MDHHS | SUBSTANCE USE IN MICHIGAN

http://www.mi-suddr.com

ABOUT US

Elizabeth Agius
Manager of Community Partnerships
Wayne State University
School of Social Work

Brooke Rodriguez
Program Assistant
Wayne State University
School of Social Work

PROJECT BACKGROUND

➢ Created via funding from a federal grant to the State Epidemiological Outcomes Workgroup (SEOW)

➢ Administered by the Office of Recovery Oriented Systems of Care (OROSC)

PURPOSE & AUDIENCE

➢ To provide data for:

  ❖ Local prevention agencies and coalitions to enable data-driven programming decisions

  ❖ For grant seeking purposes

➢ To define the scope of a problem in a specific geographical location

➢ Substance Use Disorder Administrators

  ❖ Information about target populations

SITE OVERVIEW

- ➢ The Michigan Substance Use Disorder Data Repository allows users to find data on various substance use topics.

- ➢ The data is presented in visualizations that allow the data to be explored as interactive maps, bar charts and tables.

- ➢ The data can also be downloaded and used in community planning and outreach documents.

USE OF AVAILABLE DATA

- Data is primarily national and state level data sets
  - Recognizable: NSDUH, MI Traffic Crash Facts, MiPHY
  - Each have their own strengths and weaknesses
- Conflict between perfect (epi approach) and good (community approach)
- We have chosen as best as we could – strive to improve, but want to provide access

DATA SOURCES

Secondary Data Sources

➢ US Census

➢ Michigan Office of Highway Safety Planning

➢ Treatment Episode Data Set (TEDS)

➢ Centers for Disease Control

➢ Michigan Automated Prescription System (MAPS)

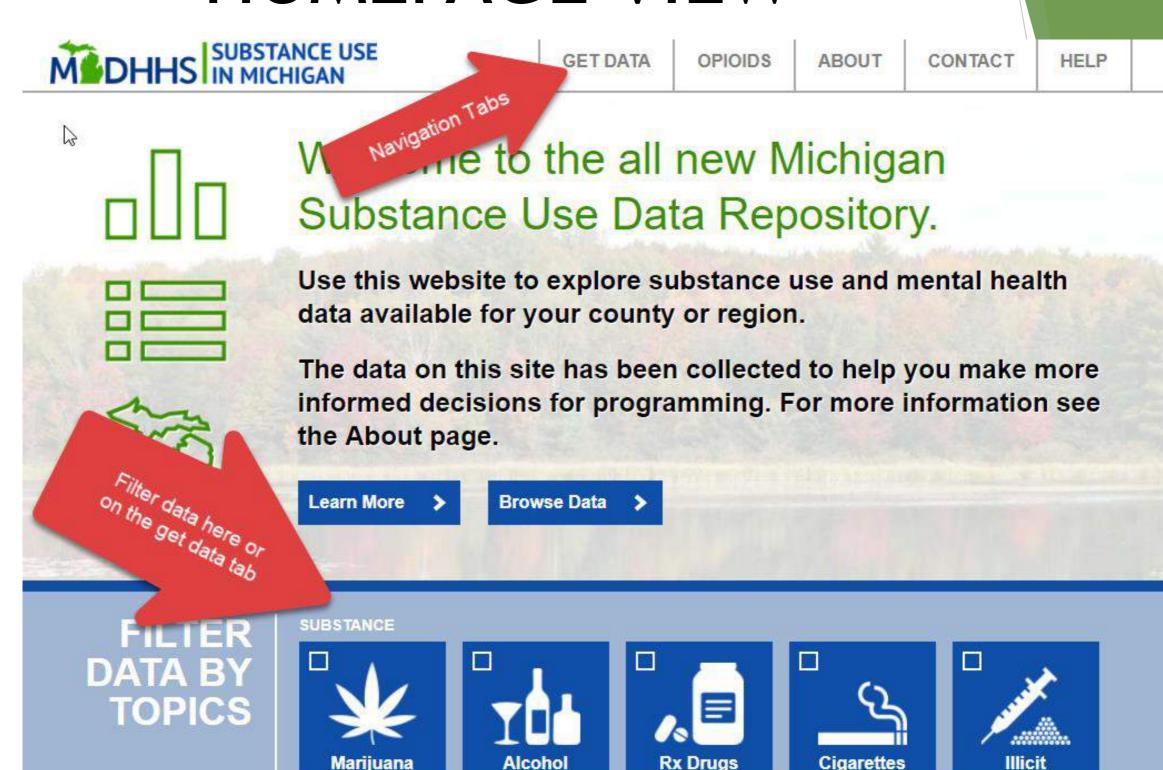➢ Division of Vital Records & Health Statistics

Surveys

➢ Michigan Profile for Healthy Youth (MiPHY)
➢ National Survey on Drug Use and Health (NSDUH)

DATA LIMITATIONS

➢ **Generalizability:** The MiPHY results are based on student survey responses from high/middle schools that voluntarily participated in a county and may not be representative of all high/middle schools in the county. Therefore, the results cannot be generalized nor used to compare county to county.

➢ **Time lag:** There is generally a two year lag between when the deaths and hospitalizations data are available for publishing.

➢ **Measures:** That is reporting rates vs counts. Due to small number of incidences, counts are presented rather than rates to avoid flagged as unreliable due to high relative standard errors.
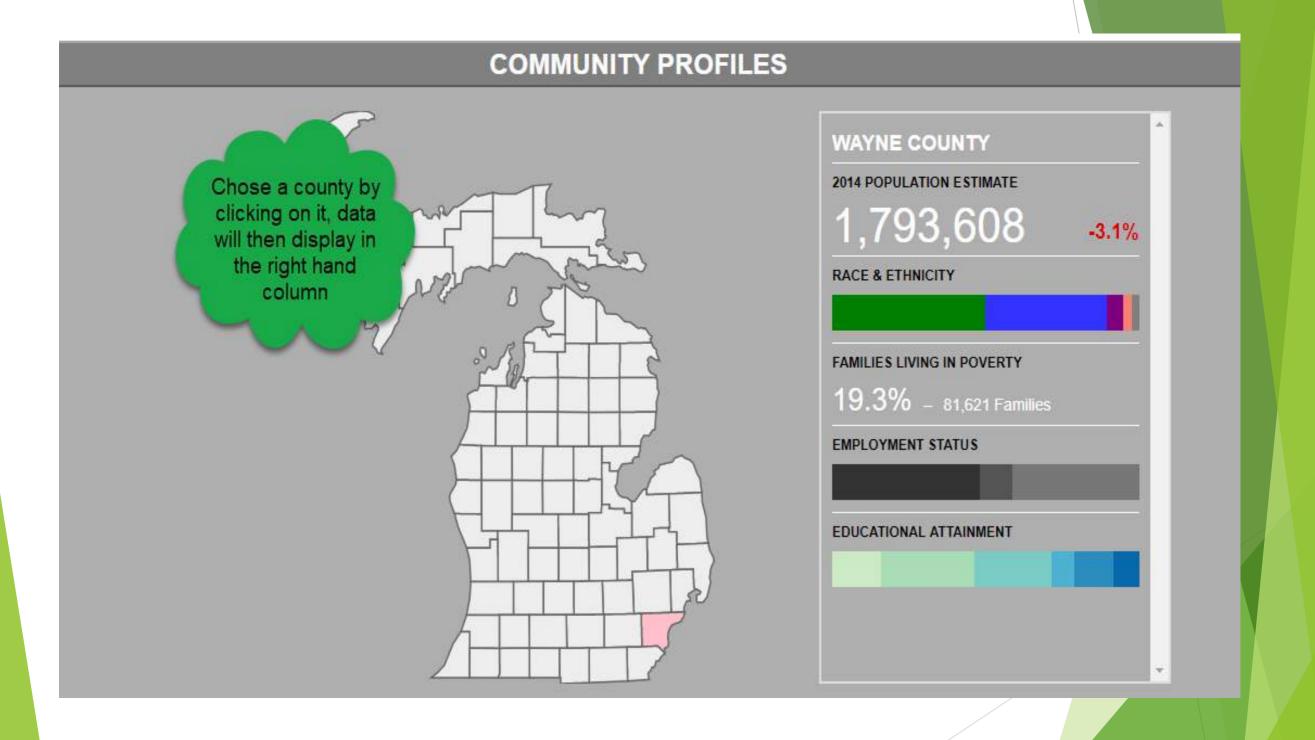
HOMEPAGE VIEW

COMMUNITY PROFILES

TECHNICAL DETAILS

➢ Site built in WordPress with a custom plugin

➢ Mapping and chart functions built from scratch without dependencies or licenses

➢ Data stored in a SQLite database

SEARCHING FOR DATA

EXPLORING DATA

Each data visualization has three views for interacting with and selecting data for download:

Map View

Chart View

Table View

MAP VIEW

CHART VIEW

TABLE VIEW

MDHHS | SUBSTANCE USE IN MICHIGAN
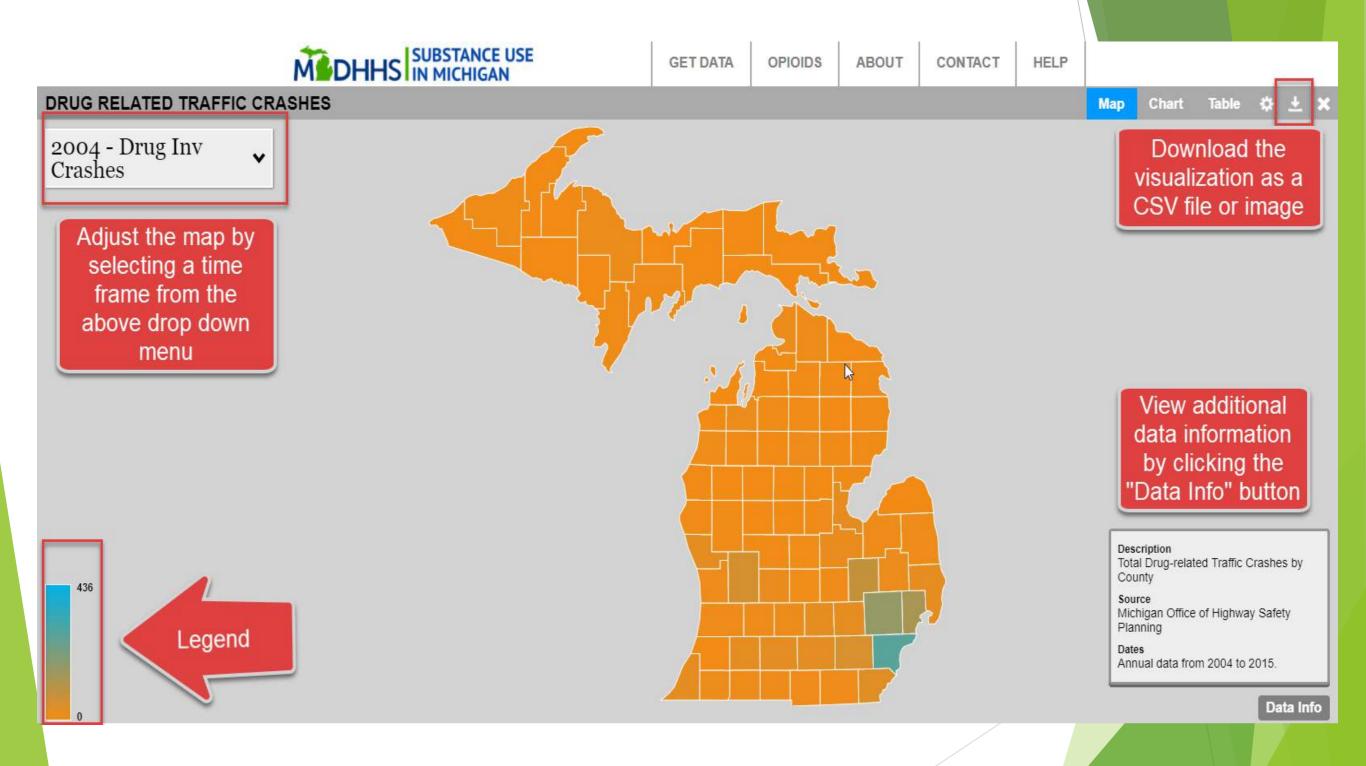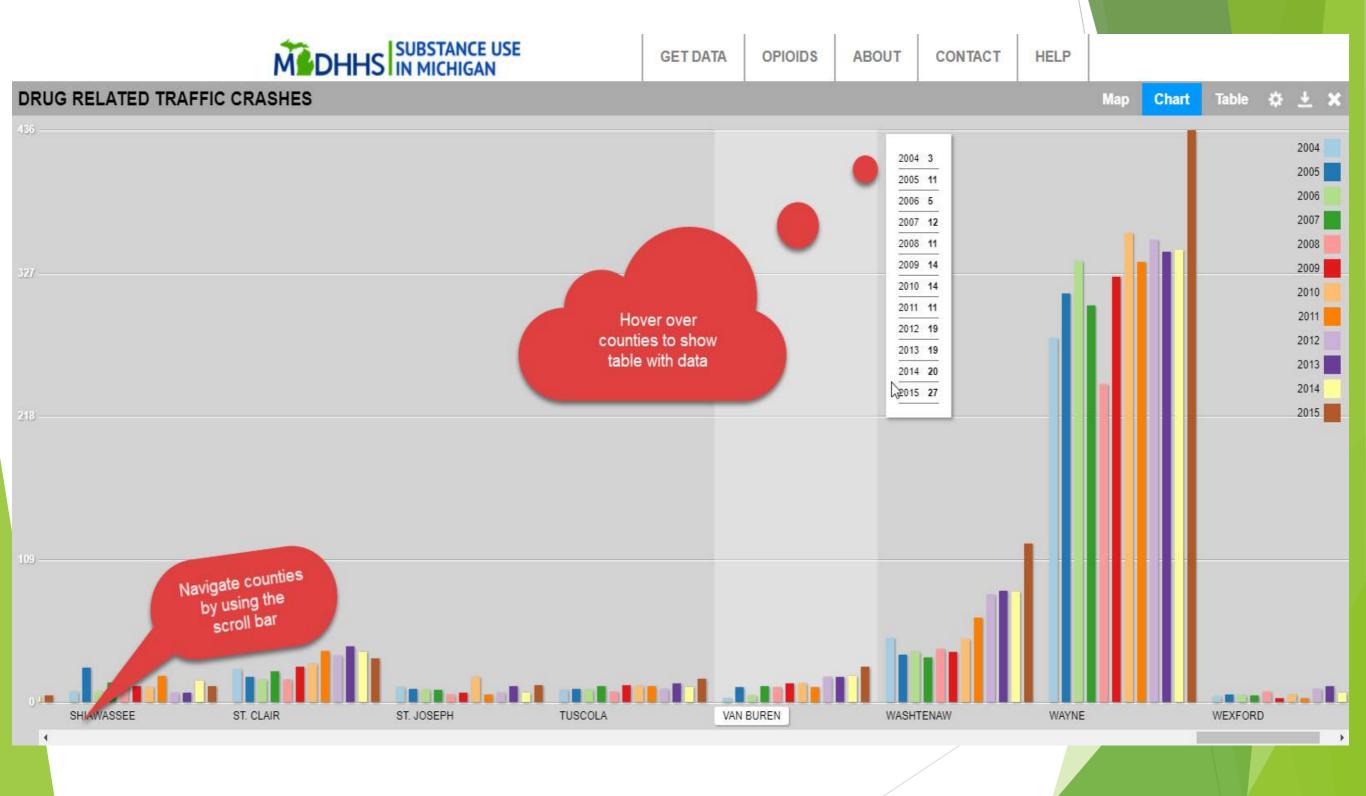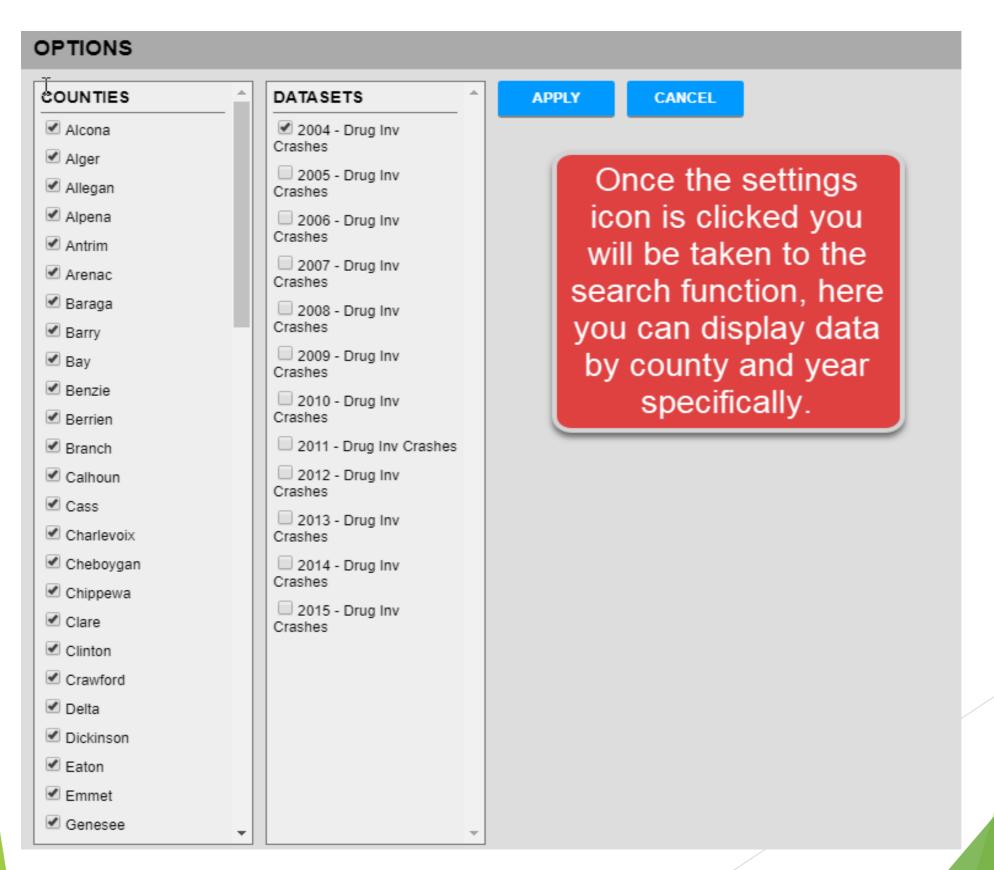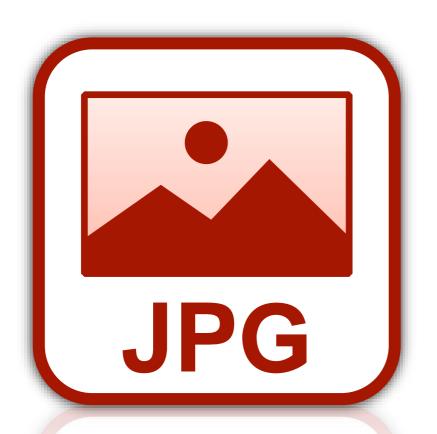
GET DATA | OPIOIDS | ABOUT | CONTACT | HELP

DRUG RELATED TRAFFIC CRASHES

Map | Chart | Table ⚙ ↧ ✕

NAME ⇕	DRUG INV CRASHES											
	2004 ⇕	2005 ⇕	2006 ⇕	2007 ⇕	2008 ⇕	2009 ⇕	2010 ⇕	2011 ⇕	2012 ⇕			
Alcona	5	3	5	3	2	6	5	0	1	1		
Alger	0	1	2	0	0	0	2	3	3	5		
Allegan	10	20	14	15	15	19	20	26	26	16		
Alpena	4	6	7	5	9	5	11	8	5	5		
Antrim	2	5	4	3	4	3	1	5	4	6		
Arenac	4	3	5	1	3	4	3	2	0	4	0	2
Baraga	3	0	2	4	2	1	3	2	2	3	1	3
Barry	11	9	18	16	7	8	12	5	14	16	9	6
Bay	21	20	11	22	23	19	37	37	26	27	32	21
Benzie	2	4	3	5	5	1	2	3	5	3	5	4
Berrien	25	19	23	24	19	19	17	22	36	35	32	42
Branch	10	8	8	11	8	4	7	4	6	5	14	13
Calhoun	29	17	31	32	33	37	31	42	31	31	29	24
Cass	13	6	7	9	8	7	7	6	10	7	3	10
Charlevoix	2	3	7	5	7	3	9	7	4	2	1	6
Cheboygan	9	6	3	4	5	3	7	3	2	16	7	3
Chippewa	1	1	6	6	3	5	15	11	6	7	4	5
Clare	3	9	7	4	4	6	10	6	14	8	7	6
Clinton	6	9	10	11	7	6	9	11	5	5	6	11
Crawford	4	1	1	2	4	8	4	3	5	7	4	2
Delta	8	5	9	6	6	12	9	15	13	8	8	15

Clicking the setting icon will take you to the next screen…

TABLE VIEW

OPTIONS

COUNTIES
- ☑ Alcona
- ☑ Alger
- ☑ Allegan
- ☑ Alpena
- ☑ Antrim
- ☑ Arenac
- ☑ Baraga
- ☑ Barry
- ☑ Bay
- ☑ Benzie
- ☑ Berrien
- ☑ Branch
- ☑ Calhoun
- ☑ Cass
- ☑ Charlevoix
- ☑ Cheboygan
- ☑ Chippewa
- ☑ Clare
- ☑ Clinton
- ☑ Crawford
- ☑ Delta
- ☑ Dickinson
- ☑ Eaton
- ☑ Emmet
- ☑ Genesee

DATASETS
- ☑ 2004 - Drug Inv Crashes
- ☐ 2005 - Drug Inv Crashes
- ☐ 2006 - Drug Inv Crashes
- ☐ 2007 - Drug Inv Crashes
- ☐ 2008 - Drug Inv Crashes
- ☐ 2009 - Drug Inv Crashes
- ☐ 2010 - Drug Inv Crashes
- ☐ 2011 - Drug Inv Crashes
- ☐ 2012 - Drug Inv Crashes
- ☐ 2013 - Drug Inv Crashes
- ☐ 2014 - Drug Inv Crashes
- ☐ 2015 - Drug Inv Crashes

APPLY   **CANCEL**

Once the settings icon is clicked you will be taken to the search function, here you can display data by county and year specifically.

DATA DOWNLOAD

JPG

CSV

Data can be downloaded as either .JPG (maps) or .CSV (tables) files for use in external programs like Excel, Access, or Word.

USING DATA

➢ For grants/fund development – basic information for needs and background, county profiles for target description.

➢ For planning – data required for logic models, work plans, goal development in prevention, community mental health etc...

➢ Where do you use data like this?

INTERPRETING DATA

MDHHS | SUBSTANCE USE IN MICHIGAN

GET DATA | OPIOIDS | ABOUT | CONTACT | HELP

INTERPRETING DATA

Using data requires some understanding of the nature and quality of the available data. The following outlines some basic data concepts and provides additional resources to help users best utilize the information available through this site.

- **Using Data with Your Strategic Prevention Framework Model**

- **Tips for Analyzing Data**

- **Understanding Confidence Intervals**

Clicking tabs to the left will navigate you directly to that information

Using Data with Your Strategic Prevention Framework Model

In keeping with the use of the Strategic Prevention Framework (SPF), we have provided some sample questions for each of the 5 steps of SPF model.

The data you will find on this site is particularly useful for the Assessment and Capacity Building phase as noted below. The SPF model, however, builds on the following:

Assessment

- What intervening variables contribute to the consequences and consumption patterns you wish to change?

FACT SHEETS

MI DHHS | SUBSTANCE USE IN MICHIGAN

GET DATA | OPIOIDS | ABOUT | CONTACT | HELP

FACT SHEETS

The Office of Recovery Oriented Systems of Care has produced fact sheets on the following topics:

- E-Cigarettes

- Marijuana

- Prescription Drugs

- Cancer and Alcohol Use

- Drug Poisoning Death Rate

- Preventing Heroin Use

- Preventing Prescription Drug Misuse

- Preventing Youth Marijuana Use

- Fatal Crashes Update

- Michigan Traffic Crash Decade-At-A-Glance

- Preventing Marijuana Use Among Youth & Young Adults

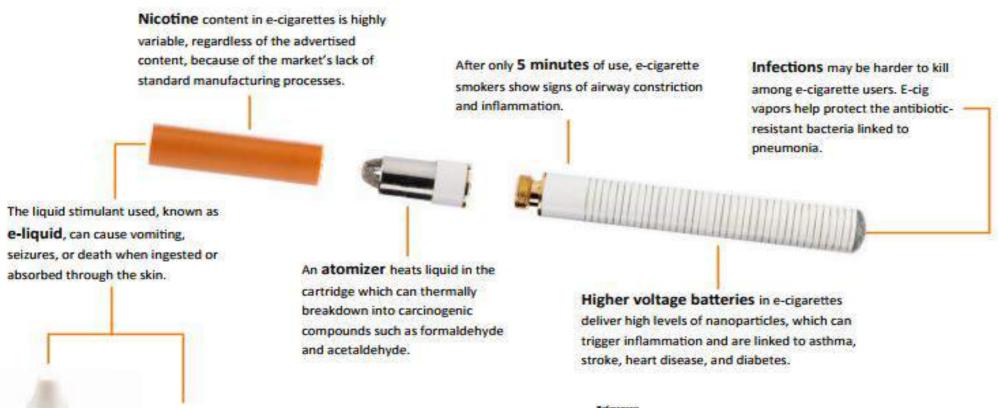- Total Drug Poisoning Mortality Rates (Map)

Clicking a link will automatically open a new tab on your browser

Fact Sheet Example

Up in Smoke: Deconstructing the Health Claims of E-Cigarettes

Electronic cigarettes, or *e-cigarettes*, have been growing in popularity in recent years. As traditional smoking has declined, use of e-cigarettes has increased among teenagers, surpassing traditional cigarettes. While touted as the "healthier" cousin of the traditional cigarette, e-cigarettes still pose great risk to users. No long-term studies exist on the risks of e-cigarette smoking, nor does the industry currently possess a regulated manufacturing process—addictive nicotine and an unregulated mix of chemicals plague e-cigarettes just as they do traditional cigarettes. The infographic seen below is meant to shed some light on the adverse events and risks e-cigarette users face.

Nicotine content in e-cigarettes is highly variable, regardless of the advertised content, because of the market's lack of standard manufacturing processes.

After only **5 minutes** of use, e-cigarette smokers show signs of airway constriction and inflammation.

Infections may be harder to kill among e-cigarette users. E-cig vapors help protect the antibiotic-resistant bacteria linked to pneumonia.

The liquid stimulant used, known as **e-liquid**, can cause vomiting, seizures, or death when ingested or absorbed through the skin.

An **atomizer** heats liquid in the cartridge which can thermally breakdown into carcinogenic compounds such as formaldehyde and acetaldehyde.

Higher voltage batteries in e-cigarettes deliver high levels of nanoparticles, which can trigger inflammation and are linked to asthma, stroke, heart disease, and diabetes.

Propylene glycol and glycerin are the main ingredients of e-liquid. These compounds are known to be eye and respiratory irritants when heated and vaporized, and may also create carcinogenic compounds. If the e-liquid is substituted with unregulated synthetic drugs the potential for harm is amplified.

References:

- http://www.drugabuse.gov/news-events/news-releases/2014/12/teen-prescription-opioid-abuse-cigarette-alcohol-use-trends-down
- Grana R, Benowitz N, Glantz SA. E-cigarettes: a scientific review. Circulation. 2014 May 13;129(19):1972-86. doi 10.1161/CIRCULATIONAHA.114.007667. Review.
- Vardavas CI, Anagnostopoulos N, Kougias M, Evangelopoulou V, Connolly GN, Behrakis PK. Short-term pulmonary effects of using an electronic cigarette: impact on respiratory flow resistance, impedance, and exhaled nitric oxide. Chest. 2012 Jun;141(6):1400-6.
- Kosmider L, Sobczak A, Fik M, Knysak J, Zaciera M, Kurek J, Goniewicz ML. Carbonyl compounds in electronic cigarette vapors: effects of nicotine solvent and battery output voltage. Nicotine Tob Res. 2014 Oct;16(10):1319-26.

NEW:OPIOIDS TAB

OPIOIDS TAB

Current Data

| Opioid-Related Drug Poisoning Deaths | Opioid-Related Hospitalizations | Opiate Prescriptions |

1999
Play Data

2000

2001

2002

2003

2004

2005

2006

2007

2008

Here you are able to visually see data play out through the years on the map

147.2 to 184

110.4 to 147.2

73.6 to 110.4

36.8 to 73.6

0 to 36.8

Opioid Related Drug Poisoning Deaths

Description
Opioid Related Drug Poisoning Deaths By County

Source
Michigan Death Certificates, Division for Vital Records and Health Statistics/MDHHS

Dates
1999-2015

OPIOIDS TAB

Current Data

| Opioid-Related Drug Poisoning Deaths | Opioid-Related Hospitalizations | Opiate Prescriptions |

Opioid Related Drug Poisoning Deaths

Description
Opioid Related Drug Poisoning Deaths By County

Source
Michigan Death Certificates, Division for Vital Records and Health Statistics/MDHHS

Dates
1999-2015

LIVINGSTON 1

1999
Play Data
2000
2001
2002
2003
2004
2005
2006
2007
2008

147.2 to 184
110.4 to 147.2
73.6 to 110.4
36.8 to 73.6
0 to 36.8

Related Data & Reports

Non-medical Use of Prescription Pain Relievers

High school Heroin Use: Past 30 days

Opioid Related Hospitalizations

Opiate Prescriptions Written Per County

Heroin Related Drug Poisoning Deaths

Opioid Related Drug Poisoning Deaths

High School: Oxycontin, Codeine, Vicodin or Percocet Use Without a Prescription Past 30 Days

Middle School: Oxycontin, Codeine, Vicodin or Percocet Use Without a Prescription Past 30 Days

Michigan Opioid Factsheet

Additional Resources

Centers for Disease Control: Protect patients from opioid overdose

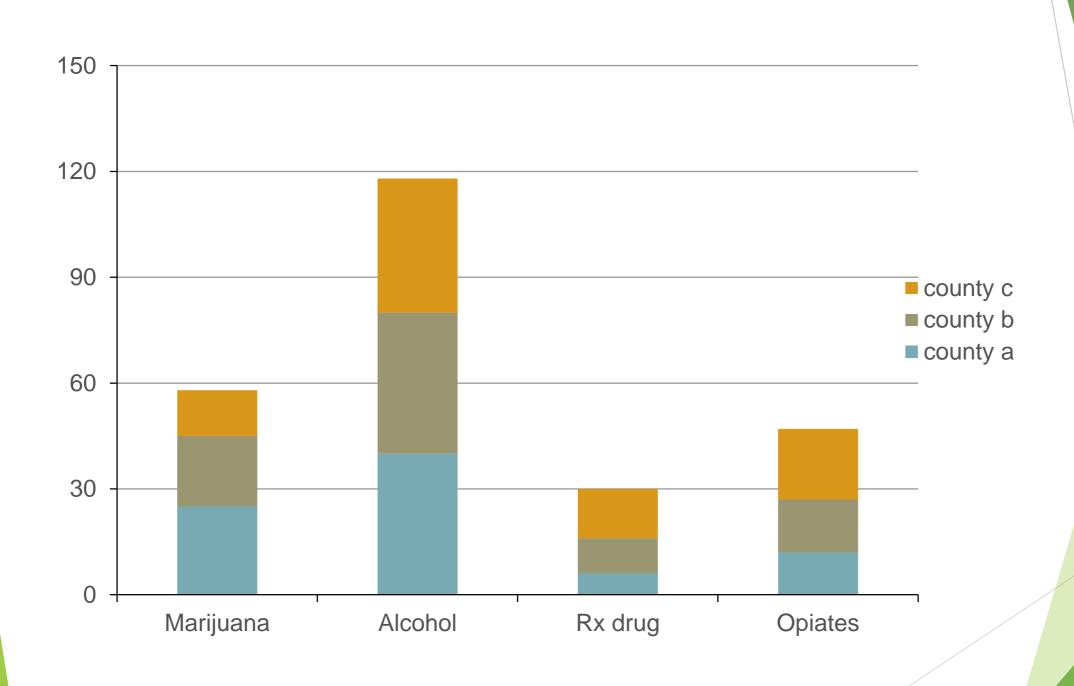MDHHS: Combating the Prescription Drug and Opioid Epidemic in Michigan

Here you will find links to opioid related data and additional information
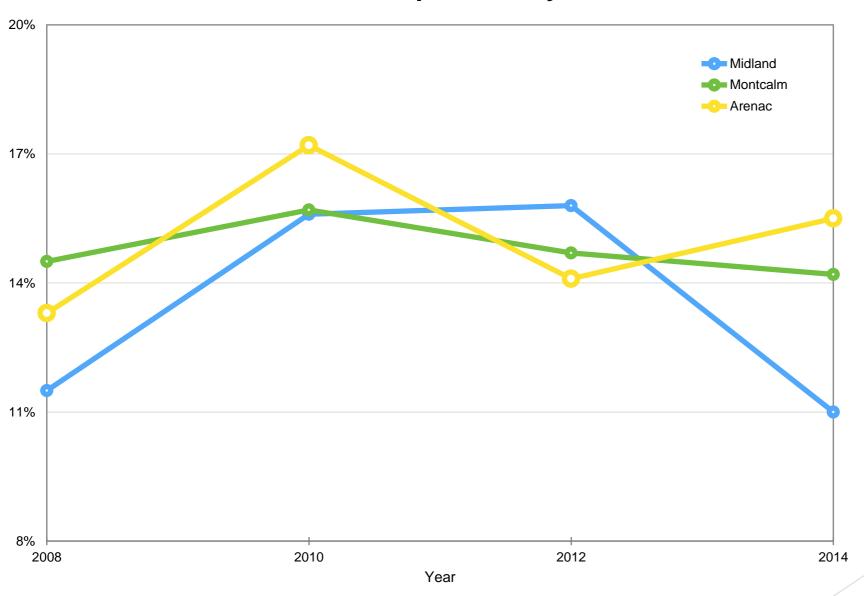
NEXT STEPS

➢ More forms of charts – pie charts, line graphs, bubble charts.

➢ Use of two dimensional visuals – e.g. to map two variables to see correlations

➢ User ability to select variables to visualize

SAMPLE MULTI VARIABLE

SAMPLE OF LINE CHART

Percent of students who admit to marijuana use in the past 30 days

FEEDBACK

➢ How likely are to use the site? Barriers?

➢ What data would you like to see on the site?

➢ How to make the site more user friendly?

➢ What features would you like to see?

➢ Sign up for listserve

CONTACT

Please contact us to let us know how
we can continue to improve the site..

Brooke Rodriguez
ea2123@wayne.edu
Program Assistant
Wayne State University School of Social Work

You may also ask to be added to our listserve
to get notices when new data or features are
available.