolkits via email to Human Resource departments of large businesses and universities in Worcester. These electronic toolkits featured the flyer we made in both english and spanish and also the informational videos about downloading and using the app.

### Low Cost

Single page flyers have already been made for promotional use of *Stigma Free Worcester*. These single page flyers are great for reaching the general population by putting them around Worcester. Public spaces such as the library and fast food chains such as Dunkin Donuts are great places for flyers.. This is because of city bus routes and the access to electrical outlets at public spaces where they can charge their cellular devices. Flyers can also be placed at large businesses and universities, for example. Within these buildings, the best spots to hang flyers are in discrete locations such as bathrooms. This allows individuals to look through the flyer without having to feel judged by an onlooking coworker, friend or family member. The QR codes on the flyers also allow for quick downloading of the application. Business cards have also been developed as an even more discrete way for individuals to have the vital information they need to

download the app right away. Business cards can be handed out at events and also distributed by the local police and fire departments. Printing costs for the flyers and business were originally going to be the only time we were spending money from the budget. Fortunately, the Worcester Chief Information Officer, Eileen Cazaropoul stepped in to print all of our flyers and business cards. Electronic versions of the flyer can be sent out to even more of the target population. This can be done through Human Resource departments of the larger business in Worcester as well as the many schools and universities.

The official launch and press conference for *Stigma Free Worcester* took place on April 30th at the Worcester City Hall. There were many important officials for the city in attendance such as the Fire Chief Michael Lavoie, the city manager Edward Augustus and representatives from the District Attorney's office. Media outlets such as.....reported at the event. All in all, the event proved to be a great step for *Stigma Free Worcester* to show that it is being backed by large stakeholders in the community.

#### **Objective 4: Long-term Promotion of the Application**

As mentioned previously in the "Methodology" chapter, a Facebook page was created for *Stigma Free Worcester*. The informational materials created in Objective 3 were electronically distributed to organizations included in the application, Human Resource Departments of businesses and schools, the City of Worcester Human Resources Department, the District Attorney's office, and other large organizations and city employees. Physical advertisements were also dispersed throughout the city and posted in many city run buildings, including the police station, fire station, the District Attorney's office, and more. Our group set up a table for the *Stigma Free Worcester* application at a public health fair.

Following the conclusion of our IQP at the end of April 2019, the *Stigma Free Worcester* social media accounts will be managed by the DHHS.

## Recommendations

### Project Deliverables

At the completion of our project, we left our sponsor with a long-term promotion plan for the *Stigma Free Worcester* application. Following our methodology, we connected with the organizations listed in the *Stigma Free Worcester* application to promote the application through focus groups to employees, patients, and other participants. We produced informational materials for the application such as flyers, an instructional video, business cards, and a Facebook page. QR codes linking to app stores where the *Stigma Free Worcester* app can be downloaded were also created. We posted many flyers in high traffic areas all over the city of Worcester. After doing all the promotion that we could on our own, we left the Department of Health and Human Services with a long term promotional plan that they will use to continually promote the app in the future.

The deliverables for the long term promotional plan was comprised of three main materials. The first is the Long Term Marketing Plan, found in Appendix D-1, which is a marketing report designed for the City of Worcester to use as an extensive guide for continuous promotion. The Long Term Marketing Plan gives information on how to market the app, organized based upon the type of demographic it is aimed towards. We split the targeted population into three groups; the general population, emergency response, and large businesses. The next tool that we gave them was the Marketing Guide, found in Appendix D-2. The Marketing Guide is a condensed form of the Long Term Marketing Plan that gives information on how, why, where and what to promote the app to each group of the targeted market for the app. The Marketing Guide can be easily read and understood for anyone to use, specifically an intern working for the Department of Health and Human Services. Lastly, the promotional plan came with an extensive list of contacts, found in Appendix D-3, that will help with marketing *Stigma Free Worcester*. This contact list features organizations listed on the app, large businesses, hospitals, and colleges and universities in the city of Worcester. This will expedite the marketing process for the city by making it easy to contact important people and organizations.

## Brand Identity

Branding played a big role in the production of marketing material for *Stigma Free Worcester*. All marketing material had to feature the correct City of Worcester logo. Amy Peterson, who is a Communications Specialist for the City Manager's Office provided us with the proper branding material for the city. All informational material had to have the correct logos on them without the logos being altered in any way. Also, the social media pages had to have the correct images as their profile pictures. Incorrect branding would reflect poorly on the city because *Stigma Free Worcester* is a product of the City of Worcester.

## Community Engagement

In the Worcester community there are many different ways to connect with the population who may be interested in using the *Stigma Free Worcester*. There are many different events that take place in Worcester that the Department of Health and Human Services should attend. Health fairs, such as the ones put on by the Massachusetts College of Pharmacy and Health Sciences, are a great opportunity to set up a table to promote *Stigma Free Worcester*. If there is a lack of events to end in Worcester, the DHHS can hold their own informational sessions. These informational sessions can be conducted at or near City Hall and will have a representative of the app sit at a table with a poster of the app. At this informational sessions, someone can hand out informational material and also talk about the app and how to use it. Community engagement for the app will also help reduce the stigma that is around substance use and mental health disorders by encouraging discussion.

## Distributing Materials

The best way to distribute informational material to the general public would be through posting flyers and posters around the city. Many locations where possible substance users and homeless individuals spend a lot of time were given to us by the members of Everyday Miracles, who are in the recovery system themselves. Police Chief Ed McGinn told us that a lot of homeless and at risk individuals spend a lot of time at the Library or any public place where they can get warmth and charge their cellular devices. Most people can also be reached through

social media with Facebook and Twitter posts. In terms of the Emergency Response portion of the targeted population, we will be bringing them informational material in person to their facilities. We hope that the police department, fire department and hospital employees will then help distribute the informational to anyone they encounter in their work who may need the resources on *Stigma Free Worcester*. Promotion with large business in Worcester will be both electronically and in person. Health departments and Human Resource departments of large businesses and universities can send out informational material that is sent to them electronically such as the electronic toolkit and electronic flyers. Promotional flyers can also be posted in, for example, bathrooms at schools and businesses in Worcester.

### Social Media

Engagement should be maintained across all social media platforms that *Stigma Free Worcester* is represented on. Social media is a major form of community engagement and can provide a lot of information. It is encouraged that the Worcester community uses the Facebook page to gain insight about any changes and updates being made to the app and to also voice their opinions about anything related to *Stigma Free Worcester*. Events can be made through the Facebook to increase community awareness about informational sessions and health events within Worcester. As the app progresses, the social media pages can be used to reach out to a wider range of audiences that may not be in Worcester.

### Measuring Success

Beyond the scope of the IQP, the Worcester Department of Health and Human Services will need a system for tracking the success of the outreach campaign. Measuring success is key to understanding what outreach methods have been successful, and follow-up information will determine future promotional actions taken. Measuring the success of the promotional plan will require multiple parts. One will be for the actual usage of the app and one will be for the number of downloads of the app. In the earlier stages of promotion the number of downloads will be the easiest to track. Once the app has a larger number of downloads, the actual usage of the app will be a much more important statistic to know. Usage of the app will be determined by surveys

implemented at resources that are on the app. These surveys will ask clients and patients if *Stigma Free Worcester* played a role in helping them find the treatment and recovery that they needed. Number of downloads will still be important to see if the stigma surrounding substance use and homelessness. The more people that download the app means more people will be talking about these types of social issues and in turn, reduce the stigma surrounding them. Tracking the social media interactions will also be a good statistic with regards to both the app usage and the change in stigma in Worcester.

## Conclusion

The findings that we culminated throughout completing each objective all led to the eventual creation of the long term plan for the Worcester Department of Health and Human Services to continue to promote *Stigma Free Worcester*. We received very useful advice from many important people in the Worcester community. Sebastian Ebarb of the Boston Digital Team helped us understand how to efficiently market with limited budget. Police Chief Ed McGinn and members of Everyday Miracles gave us important locations in which to post informational material. Using the knowledge we gained, *Stigma Free Worcester* is in a great position to be widely used in and help many people in Worcester. However the app does have the potential to reach much more people outside of this city. Partnerships with the rest of the fourteen major cities in the state and their important representatives, can someday bring about Stigma Free Massachusetts.



## Appendix D-1: Long Term Outreach Plan

### Product:

*Stigma Free Worcester* is a mobile application created to assist the Worcester Department of Health and Human Services in addressing one of Worcester's most prominent problems: access to substance abuse and mental health care. *Stigma Free Worcester* provides information on critical resources in the area, such as clinics, hospitals, shelters, and more to those who need it most. Having applications and websites such as *Stigma Free Worcester* are essential because they serve an important intermediary role between those seeking help and health care providers. Access to care is a priority issue in the United States and Worcester, and *Stigma Free Worcester* directly addresses this problem. *Stigma Free Worcester* is available on both Apple iOS devices and Android devices. The app is free to download on both the Apple App Store and the Google Play Store and available in English, Spanish and Albanian.

### Executive Summary:

The marketing plan for *Stigma Free Worcester* is designed to increase public awareness, downloads, and usage of the mobile application. Promotion will require both short term and long term planning to ensure ongoing success of the app within the Worcester community. The marketing plan will feature various methods such as physical advertisements like flyers and also promotion through attending events like health fairs. The market for this promotional plan is split up into three sections. Each section requires different variations in marketing techniques that are outlined in the Marketing Strategy section of the report. There are also ways in which to measure the success of the app from this marketing campaign. Timetables to complete the different

promotional tasks and an overall template of the promotional plan will accompany this report.

### **Market Analysis:**

For the target population of *Stigma Free Worcester*, the market has been broken down into three sections. The first, and largest market would be the general population of Worcester, specifically the homeless. Another target population would include law enforcement, the fire department and hospitals who may come in contact with people who need the app on a daily basis. Lastly, an area to market to would be organizations in Worcester such as those on the app, and larger businesses with Human Resource Departments. No matter which group is being marketed to, the stigma that surrounds substance use is a major barrier to the promotion of *Stigma Free Worcester*. It is difficult for people to want to be seen reading a flyer about the app because of the judgement that may come from those nearby. It is also very difficult for people to recommend the app to somebody who may need it because of the intensity of that type of conversation. Helping to eliminate the stigmas surrounding substance use and homelessness will greatly improve the success of a marketing campaign for *Stigma Free Worcester*. Reducing the stigma, and downloading *Stigma Free Worcester* go hand in hand to help save many lives in our city. Contact information for all the different market groups are listed in the contacts spreadsheet given with this report.

### **Section 1: General Population:**

The population of Worcester is over 182,000 people, making it the second largest city in the state of Massachusetts. Unfortunately, the percentage of the population that faces addiction to drugs and experience homelessness is much higher than the rest of the state. Hanging up flyers

around the city is the best way to reach this population as they may spend a lot of time out on the street. Some high traffic areas, especially for the homeless, are listed below:

1. St. John's
2. Bus Stops
3. The Hub
4. Fast food restaurants (i.e Dunkin Donuts)
5. City Hall
6. Schools, Universities
7. Shelters (SMOC)
8. 340 Main Street
9. City Library
10. Union Station
11. Hotel Grace
12. YWCA

These locations were recommended by the members of Everyday Miracles and are a hotspot for people who may be in need of recovery or treatment. Social media is also a great way to engage with this community and provide updates and answer questions. Even though someone may be homeless, there is still a good chance they have a mobile phone and a social media account.

## Section 2: Emergency Response:

Everyday, emergency response teams in Worcester such as the police department, fire department and hospital workers, have a high chance to come in contact with somebody who could utilize *Stigma Free Worcester*. It is important that they have informational material to give out to the people they save, and to encourage the download of the app. Law enforcement officers can take business cards for the app when they got out on routine patrols. If they see any homeless or at risk individuals they can offer the business cards and verbally provide information about the

app. Hospital workers can give out informational material when any substance use patients are being discharged from the hospital. Emergency response is a great group to market to because they have direct interactions with individuals who may be able to benefit from *Stigma Free Worcester*.

### Section 3: Large Organizations:

Human Resource Departments at different organizations such as schools, restaurants, and large corporations in Worcester are very important to inform about *Stigma Free Worcester*. These HR departments have communication with thousands of employees who are also citizens of Worcester. Also, there are a total of over 35,000 college students in the city of Worcester. Getting word of the app to these demographics could help save many lives. The marketing electronic toolkit would be the most effective way to reach these students. University and business faculty members have access to sending email blasts to thousands of students and employees. As a secondary form of marketing to this group, flyers can be put up at the businesses and colleges. The best place to hang these flyers would be in bathrooms. Bathrooms are effective places because students and employees can look at the flyers without being judged by anyone and can take their time to get all the information that they need.

### Marketing Strategy:

The marketing plan for *Stigma Free Worcester* contains many different aspects that can be categorized into sections based upon costs. No cost methods pertain to the use of social media outlets such as Facebook and Twitter, attending events, and spreading by word of mouth. Low cost advertisements include posters and flyers that can be placed in different areas around the

city as well as basic videos. High cost strategies utilize larger advertisements such as billboards and promotional commercials.

### Section 1: Flyers and Posters

Single page flyers have already been made for promotional use of *Stigma Free Worcester*. Flyers and posters will be geared towards promotion to the general population of Worcester because they will be pinned up around the city. Many homeless and at risk individuals tend to spend a lot of time near public places such as the public library, which makes them prime real estate for flyers. This is because of city bus routes and the access to electrical outlets at public spaces where they can charge their cellular devices. Flyers can also be placed at large businesses and restaurants, for example. Within these buildings, the best spots to hang flyers are in discrete locations such as bathrooms. This allows individuals to look through the flyer without having to feel judged by an onlooking coworker, friend or family member. The QR codes on the flyers also allow for quick downloading of the application.

For the other two market areas, business cards and electronic flyers will be much more efficient. Business cards were developed as an even more discrete way for individuals to have the vital information they need to download the app right away and can be carried around by police officers and EMT to hand out to any substance users and homeless people. Hospitals can also give out the business cards and other informational material as part of a discharge packet.

Electronic versions of the flyer can be sent out to even more of the target population through Human Resource departments of the larger business in Worcester as well as the many schools and universities. These HR departments can then send out the electronic material to all

company employees. Universities can send information out to all students with a single email. Both the universities and large corporations can also post the JPEG file of the informational material on their websites. To accommodate a larger portion of Worcester's population, these informational materials are available in both English and Spanish.

If there is a need to create new flyers and informational material there are certain aspects that can make for a better design. First off, these materials should be branded correctly with the City of Worcester and feature the correct logo for the city. Also, the QR codes for each app should be featured to make downloading even easier. There should be a very brief text describing the app and possibly a screenshot of the home page of the app. Lastly, there should be English and Spanish versions of all material because of Worcester's large population of Spanish speaking individuals.

## Section 2: Social Media

Online advertising through social media and company websites is a very economic and effective way to promote *Stigma Free Worcester*. The Twitter and Facebook accounts can be used to provide the community with updates about the application when needed. These social media outlets may also be used as a way for its followers to voice their opinions, questions and concerns to the administration of *Stigma Free Worcester*. Following the WPI students end date promoting the app, Dr. Castiel will be managing the social media accounts for *Stigma Free Worcester*. Connections with the organizations on the app have been made through Facebook. These connections should be continued with frequent communication through social media messaging and posts.

### Section 3: Attending Events

In the city of Worcester, there are many events such as fairs and charity gatherings that could be used as promotional outlets for *Stigma Free Worcester*. The Massachusetts College of Pharmacy and Health Sciences holds semi-annual health fairs where a table can be set up to advertise for and provide insight about the mobile application. Those who are representing *Stigma Free Worcester* at these events must have informational flyers and business cards with them to hand out to anyone inquiring about the app. Organizations that are on the app should be contacted to find out about as many events as possible.

### Section 4: Press Release

Showcasing *Stigma Free Worcester* through a press release is a very cost effective and quick way to get information about the app to a vast number of people. There are many different newspaper and media outlets in Worcester that can showcase *Stigma Free Worcester*. In the provided list of contacts, there is a section documenting contact information for a number of different news and media companies to contact. The electronic informational material for *Stigma Free Worcester* can be sent off to inform the editors and writers for the media companies for them to write an informative press release for the public.

### Section 5: Potential Partnerships

*Stigma Free Worcester* is an app that could, at some point, benefit from a partnership. A partnership would only be necessary if promotion of the app by the City of Worcester does not generate a lot of measured success. Partners for *Stigma Free Worcester* can be hospitals like UMass Medical and or even insurance agencies such as Fallon Health. Partnerships can help the app with any funding issues and promotion.

### **Maintaining App Quality:**

An important aspect of promoting *Stigma Free Worcester* is the quality of the app. The app must continue to be up to date on all of the organizations' pages to provide accurate information for anyone using the app. The easiest way to do so would be to create an email alias for all organizations on *Stigma Free Worcester*. A biannual email sent out to all the organizations will ask them if there have been any changes to the information on the app. This email would include all the current information so that the organizations know what we currently have about them. The spreadsheets that came with this report have all contact information for the resources on *Stigma Free Worcester*.

### **Measuring Success:**

Measuring the success of this promotional plan will require two parts. One will be for the actual usage of the app and one will be for the number of downloads of the app. In the earlier stages of promotion the number of downloads will be the easiest to track. Once the app has a larger number of downloads, the actual usage of the app will be a much more important statistic to know.

### **Section 1: Tracking App Usage**

As a means for determining how effective *Stigma Free Worcester* is at getting individuals to the clinics, shelters and other resources that they need, surveys and questionnaires can be implemented. New patients and clients will be asked if *Stigma Free Worcester* played a role in getting them the help that they needed. From this information, the Department of Health and



Human Services will be able to gauge how effective the app is and not just how many people are downloading it.

## Section 2: Tracking Downloads

In order to measure the effectiveness of the marketing campaign for *Stigma Free Worcester*, data must be collected and analyzed. The number of downloads of the app is an important statistic but does not tell us everything that we need to know. A large number of downloads of the app could be for people who will never even use the app to get themselves, or someone they know, the help that is needed. However, we can get a sense of how the stigma around substance use and homelessness is changing. As more and more people download the app, more conversations get started about substance use and homelessness. This will then lessen the stigma surrounding these conditions, and in turn make receiving treatment easier.

## Section 3: Goals for App Success:

As of April 2019, the number of downloads for *Stigma Free Worcester* were at 182 total downloads, with 150 on Android devices and 32 on Apple iOS devices. A goal for the number of downloads will be 500 downloads by {} and then hit 1,000 downloads by {}. For the social media pages, the Facebook page had 92 Likes as of April 15th, 2019. With continued posts and community interaction we hope to have 500 likes by {}. The twitter page had just been made at the beginning of April 2019 and hopes to have 100 followers by {}.

## Appendix D-2: Outreach Template

### Guide for Ongoing Promotion of *Stigma Free Worcester* Mobile Application

<i>Organization Type</i>	<b>Care Providers/Hospitals</b>	<b>Emergency Response</b>	<b>Business / College</b>	<b>General Public</b>
<b>WHO</b> -Who you are targeting?	Doctors, clinicians, counselors	Police Dept, Fire Dept, EMT	HR, employees, students	All members of Worcester community
<b>WHERE</b> -Where will material be?	Clinics, hospitals, counseling services, detox, emergency rooms	Officers can hold on to business cards to distribute	HR departments of local colleges and businesses	Public locations (library, Union Station), restaurants, bathrooms of businesses, bus stops
<b>WHAT</b> -What you are offering them?	Help people in need get access to care	Help decrease number of substance users and homeless	Good public relations, resources to help colleagues, employees, students	Resources to access care & reduce stigma
<b>WHY</b> -Why are we targeting them?	Help patients find other support services they need	They encounter people everyday who can benefit from the app	Reduce stigma in workplace/school, provide info for colleagues who are seeking care	Many people in Worcester struggle with substance use and mental health disorders
<b>HOW</b> -How you will reach them?	Email, phone, health fairs, electronic toolkit, flyers, business cards	Email, phone, electronic toolkit, posting flyers, business cards	Email, phone, electronic toolkit, flyers, business cards	Press release, posting flyers, App demo (provide food & refreshments), social media (Facebook, Twitter)
<b>WHEN</b> -When you will do outreach/how often?	Providing new informational material every month	Providing business cards and flyers every month	Posting informational material every month.	Posting at least once a week on social media Posting flyers every few weeks

<b>INVESTMENT</b> -Resources needed	Time, printing cost	Time, printing cost	Time, printing cost	Time, printing cost
<b>OUTCOME</b> -Desired outcome of outreach	Electronic toolkit on org website, <i>Stigma Free Worcester</i> in surveys	Increase awareness about app and reduce stigma	Employees / students see app as resource to find care, reduce stigma	People not already receiving aid will know where they can get it and reduce stigma
<b>FOLLOW UP</b> -Actions taken to assess success of app	In sign-in surveys, how many patients identified the app as how they found care?	Information from police officers about app awareness and	Focus groups w/ incentive (provide food & refreshments)	Clipboard survey with incentives

# Appendix E: Outreach Material Designs

Flyer 1



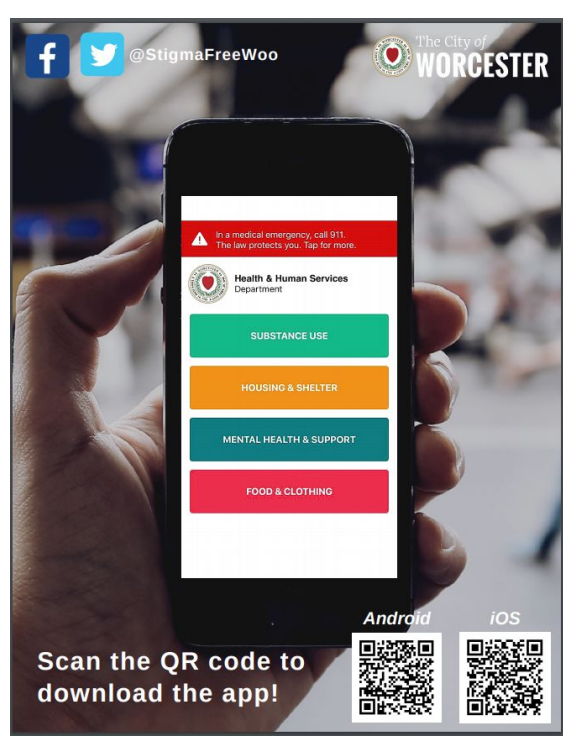
Flyer 2



Flyer 3



Flyer 4



Business Flyer 1

f @StigmaFreeWoo  
 The City of WORCESTER  
 Health & Human Services Department  
 SUBSTANCE USE  
 HOUSING & SHELTER  
 MENTAL HEALTH & SUPPORT  
 FOOD & CLOTHING  
 Android  
 iOS  
**TO ACCESS RESOURCES FOR RECOVERY AND SUPPORT DOWNLOAD THE Stigma Free Worcester App**

Business Flyer 1 Spanish

f @StigmaFreeWoo  
 The City of WORCESTER  
 Health & Human Services Department  
 SERVICIOS DEL CONSUMO DE SUSTANCIAS NARCÓTICAS  
 VIVIENDA Y ALOJAMIENTO  
 SALUD MENTAL Y APOYO  
 COMIDA Y ROPA  
 CALENDARIO DE EVENTOS  
 Android  
 iOS  
**DESCARGUE STIGMA FREE WORCESTER Y CONECTESE.**

University Flyer 1

f @StigmaFreeWoo  
 STIGMA FREE WORCESTER  
**START RECOVERY TODAY**  
 Scan the QR code to download the app!  
 ACCESS RESOURCES AND GET SUPPORT WITH THE STIGMA FREE WORCESTER APP  
 Substance use, support, housing & shelter, food & clothing.  
 The City of WORCESTER  
 Android  
 iOS

University Flyer 2

f @StigmaFreeWoo  
 STIGMA FREE WORCESTER  
**MENTAL HEALTH & RECOVERY RESOURCES**  
 Support when you need it.  
 SCAN THE QR CODE TO DOWNLOAD THE STIGMA FREE WORCESTER APP  
 Substance use, support, housing & shelter, food & clothing.  
 The City of WORCESTER  
 Android  
 iOS

Poster 1



 @StigmaFreeWoo

**RECOVERY STARTS HERE**

Access resources and get support with the **Stigma Free Worcester** app



Android



iOS

SUBSTANCE USE

HOUSING & SHELTER

MENTAL HEALTH & SUPPORT

FOOD & CLOTHING

Phone: 508-799-8486  
 Email: hhs@worcesterma.gov



The City of **WORCESTER**

Poster 2

**RECOVERY STARTS WITH**

Access Worcester resources for substance abuse **recovery**, mental health support & more.

Stigma Free Worcester es una aplicación que provee acceso a un directorio local para **recuperación** de uso de sustancias y recursos de salud mental.



Android



 @StigmaFreeWoo



iOS

**STIGMA FREE WORCESTER**

Business Card 1

**STIGMA FREE WORCESTER**



The City of **WORCESTER**

Phone: 508-799-8486  
Email: hhs@worcesterma.gov

ACCESS RESOURCES FOR SUBSTANCE USE, MENTAL HEALTH, SHELTER, FOOD & CLOTHING.

SCAN THE QR CODE TO DOWNLOAD THE APP!



Android



iOS

Business Card 2

RECOVERY STARTS WITH

**STIGMA FREE WORCESTER**

ACCESS RESOURCES FOR SUBSTANCE USE, MENTAL HEALTH, SHELTER, FOOD & CLOTHING.



SCAN THE QR CODE TO DOWNLOAD THE APP NOW!



Android



iOS




Phone: 508-799-8486  
 Email: hhs@worcesterma.gov  
 @StigmaFreeWoo

## Cost-Benefit Analysis

Excel spreadsheets were created cataloging the prices of different marketing materials, from different companies. Materials cataloged include posters, flyers, business cards, rubber bracelets and magnets, with online-order and local production options. These Excel catalogs provide options for purchasing promotional materials, with a range of prices and production time frames.

This cost-benefit analysis found that for business cards it is not economic to shrink wrap them. Only flyers should be ordered shrink wrapped. For flyer orders of 250 count, shrink wrap in bundles of 50, or in one set of 250 when possible. For flyer orders of 500 and 1000, shrink wrap in bundles of 100 or 250.

Below, the most cost-effective services to produce each material are identified:

**Posters:** *UPrinting*<sup>1</sup>

**Flyers:** *Print Runner*

**Business Cards:** *Staples*

**Rubber Bracelets:** *Wrist-Band*<sup>2</sup>

**Magnets:** *UPrinting*

Additionally, there are other printing services in Worcester for flyers, business cards and posters that need quote requests to get order prices:

- AlphaGraphics
- Curry Printing
  - Same-day print options
- Park Print
  - Same-day print options

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<sup>1</sup> *Print Runner* has the lowest price for flyers but does not come shrink wrapped. Of the shrink wrapped flyer options, *UPrinting* is the most cost-effective.

<sup>2</sup> *Wrist-Band* throws in 100 free bracelets on top of the order, while *Rapid Wristbands* throws in 200 free bracelets on top of the order. Per bracelet, *Rapid Wristbands* is \$0.01 cheaper for small orders. However *Rapid Wristbands* has longer product turnaround time.

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