

# Public Health Concerns Related to the Availability and Use of Marijuana

Leelanau County Substance Abuse Prevention Coalition

Public Health concerns regarding marijuana use are focused on **health, safety,** and the factors that support the **success and well-being** of our children, grandchildren and friends of all ages.

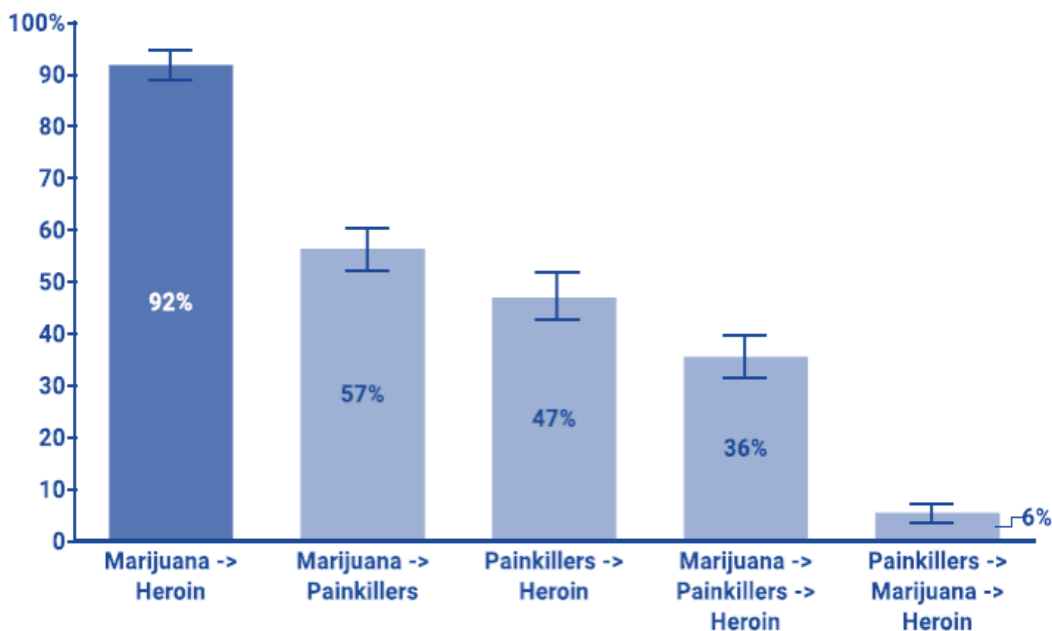
This infographic is designed to bring to light many of these Public Health concerns.

**TODAY'S MARIJUANA** is not the same as in the 1970's and 80's ("then"). When we hear it said that marijuana is 'natural' – not any more. Today's ("current") THC toxicity has an impact that can be surprising – relating to health effects.

	% THC Levels	% CBD Levels	Net % THC Levels
Then – Leaf	1.5 – 2.5%	1.0 – 1.5%	0.5 -1.5%
Current – Leaf	15.0 – 25.0%	0 – 0.5%	15.0 – 24.5%
Edibles	40 – 55+%	0.0%	40 – 55+%
Oils (THC)	80 – 90+%	0.0%	80 – 90+%

THC (Tetrahydrocannabinol) is the psychoactive ingredient in marijuana.

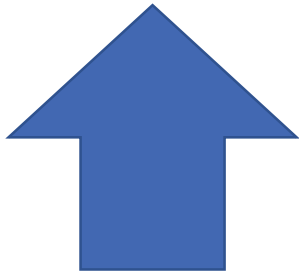
Percentage of heroin/prescription painkiller users who first used another addictive drug in previous years



**Marijuana use is linked to subsequent opiate and heroin use.**

*“Cannabis use, even among adults with moderate to severe pain, was associated with a substantially increased risk of non-medical prescription opioid use...”*

Source: The American Journal of Psychiatry (2017)



*Increased Availability =  
Increased Access by Youth =*

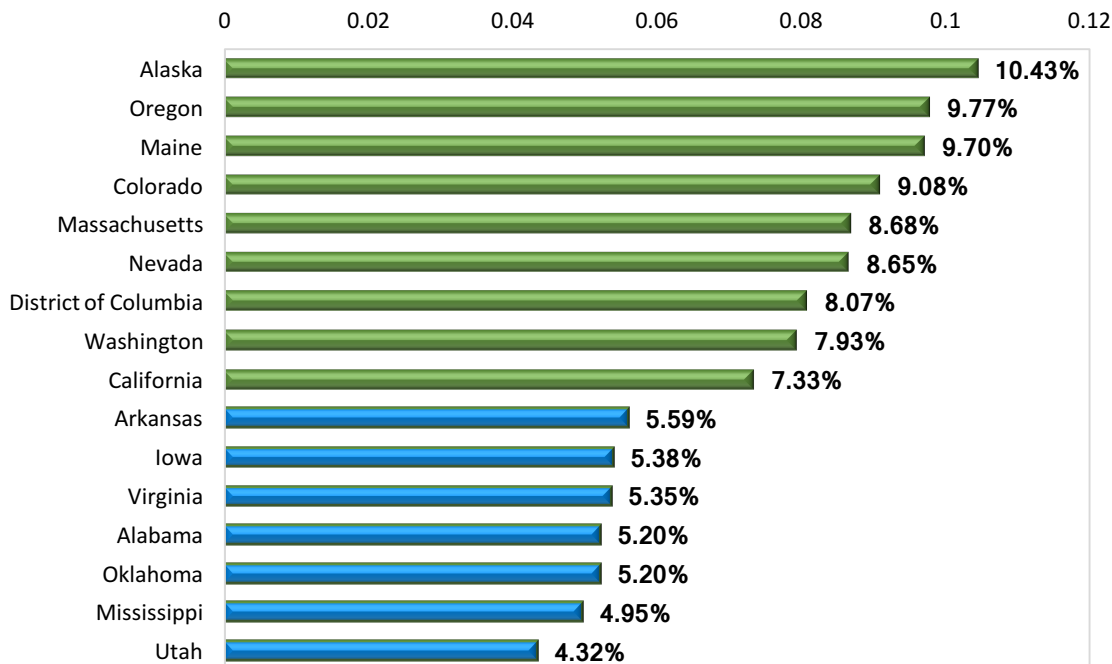
# ***Increased Use by Youth***

*Although the use of marijuana is illegal for youth, research shows that youth use rates go up as availability and access increase. This is consistent across the States, as those with legalization or medical marijuana laws have the highest youth use rates.*

<b>Leelanau County Medical Marijuana Card Holders</b>				
<b>2016 Population</b>	<b># Marijuana Patients</b>	<b># Caregivers</b>	<b>Rate of cardholders per 1,000 residents</b>	<b>% change of cardholders since 2012</b>
21,765	411	71	18.9	47%

\*MM = Medical Marijuana Card Holders  
Sources: State of Michigan LARA and MiPHY Student Survey

**Past 30 Day Use of Marijuana for 12 and 17 year olds by States with and without marijuana legalization laws (2016)**



**States that have legalized marijuana for recreational use**

**States that do NOT have medical or recreational marijuana**

Source: SAMHSA.gov

Weekly use by adolescents is associated with impaired learning, memory, math and reading, as well as failure to graduate from high school.

*Perspective: Michigan Association for Local Public Health*

## USE & Impaired Learning



*A New Zealand study showed that “people who started smoking marijuana heavily in their teens...lost up to eight IQ points between the ages of 13 and 38.” These lost mental abilities failed to return to even those who quit using...in their adult years.*

*Source: Safeguard Michigan’s Future: Prosecuting Attorney’s Association of Michigan*

## Pot use is strongly correlated with psychosis

### MENTAL HEALTH CONCERNS

*Several studies have linked marijuana use to increased risk for mental illnesses, including psychosis (Schizophrenia), depression and anxiety.*

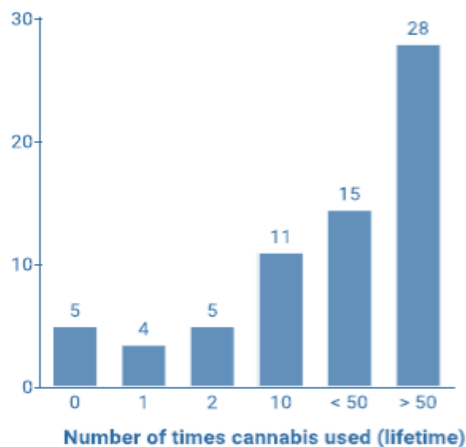
*Source: National Institute on Drug Abuse*

***These symptoms are worse with higher (THC) doses.***

*Source: Medical and Recreational Marijuana from a Public Health Perspective: Michigan Association for Local Public Health, et.al.*

### MORE CANNABIS USE CORRELATES WITH HIGHER RATES OF SCHIZOPHRENIA

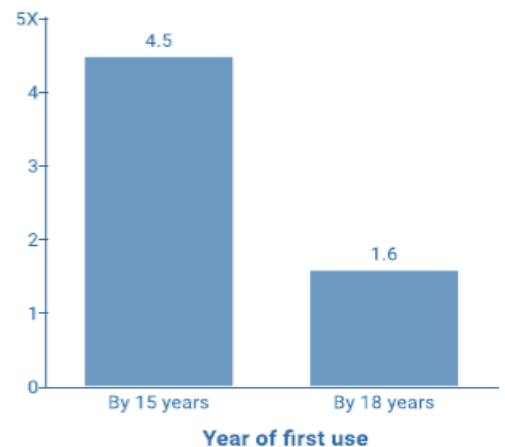
Cases of schizophrenia per 1,000 people



Study of Swedish Conscripts (n=45570)

### EARLIER AGE OF USE CORRELATES WITH INCREASED SCHIZOPHRENIA RISK

Risk multiple for schizophrenia-like psychosis at age 26



Longitudinal prospective Dunedin study (n=1037)

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Source: Andréasson et al Lancet, 1987 (left graphic); Arseneault et al BMJ 2002 (right graphic)

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## Pre- and Post Natal Exposure



- Biological evidence shows that THC can pass through the placenta as well as through the breast milk.
- Marijuana use may be associated with an increased risk of heart defects or stillbirth.
- Stronger evidence highlights the effects seen months or years after the birth if the child's mother used during gestation. Some effects include decreased growth, impaired cognitive function, decreased academic ability and increased depression symptoms.

Source: Medical and Recreational Marijuana from a Public Health Perspective: Michigan Association for Local Public Health, et.al.

## Second Hand Smoke

After just one minute of exposure to second-hand smoke – Artery Recovery Time:

**TOBACCO SMOKE: 30 minutes**

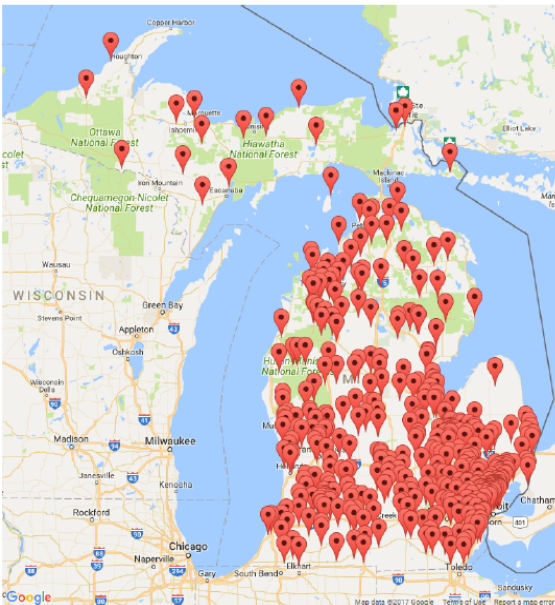
**MARIJUANA SMOKE: 90 minutes**

Source: Journal of American Health Association: July 2016

## Marijuana Related Fatal Car Crashes Increase 211% in Michigan from 2012-2016

### Michigan State Police (MSP)

Drivers Tested Positive for Cannabinoid Drugs  
(Delta 9, Hashish Oil, Hashish, Marijuana/Marihuana, Marinol, Tetrahydrocannabinol, THC, or Cannabinoid, type unknown)



### 2012 – 2016 Traffic Crash Data Trends

Year	Total Crashes	Fatal Crashes	Injury Crashes	Fatalities	Injuries
2012	76	70	5	78	61
2013	78	70	6	86	71
2014	91	77	9	87	87
2015	102	97	2	109	83
2016	160	138	15	159	172

# Income for Municipalities?!?

The cost of having a marijuana business goes beyond what is received in taxes. The cost of a marijuana business also includes the harm caused to the community.

Examples include; fatal vehicle crashes, emergency department and other health care services, local employer costs, as well as family problems and other costs that occur around addiction and mental health illness. Basically, community leaders also consider the costs around the **Health, Safety and Vitality** of the families and businesses in the respective communities.

Our experience with the **alcohol and tobacco** industries show us that; for **every \$1** collected in taxes, **costs to the community are approximately \$10.**

## Business Experiences:

Even when controlling for alcohol use, pot users are:

**40%**

more likely to have missed at least one day of work in the last month due to illness/injury

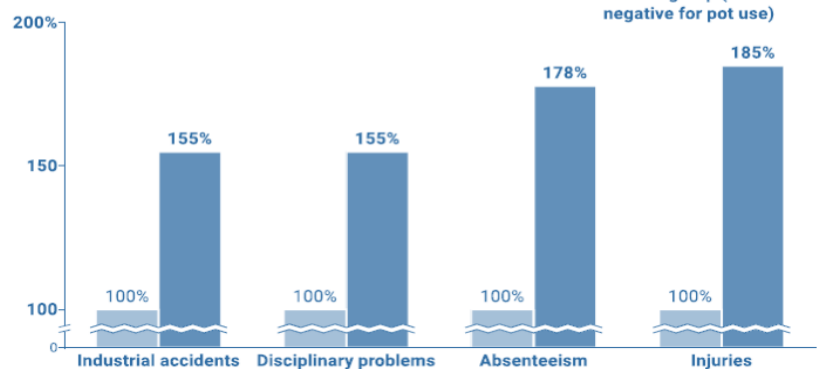
**106%**

more likely to have missed at least one day of work in the last month because they "just didn't want to be there"

Source: National Survey on Drug Use and Health (2014)

## Accidents, injuries, absenteeism, and disciplinary problems are far more common among pot users

Incidence of problem compared to control group



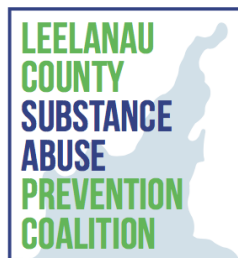
© SAMHSA Source: Zwerling et al (1990)

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*"The Michigan Chamber of Commerce opposes the legalization of marijuana as it would threaten the ability of employers to maintain a safe ... workplace."*

Source: [www.michamber.com](http://www.michamber.com)



It Takes A Community

In Coordination with the Michigan Prevention Association