



Recovery Iowa - Muscatine 360

August, 2022



Report provided to the Iowa Department of Public Health

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Overview

At the request of the Iowa Department of Public Health, Bureau of Substance Abuse, the Public Science Collaborative (PSC) developed community-specific reports to support recovery efforts in Iowa. Recognizing the need to strengthen substance use recovery efforts throughout the state, we identified a large number of existing recovery-oriented resources in Muscatine, which we describe and map in the pages that follow. We developed additional maps to identify at-risk neighborhoods that will benefit from targeted health interventions and additional community resources. For additional questions or information about this report, the data tools described, or the Public Science Collaborative, please reach out to the principal investigators of this study, Dr. Shawn Dorius at sdorius@iastate.edu, or Dr. Cassandra Dorius at cdorius@iastate.edu.

What is Recovery?

Though substance use recovery is an evolving concept that has been defined in a number of ways over the years, an emerging consensus is that recovery is a voluntary path toward improved personal well-being coupled with a diminished risk of substance use relapse. As noted by Bill White (2007):

Recovery is the experience through which individuals, families, and communities impacted by severe alcohol and other drug (AOD) problems utilize internal and external resources to voluntarily resolve these problems, heal the wounds inflicted by AOD related problems, actively manage their continued vulnerability to such problems, and develop a healthy, productive, and meaningful life.

In White's view, resources help individuals, families, and communities in two ways. First, they help address alcohol and other drug-related problems (for example, addiction, unemployment, housing instability, family separation), and second, they support health, productivity, and meaning in post-treatment life. The appeal of this view is that it is explicit and direct in its recognition that recovery involves not only internal resources such as mental, emotional, and genetic factors but also external ones. In thinking about where to focus federal and state resources to develop a network of community-based recovery centers in Iowa, the key question is, "What kinds of external resources matter most for sustained SUD recovery?"

If we knew which resources were most helpful to long-run recovery, we could target towns and cities with large stocks of 'recovery resources' to grow Recovery Community Centers

What is a Recovery Community Center?

Recovery Community Centers (RCCs) represent low-cost, member-driven, voluntarist, locally managed, and community-engaged pathways to sustainable recovery for people with substance use disorder, or SUD. RCCs accomplish these goals by linking people to existing resources and infrastructure and promoting a vibrant recovery culture based in a **physical community center where people in recovery can visit, engage with others in recovery, and access resources**. RCCs are an innovative, safe, and helpful source of community recovery support that provides linkages to existing local services and resources that support recovery for people with a substance use or mental health disorder. RCCs support recovery by helping people in the community who have a history of substance use to develop recovery capital, the personal resources that enable people to live healthy, productive, and community engaged lives. RCCs do this by connecting members of the recovery community, called peers, with different types of services such as recovery coaching, medication assisted treatment, connection to employment services and child care, recovery-oriented housing, or education and workforce development training services. Located in the heart of the community, Recovery Community Centers improve the ability of the local recovery community to care for one another, and they also help destigmatize the lives of people in recovery.

The RCC model of recovery is validated by academic studies and is promoted by both the SUD community and public health officials. However, finding the right communities for RCC development in Iowa has proven difficult, underscoring the fact that Iowa is one of just a few states in the U.S. that has yet to adopt the recovery community model.

Is Your Community Recovery Ready?

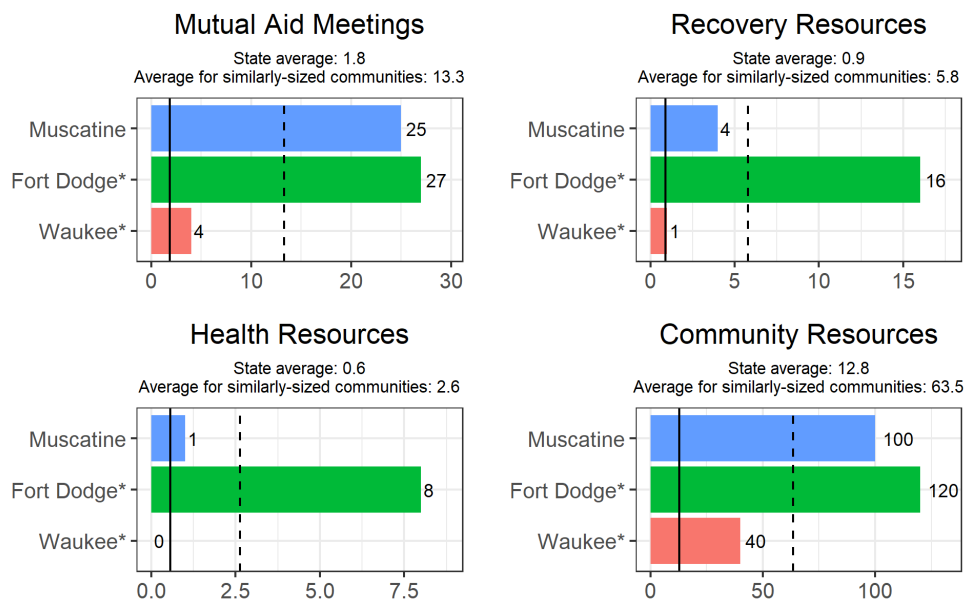
What is the RRCI and how was it created? We consulted scientific literature on substance use recovery and engaged key stakeholders who work directly with people in recovery around the country and in Iowa. This helped us to identify 17 unique community-based resources that we collected for almost all of Iowa’s 944 cities and towns. In total, we found nearly 16,000 community features that support recovery. We mapped and analyzed these resources so we could identify a short list of ‘Recovery Ready’ communities across the state, culminating in the first-of-its-kind index: **The Recovery Ready Community Index (RRCI)**.

The RRCI encompasses four dimensions: breadth, depth, size, and strength. Breadth of recovery resources was measured by counting the number of different types of recovery resources in each county and community. For example, counting if there is at least one hospital, one treatment center, and one drug drop off location in town. Depth of recovery resources was measured by first counting the total number of resources in each category and then ranking cities accordingly. This gives added importance to places that have, for example, more than one medication assisted treatment provider and many different recovery houses in town. Size of local recovery culture was measured by the total number of weekly mutual aid and peer support meetings per week in each city (e.g. total number of NA and AA meetings). Finally, the strength of the recovery community was measured as the difference between the total number of weekly peer support meetings and the number of meetings expected, based upon the total population of each town. These four dimensions were used to create the Recovery Ready Community Index. The RRCI is the simple average of each town’s ranking across the four dimensions or recovery readiness. Places that ranked high on all four dimensions are labeled as especially recovery ready.

How recovery ready is your community? Are you well-positioned to support a Recovery Community Center in your community? Relative to all cities, Muscatine ranks low in terms of its recovery readiness. **According to the Recovery Ready Community Index (RRCI), Muscatine scored 40.75, placing it at 21st when compared with other Iowa cities** (Iowa’s RRCI state average is 32.7).

Another way to understand recovery resources in Muscatine is to compare them with those of the state average and other communities of similar size. This comparison is displayed in Figure 1, which compares Muscatine with Fort Dodge and Waukee. An average across all Iowa towns as well as the subset having a comparable population level are also included as a baseline for comparison.

Fig. 1. Recovery Ready Community Index: Comparison of Muscatine to Other Iowa Communities on ‘Recovery Readiness’



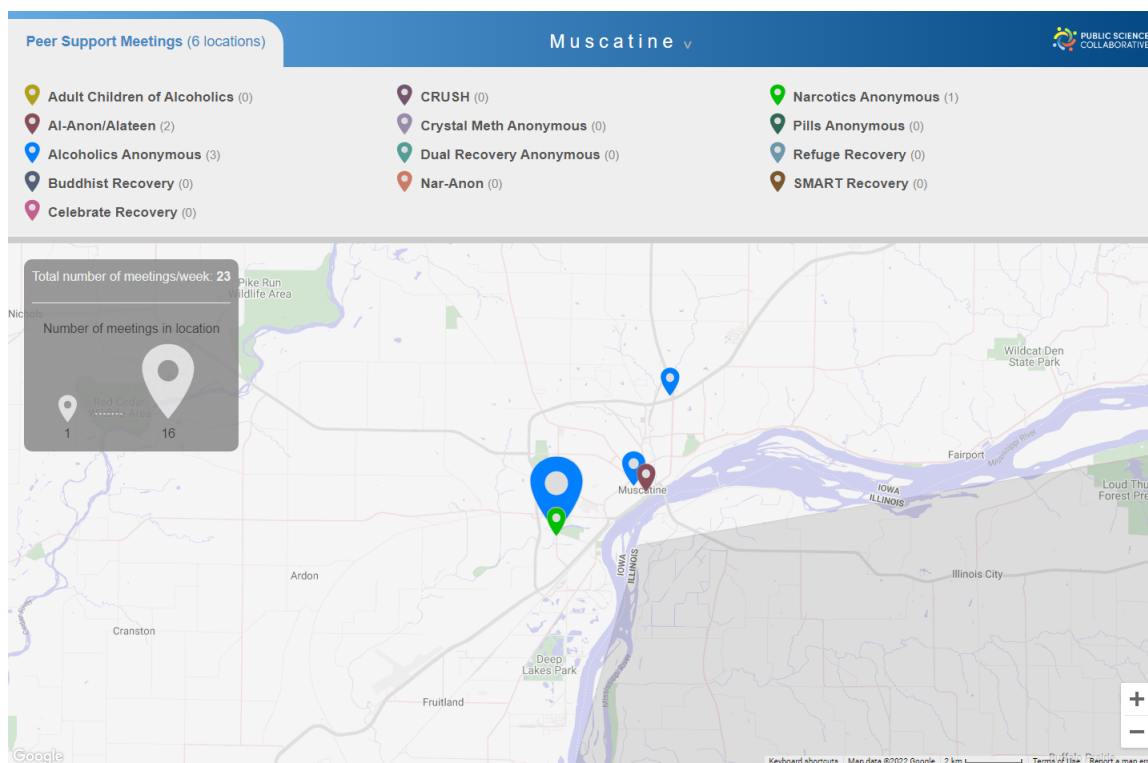
* The Iowa cities most comparable to Muscatine by population are Fort Dodge and Waukee.

** The solid vertical line represents the average for all 944 communities in Iowa and the dashed vertical line represents the average for Iowa communities with populations between 10,000 and 49,999 people.

What Peer Support Meetings are Available in Your Area?

Recovery meetings, such as Alcoholics and Narcotics Anonymous, play a significant role in facilitating the recovery process. Despite the importance of these meetings there is no coherent ‘one stop shop’ to find the meeting you need, when you need it. People usually need to go through several steps, such as searching for meetings on Google, or looking for a specific meeting time or place on a local listings’ website. It can be hard enough to connect with peer support during the best of times, but doubly difficult when you are in crisis and questioning your recovery. Magnifying the challenge of finding the right meeting at the right time is being new to a community, unfamiliar with the members of a local meeting, and being in a moment of duress.

Fig. 2. Peer Support Meetings in Muscatine



Note: Larger markers indicate the locations that host more than one meeting per week. For example, in Muscatine there are 24 total meetings hosted each week in the locations identified above.

We developed the PSC Meeting Finder tool above to make it easier to find local meetings. We do this by presenting a map-based list of meetings all throughout Iowa and we update the map every single day. It’s a simple interface that helps people to find the appropriate meetings nearby, right now. Users can filter meetings by time of day, day of week, or whether childcare is available, for example, to find the right meeting at the right time. Having a responsive design, PSC Meeting Finder Tool runs efficiently and quickly on many different kinds of computers and mobile devices such as smartphones. Figure 2 is a screen capture of the PSC Meeting Finder where you can see the location of all known peer support meetings in your community. A web version of this map is available at: <http://public-science.org/reportmaps/meetings/?city=Muscatine>. Note that the peer support data is updated regularly and may not exactly match Figure 2. A full listing of these resources is provided as a table with meeting, type, group name, number of meetings per week, and location of meetings in Appendix 2.

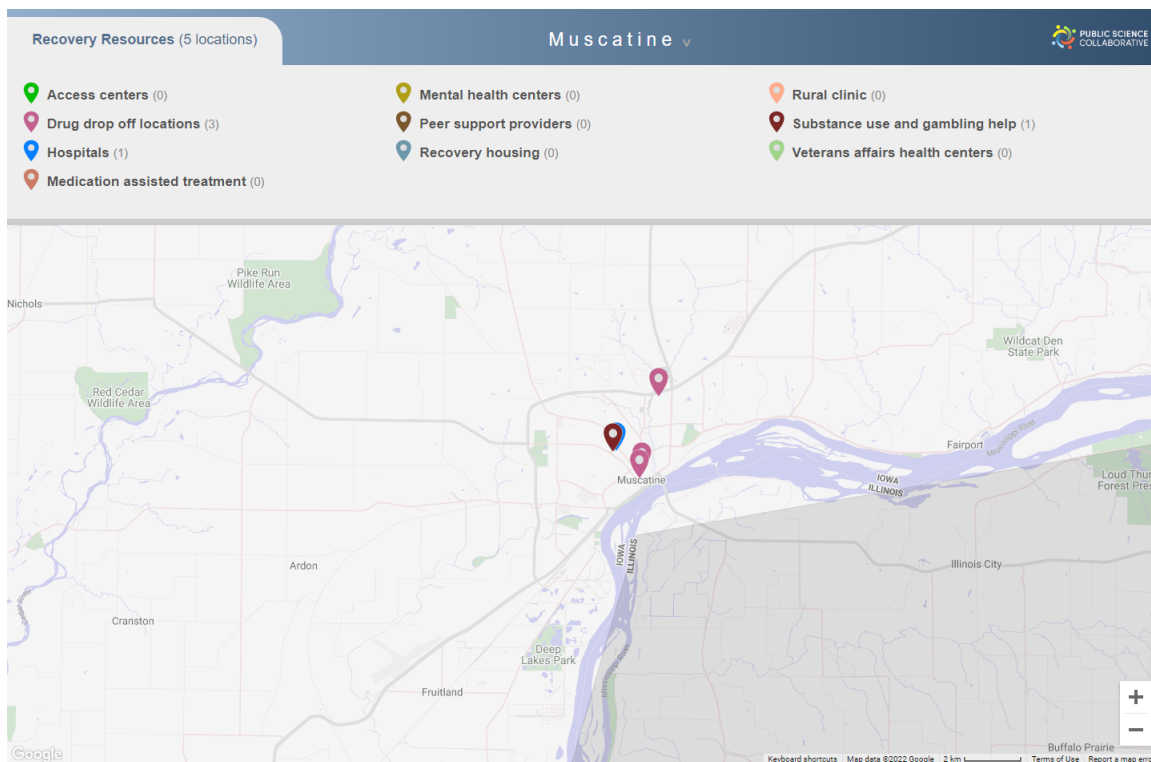
Muscatine has about 24 peer support meeting locations in a given week. Figure 2. indicates the location of these meetings as well as locations where there are few or no weekly meetings, which may help local peer support groups to identify new places to sponsor a meeting and support local recovery. The number of meetings held by each group is tabulated in the top panel of this figure indicating the prominence of different peer support organizations in the community.

What Recovery Resources Are Available in Your Area?

Despite their importance, community-based recovery resources can be hard to find. Whether a person is new to the community or a long-term resident, some resources remain unknown to many people in the community. The PSC Recovery Resource Locator aims to help solve this problem. Figure 3 is a screen capture of the PSC Recovery Resource Locator where you can see the location of some of the resources your community offers to its recovery community. A web version of this map is available at: <http://public-science.org/reportmaps/recoveryresources/?city=Muscatine>. A full listing of these resources is provided as a table with resource name, type, and location in Appendix 3.

Muscatine has 5 recovery resources available to support its residents in recovery from substance use disorders. These resources provide a variety of services and care to respond to the needs of individuals in the community. Drug drop off locations allow individuals to dispose of their unneeded prescription drugs to limit abuse of these substances. Medication assisted therapy helps alleviate withdrawal symptoms for individuals in recovery. Mental health resources are also an important resource in helping treat mental health challenges associated with SUD. Mutual aid and recovery housing groups are designed to provide a community of support to help address the material needs of people using substances. Finally, SUD treatment facilities and Veterans Affairs health clinics provide medical care to individuals using substances. These resources and others like them are tabulated in the top panel of Figure 3 to provide insight into strong and weak areas in community recovery resources.

Fig. 3. *Recovery Resources in Muscatine*

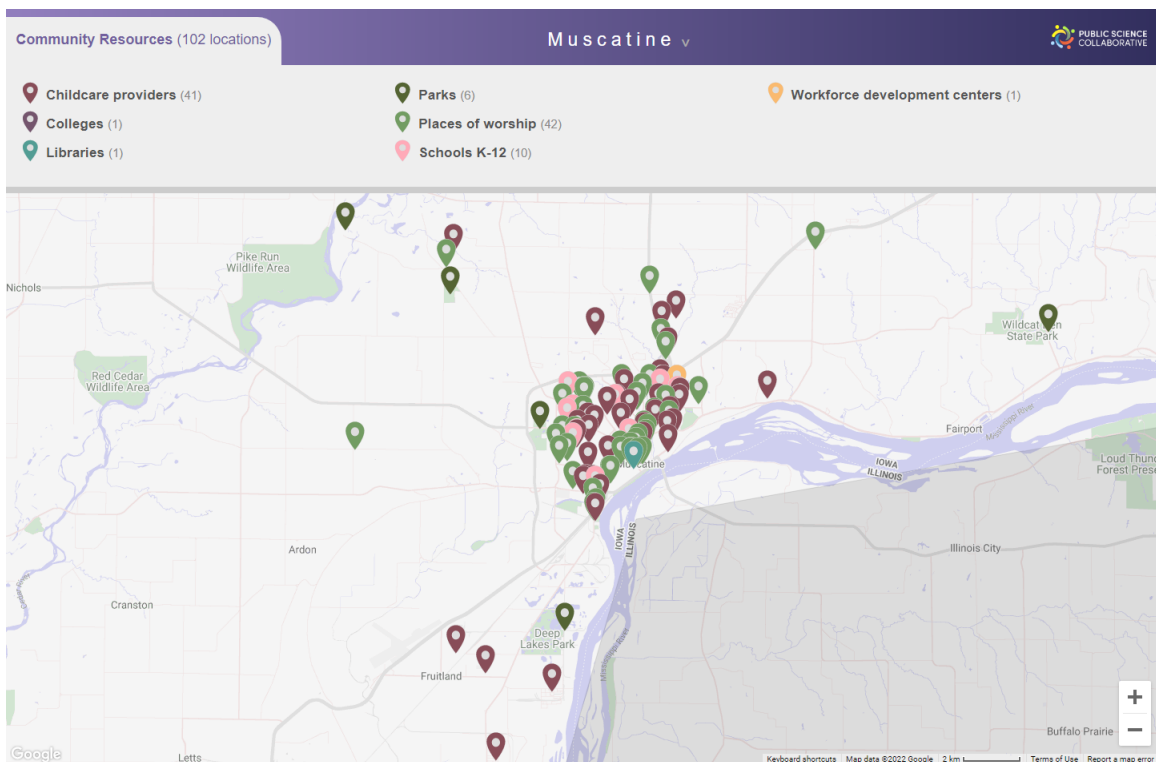


What Community Resources Are Available in Your Area?

In addition to peer support meetings and clinical care, people in recovery benefit from other community resources. For example, having easy access to parks and natural areas has been shown to support substance use recovery. Participation in community groups, including religious organizations, may be a source of strength and support for many people in recovery. We have identified many additional community assets that can help people in their own recovery journey. The state of Iowa has a wide range of public and private institutions and organizations dedicated to providing health and human services, support, and activities to improve quality of life and well-being of all Iowans. The PSC Community Resource Locator is a utility for discovering many of these resources. Figure 4 is a screen capture of the PSC Community Resource Locator where you can see the location of some of the resources your community offers to its recovery community. A web version of this map is available at: <http://public-science.org/reportmaps/communityresources/?city=Muscatine>. A full listing of these resources is provided as a table with resource name, type, and location in Appendix 4.

Muscatine has 102 community resources available for its residents to live their best lives and to support those in recovery from substance use disorders. These may include childcare providers, universities and technical colleges, libraries, parks, places of worship, K-12 schools, and workforce development centers. The number of each type of resource is broken down in Figure 4., highlighting areas of success and areas for growth in your community.

Fig. 4. *Community Resources in Muscatine*

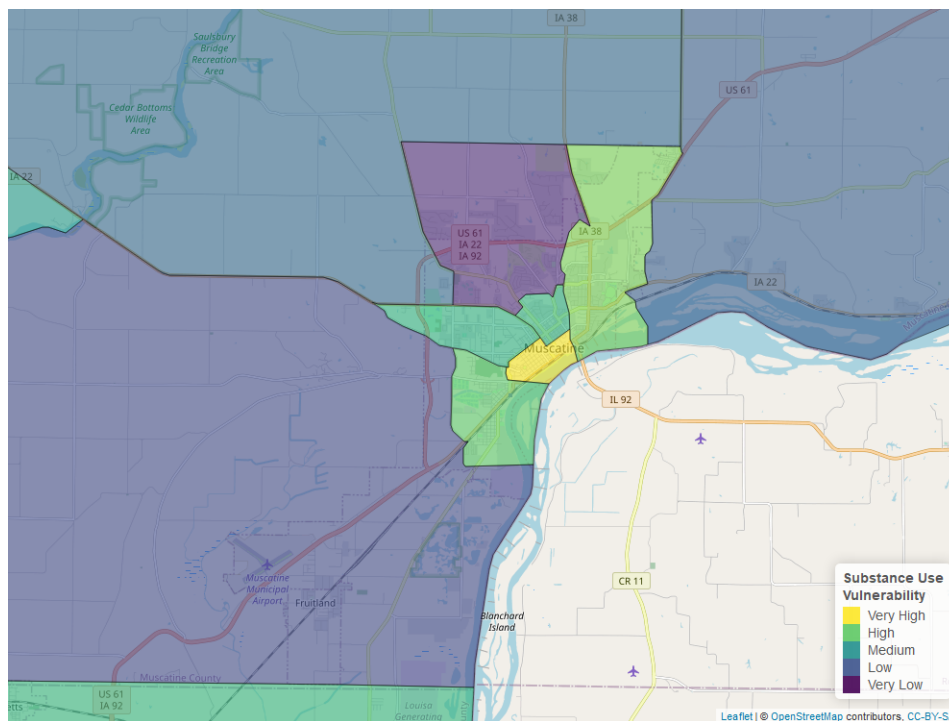


Which Neighborhoods in Your Community Need Additional Health Resources and Support?

The Public Science Collaborative has developed data resources to help community organizations, local governments, and public health practitioners to more effectively target substance use prevention, treatment, and recovery interventions to the places in greatest need of resources. Geographic ‘hot spots’ identify places where local residents are at especially high risk for substance use disorder. We estimated statistical models using administrative data from the Treatment Episode Admissions Dataset (TEDS-A) and the National Survey of Drug Use and Health (NSDUH) to measure significant relationships between substances of misuse and socio-demographic characteristics known to affect health equity and substance use vulnerability. Neighborhood characteristics associated with each substance (e.g. methamphetamine, benzodiazepines) were overlaid with Census Bureau estimates of these same neighborhood characteristics, by census tract. Once mapped, these data help us to identify places with especially high concentrations of at-risk characteristics in need of targeted resources to reduce health inequities. You can learn more about the underlying models for this index in Appendix 1. The resulting maps are included in the pages that follow, and interactive maps can be found online at https://publicsciencecollaborative.shinyapps.io/iowa_sdoh/ and https://publicsciencecollaborative.shinyapps.io/ia_substance_use_vulnerability/.

Towns and cities in Iowa typically have neighborhoods with distinctive risk profiles, with some at especially high (or low) risk of harmful use of a specific substance, such as Heroin, Opioids, or Methamphetamine. Identification of these locations can guide public health outreach efforts and enable more targeted, substance-specific interventions based upon known neighborhood risk factors. To do so, we have developed a city map to identify overall substance use vulnerability, which can be used to support generalized substance use prevention, treatment, and recovery interventions (Figure 5). Maps pertaining to Opioid, Heroin, and Methamphetamine use are included to help identify trends specific to these specific drugs (Figures 6, 7, 8). Typically, areas high in overall substance use vulnerability are also high in substance use. When this is the case, it suggests that general health resources would benefit these places and their residents. If a particular neighborhood is high in a specific substance, drug-specific interventions may be an effective tool in supporting the area.

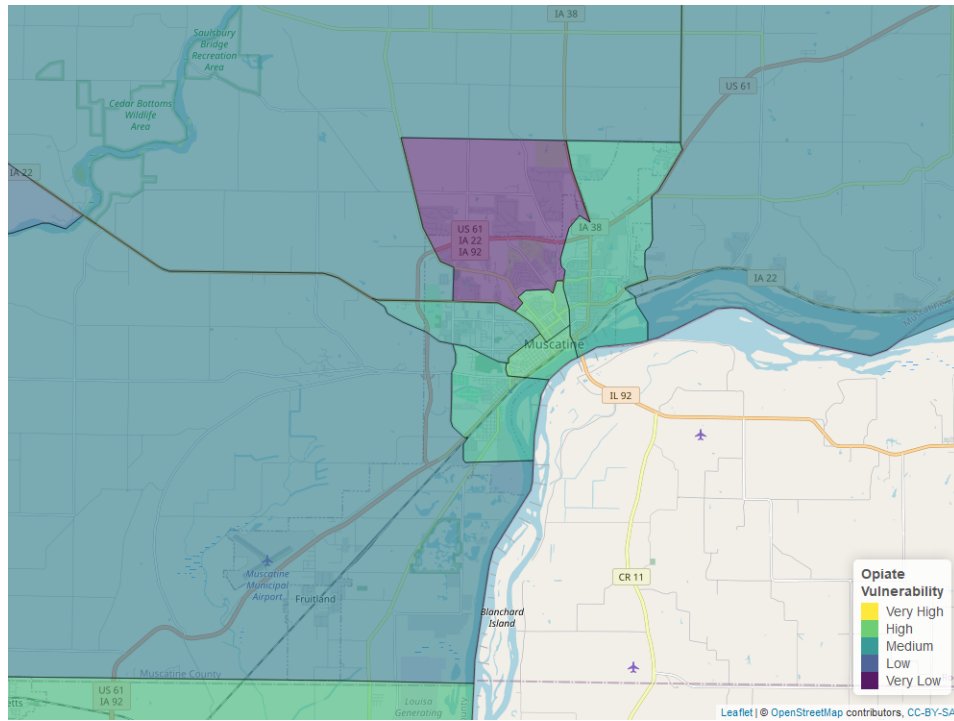
Fig. 5. *Neighborhood Vulnerability Index, All Substance Use*



Overall substance use vulnerability varies by neighborhood in Muscatine, but is generally about equal to other communities in Iowa (see Figure 5). Due to neighborhood vulnerability, specific neighborhoods may benefit from a targeted approach rather than community wide efforts. Community-wide vulnerability was highest for

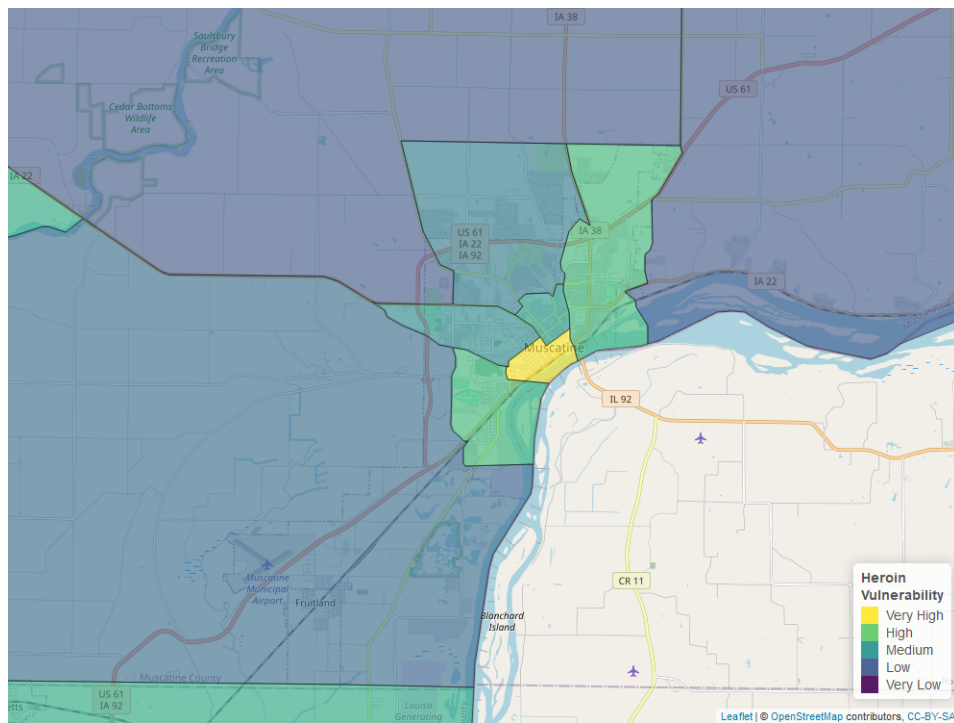
heroin, and a breakdown for each substance is shown in the figures below.

Fig. 6. *Neighborhood Vulnerability Index, Opioid Use*



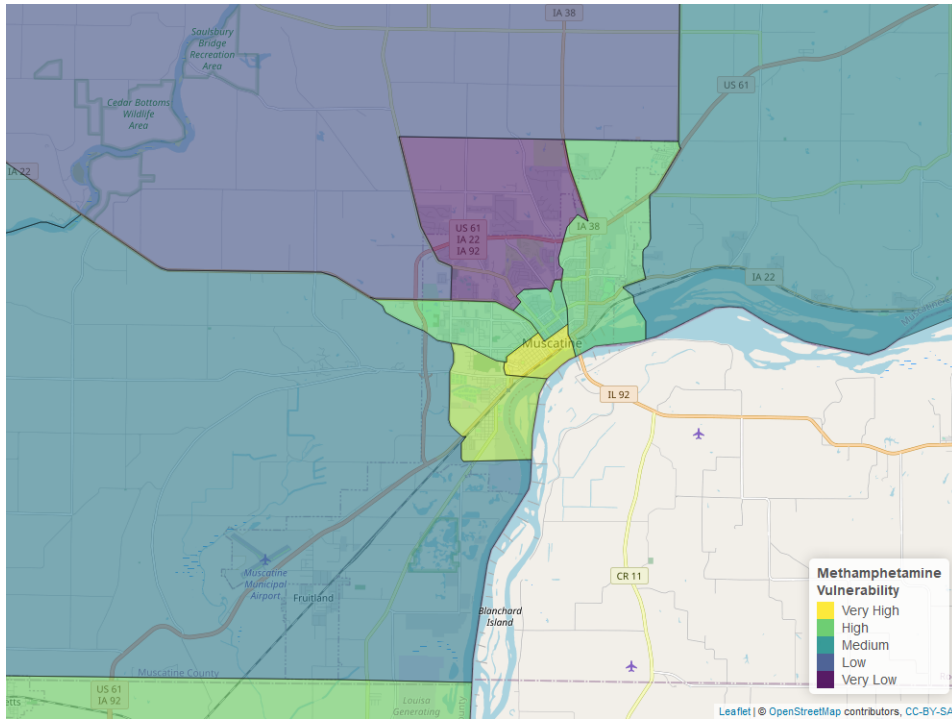
The overall opioid risk in Muscatine is about equal to the average for communities in Iowa (see Figure 6).

Fig. 7. *Neighborhood Vulnerability Index, Heroin Use*



The overall heroin risk in Muscatine is about equal to the average for communities in Iowa (see Figure 7).

Fig. 8. Neighborhood Vulnerability Index, Methamphetamine Use

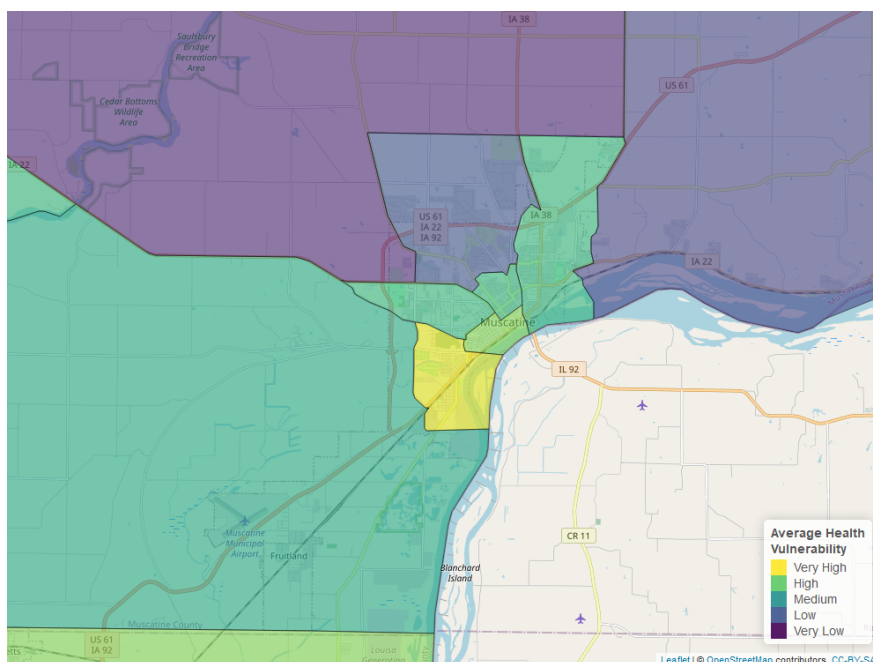


The overall meth risk in Muscatine is about equal to the average for communities in Iowa (see Figure 8).

What's Driving Health Disparities in Your Community?

In addition to the neighborhood vulnerability maps above, the Public Science Collaborative created a neighborhood map to understand health disparities in Muscatine that draws on well-established social determinants of health. By social determinants, we refer to health risks that are social in origin and tend to be unevenly distributed within a city or town. For example, in places with high average levels of education and low unemployment rates, residents tend to also have better overall health (e.g. longer life span and more healthy years of living). In places where average incomes are low and the rates of single parenting are high, people often have worse health, including higher death rates due to overdose and fewer healthy days. Knowing something about where the social determinants of health support well being and where their scarcity decreases well being can help local community organizations and governments to better target investments to reduce health disparities between neighborhoods.

Fig. 9. *Neighborhood-Level Health Disparities, Social Determinants*



According to the social determinants we considered, lack of English is the biggest risk factor for poor health and between neighborhood health disparities in Muscatine. Overall, health risks in Muscatine are about equal to the average for communities in Iowa.

APPENDIX 1: Data Used in this Report

10.1 Recovery Ready Community Index (RRCI)

Data Tool:	Recovery Ready Community Index
Data:	Data: PSC Meeting Finder Tool data; PSC Recovery Resources Locator Tool data; PSC Community Resources Tool data, U.S. Census Bureau American Community 5-year Estimates (ACS), 2015-2019

The Recovery Ready Community Index was designed to give a holistic view of a community’s “recovery readiness” and their ability to support people in recovery. The RRCI is constructed with four sub-measures: Breadth of Recovery Resources, Depth of Recovery Resources, Size of Recovery Culture, and Strength (Vibrancy) of Recovery Culture. You can read more about how the RRCI was developed on page two of this report. The specific recovery and community data collected to build the RRCI are detailed below and listed by name and source in Appendices 2, 3, and 4

10.2 PSC Meeting Finder Tool

Interactive Tool:	http://public-science.org/meetingfinder/
Data updated daily:	<i>Adult Children of Alcoholics, Al-Anon/Alateen, Alcoholics Anonymous (AA), Buddhist recovery, Celebrate Recovery, CRUSH, Crystal Meth Anonymous, Dual Recovery Anonymous, Nar-Anon, Narcotics Anonymous (NA), Pill Anonymous, Refuge Recovery, and SMART Recovery</i>

Under the hood, the PSC Meeting Finder Tool is a data pipelining system that fetches the information of the 13 different types of recovery meetings from their original sources, and integrates them into a state map (Following Figure). This system is composed of four major logical components: (1) automated robots that oversee and ‘scrape’ the peer-support websites for daily updates, (2) database infrastructure, (3) the web server infrastructure, and (4) PSC Meeting Finder web-based application. There are two types of automated program robots, called ‘bots’, utilized in this system: commander bots and scraper bots. The commander bot is in charge of running and logging the scraper bots, and reports to the system administrator when a scraper bot is unsuccessful. A scraper bot is in charge of scrapping the original listing websites, and populating the database with the cleaned data. The original listings might be unstructured and contain dirty data. It is the scraper bot’s duty to make sure that the data that is inserted into the database is clean and structured. These data are then pulled into the users’ browser by the PSC Meeting Finder Tool.

Table 1. Peer Support Meeting Information for Muscatine

Name of Meeting	Web Resource	# of locations	# of meetings per week
Al-Anon/Alateen	https://al-anon.org	4	4
Alcoholics Anonymous	https://www.aa-iowa.org/	41	13

Recovery meetings data are gathered and cleaned from 13 web-based resources via our data pipeline system. Most of these resources utilize web scraping techniques (in Python by standard requests or packages such as Selenium and BeautifulSoup packages) as well as parsing PDF (Python: PyPDF2 package) files and XLS sheets (Python: csvkit). Table 1 identifies the name of the meeting, web resource, number of locations, and number of meetings per week.

Fig. 10. PSC Meeting Finder Tool - Under the Hood



10.3 PSC Resource Recovery Tool

Interactive Tool:

<http://public-science.org/recoveryresources>

Data updated yearly:

Iowa Office of Drug Control Policy; Wikipedia of Iowa hospitals; Iowa Department of Public Health; Recovery and Resilience Coordinator with AmeriCorpAllTreatment.com; TransitionalHousing.org; WomenSoberHousing.com; Addicted.org; Recovery.org; Drug-rehabs.org; Iowa Association of Rural Health Clinics; U.S. Department of Veterans Affairs

Recovery resources include access centers, drug drop off locations, hospitals, medication assisted treatment locations, mental health centers, peer support providers, recovery housing, rural clinics, SUD and problem gambling treatment locations, and Veterans Affairs health centers. To collect this data, we used a variety of public resources, including government agencies and recovery websites. Our collection of recovery resources is not necessarily exhaustive, but represents the data accessed through our initial effort and following the advice of substance use experts and researchers. This data was acquired through a variety of means, including simple downloads, manual data entry, computer reading of PDF files, and scraping websites. See the table below for the recovery resources data sources.

Table 2. *Recovery Resource Locator Tool Data Sources (Downloaded Sept 2020-May 2021)*

Resource	Data Source	Website Link
Access Centers	Manual Addition	
Drug Drop Off Locations	Iowa Office of Drug Control Policy	https://geodata.iowa.gov/datasets/rx-drop-off-locations-1?geometry=-101.674%2C40.504%2C-84.986%2C43.364
Hospitals	Wikipedia list of Iowa hospitals	https://en.wikipedia.org/wiki/List_of_hospitals_in_Iowa
Medication Assisted Treatment Locations	Iowa Department of Public Health	https://idph.iowa.gov/mat
Mental Health Centers	Iowa Department of Public Health	https://dhs.iowa.gov/sites/default/files/MHDDAccreditedProviders_32.pdf?082320201508
Recovery Housing	AllTreatment.com; TransitionalHousing.org; WomenSoberHousing.com; Addicted.org; Recovery.org; Drug-rehabs.org	AllTreatment.com;TransitionalHousing.org;WomenSoberHousing.com;Addicted.org;Recovery.org;Drug-rehabs.org
Rural Clinics	Iowa Association of Rural Health Clinics	https://iarhc.org/find-a-rural-health-clinic?view=map
SUD and Problem Gambling Treatment Locations	Iowa Department of Public Health	https://idph.iowa.gov/Portals/1/userfiles/166/Licensure/All%20Licensed%20Substance%20Use%20Disorder%20-%20Problem%20Gambling%20Program%27s%20List.pdf
Veterans Affairs Health Centers	U.S. Department of Veterans Affairs	https://www.va.gov/directory/guide/state.asp?STATE=IA&dnum=ALL

10.4 PSC Community Resource Locator Tool

Interactive Tool:

<http://public-science.org/communityresources>

Data updated yearly:

Iowa Department of Human Services; Wikipedia of Iowa colleges; Institute of Museum and Library Services, Public Libraries Survey; MyCountyParks.com; USGS Geographic Names Information System; Iowa Dept of Education; Iowa Workforce Development

Community resources include childcare providers, colleges, libraries, parks, places of worship, K-12 schools, and workforce development centers. To collect this data, we used a variety of public resources, including government agencies and recovery websites. Our collection of community resources is not necessarily exhaustive, but represents the data accessed following the advice of substance use experts and researchers. This data was acquired through a variety of means, including simple downloads, manual data entry, computer reading of PDF files, and scraping websites. See the table below for the community resources data sources.

Table 3. *Community Resource Locator Tool Data Sources (Downloaded Sept 2020-April 2021)*

Resource	Data Source	Website Link
Childcare Providers	Iowa Department of Human Services	http://ccmis.dhs.state.ia.us/ClientPortal/ProviderLocator.aspx
Colleges	Wikipedia list of Iowa colleges	https://en.wikipedia.org/wiki/List_of_colleges_and_universities_in_Iowa
Public Libraries	Institute of Museum and Library Services	https://www.ims.gov/research-evaluation/data-collection/public-libraries-survey
Parks	MyCountyParks.com	https://www.mycountyparks.com/County/Default.aspx
Places of Worship	USGS Geographic Names Information System	https://data.iowa.gov/Physical-Geography/Iowa-Church-Buildings/juvk-dad9
K-12 Schools	Iowa Department of Education	Public Schools: https://educateiowa.gov/documents/directories/2020/09/2020-21-iowa-public-school-building-directory
		Private Schools: https://educateiowa.gov/documents/directories/2020/09/2020-21-iowa-non-public-school-building-directory
Workforce Development Centers	Iowa Workforce Development	https://www.iowaworkforcedevelopment.gov/contact

10.5 Substance Use Vulnerability Index

Data Tool:

Substance Use Vulnerability Index

Data:

Treatment Episode Data Set-Admission and Discharge (TEDS), 2000-2018 National Survey on Drug Use and Health data (NSDUH), 2015-2019 U.S. Census Bureau American Community 5-year Estimates (ACS), 2015-2019

Geographic ‘hot spots’ of people at risk for substance use disorder were first predicted based on models of administrative data from Treatment Episode Data on admissions (TEDS) and the National Survey of Drug Use and Health (NSDUH) data that assessed significant relationships between key substances and socio-demographic characteristics known to affect health equity and substance use vulnerability (Tables 5-6 results below). Then, the significant predictions of risk for each substance were overlaid with Census Bureau’s American Community Survey 5-year estimates of these population characteristics to provide a visual representation of places with especially high concentrations of people with at-risk characteristics. The Census characteristics described in Table 4 below are reported in Figures 5-8

Table 4. *Substance Use Risk Index using U.S. Census Bureau American Community 5-year Estimates (2015-2019)*

Risk Characteristics	Census Table	Description
Age	B06001	Data table includes population by age categories.
Sex	B01001	Data table includes population by sex.
Poverty Status	S1701_C01	Data table includes poverty status by age bracket and for different income levels.
Marital Status	B12001	Data table includes marital status by sex.
Parental Status	B09002	Data table includes parental and childcare status.

Table 5. *Substance Use Risk Index using TEDS Admission Data*

Risk Characteristics	Alcohol	Cannabis	Meth	Cocaine	Other Opiates	Heroin	Benzos
Age	Older, >35	Young, <35, <25	Middle age	>45	<25	Spikes at both ends	<25
Sex	Male	Male	Female			Male	Female
Race	Black, Hispanic	Black	White	Non-white	Asian, white	Non-white	White
Education		No college	No college	Some college	Some college	Some college	Some college
Poverty	Public Assistance	Public Assistance		Retired/Disabled	Wages/Salary, Retired/Disabled	Wages/Salary, Retired/Disabled	
Employment	Employed	Part time	Unemployed	Employed	Unemployed		Part time
Marital Status			Separated, Divorced, Widowed	Single	Married	Single	
Pop Density	Rural, Micro	Rural, Micro	Micro	Metro	Metro	Metro	Metro, Micro

Table 6. *Substance Use Risk Index using NSDUH Data*

Risk Characteristics	Alcohol	Cannabis	Meth	Cocaine	Other Opiates	Heroin	Benzos
Age	26-34	Young, <35, <25	Middle age	18-34	<50	26-49	18-34
Sex	Male	Male	Male	Male	Male	Male	Male
Race	White	White, Native American	White, Native American	White, Native American	White, Native American	White	White
Education	College	Some college, maybe	No college		No college	No college	
Income	>75,000	<20,000	<40,000	<20,000	<40,000	<20,000	
Employment	Employed	Unemployed	Unemployed	Unemployed	Unemployed	Unemployed	Unemployed
Marital Status	Single, separated	Single	Separated, Divorced	Single	Single	Single	Single
Pop Density	Metro	Metro	Non-metro	Metro	Metro	Metro	Metro

10.6 Social Determinants of Health Index

Data: Social Determinants of Health Index

Data: *U.S. Census Bureau American Community 5-year Estimates (ACS), 2015-2019*

The Social Determinants of Health Index was developed to promote health equity through providing a better understanding of the environments that create and ameliorate the multifactorial risk factors of substance misuse on priority populations. All data for the Substance Use Vulnerability Index comes from the U.S. Census Bureau American Community Survey 5-year estimates (2015-2019). The 5-year pooled dataset represents 60 months of data that enable more precise multi-year estimates. Because many of Iowa’s counties have relatively small populations, the 5-year set of pooled data is the only type of ACS estimates that are available to use across all 99 counties. Following the standards set by *Washington State’s Social Determinants of Health Website* (www.doh.wa.gov/DataandStatisticalReports/HealthDataVisualization/SocialDeterminantsofHealthDashboards/CensusTractSocialDeterminantsofHealth), PSC collected information on the educational attainment level, health insurance coverage, English proficiency, unemployment, and poverty status in each county and then used this information to calculate the average health index for each of Iowa’s 99 counties

Table. 7. *Substance Use Risk Index using U.S. Census Bureau American Community 5-year Estimates (2015-2019)*

Risk Characteristics	Census Table	Description
Educational Attainment	S1501	Data table includes educational attainment level for population 25+, by sex.
Health Insurance Coverage	S2701_C05_001	Variable is percent of civilian noninstitutionalized population that is uninsured.
English Proficiency	S1601_C06_001	Variable is percent of population 5+ that speaks English less than very well.
Unemployment, 16+	S2301_C04_001	Variable is percent of population 16+ that is in the labor force, but is unemployed.
Poverty Status	S1701_C01	Data table includes poverty status by age bracket and for different income levels.

The Social Determinants of Health Index was developed to promote health equity through providing a better understanding of the environments that create and ameliorate the multifactorial risk factors of substance misuse on priority populations. All data for the Substance Use Vulnerability Index comes from the U.S. Census Bureau American Community Survey 5-year estimates (2015-2019). The 5-year pooled dataset represents 60 months of data that enable more precise multi-year estimates. Because many of Iowa’s counties have relatively small populations, the 5-year set of pooled data is the only type of ACS estimates that are available to use across all 99 counties. Following the standards set by *Washington State’s Social Determinants of Health Website* (www.doh.wa.gov/DataandStatisticalReports/HealthDataVisualization/SocialDeterminantsofHealthDashboards/CensusTractSocialDeterminantsofHealth), PSC collected information on the educational attainment level, health insurance coverage, English proficiency, unemployment, and poverty status in each county and then used this information to calculate the average health index for each of Iowa’s 99 counties

Appendix 2: Peer Support Contacts in Your Area

Table. 8. Appedix 2

Type	Name	Meetings per Week	Meeting Location
AA	AA On Houser Group	9	704 S Houser St, Muscatine, IA 52761, USA
AA	Foglight Group	2	704 S Houser St, Muscatine, IA 52761, USA
AA	Gaunt Prospector Group	2	704 S Houser St, Muscatine, IA 52761, USA
AA	Grupo Esperanza Hope	3	704 S Houser St, Muscatine, IA 52761, USA
AA	Primary Purpose Group	1	501 US-61 16, Muscatine, IA 52761, USA
AA	Recovery Group	3	513 Sycamore St, Muscatine, IA 52761, USA
	I Can't, We Can	1	704 S Houser St, Muscatine, IA 52761, USA
AlAnon	Muscatine AFG	1	704 S Houser St, Muscatine, IA 52761, USA
AlAnon	Wilton AFG	1	408 E 2nd St, Muscatine, IA 52761, USA

Appendix 3: Recovery Resources in Your Area

Table. 9. Muscatine Recovery Resource Type, Name of Business, and Address of Business

Resource	Name	Address
Drug Drop Off Location	Hy-Vee Drugstore Pharmacy	510 E 6th St, Muscatine, Iowa 52761
Drug Drop Off Location	Hy-Vee Pharmacy (1437)	2400 2nd Avenue, Muscatine, Iowa 52761
Drug Drop Off Location	Muscatine County Sheriff's Office	400 Walnut Street, Muscatine, Iowa 52761
Hospital	UnityPoint Health-Trinity Muscatine	1518 Mulberry Ave, Muscatine, IA 52761
SUD and Problem Gambling Treatment Location	Robert Young Center for Community Mental Health	1605 Cedar Street Muscatine, 52761

Appendix 4: Community Resources in Your Area

Table. 10. Muscatine Community Resource Type, Name of Business, and Address of Business

Resource	Name	Address
Childcare Provider	A Child's Place Preschool	701 E 6th St, Muscatine, IA 52761
Childcare Provider	Enyonam Ayikoe	2002 Logan St Apt E12, Muscatine, IA 52761
Childcare Provider	Happy Time Preschool and Child Care	401 Grandview Ave, Muscatine, IA 52761
Childcare Provider	Heaven's Little Angels Daycare	1206 Glenwood Ln, Muscatine, IA 52761
Childcare Provider	Nettes Kids	1016 Climer St, Muscatine, IA 52761
Childcare Provider	Olga Nunez	1806 New Hampshire St, Muscatine, IA 52761
Childcare Provider	Alma Rodriguez	311 Mcarthur St, Muscatine, IA 52761
Childcare Provider	Amber Johnson	2329 Fruitland Rd, Muscatine, IA 52761
Childcare Provider	Angelica Chavez	1410 King Ave, Muscatine, IA 52761
Childcare Provider	Jennifer Baker	508 Woodlawn Ave, Muscatine, IA 52761
Childcare Provider	Jennifer Heath	1405 B Ave, Muscatine, IA 52761
Childcare Provider	Rebecca Paul	805 Poplar St, Muscatine, IA 52761
Childcare Provider	Sandra Fuller	112 Park Ave, Muscatine, IA 52761
Childcare Provider	Sara Lee	2011 Schiller St, Muscatine, IA 52761
Childcare Provider	Sharon Shelangoski	2291 Saulsbury Rd, Muscatine, IA 52761
Childcare Provider	Ashley Sterner	892 Leroy St, Muscatine, IA 52761
Childcare Provider	Barb Johnson	1605 Willow St, Muscatine, IA 52761
Childcare Provider	Bonnie McElroy	1910 W Fulliam Ave, Muscatine, IA 52761
Childcare Provider	Bridge to Beginnings	610 Maiden Lane, Muscatine, IA 52761
Childcare Provider	CAEI-Muscatine Head Start	148 Colorado St, Muscatine, IA 52761
Childcare Provider	Stepping Stones Learning Center LLC	2205 2nd Ave, Muscatine, IA 52761
Childcare Provider	Ciarra Hartman	5711 63rd Ave W, Muscatine, IA 52761
Childcare Provider	Cindy McConnaha	2581 Bayfield Rd, Muscatine, IA 52761
Childcare Provider	Kim Castillo	105 Jefferson St, Muscatine, IA 52761
Childcare Provider	Kodi Goodwin	116 Magnolia St, Muscatine, IA 52761
Childcare Provider	Leanna Schmelzer	1820 Hammann St, Muscatine, IA 52761
Childcare Provider	Lisa Aguirre	2103 Mulberry Ave, Muscatine, IA 52761
Childcare Provider	Tara Steahr	18569 Maverick Ln, Muscatine, IA 52761
Childcare Provider	Teisha O'Brien and Russell O'Brien	202 Gilbert St, Muscatine, IA 52761
Childcare Provider	The Salvation Army KidZone	1000 Oregon St, Muscatine, IA 52761
Childcare Provider	Dawn Albertson-Hunn and Thelma Pendleton	2951 Hwy 22, Muscatine, IA 52761
Childcare Provider	Dorothy Darnell	1895 Hwy 38, Muscatine, IA 52761
Childcare Provider	Mary Honts	2748 Brookview Rd, Muscatine, IA 52761
Childcare Provider	MCC Learning Tree Preschool	152 Colorado St, Muscatine, IA 52761
Childcare Provider	Muscatine Community Y Kids Club	1823 Logan St, Muscatine, IA 52761
Childcare Provider	Muscatine CSD - Colorado Elementary Preschool	149 Colorado Street, Muscatine, IA 52761
Childcare Provider	Muscatine CSD - Grant Preschool	705 Barry Ave., Muscatine, IA 52761
Childcare Provider	Muscatine CSD - Jefferson Preschool	1000 Mulberry Ave., Muscatine, IA 52761
Childcare Provider	Muscatine CSD - MCKinley Preschool	621 Kindler Ave., Muscatine, IA 52761

Childcare Provider	Live, Laugh, Love Childcare Center LLC	1112 Fillmore St, Muscatine, IA 52761
Childcare Provider	Wonder Years Preschool	3300 Highway 38 North, Muscatine, IA 52761
College	Muscatine Community College	Muscatine Community College, Muscatine, IA
Library	Musser Public Library	304 Iowa Ave, Muscatine, IA 52761
Park	Deep Lakes Park	Pettibone Ave, Muscatine, IA 52761
Park	Discovery Park	3300 Cedar St, Muscatine, IA 52761
Park	Flaming Prairie	14624 Co Rd X61, Muscatine, IA 52761
Park	Nye Cemetery	1915 Wildcat Den Rd, Muscatine, IA 52761
Park	Saulsbury Bridge Recreation Area	2007 Saulsbury Rd, Muscatine, IA 52761
Park	Shield Prairie	1825 7 Springs Rd, Muscatine, IA 52761
Place of Worship	Musserville United Methodist Church	1001 Oregon St, Muscatine, IA 52761
Place of Worship	Trinity Episcopal Church	211 Walnut St, Muscatine, IA 52761
Place of Worship	Christian Science Church	501 US-61 #16, Muscatine, IA 52761
Place of Worship	Church of God	222 Bleeker St, Muscatine, IA 52761
Place of Worship	Centro Christian Emanuel Church	700 Kindler Ave, Muscatine, IA 52761
Place of Worship	The Church of Jesus Christ of Latter Day Saints	2902 Lucas St, Muscatine, IA 52761
Place of Worship	Our Lady of Guadalupe Church	215 W 8th St, Muscatine, IA 52761
Place of Worship	Mulford Evangelical Free Church	2400 Hershey Ave, Muscatine, IA 52761
Place of Worship	Zion Lutheran Church	513 Sycamore St, Muscatine, IA 52761
Place of Worship	First Assembly of God Church	314 W 7th St, Muscatine, IA 52761
Place of Worship	Sweetland United Methodist Church	1709 Sweetland Rd, Muscatine, IA 52761
Place of Worship	First Baptist Church	3003 Mulberry Ave, Muscatine, IA 52761
Place of Worship	Wesley United Methodist Church	400 Iowa Ave, Muscatine, IA 52761
Place of Worship	Calvary Baptist Church	501 US-61 #16, Muscatine, IA 52761
Place of Worship	First Presbyterian Church	401 Iowa Ave, Muscatine, IA 52761
Place of Worship	New Jerusalem Full Gospel Church	508 E 7th St, Muscatine, IA 52761
Place of Worship	Muscatine Baptist Chapel	1235 Lincoln Blvd, Muscatine, IA 52761
Place of Worship	First Christian Church	700 Kindler Ave, Muscatine, IA 52761
Place of Worship	Vineyard Christian Fellowship Church	224 E 3rd St, Muscatine, IA 52761
Place of Worship	Saint Paul Hispanic Methodist Church	1001 Oregon St, Muscatine, IA 52761
Place of Worship	First United Pentecostal Church	2921 IA-22, Muscatine, IA 52761
Place of Worship	Mount Zion Charismatic Church	Muscatine, IA 52761
Place of Worship	Church of the Nazarene	1235 Lincoln Blvd, Muscatine, IA 52761
Place of Worship	Reorganized Church of Jesus Christ of Latter Day Saints	2703 Bidwell Rd, Muscatine, IA 52761
Place of Worship	Glad Tidings Church	710 Cypress St, Muscatine, IA 52761
Place of Worship	Kingdom Hall of Jehovahs Witnesses	701 Lake Park Blvd, Muscatine, IA 52761
Place of Worship	Our Saviors Lutheran Church	2611 Lucas St, Muscatine, IA 52761
Place of Worship	Puerta Al Cielo Pentecostal Church	2861 Highland Ct, Muscatine, IA 52761
Place of Worship	Clearview Church	Muscatine, IA 52761
Place of Worship	Faith Church	3307 Mulberry Ave, Muscatine, IA 52761

Place of Worship	Hillcrest Church	1613 Bidwell Rd, Muscatine, IA 52761
Place of Worship	Walnut Park Church	215 Colorado St, Muscatine, IA 52761
Place of Worship	Bnai Moses Synagogue	Muscatine, IA 52761
Place of Worship	Church of the Living Waters	3120 Park Ave W, Muscatine, IA 52761
Place of Worship	Four Square Church	1523 Houser St, Muscatine, IA 52761
Place of Worship	Saint Mathias Church	215 W 8th St, Muscatine, IA 52761
Place of Worship	Bloomington Church	2698 180th St, Muscatine, IA 52761
Place of Worship	Menonita Church	Muscatine, IA 52761
Place of Worship	High Prairie Church	2050 215th St, Muscatine, IA 52761
Place of Worship	Grace Church	2107 Cedar St, Muscatine, IA 52761
Place of Worship	Calvary Church	501 US-61 #16, Muscatine, IA 52761
Place of Worship	Saint Marys Church	215 W 8th St, Muscatine, IA 52761
School (K-12)	Muscatine High School	2705 Cedar, Muscatine, IA 52761
School (K-12)	Susan Clark Junior High	600 Kindler Ave, Muscatine, IA 52761
School (K-12)	Muskie Early Learning Center	149 Colorado St, Muscatine, IA 52761
School (K-12)	Franklin Elementary School	210 Taylor St, Muscatine, IA 52761
School (K-12)	Grant Elementary School	705 Barry Ave, Muscatine, IA 52761
School (K-12)	Jefferson Elementary School	1000 Mulberry Ave, Muscatine, IA 52761
School (K-12)	Madison Elementary School	1820 1st Ave, Muscatine, IA 52761
School (K-12)	McKinley Elementary School	621 Kindler Ave, Muscatine, IA 52761
School (K-12)	Mulberry Elementary School	3211 Mulberry Ave, Muscatine, IA 52761
School (K-12)	Saints Mary and Mathias Catholic School	2407 Cedar St, Muscatine, IA 52761
Workforce Development Center	Muscatine IowaWORKS Office	Community Action of Eastern Iowa, Muscatine Mall, 1903 Park Avenue #18, muscatine,ia,52761